

**ROUTINE MAINTENANCE FUNDING FORMULA
FOR
STATE OF WYOMING PUBLIC SCHOOLS**

Submitted To:

Joint Education Interim Committee
213 Capitol Building
Cheyenne, Wyoming 82002

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1.0 INTRODUCTION

1.0 Introduction

This report documents the development of MGT of America's recommendation for a funding formula for routine building maintenance grants to school districts in the State of Wyoming. The background of this study is explained in the following section.

1.1 Background

As a result of a law suit filed by four school districts in 1992, the state of Wyoming has been developing a court ordered school funding system that is intended provide fair and adequate funding of school districts in order that they may provide the "full basket of educational goods and services". The major funding formula that has been developed, is a cost-based block grant that includes all areas of operations except major maintenance and capital construction projects. This formula, commonly known as the MAP model, allocates funds for routine maintenance of school district buildings based on the number of students enrolled in the schools in a district.

During the development of the funding formula for capital construction projects, which included major maintenance of school buildings, the legislature concluded that a study should be conducted to develop a funding formula for routine maintenance of schools that accomplished two major objectives;

1. The formula should consider factors in addition to student enrollment, most logically, square footage.
2. The study should identify the amount of major maintenance funding included in the MAP formula, and separate that amount out of the new formula.

It was the intent of the legislature that the new funding formula for routine maintenance of schools be cost based and reflect the actual operating conditions of school districts in the state. Some of the conditions highlighted by the Legislature included:

- Some districts are experiencing a reduction in enrollment but must still maintain the same amount of buildings,
- Overcrowded schools require more routine maintenance,
- Public school maintenance costs should be competitive with private industry costs.

As a result of the Legislature's desire to develop a more effective funding formula for routine maintenance costs, MGT of America was selected by the Legislative Service Office (LSO) to conduct this study and prepare a recommendation for consideration by the Legislature.

2.0 STUDY APPROACH

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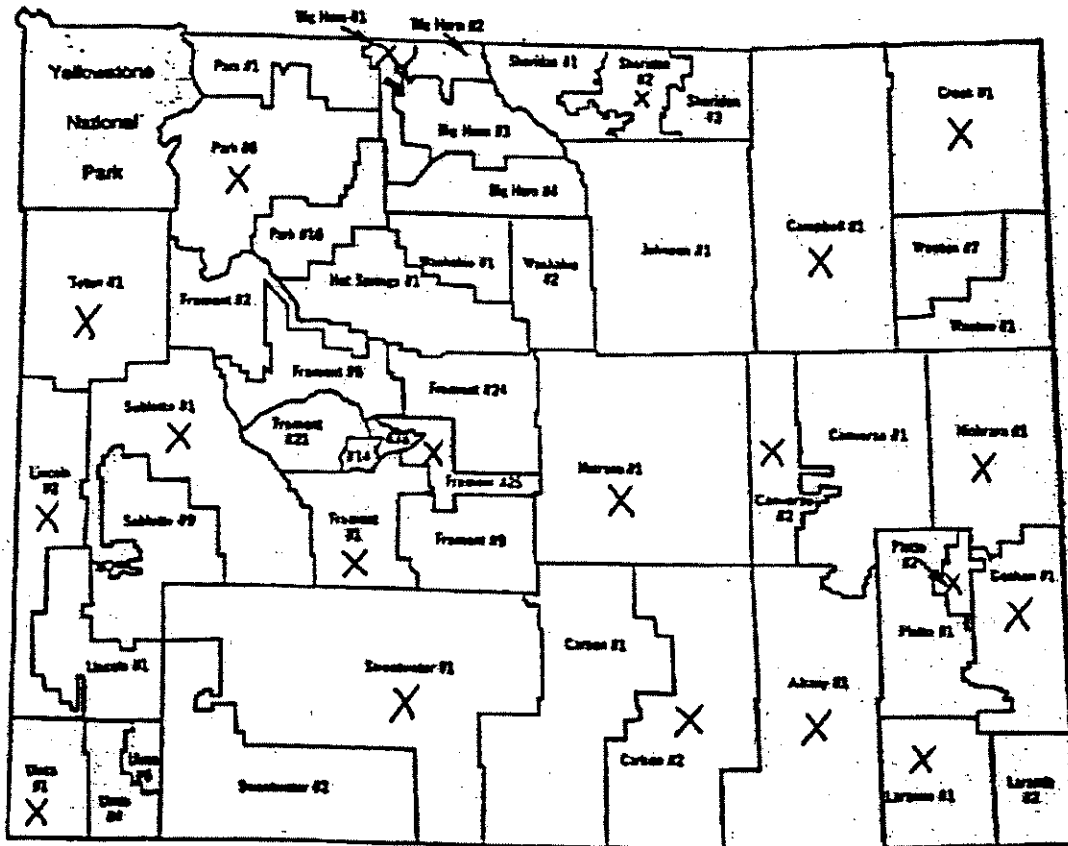
The approach used in the study followed the outline contained in the work plan presented to the Legislature in February, 1999 and revised after further consultation with the LSO in March. An important element in the approach was to utilize an advisory steering committee composed of representatives of school districts, which could advise the consultant team during the course of the project. The names of the advisory committee members and their districts are outlined in Appendix A.

The data gathering phase of the project focused on carefully selected sample districts. The purpose was to gather detailed information on 1998-99 expenditures from those districts and conduct a field review of the data and associated accounting practices. The first meeting of the advisory committee was directed to the following:

- Identification of twenty sample districts representing all major regions of the state and having a representative mix of physical characteristics.
- Identification of cooperating private sector enterprises, who's utilization of facilities have some characteristics similar to those of schools, and can offer a good basis for comparing costs with the private sector. It was decided to select enterprises from one geographic location to avoid questions related to possible differences in local labor market factors.
- A review detailed definitions of routine and major maintenance including specific examples of each type of expenditure. These were subsequently provided to all organizations from whom data were requested.

The sample districts identified for use in the study are illustrated on the map and listed in Exhibit 2-1 on the following page. The districts are as follows:

**EXHIBIT 2-1
SAMPLE DISTRICTS**



- | | |
|------------------------------------|--------------------------------------|
| Albany County School District #1 | Lincoln County School District #2 |
| Big Horn County School District #1 | Natrona County School District #1 |
| Campbell County School District #1 | Niobrara County School District #1 |
| Carbon County School District #2 | Park County School District #6 |
| Converse County School District #2 | Platte County School District #2 |
| Crook County School District #1 | Sheridan County School District #2 |
| Fremont County School District #1 | Sublette County School District #1 |
| Fremont County School District #25 | Sweetwater County School District #1 |
| Goshen County School District #1 | Teton County School District #1 |
| Laramie County School District #1 | Uinta County School District #1 |

In addition to collecting detailed information from the above districts, routine maintenance cost data were collected from selected private enterprises in the Casper area. The University of Wyoming and the Wyoming community colleges also provided data for analysis.

The sample school districts were visited by MGT's field analyst (a CPA with several years experience in educational finance) and a review was conducted of the data recorded for 1998-99. Decisions were made as to the appropriate classification of expenditures and the reviewed data were entered into a spreadsheet for detailed analysis.

During the data analysis phase, a variety of correlations were made and alternatives were examined. The data analysis, discussed in the next chapter, led to the findings and recommendations outlined later in this report.

3.0 DATA ANALYSIS

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This chapter presents the data and analysis that was used to develop the proposed formula for funding routine building maintenance in the state of Wyoming.

3.1 The MAP Model

As previously described, the state of Wyoming is currently using the MAP formula to fund operating expenses including "maintenance and operations" (M & O). The MAP formula component for M & O was developed by determining the actual amount of 1996-97 expenditures for maintenance and operations that was reported in the Wyoming Department of Education financial system. This amount was \$65.7 million. The expenditures were adjusted to reflect prototype staffing and expenditure models for grades K-5, 6-8, and 9-12, and then divided by average daily membership (ADM) for that year. The resulting model allowances for maintenance and operations per ADM were;

Elementary (K-5)	\$616.31
Middle School (6-8)	\$679.82
High School (9-12)	\$827.32

The MAP formula for M & O is applied using average daily membership and does not recognize differences in square footage. Neither does it differentiate between the various components of operations and maintenance such as routine maintenance, grounds maintenance, operations and utilities. In addition, there was concern that, due to the inconsistency in district reporting standards, the expenditures comprising the original base of \$65.7 million might include expenses that were not intended to be funded by this formula, e.g. capital construction or major maintenance projects.

3.2 Process for Routine Building Maintenance Formula

Developing a revised formula for the routine building maintenance portion of the maintenance and operations segment of the formula involved the following steps:

1. Define the portion of Maintenance and Operations devoted to "Routine Building Maintenance";

Define the activities that should be funded by the revised formula and those that should continue to be funded by the existing formula. Develop a definition of routine building maintenance.

2. Determine school district expenditures;

Review the expenditure data in the Wyoming financial reporting system to determine appropriate categories of expenditures as related to the definitions developed above. Obtain consistent financial data from sample districts. Determine the level of the base year expenditures used to fund major maintenance activities.

3. Analyze Financial Data and Develop Formula

Identify the most effective level of funding for routine maintenance and develop the most appropriate formula for the distribution of maintenance dollars to the school districts. This includes a comparison with expenditures by local business and institutions on similar activities.

3.2.1 Definition of Terms

The first step was to develop definitions of "routine building maintenance" and "major maintenance". The following definitions were developed in consultation with the steering committee.

ROUTINE BUILDING MAINTENANCE AND REPAIR

Legal Definition: Routine maintenance and repair means activities necessary to keep a school building or facility in safe and good working order so that it may be used at its original or designed capacity for its originally intended purposes, including janitorial, and maintenance tasks done on a routine basis and typically accomplished by district personnel with exceptions for any routine tasks accomplished by contractors such as elevator or other specialized equipment or building system maintenance.

Description: Routine maintenance and repair activities are typically the result of three activities. The first is the work order procedure, in which school staff submit requests for repairs to the facility. These repairs will include emergency, priority, and routine types of tasks. The second is the typical preventive maintenance program. These activities are conducted in an effort to keep equipment in good working condition and avoid costly repairs. The third activity includes the daily duties of custodial crews.

Routine maintenance activities can be accomplished by district staff or be contracted out to private contractors. Private contractors are used for specialty work, such as elevator maintenance, and when a district does not have staff in sufficient numbers or with the appropriate skills to accomplish the work.

Limitations: Routine maintenance and repair activities do not include activities which renew major building systems or components, such as replacing a roof, boiler, or floor covering. Predictable or cyclable, major repair activities are not included even if they are performed by district staff, such as the painting of a complete school facility. If a repair is normally funded from Capital Improvement Funds, it is not "routine maintenance." Routine building maintenance does not include utilities or ground maintenance (other than custodial salaries when doing occasional grounds work).

Examples: The following are examples of routine maintenance and repair activities.

- Daily cleaning by custodians
- Replacement of individual lamps and ballasts
- Replacement of individual ceiling tiles
- Repairs to plumbing fixtures
- Repairs to intercom and fire alarm systems
- HVAC repairs and maintenance
- Door and lockset repair and replacement
- Window pane replacement
- Painting individual classrooms or halls, etc.
- Minor roof repairs

MAJOR MAINTENANCE AND REPAIR

Legal Definition: Major building and facility repair and replacement means the repair or replacement of complete or major portions of school building and facility systems at irregular intervals which is required to continue the use of the building or facility at its original capacity for its original intended use and is typically accomplished by contractors due to the personnel demand to accomplish the work in a timely manner, the level of sophistication of the work, or the need for warranted work.

Description: Major building repair and replacement activities replace or significantly repair a complete building system, such as a roof, or a major component of a system, such as a boiler. While these activities can be projected, e.g. a roof will need to be replaced every 20 years, they do not typically happen annually or on a regular basis. Major repair and replacement activities are sometimes defined by a dollar amount. These activities are often accomplished by private contractor who have the expertise and/or staffing to complete the project, and so that district staff will not be kept from completing routine maintenance tasks.

Limitations: Major repair and replacement activities do not include routine or preventive maintenance tasks. Major maintenance is differentiated from capital improvements by the fact that major repair and replacement activities do not change the use or capacity of the building. Major maintenance can be called capital renewal and funded from the same sources as capital improvements.

Examples: The following are examples of major repair and replacement activities:

- Roof replacement
- Replacement of all or most of the doors, windows or locksets
- Replacement of interior finishes, e.g. carpet, ceiling system
- Interior or exterior painting of the entire building
- Replacement of a major component (boiler) in a HVAC system
- Repair work to correct conditions causing poor indoor air quality
- Non-recurring repairs costing 50% or more of the system replacement cost

Next, the current account codes used by the Department of Education for reporting expenditures were examined. Exhibit 3-1 shows the account codes in the 3400 account series, which encompass maintenance and operations.

**EXHIBIT 3-1
THE ACCOUNT CODE
DEPARTMENT OF EDUCATION**

CODE	THE ACCOUNT STRUCTURE
3410	Supervision of Operation and Maintenance of Plant Services
3420	Operating Buildings Services
3430	Care and Upkeep of Grounds Services
3440	Care and Upkeep of Equipment Services
3450	Vehicle Operation and Maintenance Services (Other Than Student Transportation Vehicles)
3460	Security Services
3470	Major Building and Facility Maintenance
3490	Other Operation and Maintenance of Plant Services

Routine maintenance and custodial services were considered the core activities comprising the segment of the MAP formula being revised. Grounds maintenance and utilities were not included in this study. Based upon input from the sample districts and the ease of using the financial system, an attempt was made to include or exclude

activities by account code category. Therefore, Vehicle Operation and Maintenance, Security Services (which were primarily building or property oriented rather than student oriented), and Care and Upkeep of Equipment Services were included on the maintenance side of the formula. Property insurance was also included but liability insurance was not. Identifying expenditures associated with major maintenance required using the detailed definition of both routine and major maintenance activities shown above.

3.2.2 Determine School District Expenditures

Two approaches were taken in identifying the routine maintenance expenditures of the school districts. First, information was obtained from the Department of Education on the expenditures as reported to the state for 1996-97, 1997-98 and 1998-99. These records identified utility expenditures, major building and facility maintenance expenditures, and all 3400 expenditures net of major building and facility maintenance costs for all three years.

Second, each school district was requested to complete a survey reporting 3400 expenditures by category. The data reported in these surveys were reviewed with the sample districts during an on-site visit by the MGT financial analyst.

Expertise in using the account structure depicted in Exhibit 3-1 varies among districts. In general, districts have not been consistently using the codes as defined by the Department. However, there is a high level of interest in consistently using these codes in the future. One of the complications with accurately using these codes, especially in smaller districts, is cost accounting of salaries. Custodians perform a variety of activities including custodial, grounds maintenance and routine maintenance. Not surprisingly, these districts do not have the sophisticated cost accounting systems required to segregate custodial work hours into these various categories. Therefore it

was often not possible to separate grounds maintenance expenditures from regular maintenance and custodial expenditures with a high level of confidence. Further, as grounds maintenance activities were often not assigned to a separate account code, it was sometimes not possible to separate non salary expenditures as well. A similar situation existed with expenditures for the maintenance of vehicles, which conceptually should have been divided between grounds, maintenance, and administration.

3.2.3 Analyze Financial Data and Develop Formula

Sample districts identified major maintenance activities reported in account code 3400 during each of the three years being reviewed. Exhibit 3-2 below shows those expenditures as a per cent of total maintenance and operations (M&O) expenditures. In the base year of 1996-97 used in calculating the MAP formula, major maintenance expenditures, incorrectly reported in account code 3400, comprised 5.2% of the total M&O expenditures. This improved to only .7% of expenditures being incorrectly recorded as regular maintenance in 1998-99.

**EXHIBIT 3-2
MAJOR MAINTENANCE EXPENDITURES REPORTED IN ACCOUNT CODE 3400
1996-99**

	Total Maintenance & Operations	Major Maintenance	Percent
1996-97	\$ 42,595,910	\$ 2,232,802	5.2%
1997-98	\$ 43,825,936	\$ 519,711	1.2%
1998-99	\$ 45,982,251	\$ 340,779	0.7%

District expenditures were then reduced by these major maintenance expenditures and adjusted as necessary for other inconsistently applied expenditure classifications

(such as having charged property insurance to a different account code). Expenditures were then divided between "maintenance" and "operations" as defined above. As can be seen in Exhibit 3-3 below, an average of 70% of the maintenance and operation expenditures of the sample districts were for routine building maintenance. This was tested over the three year period and the 70% factor was consistent.

**EXHIBIT 3-3
ROUTINE BUILDING MAINTENANCE AS A PERCENT OF M&O EXPENDITURES
SAMPLE DISTRICTS**

District Name	Percent Routine Building Maintenance
Carbon County SD #2	67%
Converse County SD #2	56%
Sublette County SD #1	46%
Platte County SD #2	56%
Niobrara County SD #1	66%
Big Horn SD #1	76%
Crook County SD #1	73%
Sweetwater County SD #1	73%
Alabany County SD #1	70%
Park County SD #6	68%
Campbell County SD #1	67%
Uinta County SD #1	62%
Sheridan County SD #2	72%
Fremont County SD #1	75%
Goshen County SD #1	70%
Lincoln County SD #2	66%
Teton County SD #1	66%
Natrona County SD #1	72%
Laramie County SD #1	72%
Overall Average	70%

Factors relevant to building maintenance, such as building age, building condition, expenditures for routine maintenance, and utilization (degree of over or under use), were analyzed to determine if valid relationships existed. Exhibit 3-4 shows the relationship

between building age and building condition for the sample districts. Building condition data was taken from the 1997 statewide condition survey of all education buildings. The exhibit indicates there is no correlation between these factors.

**EXHIBIT 3-4
BUILDING AGE COMPARED TO BUILDING CONDITION
SAMPLE DISTRICTS**

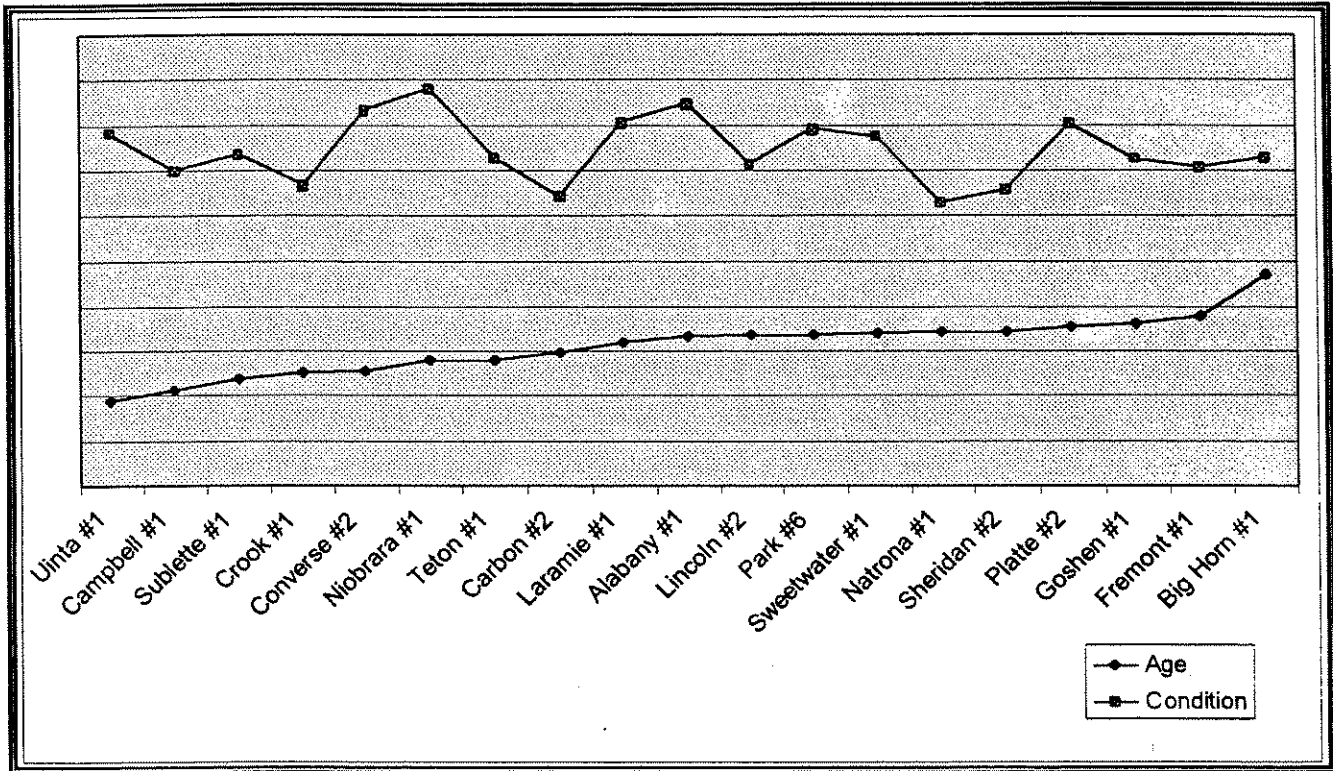
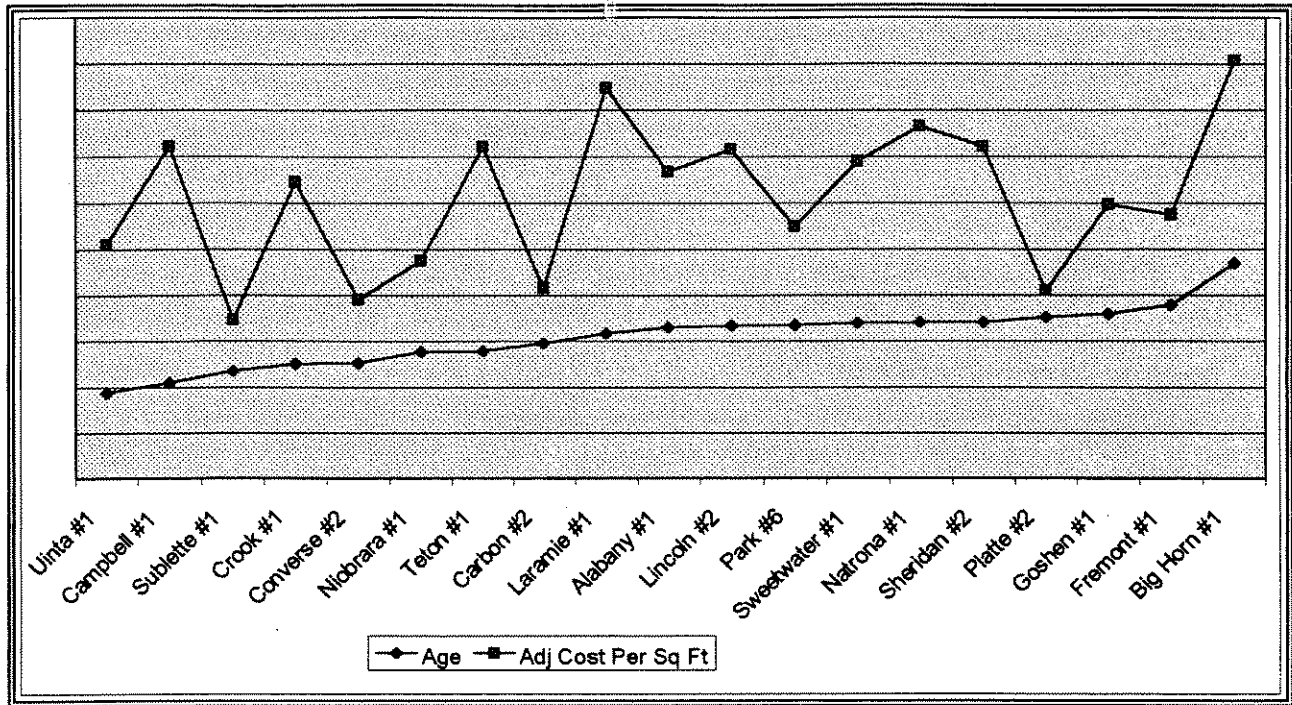


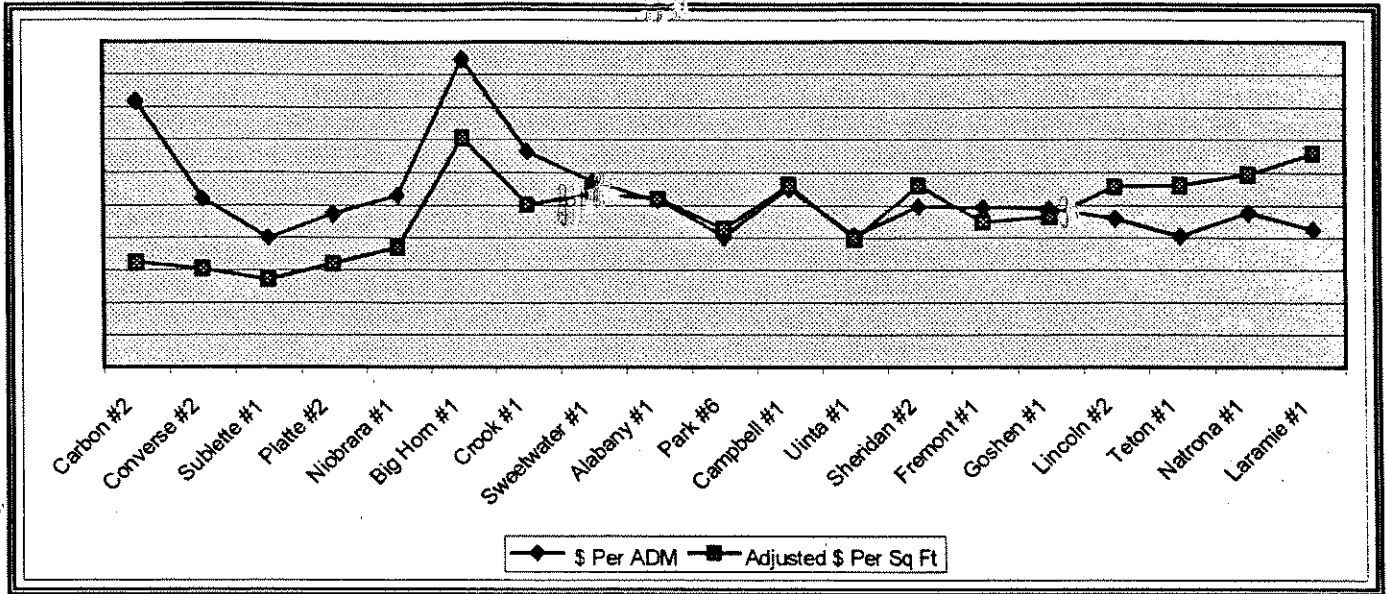
Exhibit 3-5 compares the average building age in the sample districts to the amount of expenditures for routine maintenance. As can be seen, there was no correlation between the age of buildings and the amount spent on routine maintenance. Comments from district personnel indicated that there might be a stronger correlation between building age and major maintenance expenditures.

**EXHIBIT 3-5
BUILDING AGE VS. ROUTINE MAINTENANCE EXPENDITURES
SAMPLE DISTRICTS**



Exhibits 3-6 and 3-7 identify and compare the amount of dollars spent for routine maintenance per ADM and per gross square foot of building. The line graph in exhibit 3-7 indicates a close relationship between these two factors where districts are at, or close to, the state standard amount of square foot per pupil.

**EXHIBIT 3-6
EXPENDITURES PER ADM VS PER SQUARE FOOT
SAMPLE DISTRICTS**



**EXHIBIT 3-7
EXPENDITURES PER ADM VS PER SQUARE FOOT
SAMPLE DISTRICTS**

District	\$ Per ADM	\$ Per Sq Ft
Carbon County SD #2	\$ 815.51	\$ 1.34
Converse County SD #2	\$ 517.32	\$ 1.26
Sublette County SD #1	\$ 398.45	\$ 1.12
Platte County SD #2	\$ 471.10	\$ 1.32
Niobrara County SD #1	\$ 528.87	\$ 1.53
Big Horn SD #1	\$ 946.22	\$ 2.93
Crook County SD #1	\$ 661.67	\$ 2.08
Sweetwater County SD #1	\$ 570.18	\$ 2.22
Alabany County SD #1	\$ 514.41	\$ 2.15
Park County SD #6	\$ 401.25	\$ 1.77
Campbell County SD #1	\$ 549.99	\$ 2.33
Uinta County SD #1	\$ 406.44	\$ 1.64
Sheridan County SD #2	\$ 495.16	\$ 2.33
Fremont County SD #1	\$ 490.32	\$ 1.85
Goshen County SD #1	\$ 486.34	\$ 1.93
Lincoln County SD #2	\$ 456.85	\$ 2.31
Teton County SD #1	\$ 403.10	\$ 2.33
Natrona County SD #1	\$ 474.70	\$ 2.47
Laramie County SD #1	\$ 423.11	\$ 2.73

As indicated in Exhibit 3-7, the sample districts from Park #6 to Lincoln #2 have a close correlation between costs per square foot and cost per ADM. Exhibit 3-8 explores this relation further by examining the utilization rates of the districts as determined by the state standards for square footage per student. Districts that utilize space at least 85% of standard are routinely considered to be fully using their space. Therefore the districts between Sheridan #2 and Natrona #1, on the chart, have both a high correlation between costs per square foot and cost per ADM and meet the full utilization criteria. An analysis of this data indicates that the average cost per square foot of all sample districts is \$2.199 and the cost for districts at or near full capacity is \$2.296 per square foot. It further suggests that a benchmark amount of \$2.30 per square foot is appropriate

**EXHIBIT 3-8
COST PER GSF AND UTILIZATION
SAMPLE DISTRICTS – 1998-99**

	Routine Maint	Total GSF	\$per GSF	Capacity	Utilization
Carbon County SD #2	\$ 719,886	537,308	\$ 1.34	306%	33%
Converse County SD #2	\$ 445,546	353,629	\$ 1.26	229%	44%
Sublette County SD #1	\$ 249,257	222,326	\$ 1.12	196%	51%
Platte County SD #2	\$ 118,986	89,968	\$ 1.32	193%	52%
Niobrara County SD #1	\$ 248,905	162,463	\$ 1.53	183%	55%
Big Horn SD #1	\$ 781,370	267,025	\$ 2.93	172%	58%
Crook County SD #1	\$ 831,818	400,028	\$ 2.08	156%	64%
Sweetwater County SD #1	\$ 2,921,458	1,313,586	\$ 2.22	134%	74%
Alabany County SD #1	\$ 1,953,500	908,373	\$ 2.15	131%	76%
Park County SD #6	\$ 1,025,212	579,575	\$ 1.77	125%	80%
Campbell County SD #1	\$ 4,126,502	1,773,403	\$ 2.33	124%	81%
Uinta County SD #1	\$ 1,441,144	877,293	\$ 1.64	122%	82%
• Sheridan County SD #2	\$ 1,661,539	714,276	\$ 2.33	118%	85%
• Fremont County SD #1	\$ 1,003,450	541,097	\$ 1.85	117%	85%
• Goshen County SD #1	\$ 1,037,799	538,798	\$ 1.93	116%	86%
• Lincoln County SD #2	\$ 1,141,586	494,271	\$ 2.31	102%	98%
• Teton County SD #1	\$ 902,242	387,685	\$ 2.33	100%	100%
• Natrona County SD #1	\$ 5,722,903	2,319,376	\$ 2.47	99%	101%
• Laramie County SD #1	\$ 5,655,170	2,067,731	\$ 2.73	82%	122%
	\$31,988,273	14,548,211		116%	86%

Average \$ per GSF
 *Full capacity Districts \$2.296
 Total Sample Average \$2.199

The final element reviewed was the relationship of school building maintenance to the expenditures of private enterprise. Exhibit 3-9 identifies the amount of funds spent on routine maintenance by private enterprise. Four businesses with use and function characteristics similar to public schools were examined. The data indicates that private enterprise is spending more per square foot than the school districts on average and is maintaining their buildings in good or excellent condition. The overall expenditure for building maintenance was \$2.60 per square foot.

**EXHIBIT 3-9
ROUTINE MAINTENANCE COST FOR PRIVATE ENTERPRISE
CASPER AREA – 1998-99**

	Bank	Motel	Mall	Grocery Store
Routine Maintenance	\$ 206,000	\$ 240,000	\$ 107,000	\$ 47,000
Custodial Salaries	\$ 66,000	\$ 45,000	\$ 105,000	\$ 47,000
Custodial Supplies		\$ 10,000	\$ 27,000	\$ 10,000
Grounds Services	\$ 13,000	\$ 10,000	\$ 46,000	\$ 8,000
Utilities	\$ 93,000	\$ 276,000	-	\$ 101,000
Total	\$ 378,000	\$ 581,000	\$ 285,000	\$ 213,000
Gross Sq Ft for Custodians	90,000	130,000	88,000	42,000
Gross Square Feet	90,000	130,000	88,000	42,000
Average Age (years)	20	20	17	12
Average Condition	good	good	good	excellent
Per Square Foot				
Routine Maintenance	\$ 2.29	\$ 1.85	\$ 1.22	\$ 1.12
Custodial Salaries	\$ 0.73	\$ 0.35	\$ 1.19	\$ 1.12
Custodial Supplies	\$ -	\$ 0.08	\$ 0.31	\$ 0.24
Grounds Services	\$ 0.14	\$ 0.08	\$ 0.52	\$ 0.19
Utilities	\$ 1.03	\$ 2.12		\$ 2.40
Total	\$ 4.20	\$ 4.47	\$ 3.24	\$ 5.07
Total Routine Maintenance	\$ 272,000	\$ 295,000	\$ 239,000	\$ 104,000
Per Square Foot	\$ 3.02	\$ 2.27	\$ 2.72	\$ 2.48
Average Per Square Foot	\$ 2.60			

4.0 PROPOSED FUNDING

4.0 PROPOSED FUNDING FOR ROUTINE BUILDING MAINTENANCE

After examining a wide range of alternatives in the analysis process, it was clear that the number of square feet of building space maintained by a school district was the most reasonable and logical basis for funding on-going routine building maintenance. At the same time, there are aspects of student enrollment, expressed as average daily membership or "ADM", which have a bearing on maintenance expenditures. In addition, simply funding all the square feet that a district owns does not address issues related to relatively unused space. Therefore the approach that was developed uses a combination of ADM and square footage to allocate state funds for routine building maintenance.

In general, the proposed approach provides full funding per square foot for space indicated as necessary per state standards; provides reduced funding per square foot for additional space beyond the standards; or increased funding per square foot for overused space. The details of the approach are outlined below and examples of its application are contained in Appendix B that follows this chapter.

4.1 Amount of Funding Per Square Foot

The previous chapter contained a discussion of the analysis leading to the calculation of the suggested amount per square foot for routine building maintenance. Figure 3-8 provides an illustration of the maintenance cost per square foot of the sample districts whose education related space is within a reasonable relationship to State Department of Education standards. That amount is approximately \$2.30 per square foot in 1998-99 dollars. This is the amount that would have normally been recommended for funding the maintenance costs of space at or near state standards. However, since the funding factors for school operating costs are currently based on

1996-97 amounts, and the issue of updating for inflation is under review by the Legislature, the formula amount has been adjusted to 1996-97 levels. Using the Whitestone Index of maintenance costs, the cost for the Cheyenne area is reduced to \$2.15 per square foot. We strongly recommend that the legislative committee considering cost adjustment factors using the Whitestone or R.S. Means index and adjust this amount to reflect costs that have occurred since 1996-97 and will likely occur in the future.

4.2 Treatment of Education Space

"Education space" is defined as space within a permanent school building used for education plus associated portables. Under the recommended approach, if a district's actual education square footage meets, but does not exceed state standards¹ by 15 percent, all of its education square footage would be funded at full formula value. The 15 percent factor represents a reasonable utilization allowance experienced in normal scheduling of school space.

To the extent that a district's education square footage exceeds state standards by more than 15 percent, it would still receive the full rate for space within 115% of standard. However, the rate per square foot for the excess square footage diminishes until it reaches zero at 200% of standards. This declining amount is in recognition of the fact that space in excess of state standards (and allowing for a reasonable tolerance band) is used less intensively and will receive lower amounts of wear and tear. The 200% cutoff is consistent with a policy allowance reflected in previous legislative action concerning major maintenance.

¹ State Standards for Educational Space are:

Elementary School Students: 140 Square Feet per ADM
Middle School Students: 175 Square Feet per ADM
High School Students: 210 Square Feet per ADM

Conversely, districts with less space than the state recommends in its standards should receive allocations based on a higher amount per square foot. In this case, no "tolerance" band is recommended since the districts clearly are short of needed space. In addition, all of the district space needs to be funded at a higher rate since it all is impacted. Exhibit 4-1 graphically illustrates the concept outlined above and Exhibit 4-2 identifies the composite rate per square foot at various increments for education space.

EXHIBIT 4-1
DOLLARS PER SQUARE FOOT BY CAPACITY
1996-97 DOLLARS

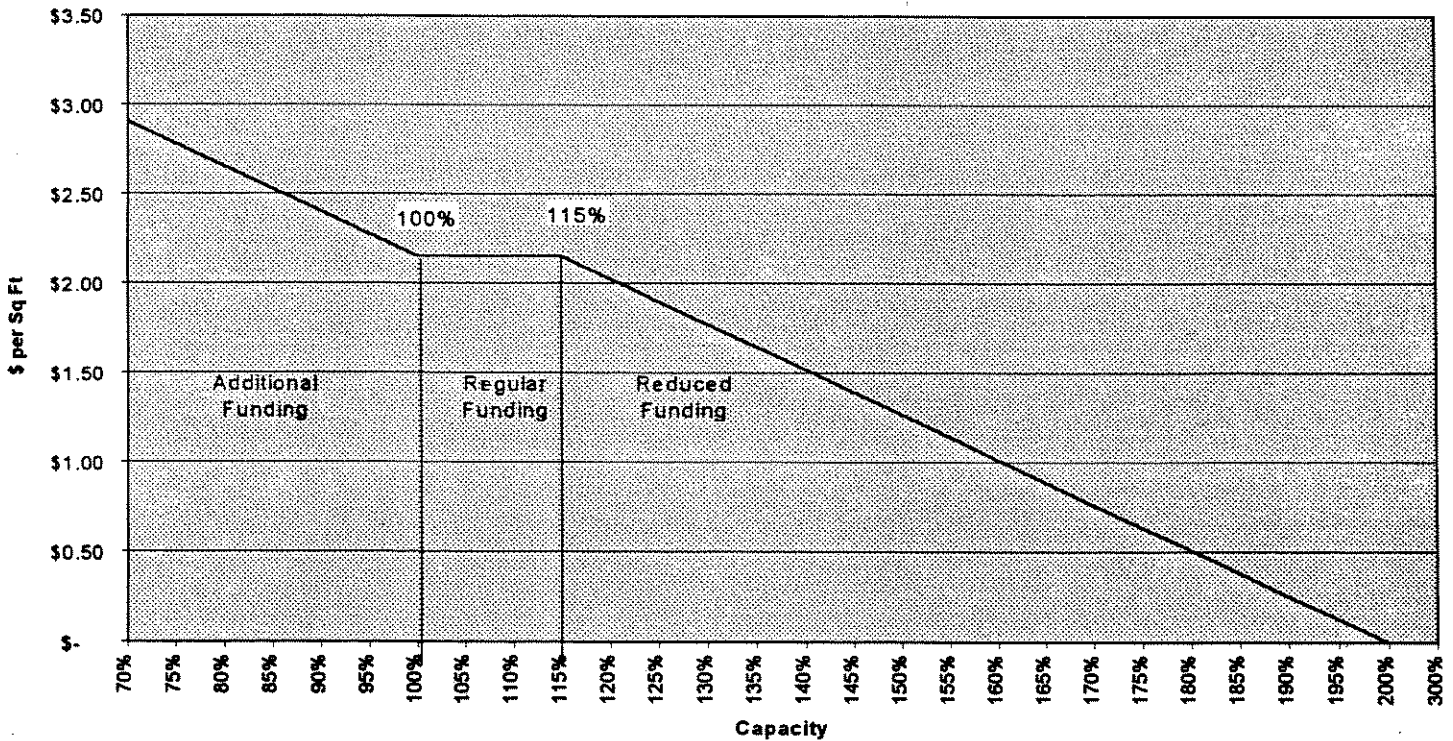


EXHIBIT 4-2
COMPOSITE RATE PER SQUARE FOOT FOR EDUCATION SPACE
BY CAPACITY AS A PERCENT OF STANDARD
1996-97 DOLLARS

Percent of Standard	Funding per Sq Ft
	Ed Space
80%	\$2.403
85%	\$2.340
90%	\$2.276
95%	\$2.213
100%	\$2.150
105%	\$2.150
110%	\$2.150
115%	\$2.150
120%	\$2.147
125%	\$2.140
130%	\$2.128
135%	\$2.113
140%	\$2.094
145%	\$2.072
150%	\$2.047
175%	\$1.890
200%	\$1.693
225%	\$1.505
250%	\$1.355

4.3 Treatment of Non-education Space:

Non-education square footage (bus-barns, administration buildings, teacherages, storage facilities, etc.) is not the subject of standards adopted by the Department of Education. However, the Legislature reached a policy conclusion in early 1999 when it established a guideline under which non-education space up to ten percent of the

education space guideline would receive full funding for major maintenance needs. Our review suggests that this is a reasonable guideline to follow in funding of routine building maintenance, with one minor exception. We recommend that the criteria be the greater of ten percent of the actual or of the state standard for education space. In our opinion, the state will attempt, over time, to increase the amount of education space in districts with space shortages. Therefore, it would be unfair to penalize districts in such a position, if their non-education space is below ten percent of state standards for education space.

Under the proposed formula, non-education space that is in excess of the ten percent criteria is funded at a declining amount per square foot in a manner similar to education space. However, it should be noted that there is no "tolerance band" beyond the ten percent level. A suggestion was made during the discussion of alternatives to combine all types of space and use 110% of state standards as the criteria. This approach was examined and was not recommended even though it simplified reporting of district space. The reasons were as follows:

1. The approach penalizes districts with education space more than twice the state standard since no non-education space would be funded for routine maintenance; and
2. It would be necessary to apply a tolerance band to non-education space and this would be inconsistent with the position adopted by the 1999 Legislature.

The examples in Appendix B provide more information on the recommended formula for routine maintenance of non-education space. Exhibit 4-3, on the following page, provides information on the composite rate per square foot at various increments for that space type.

EXHIBIT 4-3
COMPOSITE RATE PER SQUARE FOOT FOR NON-EDUCATION SPACE
BY PERCENT OF STANDARD
1996-97 DOLLARS

Percent of Standard	Funding per Sq Ft
	Non-Ed Space
<100%	\$2.150
100%	\$2.150
105%	\$2.147
110%	\$2.140
115%	\$2.129
120%	\$2.114
125%	\$2.096
130%	\$2.076
135%	\$2.052
140%	\$2.027
145%	\$2.000
150%	\$1.971
175%	\$1.804
200%	\$1.613
225%	\$1.433
250%	\$1.290

Exhibits 4-4 and 4-5 provide a comparison of the allocations generated by the proposed formula with the existing MAP formula and current expenditures. The comparisons are in total dollars and on a state-wide basis. In view of the fact that the MAP portion of the Maintenance and Operations program is still under review, district-by-district comparisons could be misleading. The detailed spreadsheets have been provided to LSO staff and, as the MAP portion of M&O is finalized, the staff will be able to provide information at the district level.

**EXHIBIT 4-4
COMPARISON WITH MAP ALLOCATION AND COST TO SYSTEM
1996-97 DOLLARS**

MAP Allocation	Routine Maintenance	Operations	Total Allocation	Cost to State
Actual Current Allocation for Maintenance and Operations	\$ 45,957,901	\$ 19,696,243		\$ 65,654,145
Map Allocation reduced by 5% for Major Maintenance	\$ 43,660,006	\$ 18,711,431	\$ 62,371,437	
MGT Proposed Allocation (96-97 Dollars)	\$ 46,675,517	\$ 18,711,431	\$ 65,386,948	\$ 65,386,948
Increase (Decrease) in Cost				\$ (267,197)

**EXHIBIT 4-5
COMPARISON OF ALLOCATIONS AND EXPENDITURES
1996-97 DOLLARS**

MGT Proposed Formula Allocation	\$ 46,675,517
School District Expenditures*	\$ 46,368,672
MAP Formula Allocation	\$ 45,957,901
MAP Allocation excluding Major Maintenance	\$ 43,660,006

As the exhibits indicate, the recommendations provide slightly more funds than the current MAP formula allocation and approximately \$300,000 more for routine building maintenance than districts expended (when adjusted to 1996-97 levels). In addition, due to the elimination of major maintenance from the formula base, there is actually a savings of approximately \$267,000 to the state.

It should be borne in mind, however, that MGT recommends that the amounts for allocation be adjusted to reflect cost of operation changes between 1996-97 and 1998-99. In addition, we also recommend that the savings resulting from removing major maintenance from the M&O formula be added to state allocations for major maintenance.

4.4 Summary of Recommendations

The following is a summary of the recommendations contained in this report.

3. That the MAP formula for Maintenance and Operations be reduced to reflect the inclusion of major maintenance expenditures in the base year on which the MAP formula was developed.
4. That 70 percent of the remainder of M&O be set aside for allocation to districts on the basis of a formula driven by state square footage standards times average daily membership and adjusted to reflect the relationship of district square footage to those standards. Under this formula, districts that are overcrowded will receive a higher per square foot allocation and districts with excess space will receive a lower allocation. (see Appendix C for the technical description of the formula)
5. That the base amount per square foot amount be initially set at \$2.30 per square foot and adjusted annually by the percentage change in the Whitestone index of maintenance costs for the Cheyenne area.
6. That the savings resulting from the deduction of five percent from the MAP formula for Maintenance and Operations be added to the state program to provide assistance to districts for major maintenance needs.

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APPENDICES

APPENDIX A

ROUTINE MAINTENANCE STEERING COMMITTEE MEMBERS

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APPENDIX B



EXAMPLE 1

Actual District Space	Sq Ft
Education	420,000
Non-Education	55,000
Total	475,000

Space Standard for Education Uses				Space Standard for Non-Education Uses	
	ADM	State St. Sq Ft per ADM	Total Sq Feet	The greater of:	Sq Ft
Elementary School Students (.5K-5)	750	140	105,000	10% of Actual Education Space	42,000
Middle School Students	665	175	116,375	10% of Education Space Standard	36,838
High School Students	700	210	147,000		
Total	2115		368,375		

Capacity (actual space divided by standard space)

Education Space	114.0%
Other Space	131%

Calculation

1. Education Space - $420,000 \times \$2.15 =$ **\$ 903,000**
 District is using the educational space at between 100% and 115% of capacity. Therefore all educational space is funded at full formula (\$2.15 per sq ft for 1996-97)

 2. Non-Education Space -
 - a. Full funding for space per standard: $42,000 \times \$2.15 = \$ 90,300$
 - b. Reduced funding for excess space:
 Excess space = $55,000 - 42,000 = 13,000$
 Excess percentage = $13,000$ divided by $42,000 = 31\%$
 Excess percentage capacity = 31% or 31 points
 Formula: $\$2.15 - (.0215 \times 31 + 2) = \$ 1.817$
 Amount: $\$1.817 \times 13,000 =$ **\$ 23,621**
 - c. Total Funding for Non-Education Space: **\$ 113,921**
- Total Funding: \$1,016,921**

EXAMPLE 2

Actual District Space	Sq Ft
Education	400,000
Non-Education	100,000
Total	500,000

Space Standard for Education Uses				Space Standard for Non-Education Uses	
	ADM	State St. Sq Ft per ADM	Total Sq Feet	The greater of:	Sq Ft
Elementary School Students (.5K-	800	140	112,000	10% of Actual Education Space	40,000
Middle School Students	850	175	148,750	10% of Education Space Standard	46,550
High School Students	975	210	204,750		
Total	2625		465,500		

Capacity (actual space divided by standard space)

Education Space	86%
Other Space	215%

Calculation:

1. Education Space -

District's capacity is 86% of what it should be by state standard. Therefore the space is being "overused."

Space deficiency = 14% or 14 points

Scale increases by $\$2.15 \div 85$ is \$.0259 per point

Formula: $\$2.15 + (.0259 \times 14) = \2.37

Amount: $\$2.327 \times 400,000 =$

\$ 930,800

2. Other Space -

"Standard" education space is greater than the actual ed space. Standard space for other uses is therefore 10% of the "standard" education space or 46,550 sq ft. At 100,000 sq ft, the district's actual space exceeds this Standard by 53,450 sq ft. The standard of space is funded at the full \$2.15 level while the excess is funded on a scale that declines \$.0215 for each % over the required amount up to 200% of capacity.

EXAMPLE 2, CONTINUED

- a. Full funding for standard space $46,550 \times \$2.15 = \$100,083$
- b. Reduced funding for additional space up to 200% capacity

Excess percentage capacity = 115% or 15 points

Funding reaches \$0 per sq ft at 100% excess % capacity

Scale decreases by $\$2.15 \div 100$ or \$.0215 per point

Formula: $\$2.15 - (.0215 \times 100 + 2) = \1.075

Amount: $\$1.075 \times 46,550 =$ \$ 50,041

- c. No funding for sq ft over 200% $\$0 \times 6,990 = \0
- d. Total Funding for Other Space \$ 150,124

Total Funding **\$ 1,080,924**

EXAMPLE 3

Actual District Space	Sq Ft
Education	850,000
Non-Education	55,000
Total	905,000

Space Standard for Education Uses				Space Standard for Non-Education Uses	
	ADM	State St. Sq Ft per ADM	Total Sq Feet	The greater of:	Sq Ft
Elementary School Students (.5K-	1100	140	154,000	10% of Actual Education Space	85,000
Middle School Students	1200	175	210,000	10% of Education Space Standard	63,700
High School Students	1300	210	273,000		
Total	3600		637,000		

Capacity (actual space divided by standard space)

Education Space	133%	213,000
Other Space	86%	

Calculation

1. Education Space

At 850,000 sq. ft. the district's actual space exceeds the standard space. 115% of the standard space is funded at the full \$2.15 level while the excess is funded on a scale that declines \$.02529 for each % over the standard amount up to 200% capacity.

- a. Full funding for 115% x standard space $732,550 \times \$2.15 =$ **\$1,574,983**
- b. Reduced funding for remaining space of 117,450 sq. ft.

Excess percentage capacity = $133\% - 115\%$ or 18
 Scale decreases by $\$2.15 \div 85$ or \$.02529 per point
 Formula: $\$2.15 - (.02529 \times 18 + 2) = \1.922
 Amount: $\$1.922 \times 117,450 =$

\$ 225,739

- c. Total Funding for Other Space **\$1,800,721**

EXAMPLE 3, CONTINUED

2. Other Space

Actual education space is greater than the "standard" space. space for other uses is therefore 10% of the actual education space or 85,000 sq. ft. At 55,000 sq. ft. the district's actual space is less than this standard. The standard is funded at the full \$2.15 level.

Full funding for actual space $55,000 \times \$2.15 =$ **\$ 118,250**

Total Funding **\$1,918,971**

APPENDIX C

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Routine Maintenance Funding Formula

Step 1: Determine the total standard education and non-education space required to house the district's ADM (Education space is the space within a permanent school building used for education plus associated portables. All other space is non-education space.)

- A. Multiply number of elementary students (grades K-5) by 140 SF.
- B. Multiply number of middle school students (grades 6-8) by 175 SF.
- C. Multiply number of high school students (grades 9-12) by 210 SF.
- D. Add products of A, B, and C = standard education space
- E. Multiply D by 10%.
- F. Multiply actual gross square feet of education space by 10%.
- G. The greater of E or F = standard non education space

Step 2: Determine capacity of education space

Divide the actual gross square feet of education space by the standard education space (1.D above).

Step 3: Calculate allocation for education space

- A. If capacity is less than 100% (overused space)
 1. Calculate "Overuse %" by subtracting capacity from 100%.
 2. Calculate "Overuse Points" (OP) by multiplying Overuse % by 100
 3. Calculate amount of increase per overuse point (OPI) by dividing full funding allocation (FFA) by 85. Using 1996-97 dollars = $\$2.15 / 85 = \0.0253
 4. Calculate overuse allocation (OA) by adding full funding allocation (FFA) (\$2.15 in 1996-97 dollars) to the product of overuse points (OP) and overuse point increase (OPI) divided by 2.

$$OA = FFA + \frac{(OP \times OPI)}{2}$$

5. Calculate allocation by multiplying total gross square feet of education space by overuse allocation (OA).

- B. If capacity is between 100% and 115% (fully used space)
1. Calculate allocation by multiplying total gross square feet of education space by full funding allocation (FFA) (\$2.15 in 1996-97 dollars)
- C. If the capacity is over 115% (underused space)
1. Calculate part one of the district's allocation by multiplying 115% of the district's standard education space by the full funding allocation (FFA) (\$2.15 in 1996-97 dollars)
 2. Calculate underused capacity (UC) by subtracting 115% from the capacity. If capacity is greater than 200%, use 200%.
 3. Calculate underused points (UP) by multiplying underused capacity (UC) by 100.
 4. Calculate amount of decrease per underused point (UPD) by dividing full funding allocation (FFA) by 85. Using 1996-97 dollars = $\$2.15 / 85 = \0.0253
 5. Calculate the underuse allocation (UA), by subtracting the product of underuse points (UP) and underuse point decrease (UPD) divided by 2 from the full funding allocation (FFA) (\$2.15 in 1996-97 dollars).

$$UA = FFA - \frac{(UP \times UPD)}{2}$$
 6. Calculate part two of the district's allocation by multiplying the amount of the district's education square footage which is in excess of 115% of the standard, and not more than 200% of the standard, times the underuse allocation (UA).
 7. Calculate the district's total allocation by adding part one (#1) and part two (#6).

Step 4: Calculate allocation for non-education space

- A. Calculate non-education capacity by dividing the actual gross square feet of non-education space by the standard non-education space (Step 1-G.)
- B. If capacity is equal to or less than 100%, the allocation equals the actual non-education gross square feet multiplied by the full funding allocation (FFA) (\$2.15 in 1996-97 dollars).
- C. If the capacity is over 100%;
 1. Calculate part one of the allocation by multiplying 100% of the district's standard non-education space by the full funding allocation (FFA).

2. Calculate the underused capacity (UC) by subtracting 100% from the capacity. Use 200% for capacity, if capacity is over 200%.
3. Calculate underused points (UP) by multiplying underused capacity (UC) by 100.
4. Calculate amount of decrease per underused point (UPD) by dividing full funding allocation (FFA) by 100. Using 1996-97 dollars = $\$2.15 / 100 = \0.0215
5. Calculate the underused allocation (UA), by subtracting the product of underused points (UP) and underused point decrease (UPD) divided by 2 from the full funding allocation (FFA) ($\$2.15$ in 1996-97 dollars).

$$UA = FFA - \frac{(UP \times UPD)}{2}$$

6. Calculate part two of the district's allocation by multiplying the amount of the district's education square footage which is in excess of 100% of the standard, and not more than 200% of the standard, times the underuse allocation (UA).
7. Calculate the district's total allocation by adding part one (#1) and part two (#6).

Step 5: Calculate total allocation for routine maintenance

- A. The district's total allocation is the sum of the allocation for education space and the allocation for non-education space.