



Capital Maintenance and Construction

Study resolution

- Evaluate state's process for identifying, planning for, and funding projects for maintaining existing state-owned buildings and constructing new ones
- Determine availability and usability of data on building condition
- Review roles of key stakeholders in capital processes
- Determine why some capital projects are not completed on time, and how timeliness could be improved

Commission study resolution approved November 7, 2024.

In brief

Virginia does not have centralized data on the actual condition of state-owned buildings, which limits visibility into agencies' capital needs.

State funding for facility maintenance has increased over time and outpaced inflation, but appropriated funding is not enough to address all of the state's maintenance needs.

The data used to allocate funding for agencies' maintenance projects is not always complete or accurate, which makes it difficult to direct funding to agencies with the greatest maintenance needs.

Many capital outlay projects are prolonged for several reasons, some of which could be avoided.

In this presentation

Background

Maintenance of state-owned buildings

Capital outlay projects

Capital project planning

Virginia owns a large portfolio of buildings

- State-owned buildings include office buildings, correctional facilities, higher ed classroom buildings and dormitories, warehouses, etc.
- There are at least 7,628 state-owned buildings with permanent systems (e.g., plumbing, electrical, HVAC), according to available data*
- State-owned building needs (e.g., repairs, improvements) are managed by DGS or state agencies**
 - At least 53 agencies manage their own state-owned buildings

*DGS data indicates there may be nearly twice as many buildings, but many have incomplete information.

**References to “state agencies” also include public higher education institutions.

Some agencies have a larger footprint than others

- Agencies' state-owned building square footage ranges from 6,835 square feet to 13.7M square feet
 - Three agencies with largest footprint = UVA, DOC, VT
 - 29 agencies have <1M square feet
- Agencies with large footprints have numerous capital projects and require large amounts of state capital funding

*UVA = University of Virginia; DOC = Virginia Department of Corrections; VT = Virginia Tech

Capital project approvals, funding, and oversight involve executive and legislative branch entities



DGS

- Reviews and approves capital outlay projects and some maintenance reserve projects at certain stages
- Maintains M-R FIX
- Manages some capital outlay projects



DPB

- Reviews capital budget requests
- Releases appropriations to agencies/HEIs during capital outlay process
- Reviews maintenance reserve spending annually



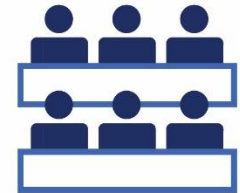
MONEY COMMITTEE STAFF

- Communicates with agencies/HEIs on capital needs
- Informs legislators on capital needs
- Helps finalize maintenance reserve funding



SCHEV

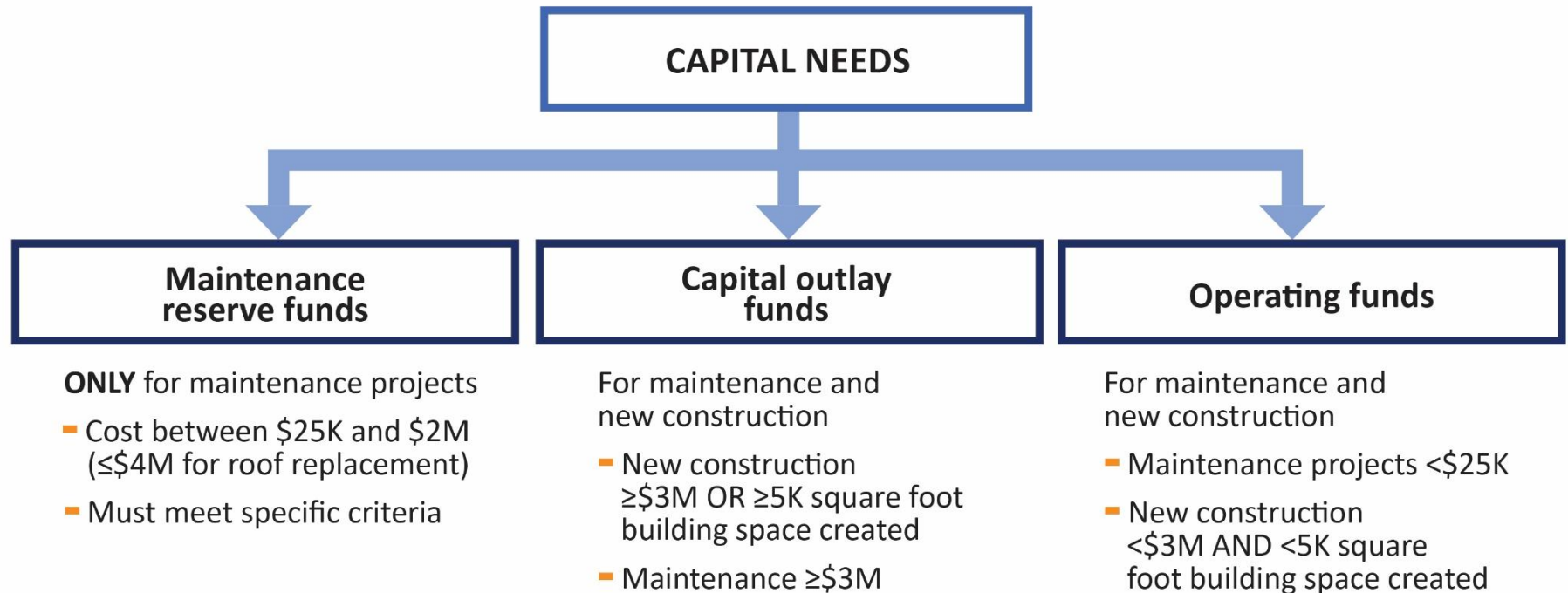
- Collects six-year plans from HEIs
- Publishes and maintains data on HEI classroom and lab utilization



6PAC

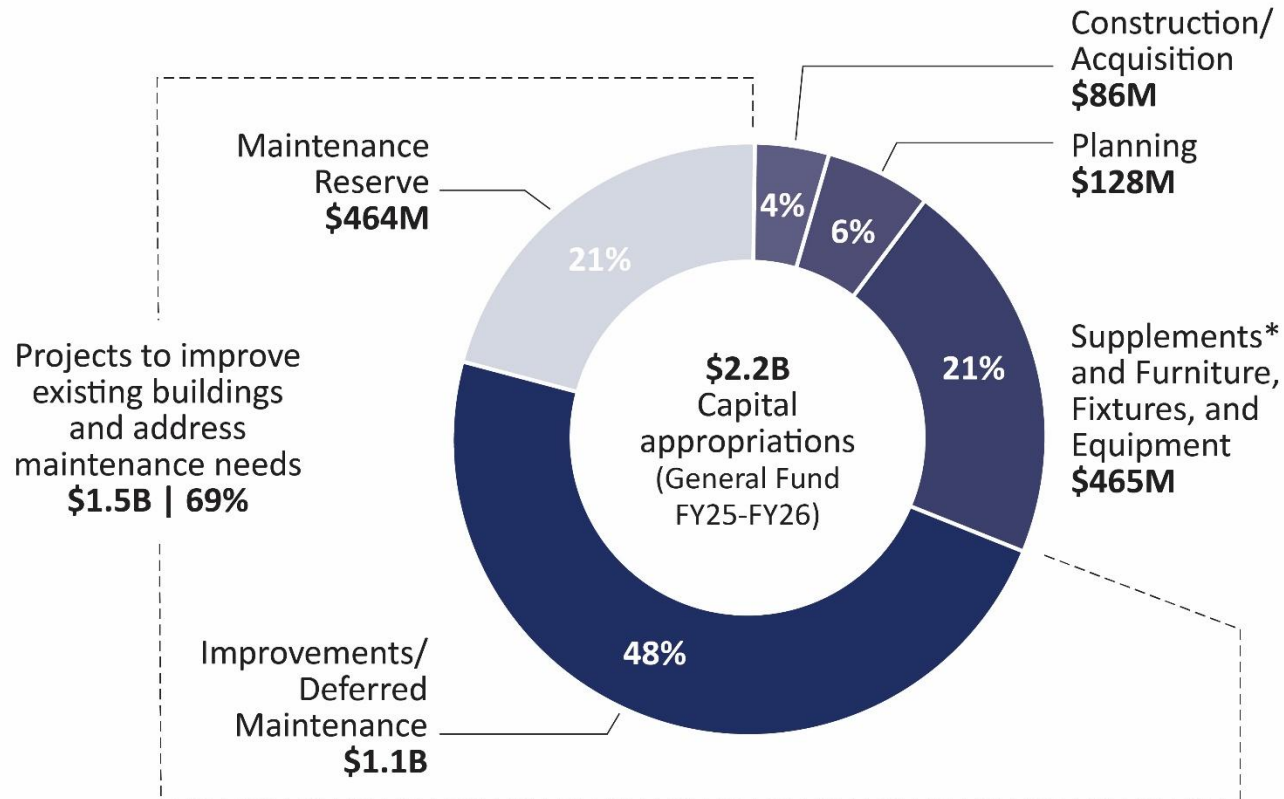
- Includes DGS, DPB, money committee staff directors, SCHEV, and the Secretary of Finance
- Reports list of previously approved capital outlay projects ("six-year capital outlay plan") to the General Assembly
- Reviews and approves aspects of pool-funded capital outlay projects

Capital needs are met through one of three funding mechanisms, depending on size and complexity



Source: JLARC staff analysis of DPB capital budget instructions.

Majority of General Fund capital appropriations are for maintenance and improvement of existing buildings



Source: Money committee staff analysis of capital funding (FY25–FY26).

*Supplements are additional funds that can be used to address shortfalls or outstanding needs identified for previously approved capital outlay projects.

In this presentation

Background

Maintenance of state-owned buildings

Capital outlay projects

Capital project planning

Finding

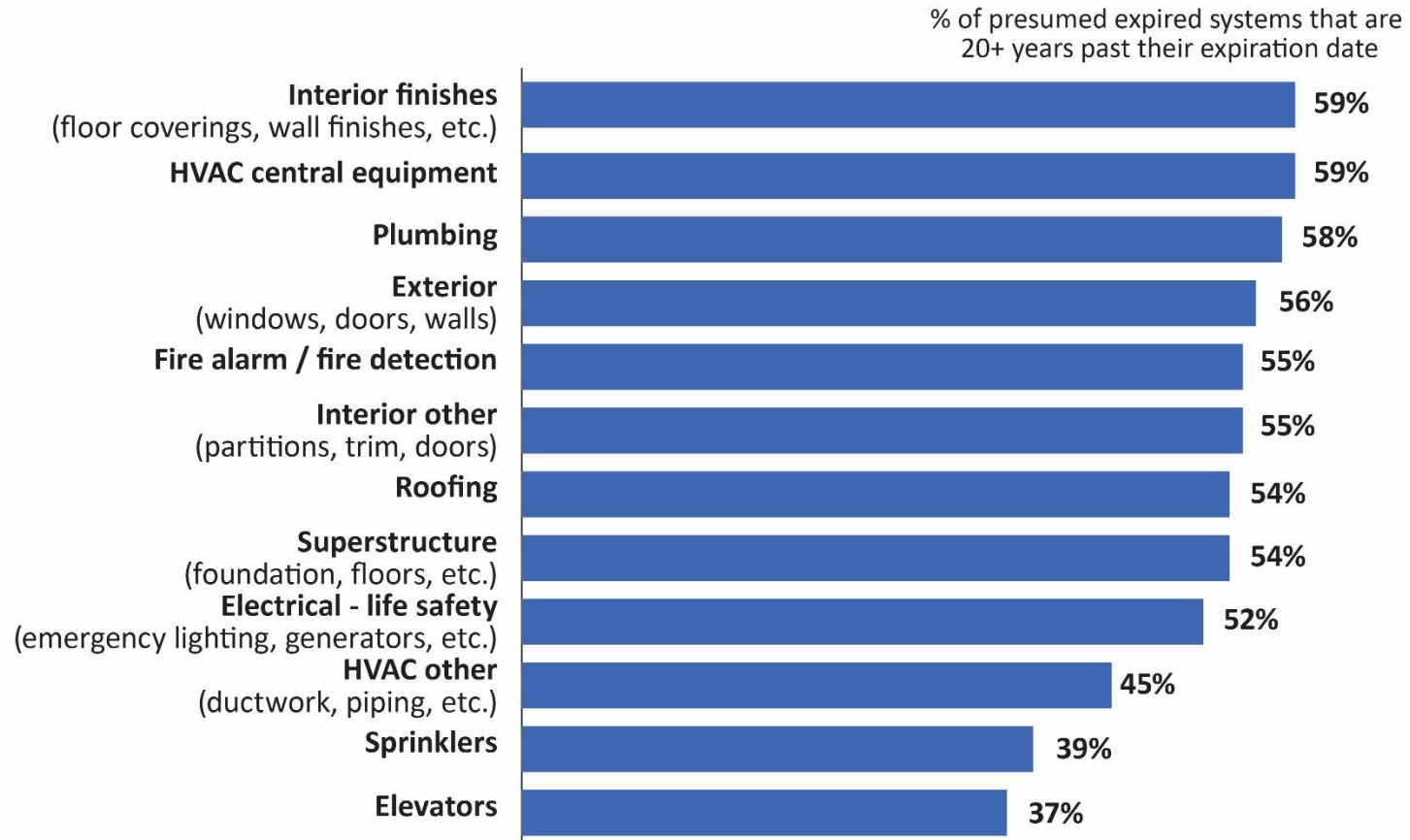
Lack of data on the actual condition of state-owned buildings, or extent and cost of deferred maintenance, limits state's ability to make proactive and strategic maintenance investments and potentially avoid costly repairs and replacements.

DGS's M-R FIX database has some information on state-owned buildings

- DGS's M-R FIX database is the central repository of data on state-owned buildings and systems
- M-R FIX database includes several types of information on buildings, such as
 - type
 - square footage
 - age
 - presumed system lifespan*

*Agencies provide the date systems were last replaced, and the system determines whether they are presumed to be expired based on generic lifespan metrics.

M-R FIX data indicates some building systems are 20+ years past their presumed lifespans



Source: JLARC staff analysis of DGS M-R FIX data (2024).

M-R FIX data shows that half of state-owned buildings are considered “old”

Year built	# of buildings	% of buildings
Built after 1978*	3,827	50%
Built between 1951-1978	2,018	26
Built between 1901-1950	1,086	14
Built prior to 1900	160	2
Historic landmarks and places	537	7
TOTALS	7,628	100%

50% built before 1978 (46+ years old)

Source: JLARC staff analysis of DGS M-R FIX data (2024).

*1978 is a benchmark because certain asbestos-containing materials were banned starting in 1978, according to DGS staff.

Although M-R FIX data provides insight into buildings, it does not include actual building condition

- Data on *actual* condition reflects a building's current state as observed during a recent facility condition assessment
- M-R FIX data on *presumed expiration date* and *age* are only proxies for actual building condition
 - Building systems may last more or less time than expected expiration dates
 - “Old” buildings that are well-maintained may not have extensive maintenance needs
- M-R FIX was not initially designed to have data on actual building condition, but condition data could be added

Experts emphasize importance of comprehensive and accurate building condition information

- Experts recommend...
 - conducting “facility condition assessments” to collect building condition information
 - using a measure of facility condition that allows for “apples to apples” comparisons across facilities (e.g., “facility condition index”)
- Some Virginia localities and multiple other states (NC, MD, NV, MT) collect and track centralized data on actual building condition

Data on actual building condition would facilitate funding decisions, potentially avoid future costs

- Extent and cost of deferred capital maintenance is unknown
- Collecting actual building condition data would help agencies:
 - Document total deferred maintenance
 - Avoid unexpected replacements/repairs
 - Address backlog of deferred maintenance
 - Mitigate risks to agency operations and safety of employees and the public
 - Better inform decisions on whether to replace or maintain existing buildings

Collecting information on actual building condition would take time and resources

- Facility condition assessments could cost state an estimated \$0.07 to \$0.30 per square foot
 - Some agencies can pay for assessments, others cannot
- State could undertake assessments incrementally
 - Start with agencies that (1) do not conduct such assessments now and (2) have large amount of square footage or older buildings
 - *Example – Assessments for DBHDS, DOC, and University of Mary Washington could cost between \$1.3M and \$5.7M*

Finding

State maintenance reserve funding has increased over time, outpacing inflation, but appropriated funding is not enough to cover all of the state's maintenance needs.

State maintenance reserve funding is allocated to agencies annually for eligible projects

MAINTENANCE RESERVE PROJECT ELIGIBILITY

ELIGIBLE PROJECT COST



ELIGIBLE PURPOSES



Built-in equipment
(e.g., elevators, plumbing fixtures,
air conditioning, etc.)



Structural components
(e.g., exterior wood, masonry, ceilings, floors, roofs, etc.)



Erosion and drainage problems



Utility systems
(e.g., steam lines, electrical,
water, sewer, etc.)



Selected updates
Accessibility, energy conservation, building and safety code compliance, safety/security, lead paint abatement, or asbestos correction.

Source: JLARC staff analysis of DPB capital project request instructions (2025).

Despite increases, agencies' maintenance reserve funding needs exceed available funding

- Funding appropriated for maintenance projects increased 23 percent between FY19 and FY26 (inflation adjusted)
- \$464M in maintenance reserve funding appropriated for FY25–FY26 biennium
- When responding to JLARC request for estimates of maintenance needs, majority of agencies said they did not receive enough maintenance reserve funding in FY24 for essential projects
- 12 agencies with majority of building square footage reported \$1.1B+ in maintenance reserve project needs

State could more strategically fund maintenance needs by setting a goal for maintenance investment

- State's goal could be to fund a % of maintenance reserve project needs each year
- State would need to quantify the cost of agencies' total maintenance reserve project needs
 - Ideally factoring in facility condition assessment results
- Setting this goal would help ensure appropriations for maintenance projects are informed by maintenance needs
 - Would allow decisionmakers and agencies to track progress toward reducing backlog of maintenance projects

Recommendation

General Assembly may wish to consider including language and funding in the Appropriation Act to require agencies to complete facility condition assessments so that

- available data on state's capital assets reflects accurate building conditions and maintenance needs and
- the costs of agencies' maintenance needs can be estimated.

Initially prioritize agencies that (1) do not currently complete such assessments and (2) have large square footage and/or older buildings.

Recommendation

General Assembly may wish to consider directing 6PAC to establish a goal for what proportion of the total combined maintenance reserve project costs should be funded through state maintenance reserve appropriations each year.

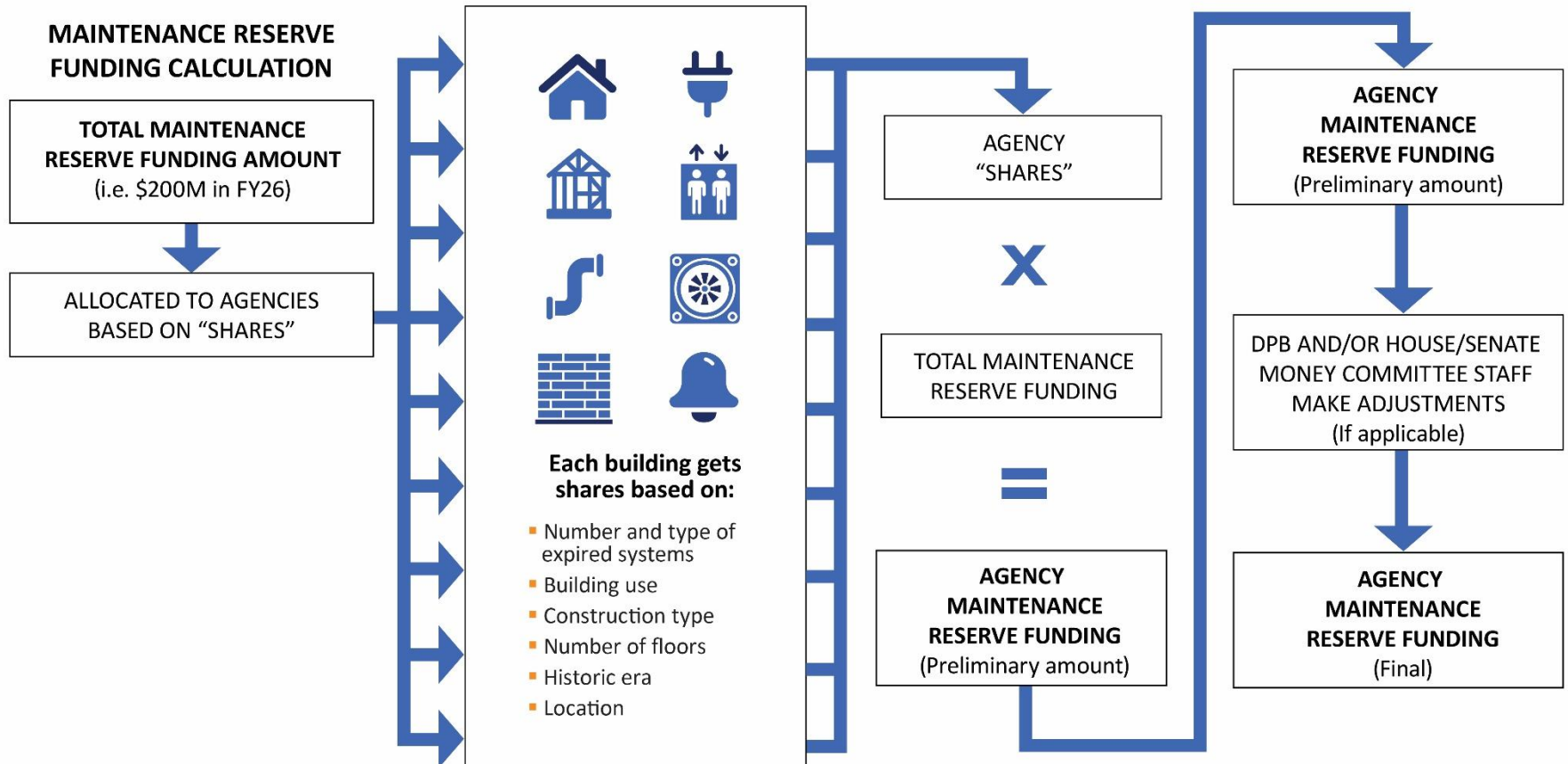
Concerns raised that some agencies will be unable to spend additional maintenance reserve funds

- Some agencies have unspent maintenance reserve funding at the end of the fiscal year because they
 - are saving for emergencies or to afford needed costly projects
 - have obligated their funds to ongoing multi-year projects
- Some agencies are unable to spend maintenance reserve funding because they do not have staff to undertake needed projects
- Maintenance reserve funding allocation decisions should be informed by agencies' spending patterns, but more information is needed

Finding

The data used to allocate state maintenance reserve funding to agencies is not always complete or accurate, making it difficult to ensure funding is allocated to agencies with the greatest maintenance needs.

DGS's formula for allocating maintenance reserve funding focuses on buildings and expired systems



M-R FIX data used for maintenance reserve funding allocations is incomplete and inaccurate in some cases

- 485 buildings (4%) in M-R FIX are missing system information that is needed for funding calculations
 - Additional buildings are missing from M-R FIX altogether, but number is unknown
- More than 1/4 of agencies that responded to a JLARC request were not confident their M-R FIX data was accurate and up-to-date
- JLARC staff identified several data inaccuracies in M-R FIX data that affect funding calculations
 - *Example – “Primary use” of some buildings was incorrect, which caused one agency to receive more funding*

DGS is undertaking a one-time audit of M-R FIX to improve data

- Currently, M-R FIX can result in some agencies receiving either more or less than their “fair share” of funding
- DGS received one-time state funding to hire a consultant to audit M-R FIX data
 - Audit identified data inaccuracies for several agencies that have been remedied
- Routine M-R FIX audits would improve data reliability over time
 - Supplementing M-R FIX with data from facility condition assessments would also improve M-R FIX data*

*See recommendation on slide 23.

Recommendation

General Assembly may wish to consider providing funding for DGS to hire a consultant to review the completeness and accuracy of M-R FIX data at least every five years.

Finding

The state's formula for allocating state maintenance reserve funding does not focus on the state's actual or most pressing maintenance needs.

Formula for allocating maintenance reserve funding focuses on systems presumed to be expired

- Presumed expiration dates are generic and do not account for varied lifespans of systems
 - *Example –All roofs have 20-year expiration date even though some types of roofs have much longer lifespans (e.g., 75+ years)*
- Using presumed expiration dates can cause agencies to get more or less funding than their “fair share”
- Allocating funding based on more accurate expiration dates or the actual condition of systems would better target maintenance reserve funds

Formula for allocating maintenance reserve funding does not focus on most “important” needs

- Formula includes some buildings agencies have identified as “underutilized” or “surplus”
- “Underutilized” and “surplus” buildings need basic maintenance, but maintenance reserve funding is intended for large maintenance projects and not routine upkeep

Recommendations

DGS should improve the formula for maintenance reserve funding allocations by

- developing expected building system lifespan benchmarks that more precisely approximate when systems will expire,
- excluding “underutilized” and “surplus” buildings, and
- basing agencies’ funding distributions on the actual condition of buildings and systems (once facility assessments are completed*).

*See recommendation on slide 23.

In this presentation

Background

Maintenance of state-owned buildings

Capital outlay projects

Capital project planning

Capital outlay projects are major capital projects that are individually authorized through the budget

- Capital outlay projects can involve new construction, maintenance, equipment purchases, demolition, or property acquisition
 - Typically cost \$3M or more, and new construction projects are typically for 5K or more square feet
- Each capital outlay project must be approved in the budget before moving forward

Capital outlay projects have three main phases

Multiple DGS & DPB reviews

- Technical reviews of documents to determine building quality/safety
- Confirm that project plans align with legislative intent



**CAPITAL OUTLAY BUDGET
REQUEST AUTHORIZATION**

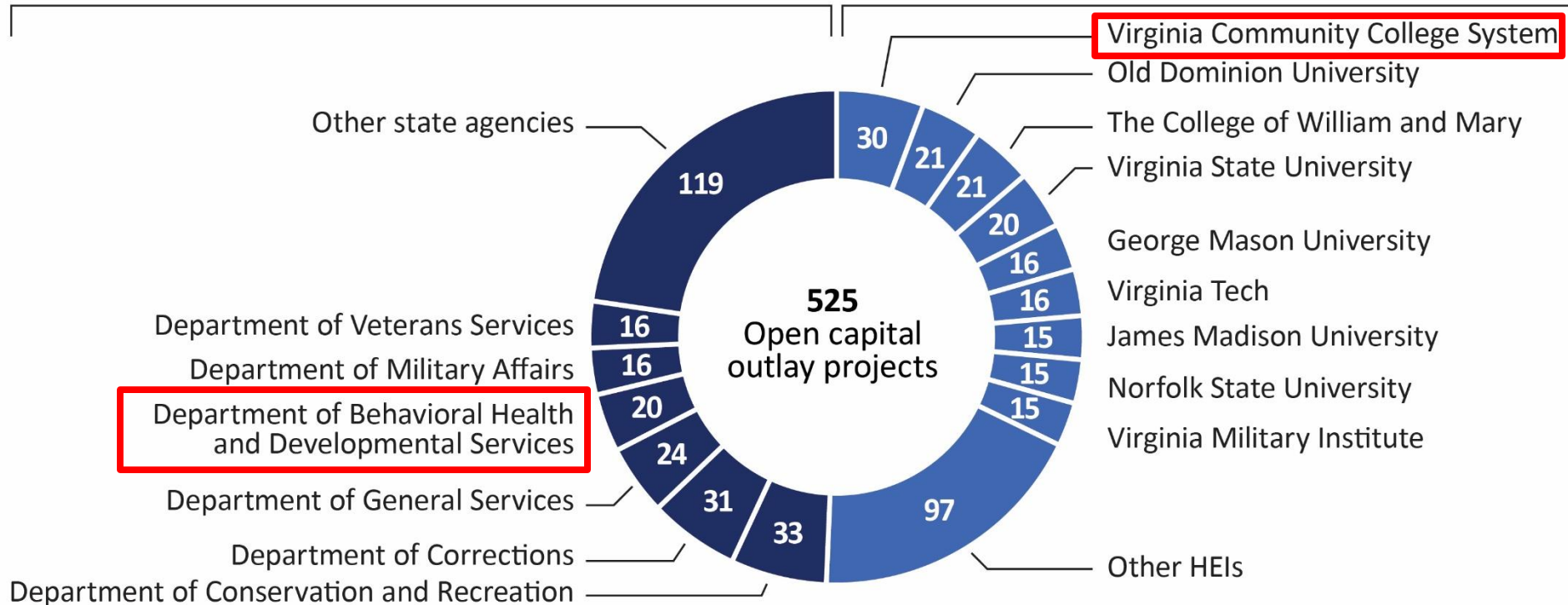
DESIGN

CONSTRUCTION

State currently has 525 capital outlay projects underway

State agencies **259** projects

Higher Education Institutions **266** projects



Source: JLARC analysis of DPB data on capital outlay projects (as of April 2025).

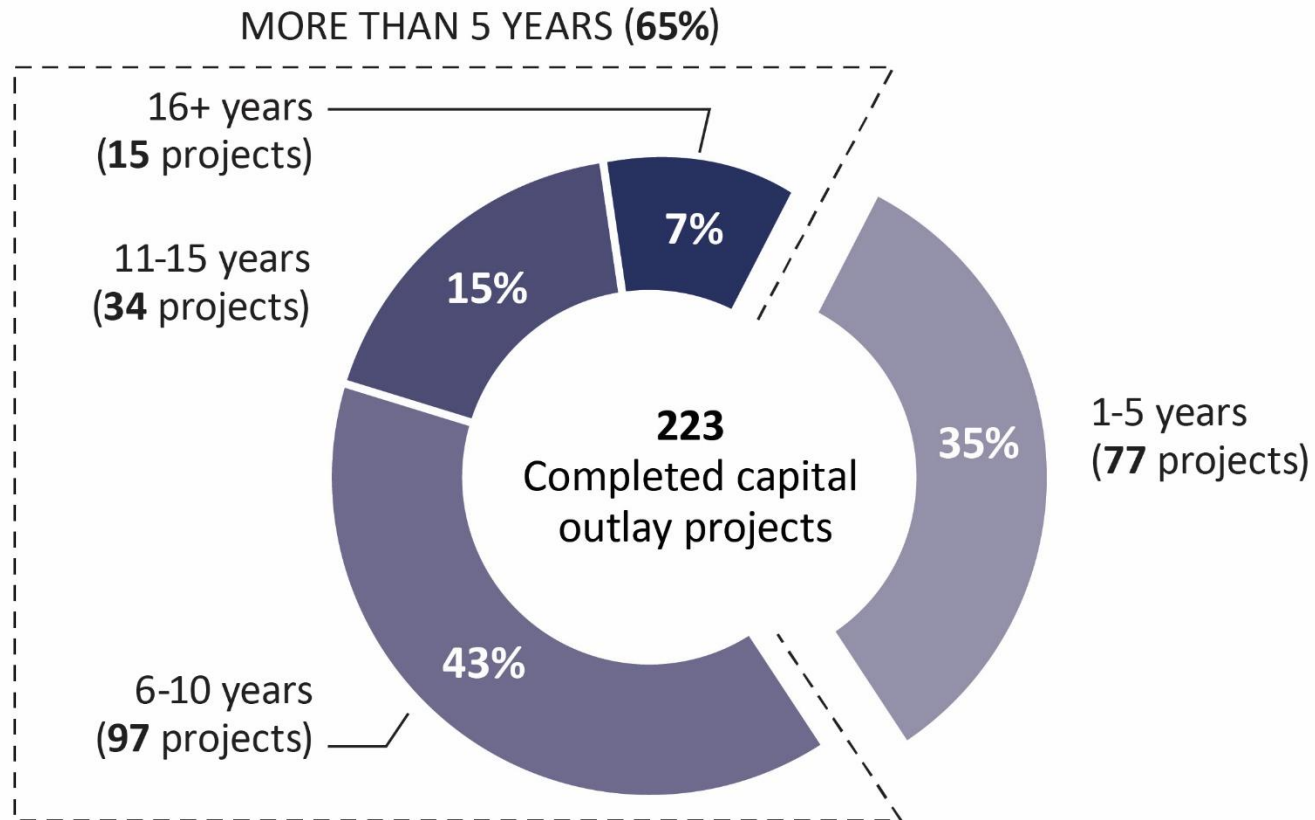
Finding

Many capital outlay projects take longer than five years, and some exceed a decade.

Capital outlay project delays can increase costs and hinder government services

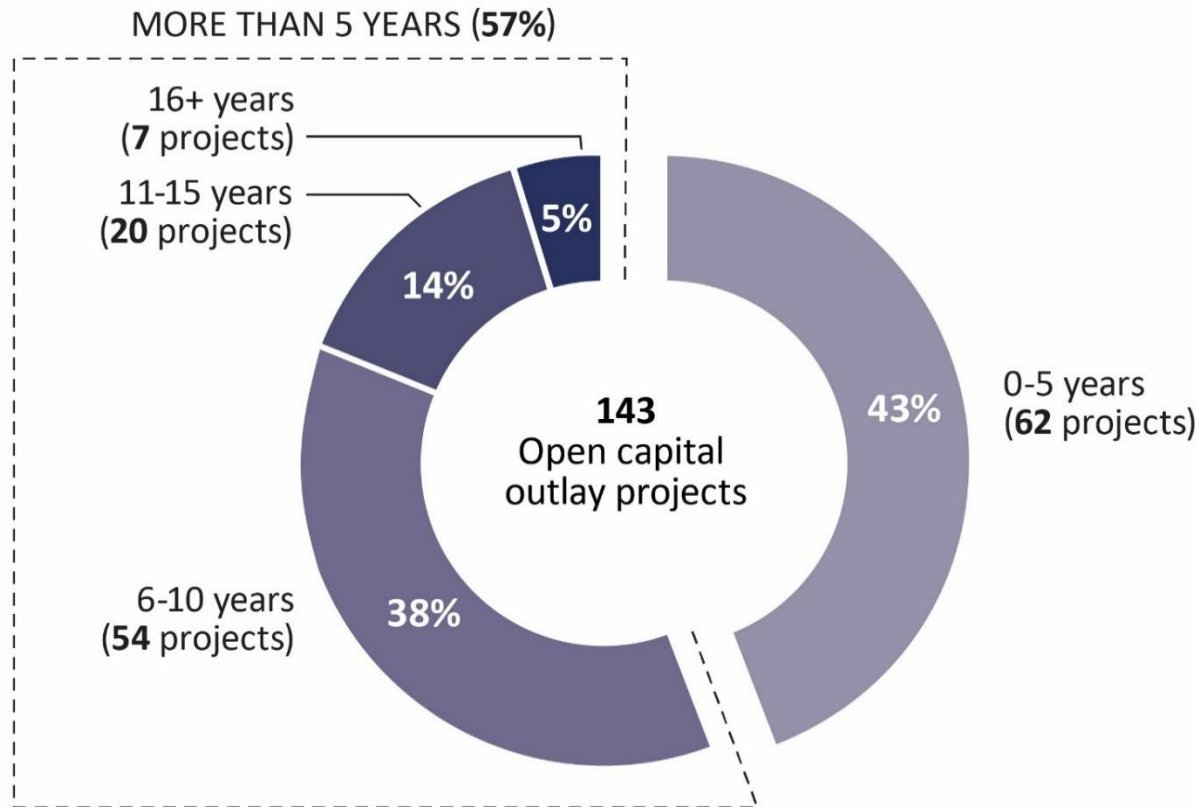
- Costs increase when capital outlay projects exceed their originally expected timeframes
 - May have to pay for design revisions
 - Construction costs increase over time
 - Additional indirect costs (e.g., extended use of temporary spaces, maintenance of systems slated for replacement, etc.)
- Delayed projects can impede public's access to agency/higher ed services and can sometimes increase the potential for physical danger and inhospitable work environments for employees

Majority of recently “closed” capital outlay projects exceeded five years



Source: JLARC analysis of DPB data on capital outlay projects closed between FY21 and FY25.

Majority of “open” capital outlay projects under construction have already exceeded five years



Source: JLARC analysis of DPB data on capital outlay projects in the construction phase or equipment installation phase as of April 2025.

Findings

Insufficient agency staff expertise and capacity contribute to capital outlay project delays.

DGS and DPB reviews are important and add value, but some reviews add time to projects.

Some capital outlay projects are delayed because agency staff make mistakes submitting documents

- Capital outlay projects are frequently delayed because of mistakes in paperwork submissions to DGS and DPB (e.g., design documents, funding requests)
- Common mistakes include
 - submitting incomplete materials
 - resubmitting materials without addressing all issues
 - skipping or not initiating steps in process
- Mistakes stem from some agency staffs' inadequate knowledge of state's complex capital outlay process/policies and staff's inadequate project management skills

Some capital outlay projects are delayed because of scope changes or delayed project initiation

- Agency leaders sometimes decide to change project scope after its authorization in the budget
 - Project must go back through budget process for reauthorization
 - Prior steps, such as design work, may need to be repeated
- Some agencies have prolonged the period between project authorization in the state budget and project initiation
 - ~1/5 of open projects waited at least 3 years before work was fully underway (e.g., paying contractors)
 - Key causes include insufficient staff capacity and financial circumstances

DGS has no qualifications or mandatory trainings for agency staff managing capital outlay projects

- Agency staff do not need to have certain qualifications or to complete trainings/exams before managing capital outlay projects
- DGS has several certification programs, but none are required of or intended specifically for staff managing capital outlay projects
- In contrast, VITA has detailed standards outlining the qualifications, training, and exams project managers must complete before managing IT projects

DGS should establish mandatory qualifications, trainings, and exams for capital outlay project managers

- Qualifications should prescribe the trainings, exams, and other requirements (e.g., degrees, experience, etc.) needed to manage a capital outlay project
 - Should apply to all agencies, though state could consider excluding higher eds with delegated capital outlay authority
- DGS should develop basic and intensive trainings
 - Basic training should be required regardless of project cost and complexity
 - Intensive training should be required for staff assigned to the most costly and complex projects (e.g., \$50M+, difficult construction conditions, etc.)

Recommendation

General Assembly may wish to consider directing DGS to

- establish qualifications, trainings, and exams individuals need to manage capital outlay projects, and
- develop and administer mandatory trainings and exams on key capital outlay policies, processes, and skills for capital outlay project managers.

State could also help ensure timely capital outlay projects by having DGS manage more projects

- Some agencies have limited staff with expertise to manage projects, especially those with infrequent projects
- DGS's Division of Construction Management currently manages at least 13 capital outlay projects for agencies
 - Budget directs DGS to manage certain projects
 - Agencies can also ask DGS for management help (though DGS has had to decline requests because of staffing constraints)
- DGS's construction management division should manage projects when agencies have costly or complex projects but lack a qualified project manager
 - DGS will need more staff (internal or contractors)

Recommendation

General Assembly may wish to consider requiring DGS to

- develop criteria to identify complex and high-risk capital outlay projects that require specialized project management qualifications, considering project cost, complexity, and other characteristics (e.g., project type and location), and
- require DGS to serve as the capital outlay project manager when agencies have a project meeting those criteria but are unable to assign a qualified staff member or contractor to manage it.

DGS/DPB conduct critical reviews; some add time to capital outlay projects, but extent is unknown

- Capital outlay projects must receive DGS or DPB approval at several stages to move forward
 - Ensure projects meet state intent and will result in safe buildings
- Some agencies expressed frustration with these steps because of their impact on projects' timelines
- DGS conducts many of its reviews within a few weeks, in accordance with its own internal timeliness goals
- DGS and DPB do not have internal timeliness goals for certain types of reviews

Recommendations

DGS should develop timeliness goals for the two capital project reviews for which it does not have a goal (“CO-2s” and “budget/scope reviews”).

DPB should develop a timeliness goal for its “budget/scope reviews” of capital projects.

Both agencies should report to 6PAC on their performance relative to these goals.

Finding

Adequate information is not readily available on agencies' capital outlay projects and buildings to help decisionmakers monitor capital outlay projects and make capital funding decisions.

Legislators, governor, their staffs should have more information on capital projects and buildings

- Way state currently tracks capital outlay projects makes it difficult to identify delayed projects, hindering interventions
- Some legislators indicated they lack access to information that would be helpful when deciding which proposed capital outlay projects to authorize
- Additional project-level and summary-level information would be beneficial
 - Project-level examples - # expired systems, condition of certain buildings, if proposed project is part of capital plan, etc.
 - Summary-level examples - average building condition, number of open capital outlay projects, timeliness of recently closed capital outlay projects, etc.

Recommendations

General Assembly may wish to consider directing

- DGS, DPB, and SCHEV to work with agencies to ensure capital budget requests contain information on the condition of buildings intended for renovation or replacement and whether a project is part of an agency's capital improvement plan.
- DGS, DPB, and SCHEV to annually compile information on average building condition, average building utilization, status of open capital outlay projects, and timeliness of recently completed capital outlay projects for each agency.
- 6PAC to establish criteria for “significantly delayed” capital outlay projects, identify and review those projects annually, and request corrective action plans when appropriate.

In this presentation

Background

Maintenance of state-owned buildings

Capital outlay projects

Capital project planning

Capital improvement plans provide insight into agencies' capital needs

- Capital plans help agencies identify future capital needs and document when/how to address them
 - Thorough plans describe each project, its priority level, its estimated cost, and when it will be addressed
- Subject matter experts emphasize importance of having capital plans at the “statewide” or “agency” level
- Capital plans can be resource-intensive to develop because agencies' needs frequently change, but these plans are important tools for identifying future capital needs

Some agencies with large capital needs do not have formal capital improvement plans

- Agencies are not required to have any capital plans
- Some agencies lack a plan, including a few with significant capital needs
- Some other states (e.g., TN and OH) require agencies to submit capital plans to inform their state's budget process

Recommendation

General Assembly may wish to consider

- requiring state agencies with a large capital footprint and/or high maintenance needs to submit a six-year capital improvement plan to 6PAC every two years, and
- giving 6PAC authority to request additional agencies to submit plans.

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