

MEMORANDUM



JOINT BUDGET COMMITTEE

TO Capital Development Committee
FROM Alfredo Kemm, JBC Staff (303.866.4549)
DATE January 31, 2017
SUBJECT JBC Staff Briefing Issues and Legislation Recommendation Overview

Attached, please find the JBC staff issue brief titled, "Prioritizing Controlled Maintenance, Capital Renewal, and Recapitalization". In this issue brief, JBC staff has recommended that the JBC pursue legislation for the following purposes:

1. To establish a minimum appropriation level for "recapitalization" that would "ramp up" to one percent of current replacement value over five years (FY 2021-22). Recapitalization appropriations totaled a half percent of current replacement value in FY 2016-17. A ramp-up suggests minimum levels of 0.6, 0.7, 0.8, 0.9, and 1.0 percent over the five-year period. Recapitalization is defined as controlled maintenance, capital renewal, and renovation.
2. To codify in statute, a single appropriation line item for controlled maintenance, which would be managed by the State Architect and is intended to fund prioritized controlled maintenance projects to the extent that funding is provided in the line item. CDC review and approval of the project list and prioritization may still be provided through this process.

In this recommendation, JBC staff's goals include:

- Prioritizing the JBC's role as setting the proper funding level for this singular budget item based on objective criteria. The State Architect has long recommended funding a percentage of the current replacement value of the state building inventory.
- Establishing controlled maintenance as a base budget item. The concept of a "base" budget item suggests that the appropriation builds or declines incrementally from the base appropriation the prior year but establishes an annual, ongoing budget need. JBC staff is encouraging the JBC to consider controlled maintenance as a known, annual, ongoing commitment and funding need.
- Providing the State Architect with additional flexibility to manage controlled maintenance projects to potentially achieve efficiencies across projects, provide authority to make funding adjustments as necessary for projects undertaken, and to provide a greater funding pool for emergency projects.

Currently, the State Architect has statutory authority to fund emergency controlled maintenance projects from existing appropriations, in addition to the emergency controlled maintenance fund. That authority essentially provides that the State Architect may treat the entire controlled maintenance appropriation as a single appropriation for this purpose. This JBC staff recommendation merely codifies the single appropriation approach for all controlled maintenance – emergency or planned.

JBC staff has recommended that the JBC adopt a similar "ramp up" funding goal for controlled maintenance which would begin at \$30 million in FY 2017-18, and increase \$5 million per year until reaching \$50 million in FY 2021-22, and then be funded at 0.5 percent of current replacement value in years thereafter. Funding \$30 million in FY 2017-18 has the effect of almost fully funding the State Architect's Level 1 controlled maintenance list of \$30.8 million, which includes \$3.0 million for emergency controlled maintenance; an increase of \$1.0 million over the FY 2016-17 appropriation for that item.

In addition, JBC staff recommended that the JBC reformat the capital construction budget to emphasize capital renewal and recapitalization. The new format would include 4 parts:

- Part I – Capital Renewal, to include the controlled maintenance line item.
- Part II – Other Recapitalization, which would include renovation and other recapitalization.
- Part III – Capital Expansion, which would include new capital construction.
- Part IV – Information Technology Projects.

The reformat is intended to isolate, emphasize, and prioritize appropriations for capital renewal. Currently capital renewal projects are placed in the general capital construction section of the budget with new construction. However, capital renewal projects are more similar to controlled maintenance as they are higher cost or multi-system controlled maintenance projects. And capital renewal projects should be prioritized and funded ahead of new construction. Similarly, renovations which include capital renewal for building systems, but which include improved program space and new construction, should similarly be prioritized and funded ahead of new construction. New construction would be located in the Capital Expansion section of the budget in Part III, as the most discretionary funding section of the capital construction budget.

In conclusion, in ongoing recommendations, JBC staff has sought to more clearly define the roles of the CDC and the JBC in the capital construction process. JBC staff recommendations emphasize the CDC's role as providing legislative oversight for capital construction generally. Specifically, this means that the CDC approves construction-related projects and oversees projects through the construction process, and recommends the proper funding amount for projects, regardless of budget conditions or timing. While the JBC establishes funding levels based on annual budget conditions, but with lesser committee participation in project-specific decision making.

ISSUE 1: PRIORITIZING CONTROLLED MAINTENANCE, CAPITAL RENEWAL, AND RECAPITALIZATION

State funding for recapitalization – controlled maintenance, capital renewal, and renovation – has declined since FY 1998-99, while the current replacement value of state buildings has increased 150.1 percent. However, spending less on controlled maintenance and recapitalization in a given year does not save the State money. Not funding the timely replacement of state building systems (1) drives a higher cost in facilities management operating budgets in the current and future years due to increased annual repair and maintenance and building inefficiency; (2) increases capital costs due to construction inflation, collateral building system failure, and premature facility deterioration; and (3) reduces program effectiveness when deterioration leads to the unscheduled loss of use of facilities. State spending on controlled maintenance should be prioritized as an ongoing, base budget commitment, and the recapitalization of existing buildings should be prioritized ahead of capital expansion.

SUMMARY:

- State funding for recapitalization of existing buildings – controlled maintenance, capital renewal, and renovation – declined over the period since FY 1998-99, from 2.1 percent to 0.45 percent of the current replacement value of state buildings while the inventory of state buildings has increased 150.1 percent, from \$4.8 billion in FY 1998-99 to \$12.1 billion in FY 2016-17.
- The State Architect recommends minimally funding controlled maintenance at one percent of the current replacement value of the State’s building inventory, while industry standards recommend an annual capital renewal reinvestment rate of two to four percent of current replacement value of a building inventory to maintain conditions that prevent deterioration.
- State decision makers should commit to a policy to more fully fund recapitalization.

RECOMMENDATION:

1. **Staff recommends that the Committee pursue legislation or establish a Committee policy goal of increasing funding for all recapitalization – controlled maintenance, capital renewal, and renovation – at an amount equal to at least 1.0 percent of current replacement value within five years (FY 2021-22).** Funding in FY 2016-17 for recapitalization projects totaled \$54.1 million, equal to 0.5 percent of current replacement value of state buildings; funding for controlled maintenance totaled \$26.1 million, equal to 0.23 percent of current replacement value. Staff suggests that a provision be included that allows appropriations for capital expansion projects once the recapitalization goal is met.
2. **Staff recommends that the Committee establish a Committee policy to fund controlled maintenance as an annual base item in the Capital Construction budget.** In accord with recommendation #1, staff also recommends a Committee goal of funding controlled maintenance in FY 2017-18 and the following four years at \$30 million, \$35 million, \$40 million, \$45 million, and \$50 million; and then at 0.5 percent of current replacement value in years after that.

3. **Staff recommends that controlled maintenance be funded as a single line item in the Long Bill rather than as a list of projects.** This recommendation is consistent with the spirit of the existing statutory authority for flexibility in administering controlled maintenance appropriations. Although it may be possible to simply include a single line item for controlled maintenance without additional statutory change, **staff recommends that the Committee pursue legislation to codify this budgetary change including the following:**

- Amend Section 24-30-1303.7, C.R.S., consistent with this practice.
- Rename the State Architect's Emergency Controlled Maintenance Account as the Controlled Maintenance Account which would function as the fund for the controlled maintenance appropriation. The annual emergency appropriation would likewise be included within the single appropriation.
- Optionally specify that despite the single appropriation, the State Architect would nevertheless submit for review, a prioritized list of anticipated projects to the Capital Development Committee (CDC) through the budget request process, as well as report on funded projects in the annual report.

4. **Consistent with emphasizing the importance and prioritization of recapitalization, staff will recommend at figure setting that the capital construction budget be reformatted as follows:**

Capital Construction Budget Format			
Current		Recommended	
Part I	Capital Construction, Capital Renewal, and Capital Lease Purchase Payments	Part I	Capital Renewal (including controlled maintenance)
Part II	Controlled Maintenance	Part II	Other Recapitalization
Part III	Information Technology Projects	Part III	Capital Expansion (other capital construction and capital lease purchase payments)
		Part IV	Information Technology Projects

DISCUSSION:

State Architect's Annual Report and Other References

Each year the State Architect's annual report includes the following recommendation:

*Industry standards continue to emphasize that without an annual Reinvestment Rate (RR) of 3% to 4% of the Current Replacement Value (CRV) of a building inventory, conditions cannot be upgraded or maintained at acceptable levels and will continue to deteriorate (Reference: APPA, American Association of Higher Education Facilities Officers, report titled Capital Renewal and Deferred Maintenance Programs 2009). Concurrently, the Office of the State Architect has recommended as a goal that approximately **1% of the CRV of the State's general funded and academic building inventory be appropriated for Controlled Maintenance on an annual basis to address planned major maintenance and repairs throughout the building inventory and that an additional goal of 1% - 3% of the CRV be appropriated for***

Capital Renewal/Renovation to address upgrading overall conditions of existing state owned facilities.

The December 1978, 1979/1980 Controlled Maintenance Request, from the State Architect's predecessor, the State Buildings Director located in the Governor's Office of State Planning and Budgeting (OSPB), included the following in his cover letter to the Governor:

It is evident from the above figures that the State has been appropriating for controlled maintenance less than 0.1% per year of the total gross value of the physical plant. Statistics compiled by private investors and institutions show maintenance expenditures at the rate of 3.0 to 4.0% yearly of the gross value of their physical plants.*

**Association of Physical Plant Administrators and American Institute of Plant Engineers*

A 2013 utilities infrastructure study from the Utah System of Higher Education identifies a recommended minimum budget allocation for capital renewal of buildings of 2.0 percent of the current replacement value, including 1.5 percent for capital renewal and 0.5 percent for remodeling. Utah has a statutory target of funding 1.1 percent of the current replacement value of the state building inventory for capital renewal, but provides for a 0.9 percent target in years of budget deficit. Additionally, Utah statute requires that capital improvements must be funded before any new capital development project can be approved.

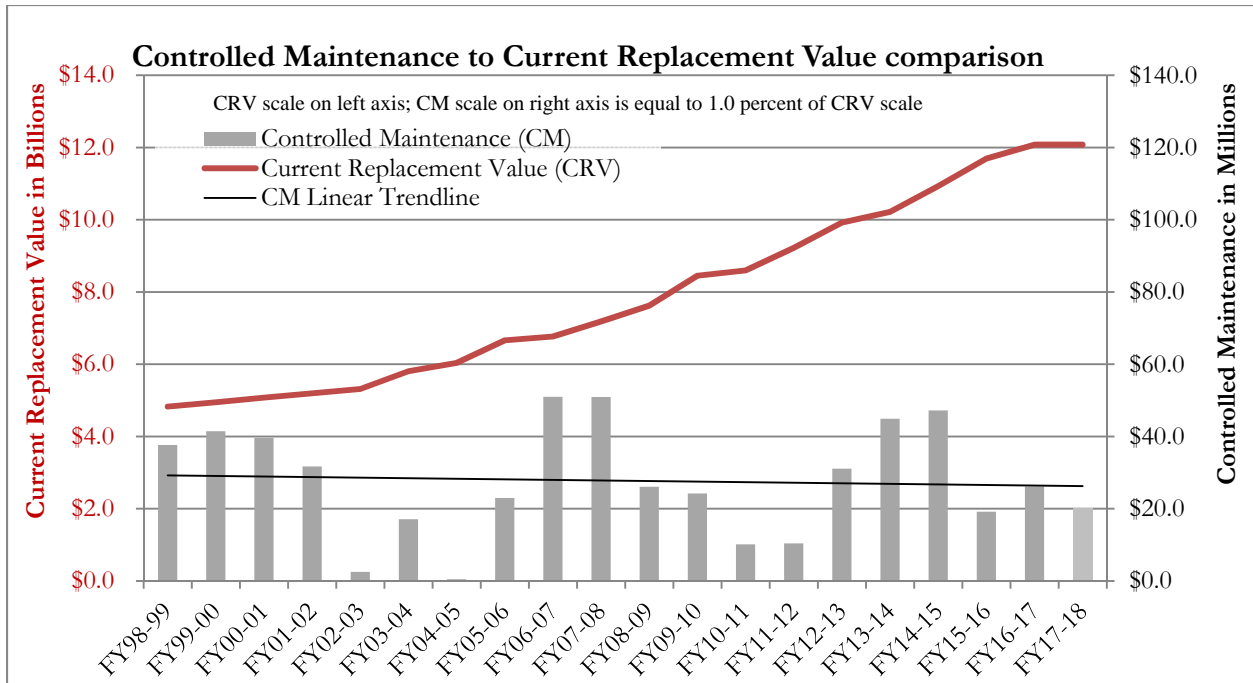
A 1989 study, *Financial Planning Guidelines for Facility Renewal and Adaption*, from the Society for College and University Planning (SCUP), the National Association of College and University Business Officers (NACUBO), the Association of Physical Plant Administrators of Universities and Colleges (APPA), and Coopers and Lybrand, identifies a figure of 1.5-2.5 percent of replacement cost for renewal funds annually to keep facilities in good condition for present use based on facility life-cycles. It also identifies a figure of 0.5-1.5 percent of replacement cost for adaption funds for codes, standards, and program updates.

A 1990 study, *Committing to the Total Cost of Ownership: Maintenance and Repair of Public Buildings*, conducted by the Building Research Board of the National Research Council, concluded that an appropriate budget allocation for routine maintenance and capital renewal is in the range of 2 to 4 percent of aggregate current replacement value.

The State Architect's recommendation for 1.0 percent for controlled maintenance and 1.0-3.0 percent for capital renewal/renovation is in line with recommended best practice.

A 20-year History of Controlled Maintenance Appropriations

Statewide controlled maintenance funding has trended downward since FY 1998-99. The decline compares to the total current replacement value of state buildings, which has increased. The increase reflects growth in total square footage of state buildings along with an increase in value of real property related to inflation and market variables. The following chart reflects controlled maintenance (CM) funding compared to current replacement value (CRV).



The CRV scale, represented in billions, is shown on the left side of the chart, while the CM scale, represented in millions, is shown on the right side of the chart. The CM scale is set equal to 1.0 percent of the CRV scale. Controlled maintenance spending in any year that is equal to 1.0 percent of current replacement value would be reflected as exactly equal to CRV in the chart. CRV increases one-and-a-half times from just under \$5.0 billion to almost \$12.0 billion and the gap between CRV and CM likewise widens over time. The CM linear trend line indicates that spending on controlled maintenance has slightly decreased over this period.

Capital Renewal, Renovation, and Recapitalization

Capital renewal is defined in Section 24-30-1301 (3), C.R.S., as a controlled maintenance project or group of projects with costs exceeding two million dollars in a fiscal year. *Renovation* projects are typically identified as capital construction rather than capital renewal because they include improvement in program space and may also include space additions. While new space in a renovation project is properly characterized as "new construction", a renovation project will include replacement of existing building systems or subsystems that would otherwise require replacement through controlled maintenance.

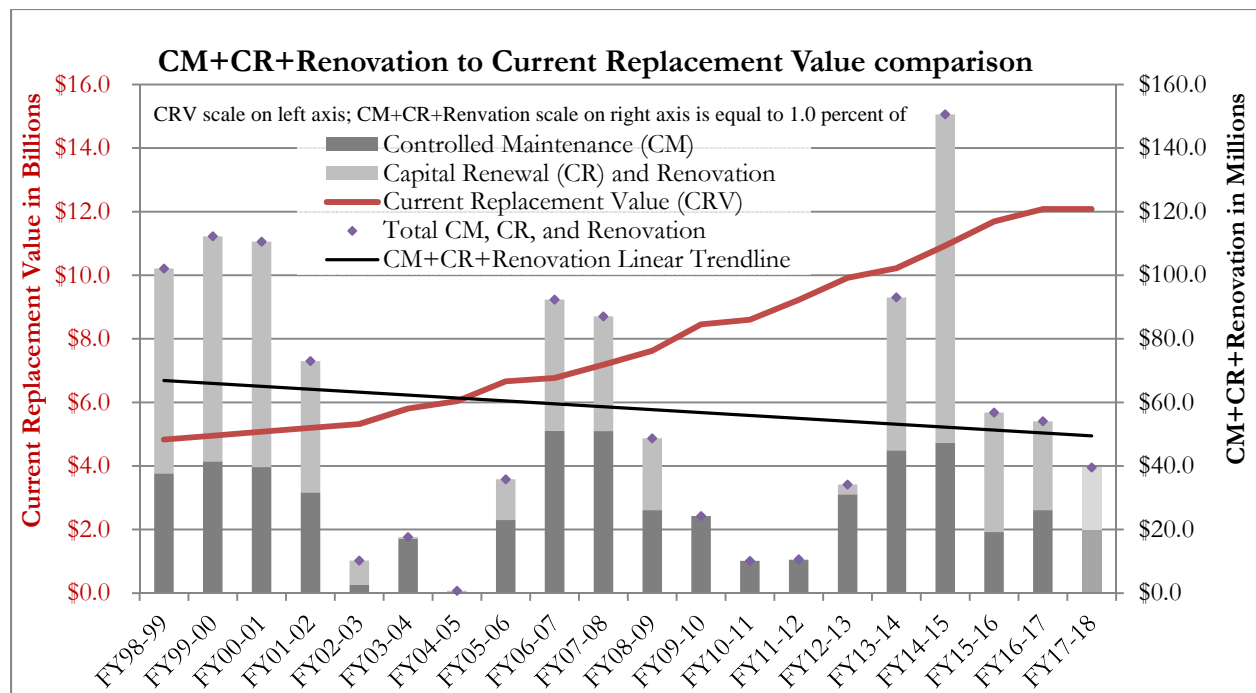
The term *recapitalization* can be used generally to describe controlled maintenance and capital renewal for recapitalizing the existing building stock, and therefore may encompass renovation. Recapitalization, funded in the capital budget, is best understood as the *replacement* of building systems or subsystems rather than *repair* or *maintenance*. While the terms *repair* and *maintenance* are sometimes used in connection with controlled maintenance projects, ongoing repair and maintenance of systems or subsystems are typically provided by day-to-day facilities management operations and paid for within the annual facility operating cost for a building. Repair and maintenance is an annual process, while recapitalization provides benefits expected to last beyond a year. As a result, repair and maintenance are paid for out of the facilities maintenance operating budget rather than the capital budget.

Annual repair and maintenance costs increase as a building system ages and deteriorates. Decisions regarding when it is time to replace a building system involve distinguishing between the *physical life* and the *economic life* of the building system. As the 2013 Utah study states:

An asset is often physically able to continue operating after its economic life, but typically does so at a cost or rate that renders it economically obsolete. ... The shortage of funding to replace assets that still have physical life but are past their economic life results in expenditure of ongoing time and money on inefficient and obsolete systems until they ultimately fail. Inadequacy of funding on a timely basis almost always results in greater long-term costs when assets are used to the end of their physical life, instead of the end of their economic life. This typically results in higher ongoing maintenance costs, lost efficiency, greater replacement costs, costs of unscheduled downtime, and unscheduled loss of use of the facilities.

At a given point it is cost effective to replace the building system when the net present value of the ongoing cost of repairs and maintenance exceeds the net present value of the cost of replacing the system. Delayed or deferred replacement temporarily saves the cost of the new system while the annual repair and maintenance operating cost exceeds the annual share of the new subsystem's lifecycle cost. In this case, either the operating budget "pays" for the deferred maintenance by overpaying for annual repair and maintenance and building inefficiency relative to the expected annual cost of a new system, or the building system suffers more rapid deterioration due to a lack of adequate repair and maintenance. In either case, the cost of deferred maintenance is higher to the State although the increased annual operating cost or accelerated deterioration may not be as readily apparent in budget or expenditure data.

The following chart reflects all recapitalization funding compared to current replacement value.



As the table illustrates, while funding for controlled maintenance, capital renewal, and renovation – recapitalization – exceeds the 1.0 percent of current replacement value threshold in some years, the linear trend line's downward slope is steeper in this chart than in the controlled maintenance chart. This indicates that spending on all recapitalization items has decreased to a greater extent than spending on controlled maintenance only over this period. In fact, spending on these items in FY 1998-99 equaled about 2.0 percent of current replacement value. The appropriation in FY 2014-15 – the only year that exceeds the 1.0 percent threshold since FY 2007-08 – equaled 1.4 percent of current replacement value, while the appropriation in FY 2016-17 equaled 0.5 percent.

The trend line suggests a funding pattern that will continue to underfund recapitalization particularly within the constraints of recent and foreseeable budget conditions. However, the charts also indicate that spending on all recapitalization decreased to a greater extent when compared to controlled maintenance alone over this period. Although the reason for this is not clear, it is possible that recapitalization is not clearly defined in the capital budget, while controlled maintenance is. And although there has been an adverse decline in controlled maintenance, the fact that it has its own section in the capital budget may explain why it has been funded to a greater extent when compared to the capital renewal and renovation elements of recapitalization.

Prioritizing Spending on Recapitalization versus Capital Expansion

The capital budget process differs from the operating budget process in that budgeting for state agency programs begins from a base which is incrementally adjusted annually. This is based on the concept of continuing service at a baseline level and making policy adjustments annually from there. Capital budget decisions are generally prioritized after funding the base operating budget items. It is also not unusual for new construction to be prioritized ahead of controlled maintenance.

As a budget principle, new construction and real property purchases – *capital expansion* – should be considered as discretionary, new request items in the budget. However, controlled maintenance represents the ongoing upkeep of the existing building inventory. That inventory represents budget decisions already made to purchase and own buildings and property. The cost of maintaining existing buildings should be considered a commitment made at the time the decision to purchase and own a building is made.

The optional, discretionary budget decision to spend less on controlled maintenance in a given year does not save the State money. Not funding the timely replacement of state building systems:

- drives a higher cost in facilities management operating budgets in the current and future years due to increased annual repair and maintenance costs for deteriorating building systems and building inefficiency;
- increases future year capital costs due to construction inflation, collateral building system failure, and premature facility deterioration; and
- reduces state agency program effectiveness when deterioration leads to the unscheduled loss of use of facilities.

The State Architect's Controlled Maintenance Recommendations

The State Architect defines Level 1 as critical projects related to life safety or loss of use from equipment or system failure or lack of compliance with codes, standards, and accreditation requirements. Level 2 are projects causing operational disruptions, energy inefficiencies, or

environmental contamination – predominantly HVAC, electrical, and mechanical systems. Level 3 are other building deterioration – typically related to building envelope including roofs, windows, and building surface. The annual report states:

Historically, recommendations were prioritized based on overall comprehensive major maintenance and repairs across the entire building inventory to annually fund the three levels/categories of Controlled Maintenance needs. However, due to various downturns in the economy inconsistent and limited funding was available. The result of not having sufficient funding for all three levels is causing, for example, roofing projects that were originally prioritized in Level 3 to now rise in criticality to Levels 1 and 2 due to increased deterioration over time. The previous types of projects that were predominate per category in each level are now distributed throughout the levels.

Level 2 and Level 3 projects have risen to Level 1 due to potential for loss of use from failure. Level 1 has now become the "deferred maintenance crisis" list. Level 1 projects are beyond their economic life and close to the end of their physical life. In addition to life safety, recommended Level 1 projects replace systems that are expected to fail within 12 to 24 months – essentially before the next budget cycle.

This year's controlled maintenance Level 1 list includes 4 roofing projects and 1 exterior concrete repair project. These are typically classified as Level 3 projects as they relate to building envelope. Additionally, while these projects have become critical and urgent enough to be placed in Level 1, the Governor's request for \$20.0 million in controlled maintenance does not include recommended funding for these projects. The Governor's request proposes funding 21 items and not funding 15 items included in the State Architect's Level 1 list that totals \$30.8 million.

A building system that is not funded and fails will likely become an emergency project funded out of the State Architect's Emergency Controlled Maintenance Account in the Capital Construction Fund. Since FY 2006-07, the emergency controlled maintenance line item has been funded at \$2.0 million per year. Expenditures from the account have averaged \$2.5 to \$3.0 million per year in recent years, leading the State Architect to recommend funding the emergency line item at \$3.0 million in FY 2017-18.

The additional spending above the appropriation in recent years has been accommodated by the statutory authority provided in Section 24-30-1303.7, C.R.S. This provision authorizes the Executive Director of the Department of Personnel to cover emergency projects by eliminating one or more projects and to apply savings from controlled maintenance projects to other projects as necessary. This statutory authority essentially considers the controlled maintenance project list as a lump sum appropriation that may be used across projects as necessary and for emergencies not included in the project line items.

Recommendations

- 1. Staff recommends that the Committee pursue legislation or establish a Committee policy goal of increasing funding for recapitalization – controlled maintenance, capital renewal, and renovation – at an amount equal to at least 1.0 percent of current replacement value within five years (FY 2021-22).** Funding in FY 2016-17 for recapitalization projects totaled \$54.1 million, equal to 0.5 percent of current replacement value of state buildings; funding for controlled maintenance totaled \$26.1 million, equal to

0.23 percent of current replacement value. Staff suggests that a provision be included that allows appropriations for capital expansion projects once the recapitalization goal is met.

2. **Staff recommends that the Committee establish a Committee policy to fund controlled maintenance as an annual base item in the Capital Construction budget.** In accord with recommendation #1, staff also recommends establishing a Committee goal of funding controlled maintenance in FY 2017-18 and the following four years at \$30 million, \$35 million, \$40 million, \$45 million, and \$50 million; and then at 0.5 percent of current replacement value in years after that.

3. **Staff recommends that controlled maintenance be funded as a single line item in the Long Bill rather than as a list of projects.** This recommendation is consistent with the spirit of the existing statutory authority for flexibility in administering controlled maintenance appropriations. Although it may be possible to simply include a single line item for controlled maintenance without additional statutory change, **staff recommends that the Committee pursue legislation to codify this budgetary change including the following:**
 - Amend Section 24-30-1303.7, C.R.S., to be consistent with this practice.

 - Rename the State Architect's Emergency Controlled Maintenance Account as the Controlled Maintenance Account which would function as the fund for the controlled maintenance appropriation. The annual emergency appropriation would likewise be included within the single appropriation.

 - Optionally, specify that despite the single appropriation, the State Architect would nevertheless submit a prioritized list of projects to the Capital Development Committee (CDC) through the budget request process as well as report on funded projects in the annual report.

4. **Consistent with emphasizing the importance and prioritization of recapitalization, staff will recommend at figure setting that the capital construction budget be reformatted as follows:**

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The Other Recapitalization section should include projects which are "predominantly" renovation projects as well as projects or portions of projects recommended by the CDC which should be considered recapitalization. Staff suggests that projects in which the renovation portion of the project is equal to at least 75 percent of the project cost total –

predominantly renovation – be included, in whole, as renovation projects. For projects with less than 75 percent renovation cost, staff suggests that the CDC include recommendations for their prioritized projects that recommend funding the renovation portion in the Other Recapitalization section and funding the new construction portion in the Capital Expansion section. For expenditure purposes, the split appropriations would be treated as a single project appropriation. This provides a legislative process for more accurately assessing the budgeted amount that should be attributed to recapitalization.