

2. FACILITIES MAINTENANCE

The objective of this task is to review the Maintenance and Custodial function. We have analyzed the district's operations reviewing cost data and staffing levels, making comparisons with comparable districts and industry standards. We interviewed relevant administrative staff conducted a focus groups. We also analyzed costs and benefits of privatizing the function.

The District maintains and cleans all buildings and grounds. This includes preparation of all athletic fields for scheduled events. Snow removal on school sidewalks is handled by the custodial staff. Driveways and parking lots are plowed by the maintenance crew using District owned vehicles. Neither town provides grounds keeping or snow removal services.

1. Staffing

The District has a staff of maintenance personnel and a staff of custodians under the direction of the Director of Buildings and Grounds.

Findings

The School Department has a Director of Buildings and Grounds who supervises a staff of 17 custodians and 4 maintenance men. There is also an Assistant to the Director. See Appendix 2.1.

Recommendations

Our recommendations on staff are contained in the following sections.

2. Current Custodial Operations

The function of the custodial operation is to keep the building clean while making sure that it is properly heated, maintained and secured. The custodian will perform some minor maintenance and heating tasks and will keep the Facilities Department aware of any maintenance needs over and above their duties. They will likewise make sure that the building is properly furnished and supplied, once again doing some of this on their own, while making their managers aware of anything beyond their scope.

One of the main "efficiency" concerns is whether there are too many or too few custodians for the size of the building. We have looked at square footage standards presented by *American School & University* (AS&U) and the National Center for Educational Statistics (NCES), and a more complicated formula from the North Carolina Department of Public Instruction (NCDPI) that considers the number of teachers and students, as well as the square footage.

Findings

The *American School and University Magazine* standard is based on its 2009 Maintenance & Cost Study for Schools. The study found that the median level of area cleaned per custodian was 32,100 square feet. This standard is consistent with the National Center for Education Statistics' *Planning Guide for Maintaining Schools*. The NCES states that "level 3 cleaning (the middle level) is the norm for most school facilities...a custodian can clean approximately 28,000 to 31,000 square feet in 8 hours." NCES's higher level is level 2. "Cleaning is the uppermost standard for most school cleaning, and is generally reserved for restrooms, special education areas, kindergarten areas, or food service areas. A custodian can clean approximately 18,000 to 20,000 square feet in an 8-hour shift." With the exception of Boutwell, all of the GDRSD custodians clean in or near the level 3 (norm) level. GDRHS is slightly above the range and Florence Roche is slightly below. Refer to Appendix 2.2 for more detail.

The NCDPI calculation is very interesting since it predicts the number of custodians needed based on the square footage, number of students, and number of teachers. We chose to use this standard because we feel that the number of students and classrooms (teachers) are important factors in determining the space a custodian can clean. For GDRSD, the formula calls for an additional 1.5 custodians at the high school, 1 at the middle school and approximately .5 at the two elementary schools. Refer to Appendix 2.3 for more detail.

Recommendation

Based on the AS&U study and the NCES standards, GDRSD is at an optimal level and should not seek to reduce custodial coverage unless they are willing to accept a reduction in cleanliness. Under this standard they may wish to add a .5 FTE custodian at the high school.

The NCDPI study calls for more custodians at all of the schools except Boutwell. This confirms our recommendation to not reduce custodial staff, and begs the question as to whether additional custodians or a different model is needed.

The Director should continue to monitor the staffing and look for ways to improve the operation and reduce costs. We recommend investigating the possibility of treating the three 342-346 Main Street campus buildings as a single entity. We believe that treating the north and south middle school buildings as two separate schools for custodial services is inefficient. Adding in Florence Roche to a new plan for the campus (including PTYC) may lead to more efficient deployment of custodial staff. Combining these facilities in the AS&U and NCDPI models demonstrates possible efficiencies. See Appendices 2.2 and 2.3.

3. Comparative Costs

We have used the DESE Edwin per pupil operations and maintenance cost tables to compare FY16 for GDRSD and six selected peers. See Appendix 2.4. It should be noted that fluctuations

can exist based on how school accounting reports their expenditures, and how town accountants report their expenditures on behalf of schools.

Findings

In the comparison by per pupil cost. GDRSD falls in the low middle with five districts more expensive (Lynnfield, Hamilton-Wenham, Masconomet, Mendon-Upton, and Nashoba), and one less expensive (Newburyport). GDRSD's per pupil cost was \$1,011, lower than the state average of \$1,124.

Recommendation

We do not believe that any conclusion can be drawn from these statistics. We recommend that GDRSD further analyze these statistics to shed further light on their meaning.

4. Outsourcing Opportunities

There are several models for the outsourcing of facilities functions.

1. There are companies who have management teams, trade maintenance services and cleaning services who could replace the entire Facilities Department.
2. GDRSD could contract out its custodial function, but continue to oversee the contractor with its current management.
3. Likewise, the District could contract out all of its maintenance work to a maintenance service company or several firms representing each trade.
4. GDRSD could reduce the number of custodians to a minimum, so that buildings are still being overseen and maintained by District employees. The Schools would then hire a cleaning service to do the day to day cleaning.

Findings

It is the opinion of many school business managers and facilities directors that outsourcing of cleaning services may be a necessary evil in order to save money, but that it is not cost effective. They feel that they lose control of their facilities and have security issues. The contractors have substantial staff turnover, and the contract staff does not have an ownership relation to the building nor does it relate well to outside users such as parent groups and after school programs. There are also school systems that have used cleaning services for many years and are happy with the service and the savings.

The Amesbury School Department has used an interesting approach where they employ two supervising custodians in each building with an overlap during lunch time. These custodians are also responsible for many maintenance functions.

The Amesbury Schools contract out for a cleaning service at night to supplement the custodians. The cleaning service is responsible to clean the buildings after hours. We estimate the cleaning

service costs \$1.26 per square foot. Our analysis (Appendix 2.5) indicates this approach would only show a modest savings at the Middle School and no savings at the other schools due to the need to hire a second CIC for each building. Amesbury overcame this problem by having their Senior Custodians responsible for many maintenance tasks. Appendix 2.6 shows the potential savings from assigning each of GDRSD's four maintenance persons to a school. There would be substantial savings at the High School and Middle School, moderate savings at Florence Roche and no savings at Swallow Union or Boutwell.

Recommendation

It is our conclusion that outsourcing custodians could save money, particularly in the area of benefits. This would involve assigning the maintenance staff to supervisory duties. While this would reduce the amount of maintenance performed by them, careful planning may offset this by assigning maintenance tasks to the four CIC's who would no longer have cleaning duties. There are two other concerns that would need to be overcome. Our main concern is with the provision of grounds maintenance and snow removal. See our comments below. The other concern is HVAC maintenance. One of the maintenance men is an HVAC specialist. If he is assigned to a single building, he would not be able to provide HVAC services system wide. Some creative scheduling might overcome this problem.

There are also risks involved including possible loss of control and quality. If GDRSD wishes to further examine this matter they should do a thorough cost-benefit analysis covering the following areas.

- 1) Review State contracts and RFP's from other districts.
- 2) Interview School Districts who have outsourced services.
- 3) Determine the negative aspects of the program (benefit analysis).
- 4) Decide on the level of services desired.
- 5) Establish quality standards in the RFP and contract.
- 6) Obtain price quotes for this mix of services.
- 7) If GDRSD wants to proceed beyond this point they should analyze what the State contract would cost or develop their own RFP and get firm prices.
- 8) Make a final decision on whether the cost savings offset the negatives determined in step 3.

5. Grounds Maintenance

All Grounds Maintenance is performed by the Buildings and Grounds Department.

Findings

The department maintains all school grounds including athletic fields and field preparation for athletic events. The maintenance staff also plows snow for all school roadways and parking lots. The department maintains 89.43 acres of school grounds and athletic fields.

Recommendation

In conjunction with other recommendations in this report, the district should investigate the cost effectiveness of having these services provided by the two Town's DPW and / or parks departments or private contractors.

6. Building Maintenance

The Buildings and Grounds Department performs the building maintenance function for all schools.

Findings

The Director of Buildings and Grounds directs the maintenance operation. He has four (4) general maintenance men one of whom is an HVAC specialist. Specialty services such as electrical and plumbing are performed by private contractors.

Recommendation

The Buildings and Grounds Department has done a good job of maintaining the buildings and grounds with minimal staffing.

We do not see a need for a staff electrician or plumber. If the district should ever consider such a position they should be careful to factor in benefit costs. An electrician with a salary of \$70,000 would cost close to \$90,000 with benefits (see Appendix 2.7).

6. Professional Development

Modern technology in facilities maintenance software, direct digital control HVAC systems (DDC) and the need to use environmentally acceptable chemicals has made the training of custodians and maintenance personnel imperative.

Findings

The Buildings and Grounds Department provides workshops so that custodians are trained in the proper use of environmentally safe cleaning supplies, pesticides, asbestos and other chemicals. Included in this training would be knowledge of banned chemicals and pesticides, integrated pest management (IPM), pesticide treatment notices and Material Safety Data Sheets (MSDS), and the proper portioning of chemicals used. The training has been provided by the District's liability insurance company and some of the cleaning supply vendors.

Many of the custodians are computer literate and self-trained. The district does not provide training in this area.

Recommendations

It appears that the various forms of safety training are being provided. We recommend that the current training program continue.

Custodians often come into employment with limited computer skills. It is particularly important that head custodians and those who seek promotion to head custodian achieve a level of computer literacy.

7. Vehicles

Maintenance Vehicles are necessary to carry out the functions of the department, but sometimes are not properly maintained or replaced at appropriate intervals.

Findings

GDRSD has a maintenance garage where it maintains the vehicles with their own staff when possible. They sometimes get assistance from Groton DPW. When necessary they use private garages.

They have a schedule for replacing vehicles in their capital plan and at this time have been able to meet the schedule.

Groton DPW occasionally donates older vehicles to the District where lighter workloads can extend the usefulness of the vehicles.

Recommendations

We recommend that the District continue to function as they are. We believe that is very important to have a capital replacement plan for vehicles and to stick to the schedule if economically feasible.

GDRSD Facilities Staff

Appendix 2.1

Director of Buildings and Grounds				1.0
LOCATION	CIC Custodians	Day Custodians	Night Custodians	Total
GDRHS	1.0	1.5	2.5	5.0
GDRMS	1.0	1.6	3.5	6.1
Florence Roche	1.0	1.0	0.5	2.5
Swallow Union	1.0		1.0	2.0
Boutwell			0.5	0.5
PTYC			0.5	0.5
Central Office		0.4		0.4
Total	4.0	4.5	8.5	17.0

Other Staff	
Assistant to the Director	1.0
HVAC maintenance	1.0
General Buildings and Grounds Maintenance	3.0

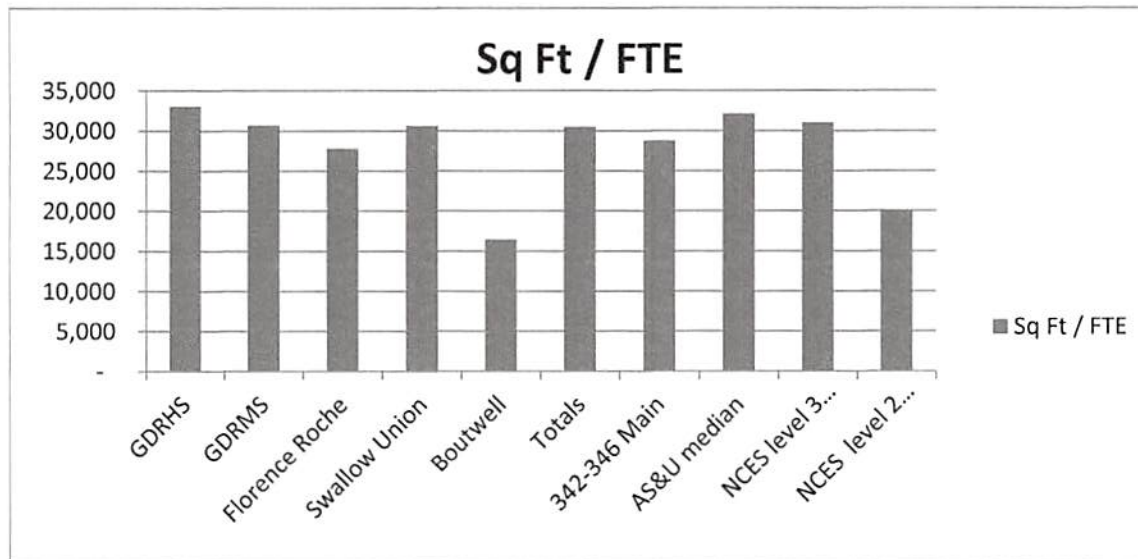
Total Staff	23.0
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CIC = Custodian in Charge

Square Feet per Custodian

Appendix 2.2

LOCATION	Sq Ft / FTE	Gross Sq. Ft.	FTE Custodians
GDRHS	33,000	165,000	5.0
GDRMS	30,656	187,000	6.1
Florence Roche	27,787	69,468	2.5
Swallow Union	30,572	61,143	2.0
Boutwell	16,416	8,208	0.5
Totals	30,486	490,819	16.1
342-346 Main	28,766	261,769	9.1
AS&U median	32,100		
NCES level 3 (norm)	31,000		
NCES level 2 (uppermost)	20,000		



Source:

American School & University Magazine

38th Annual Maintenance & Operations Cost Study for Schools

National Center for Educational Statistics, School Facilities Task Force


Planning Guide for Maintaining School Facilities

LOCATION	Gross Sq. Ft.	FTE	Sq Ft / FTE	Students	Teachers	NCDPI FTE
GDRHS	165,000	5.0	33,000	812	56.9	6.6
GDRMS	187,000	6.1	30,656	791	59.4	7.1
Florence Roche	69,468	2.5	27,787	478	33.2	3.3
Swallow Union	61,143	2.0	30,572	280	22.8	2.5
Boutwell	8,208	0.5	16,416	64	3.0	0.4
Total School Square Feet	490,819	16.1	30,486	2,425	175.3	19.9
342-346 Main	261,679	9.1	28,756	1,269	93	10.5

District Expenditures Comparison - Schedule 1

Fiscal Year: 2015-16

Appendix 2.4



	School Committee Expenditures						Other Fund Expenditures			Total Function Expenditures \$	Per Student Expenditures \$	Total In-District Operating Expenditures \$	% of In-District Operating Expenditures
	By Object Codes						By Fund Group						
	Professional Salaries (01) \$	Clerical Salaries (02) \$	Other Salaries (03) \$	Contracted Services (04) \$	Supplies and Materials (05) \$	Other Expenses (06) \$	Municipality \$	State Grants \$	Revolving and Special Funds \$				
Groton-Dunstable (06730000)	92,713	47,890	1,051,453	166,147	238,441	784,663	0	0	44,024	2,425,331	1,011	33,642,714	7
Hamilton-Wenham (06750000)	83,000	24,544	842,754	705,953	70,513	591,114	0	2,318	17,025	2,337,220	1,279	28,342,499	8
Lynnfield (01640000)	207,683	0	0	150,632	0	48,148	2,110,277	0	0	2,516,740	1,131	31,143,067	8
Masconomet (07050000)	141,118	0	408,554	760,482	110,505	626,406	0	0	101,435	2,148,500	1,115	29,479,682	7
Mendon-Upton (07100000)	0	0	949,424	0	814,026	676,287	0	0	109,212	2,548,949	1,113	31,848,818	8
Nashoba (07250000)	118,281	22,723	1,494,982	358,647	1,299,755	584,700	0	0	100,776	3,979,864	1,161	49,063,467	8
Newburyport (02040000)	0	7,155	1,068,438	134,533	109,203	608,450	0	0	176,393	2,104,172	918	33,832,304	6

- Includes districts for the selected year which meet all the selected parameters.
- Expenditures information reflects the most recent EOYR information for the selected year.
- Staffing reports cumulative FTEs for individuals who were active in October in the selected year. Teachers include all teaching classifications - teachers, co teachers, virtual teachers, and teachers-support content instruction.
- "Per Student Expenditures", "Total In-District Operating Expenditures", and "% of In-District Operating Expenditures" are only displayed for in-district expenditure functions.
- "In District Operating Expenditures" is defined as the total spending from Schedule 1 from all funds and functions, excluding functions in the 6000, 7000, 8000, 9000 series, indirect cost transfers (5990), short term interest BANs (5450), and all out of district transportation costs
- The "Functional Area Total" within "Total In-District Functions" excludes out of district transportation expenditures from Schedule 7. The in-district transportation expenditures are grouped within the "No Objects Defined" objects code.
- Student enrollment and demographics are based on the October collection for the selected year for in-district students. Economically Disadvantaged indicates students participating in state-administered assistance programs; ELL (English Language Learner) indicates students who do not speak English or whose native language is not English, and who are not currently able to perform ordinary classroom work; and SWD (student with disabilities) indicates students receiving special education services.
- MCAS results are the officially reported results for the selected year.
- Information for enrollments of fewer than 6, performance results fewer than 10, and growth results fewer than 20 are suppressed. Suppressed values are displayed as dashes (-).

Run Date: 8/19/17 Run By: dking24
 Massachusetts Executive Office of Education Edwin Analytics

Cleaning Service Model 1

All CIC's would have maintenance and supervision duties. They would not have cleaning duties.

LOCATION	Gross Sq. Ft.	FTE	Cleaning Service	FTE Savings	Salary Savings	Benefit Savings*	Net Cost
GDRHS	165,000	5.0	\$ 207,900.00	3.0	\$135,000.00	\$54,238.50	-\$18,661.50
GDRMS	187,000	6.1	\$ 233,750.00	4.0	\$180,000.00	\$72,318.00	\$18,568.00
Florence Roche	69,468	2.5	\$ 86,835.00	-	\$0.00	\$0.00	-\$86,835.00
Swallow Union	61,143	2.0	\$ 76,428.75	-	\$0.00	\$0.00	-\$76,428.75
Boutwell	8,208	0.5	\$ 10,260.00	-	\$0.00	\$0.00	-\$10,260.00

The Amesbury Model calls for two custodian / maintenance workers covering two shifts approximately 6:30 AM to 10:30 PM. The custodian /maintenance staff (School employees) are supplemented by a contract cleaning service at approximately \$ 1.26 per square foot cleaned.

***Benefit Assumptions**

Middlesex County Retirement System	Projected Employer Normal Cost for GDRSD	4.18%
Medicare contribution cost		1.45%
Health and dental benefit	Average cost of Family Plan with dental	\$15,546

Cleaning Service Model 2

This model assumes that each of the 4 maintenance workers would be assigned to a building as a CIC/maintenance worker. All CIC's/maintenance workers would have maintenance and supervision duties. They would not have cleaning duties.

LOCATION	Gross Sq. Ft.	FTE	Cleaning Service	FTE Savings	Salary Savings	Benefit Savings*	Net Cost
GDRHS	165,000	6.0	\$ 207,900.00	4.0	\$180,000.00	\$72,318.00	44,418.00
GDRMS	187,000	7.1	\$ 233,750.00	5.0	\$225,000.00	\$90,397.50	81,647.50
Florence Roche	69,468	3.5	\$ 86,835.00	1.5	\$67,500.00	\$26,510.25	7,175.25
Swallow Union	61,143	3.0	\$ 76,428.75	1.0	\$45,000.00	\$17,673.50	(13,755.25)
Boutwell	8,208	0.5	\$ 10,260.00	-	\$0.00	\$0.00	(10,260.00)

The Amesbury Model calls for two custodian / maintenance workers covering two shifts approximately 6:30 AM to 10:30 PM. The custodian /maintenance staff (School employees) are supplemented by a contract cleaning service at approximately \$ 1.26 per square foot cleaned.

*** Benefit Assumptions**

Middlesex County Retirement System	Projected Employer Normal Cost for GDRSD	4.18%
Medicare contribution cost		1.45%
Health and dental benefit	Average cost of Family Plan with dental	\$15,546

Estimated Electrician Cost

APPENDIX 2.7

Electrician w/ family health	Family Health
Base Salary	\$70,000
Health Benefits	\$15,546
Medicare	\$1,015
Retirement*	\$2,926
Potential full cost	\$89,487