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Report to the Governor and the General Assembly of Virginia

Capital Maintenance and Construction

2025

JLARC
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION

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WHAT WE FOUND

Many state buildings and systems are old and have been in operation longer than their expected lifespans

The General Assembly, the governor, and agency leaders and staff have taken steps to improve the management of state-owned buildings over time. They have developed IT systems to record and track various data on state-owned buildings and capital projects and funded and managed the replacement of badly deteriorated facilities. Furthermore, the General Assembly has increased the amount of funding appropriated to agencies and public higher education institutions to better maintain their buildings and avoid costly repairs or replacements. These efforts have required significant staff time and resources and substantially increased the state's financial commitment.

The state's central repository of data on state-owned buildings and systems is a database of agency-reported data called "M-R FIX." The Department of General Services (DGS) developed M-R FIX to allocate maintenance reserve funds, the state's fund for eligible maintenance projects that cost between $25,000 and $2 million ($4 million for roofs). M-R FIX has incomplete and incorrect data, but it is at least sufficient to draw a few basic conclusions about the buildings that house state government and public higher education operations. M-R FIX data shows that about half of state-owned buildings are almost 50 years old or older, and about one-third of the systems (e.g., HVAC, roofing, plumbing, etc.) in state buildings are past their expected lifespans (i.e., expired), according to generic lifespan metrics. In addition, many building systems presumed to be expired are 20+ years past their expected lifespans (figure, next page).

M-R FIX does not include data on actual building conditions, which limits visibility into state agencies' and public higher education institutions' (HEIs') capital needs and priorities. Agencies/HEIs are not required, and do not receive funding, to assess and track the condition of their buildings. As a result, centralized information on the scope and urgency of maintenance needs of state-owned buildings is not available.

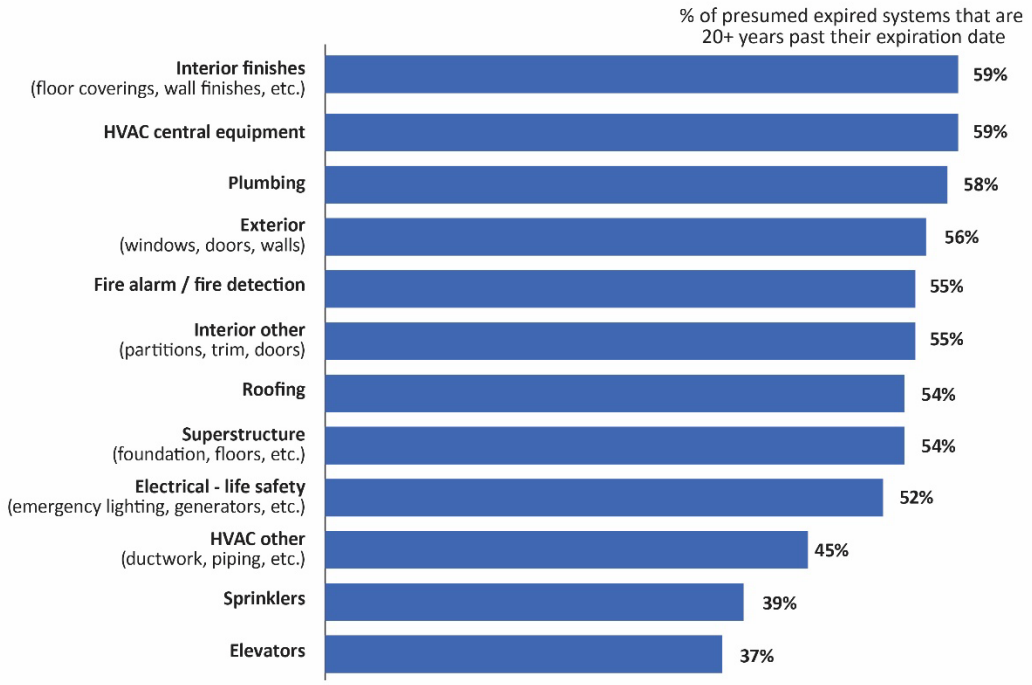
WHY WE DID THIS STUDY

In 2024, the Joint Legislative Audit and Review Commission directed staff to review Virginia's approach to planning, maintaining, and funding capital assets at state agencies and public higher education institutions (HEIs), including data on building condition and use, and to evaluate project timeliness and ways to improve it.

ABOUT VIRGINIA'S CAPITAL ASSETS

Capital assets can include state-owned buildings, land, leases, infrastructure (e.g., sewer treatment, domestic water distribution), equipment (e.g., machinery, vehicles), and certain intangibles (e.g., software, patents, land use rights). JLARC staff focused on state-owned buildings and the systems within them (e.g., HVAC, plumbing, electrical, etc.) for this study. This report focuses on agencies/HEIs that are responsible for managing their own buildings and are subject to the state's traditional capital-related policies and processes. Some common building types are dormitories, corrections facilities, storage warehouses, multipurpose buildings, and office buildings. Together, the state-owned buildings within the scope of this study are currently valued between $31 billion and $47 billion, according to DGS and Department of Treasury data.

Many building systems presumed to be expired are 20+ years past their expected expiration dates



SOURCE: JLARC analysis of DGS's M-R FIX data (2025).
NOTE: Figure shows the percentage of presumed expired systems that are 20+ years past their expiration date for each type of building system. Across all building systems, there are 17,564 systems that are 20+ years past their expected expiration date.

Given the apparent age of state buildings and their systems, capital planning could receive more attention

Multiple national industry groups and subject matter experts emphasize the importance of having a state- or agency-level capital improvement plan. Capital improvement plans can be difficult for state governments and individual agencies/HEIs to create and maintain in practice. This has been the case in Virginia, as well as other states. However, capital improvement plans—especially at the agency level—are useful tools for identifying and documenting future capital projects needed. They are also useful for elected officials and their staff to make decisions about project funding. However, some agencies do not have one, including several with large capital needs (e.g., high square footage, significant maintenance needs).

Deferring needed maintenance will cost the state more over time

Delaying needed facility maintenance escalates the eventual cost of repairs or replacements. Projects may not be addressed immediately for several reasons, such as insufficient funding, insufficient staffing, poor planning, or decisions by agency/HEI leaders. Cost escalation occurs because prices for the materials and labor needed to

complete maintenance projects rise over time. The cost of maintenance services has increased 51 percent over the past decade, according to building cost index data.

Eventually, a facility's poor condition will need to be addressed, such as when a critical system like an HVAC unit fails. Deferring ongoing maintenance needs until problems occur often leads to expensive and avoidable repairs. Systems pushed to the point of failure may require a costly replacement rather than a simpler repair.

Building maintenance needs far exceed available state funding, and maintenance funds could be better allocated among agencies/HEIs

State agencies and HEIs often receive funding—usually general funds, but sometimes state-issued debt—to pay for their buildings' major maintenance needs. These "maintenance reserve" funds are designated for projects that are too large to address using operating funds, but too small to require capital outlay project funding. Although state funding for maintenance projects has generally increased over time, it remains significantly below what is needed to cover existing maintenance needs.

The state does not currently have an estimate for the total cost of addressing needed maintenance at state-owned buildings. However, data collected by JLARC staff from 12 agencies/HEIs with the majority of state-owned building square footage indicates that current maintenance reserve project needs exceed $1.1 billion. Moreover, nearly two-thirds of agencies/HEIs responding to an information request said they did not receive enough maintenance reserve funding in FY24 for essential maintenance projects.

Virginia's approach to allocating state funds appropriated for maintenance reserve projects across agencies/HEIs needs improvement. The allocation of agencies'/HEIs' "shares" of state maintenance reserve funding is primarily based on the number of systems in their buildings that are presumed to have reached their expected lifespans (i.e., they have expired) and not the *actual* condition of agencies'/HEIs' buildings/systems or maintenance needs. For example, the calculation does not account for a building/system that has major maintenance needs *before* its presumed expiration date, which could result in an agency/HEI receiving a smaller allocation than it should receive. The methodology also does not account for systems that are presumed to be expired but are still in good condition, which could result in an agency/HEI receiving shares (and therefore funding) that would more properly be allocated to other agencies/HEIs.

Another concern is that DGS uses generic lifespans to determine whether agencies'/HEIs' systems are expired. These generic lifespans do not account for important system differences. DGS uses the same expected lifespan (20 years) for all roofs, for example, even though roofs can have a lifespan of 20 to 75+ years depending on the type of roof (e.g., hipped, gabled, flat), the materials used (i.e., metal, slate, rubber membrane), or the builder/manufacturer. This approach is imprecise and can result in agencies/HEIs receiving "shares" for systems that are still in good condition and do

not require maintenance or not receiving shares for systems that need maintenance but are not presumed to be expired.

Allocations of state maintenance reserve appropriations also do not properly account for buildings that are not being used. Buildings that are identified as "underutilized" or "surplus," including several buildings that are associated with facilities that have closed, are included in agencies'/HEIs' square footage, and therefore affect these agencies'/HEIs' maintenance reserve allocations.

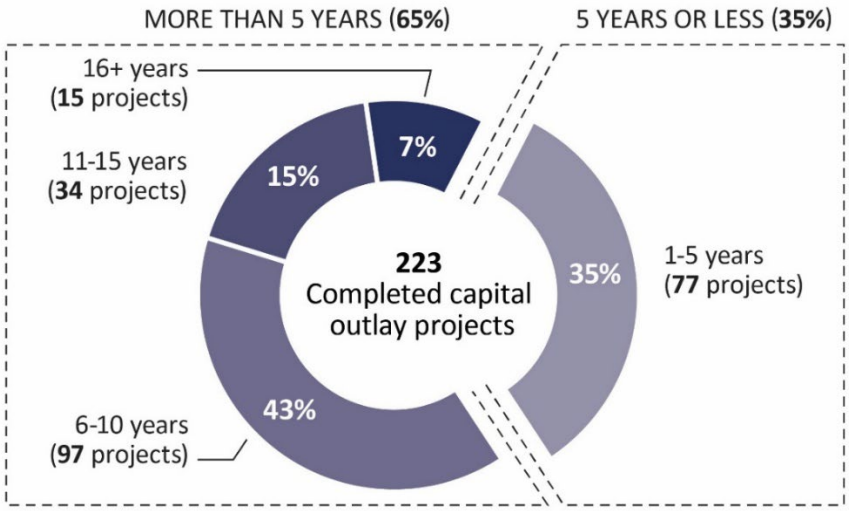
Completing some state capital outlay projects takes longer than 10 years, and many projects take longer than expected

Capital outlay projects are major projects that are individually authorized through the budget process. Capital outlay projects may involve new construction, maintenance (e.g., major renovation of an existing building or infrastructure repair), equipment purchases, demolition, or acquisition of property. Capital outlay projects for new construction typically cost $3 million or more or are 5,000 or more square feet. Capital outlay projects for maintenance typically cost $3 million or more. As of spring 2025, 525 state government capital outlay projects were "open."

While Virginia lacks comprehensive data on the status of capital outlay projects, JLARC staff were able to determine that nearly two-thirds (65 percent) of projects "completed" since FY21 have taken longer to finish than a typical benchmark of five years. Five years is a reasonable expectation for the lifespan of a large capital project, according to several other states and Virginia localities, though some projects that are particularly large or complex may take longer. Almost a quarter of projects (22 percent) took more than 10 years to complete.

Key information about capital outlay projects' progress is not consolidated centrally, which prevents central agencies as well as decisionmakers from proactively intervening to address problems that are causing delays. Periodically reviewing the status of capital outlay projects across state government would enable decisionmakers to identify delayed projects that need more attention or additional support. The faster a project is completed, the more likely it is to stay on budget, and the sooner it fulfills its purpose. This information could also help the governor and General Assembly make funding decisions.

Majority of capital outlay projects completed since FY21 exceeded five years to complete, and some exceeded a decade



SOURCE: JLARC analysis of DPB data on capital outlay projects.
NOTE: Data shows the number of years between when a capital outlay project was first authorized in the budget and the last fiscal year there was a project expenditure. "Completed" capital outlay projects were defined by JLARC staff to include projects that were closed between FY21 and FY25. See Appendix B for more information.

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

National and Virginia subject matter experts emphasize the importance of agency/HEI staff having the knowledge and skills necessary to keep capital outlay projects on schedule and fulfilling their intended purpose. In Virginia, agencies/HEIs that own and maintain their buildings are typically also responsible for managing their own capital outlay projects. Agency/HEI staff have several key responsibilities, such as requesting state authorization and funding for capital outlay projects, ensuring contractors meet agency/HEI programmatic needs, and submitting various documents (e.g., design plans and funding requests) to DGS and DPB for review at particular milestones. Insufficient agency management of capital outlay projects can cause projects to take longer than needed.

Capital outlay projects have frequently been delayed because of mistakes the agency/HEI staff managing the project made when submitting required documents to DGS and DPB (e.g., design documents, funding requests). Common agency/HEI staff mistakes include submitting incomplete materials, resubmitting materials without addressing all issues, and skipping or not initiating steps in the process (e.g., capital budget requests for equipment). Such mistakes have delayed recent capital outlay projects and stem from inadequate knowledge of the state's capital outlay process and policies and inadequate project management skills (e.g., strategic scheduling, anticipating project challenges, effective communication with contractors, etc.).

Some capital outlay projects are also delayed because agency/HEI staff change the project "scope," or delay project initiation.

WHAT WE RECOMMEND

The following recommendations include only those highlighted for the report summary. The complete list of recommendations is available on page vii.

Legislative action

- Require agencies and public higher education institutions that have a large amount of square footage or older buildings to complete formal "facility condition assessments" (providing funding as needed for hiring or contracting with appropriate experts to perform these assessments), and direct DGS to establish assessment guidelines to ensure comparability.
- Require agencies and public higher education institutions whose state-owned buildings have a large footprint (i.e., square footage) or extensive maintenance needs to develop six-year capital improvement plans every two years that detail needed maintenance reserve and capital outlay projects, including estimated costs, project priority levels, and proposed funding timelines.
- Direct DGS to estimate the total cost of statewide capital maintenance reserve project needs and require the Six-Year Capital Outlay Plan Advisory Committee to set an annual goal for funding a set percentage of the cost.
- Direct DGS to establish the qualifications, trainings, and exams individuals need to complete to manage capital outlay projects and develop related trainings and exams.
- Direct the Six-Year Capital Outlay Plan Advisory Committee to establish criteria for potentially "significantly delayed" capital outlay projects and systematically review them.

Executive action

- DGS should develop expected building systems lifespan benchmarks that more precisely approximate when each system will be beyond its useful life.
- DGS should base its methodology for apportioning state maintenance reserve funding to agencies and public higher education institutions on the actual condition of state-owned buildings and systems once such information becomes available.

Recommendations and Policy Options: Capital Maintenance and Construction

RECOMMENDATION 1

The General Assembly may wish to consider including language and funding in the Appropriation Act to require facility condition assessments for state agencies and public higher education institutions that do not calculate a facility condition index value for their state-owned buildings but that have large square footage or older buildings, with facility condition index results reported to the Department of General Services to improve M-R FIX's building condition data. (Chapter 2)

RECOMMENDATION 2

The General Assembly may wish to consider including language and funding in the Appropriation Act for the Department of General Services to (1) establish a statewide contract that state agencies and public higher education institutions can use for facility condition assessment services; (2) establish guidelines describing how facility condition assessments should be conducted to ensure results are comparable across state agencies and public higher education institutions; and (3) develop a proposed long-term schedule and cost estimate for conducting facility condition assessments at state agencies and public higher education institutions on a rotating basis to be submitted to the chairs of the House Appropriations Committee and the Senate Finance and Appropriations Committee. (Chapter 2)

RECOMMENDATION 3

The General Assembly may wish to consider amending § 2.2-1517 of the Code of Virginia to (i) require state agencies and public higher education institutions with a large capital footprint (based on square footage) and/or high maintenance needs to submit a six-year capital improvement plan to the Six-Year Capital Outlay Plan Advisory Committee (6PAC) every two years and (ii) give 6PAC authority to request that additional agencies and public higher education institutions submit their capital improvement plans. These plans should detail needed maintenance reserve and capital outlay projects, estimated project costs, project priority levels, and proposed funding timelines. (Chapter 3)

RECOMMENDATION 4

The General Assembly may wish to consider amending § 2.2-1516 of the Code of Virginia to direct the Six-Year Capital Outlay Plan Advisory Committee to establish (i) a method for agencies and public higher education institutions to estimate the cost of their capital maintenance reserve project needs and (ii) a goal to fund a certain percentage of combined capital maintenance reserve project costs across state agencies and public higher education institutions through maintenance reserve appropriations each year. (Chapter 4)

RECOMMENDATION 5

The General Assembly may wish to consider including language in the Appropriation Act directing the Department of General Services to estimate the cost of the total combined capital maintenance reserve project needs across state agencies and public higher education institutions each year and report this to the Six-Year Capital Outlay Plan Advisory Committee and the chairs of the House Appropriations Committee and the Senate Finance and Appropriations Committee. (Chapter 4)

RECOMMENDATION 6

The General Assembly may wish to consider including language and funding in the Appropriation Act for the Department of General Services to hire a qualified consultant to audit the accuracy and completeness of M-R FIX data at least every five years and update the data as needed. (Chapter 4)

RECOMMENDATION 7

The Department of General Services should develop expected building systems lifespan benchmarks that more precisely approximate when each type of system will be beyond its useful life, including developing multiple benchmarks for system types that have varied lifespans. (Chapter 4)

RECOMMENDATION 8

The Department of General Services should exclude buildings that agencies and public higher education institutions have identified as underutilized and surplus buildings from the maintenance reserve shares calculations. (Chapter 4)

RECOMMENDATION 9

The Department of General Services should revise the methodology used to calculate the proportion of state maintenance reserve funding that state agencies and public higher education institutions receive to be based on the actual condition of state-owned buildings and systems, incorporating metrics such as the facility condition index into the methodology, once such information becomes available. (Chapter 4)

RECOMMENDATION 10

The Department of Planning and Budget (DPB) should require state agencies and public higher education institutions to include in their annual report on maintenance reserve spending (i) the reasons for unspent state maintenance reserve funding and (ii) the total amount of unspent state maintenance reserve funding obligated to in-progress maintenance reserve projects, including the project name and obligated amount for each project. (Chapter 4)

RECOMMENDATION 11

The Department of Planning and Budget should work with the Department of General Services to review the appropriateness of the state maintenance reserve funding cost parameters at least every three years and, through the budget development process, recommend updates to Appropriation Act language establishing the parameters, as needed, based on inflation and other factors affecting the cost of maintenance reserve projects. (Chapter 4)

RECOMMENDATION 12

The General Assembly may wish to consider amending § 2.2-1132 of the Code of Virginia to direct the Department of General Services to (i) establish the qualifications individuals must have to manage capital outlay projects, including necessary training and demonstrated competence and (ii) develop and administer mandatory training and exams on key skills and Virginia capital outlay policies and processes for capital outlay project managers. (Chapter 5)

RECOMMENDATION 13

The General Assembly may wish to consider amending § 2.2-1132 of the Code of Virginia to require the Department of General Services (DGS) to: (i) develop criteria to identify complex and high-risk capital outlay projects that require specialized project management qualifications, considering factors such as project cost, complexity, and other characteristics (e.g., project type and location); and (ii) require DGS's Division of Construction Management to manage projects meeting the criteria when agencies or public higher education institutions are unable to assign project management to a qualified staff member or third-party contractor. (Chapter 5)

RECOMMENDATION 14

The General Assembly may wish to consider amending the Appropriation Act to require the Department of General Services and Department of Planning and Budget to coordinate to develop a single report summarizing the status of open capital outlay projects relative to their original deadlines and the timeliness of recently completed capital outlay projects. The report should be submitted to the chair of the Senate Finance and Appropriations Committee, chair of the House Appropriations Committee, and the Six-Year Capital Outlay Plan Advisory Committee. (Chapter 5)

RECOMMENDATION 15

The General Assembly may wish to consider amending § 2.2-1516 of the Code of Virginia to direct the Six-Year Capital Outlay Plan Advisory Committee to (i) establish criteria for what constitutes a "significantly delayed" capital outlay project, (ii) identify and review projects that meet the criteria each year, and (iii) request that state agencies and public higher education institutions develop and submit corrective action plans for projects that are significantly delayed without reasonable justification, when appropriate. (Chapter 5)

RECOMMENDATION 16

The Department of General Services should develop a goal for reviewing CO-2s within 21 calendar days and annually report the percentage of submissions meeting its goal to the Six-Year Capital Outlay Plan Advisory Committee. (Chapter 5)

RECOMMENDATION 17

The Department of General Services should develop a timeliness goal for completing budget/scope reviews within 21 calendar days and annually report the percentage of submissions meeting that goal to the Six-Year Capital Outlay Plan Advisory Committee. (Chapter 5)

RECOMMENDATION 18

The Department of Planning and Budget should develop a reasonable goal for reviewing CO-2s and annually report the percentage of submissions meeting its goal to the Six-Year Capital Outlay Plan Advisory Committee. (Chapter 5)

RECOMMENDATION 19

The Department of Planning and Budget, coordinating as necessary with the Department of General Services and State Council of Higher Education for Virginia, should coordinate with state agencies and public higher education institutions to ensure that capital budget requests related to the renovation or replacement of a building indicate (1) the condition of the building intended for renovation or replacement and (2) whether a project is part of the agency or institution's capital improvement plan. (Chapter 5)

RECOMMENDATION 20

The General Assembly may wish to consider including language in the Appropriation Act directing the Department of General Services, Department of Planning and Budget, and State Council of Higher Education for Virginia to annually (1) compile information on average building condition, average building utilization, status of all open capital outlay projects, and timeliness of previously completed capital outlay projects for each state agency and higher education entity, and (2) report this information by September each year to the chair of the Senate Finance and Appropriations Committee, chair of the House Appropriations Committee, and the Six-Year Capital Outlay Plan Advisory Committee. (Chapter 5)

Policy Options to Consider

JLARC staff typically make recommendations to address findings during reviews. Staff also sometimes propose policy options rather than recommendations. The three most common reasons staff propose policy options rather than recommendations are: (1) the action proposed is a policy judgment best made by the General Assembly or other elected officials, (2) the evidence indicates that addressing a report finding is not necessarily required, but doing so could be beneficial, or (3) there are multiple ways in

which a report finding could be addressed and there is insufficient evidence of a single best way to address the finding.

POLICY OPTION 1

The General Assembly could include language and funding in the Appropriation Act to create a pilot program, administered by the Department of General Services (DGS), in consultation with the State Council of Higher Education for Virginia, to collect office space utilization data at several state agencies and public higher education institutions by (i) requiring a subset of state agencies and public higher education institutions to report office space utilization data to DGS; (ii) directing DGS to determine how office space utilization data could be incorporated into the state's capital outlay processes; and (iii) directing DGS to consider whether it would be feasible and useful to collect office space utilization data for all state agencies and public higher education institutions on an ongoing basis. (Chapter 2)

1 Introduction

In 2024, the Joint Legislative Audit and Review Commission directed staff to review Virginia's approach to planning, maintaining, and funding capital assets at state agencies and public higher education institutions (HEIs). Specifically, staff were directed to:

- evaluate the state's process for identifying, prioritizing, planning for, and funding the maintenance of existing capital assets and new capital assets and other capital projects (sidebar);
- determine the availability and usability of data on state capital asset condition and utilization;
- review the roles of key stakeholders in the capital outlay process, including the Six-Year Capital Outlay Plan Advisory Committee (6PAC), the Department of General Services (DGS), and the State Council of Higher Education for Virginia (SCHEV); and
- determine why some capital projects are not completed on time and how timeliness could be improved.

Capital assets can include state-owned buildings, land, leases, infrastructure (e.g., sewer treatment, domestic water distribution), equipment (e.g., machinery, vehicles), and certain intangibles (e.g., software, patents, land use rights). JLARC staff focused on state-owned buildings and the systems within them (e.g., HVAC, plumbing, electrical, etc.) for this study.

To address the study resolution, JLARC conducted interviews with key stakeholders, including state agencies, public higher education institutions, other states, and subject matter experts. Staff analyzed data from the Department of Planning and Budget (DPB), DGS, state agencies, and public higher education institutions to better understand the condition and utilization of state-owned buildings, maintenance of state-owned buildings, and capital outlay projects. Staff also conducted case study reviews of several different capital outlay projects to understand the challenges and causes of delays experienced by specific projects. Other research methods included a review of industry best practices and other states' approaches to capital maintenance and capital outlay projects. (See Appendix B for more information on methods used for this study.)

This report largely focuses on agencies/HEIs that are responsible for managing their own buildings and are subject to the state's traditional capital-related policies and processes (e.g., maintenance reserve and capital outlay). Agencies that have alternative capital funding sources, policies, and/or processes may not be included in all report analyses. The Virginia Department of Transportation (VDOT), for example, uses transportation funding approved by the Commonwealth Transportation Board instead of general funds allocated by the General Assembly for maintenance reserve and capital outlay projects. Therefore, VDOT was not part of JLARC's maintenance reserve

or capital outlay project analyses. However, VDOT was included in JLARC's analysis of the completeness of building condition data and capital planning documents.

State agencies and higher education institutions occupy state-owned buildings throughout the state

Virginia owns and maintains a large portfolio of buildings—including office buildings, correctional facilities, higher education classroom buildings and dormitories, storage warehouses, and other structures—that support the delivery of state government services statewide. Virginia's state-owned buildings are valued between $31 billion and $47 billion, according to DGS and treasury department data.

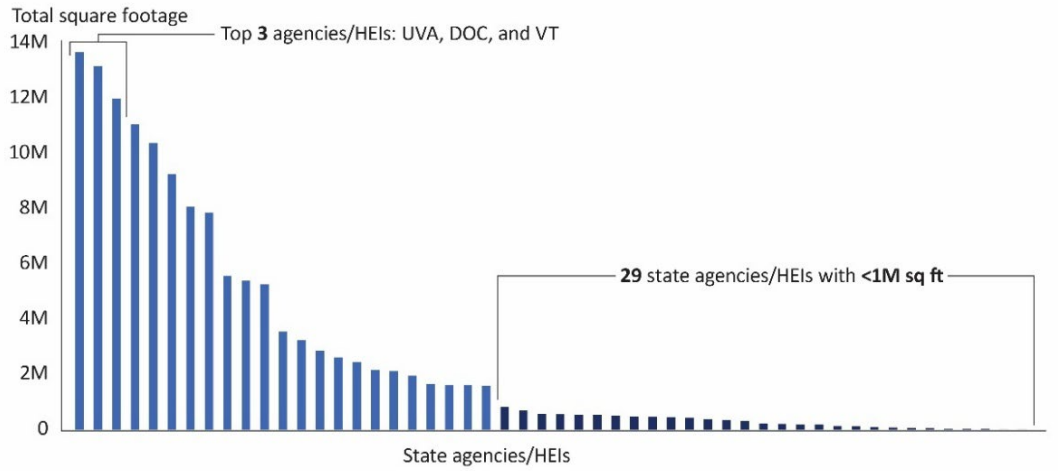
Data on Virginia's state-owned buildings is incomplete and varies across sources. DGS's M-R FIX database indicates there are 13,186 state-owned buildings, but only 7,628 of those buildings have system information. System information is not available for some buildings because (1) the building does not have any systems (e.g., small sheds), or (2) agencies/HEIs have not reported it to DGS. The Treasury Department's data on the replacement value of state-owned buildings indicates there are 11,611 state-owned buildings, which differs from DGS's M-R FIX data. (See Appendix B for more information on state-owned building data.)

State-level data on state-owned buildings is not sufficiently complete or accurate to reliably estimate the total number of buildings or square footage that the state owns. However, available data indicates that Virginia has at least 7,628 state-owned buildings with permanent systems (e.g., plumbing, electrical, HVAC) (sidebar). Nearly one-third of these buildings are small (less than 1,000 square feet), while around 5 percent are over 100,000 square feet.

Some state agencies and HEIs have a considerably larger building footprint than others. For example, the University of Virginia, Department of Corrections (DOC), Virginia Tech, Virginia Community College System, and Virginia Commonwealth University all have over 10 million square feet of state-owned buildings, while 29 agencies/HEIs have less than 1 million square feet of state-owned buildings (Figure 1-1). Similarly, the Department of Conservation and Recreation and DOC have over 1,400 state-owned buildings each, while five state agencies own only one state-owned building. When considered together, state agencies have a larger number of state-owned buildings (59 percent; 4,514 buildings) than HEIs, but HEIs together own more square footage (69 percent; 96 million square feet).

DGS manages state-owned buildings used by many state agencies, but at least 53 agencies/HEIs manage their own state-owned buildings. ("Managing" often entails identifying and prioritizing maintenance needs, performing needed maintenance, identifying new construction needs, and overseeing capital projects.) The buildings that DGS manages are largely concentrated in the Capitol Square area of Richmond.

FIGURE 1-1
Estimated square footage for agencies/HEIs, based on available data

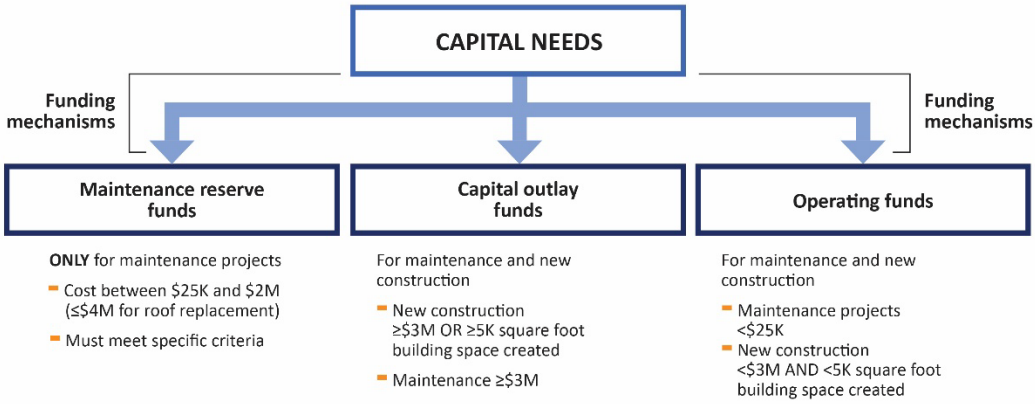


SOURCE: DGS M-R FIX data on state-owned properties (2025).
NOTE: Square footage includes space maintained with state funding (called "education and general" buildings) and other funding sources (called "non-education and general" buildings). Figure does not include agencies that (1) do not have complete data (such as square footage) in M-R FIX because they rely mostly on non-general funds and therefore do not receive state maintenance reserve funding (e.g., VDOT, Department of Motor Vehicles, Department of Wildlife Resources, etc.) or (2) are not in M-R FIX at all (e.g., Department of Environmental Quality, Department for Aging and Rehabilitative Services, and the Department of Aviation). Some agencies are not in M-R FIX because they lease private space in buildings that are not state-owned.

Policies for approving, funding, and managing capital projects vary based on project size and complexity

State agency/HEI capital needs are subject to different approval, funding, and oversight policies depending on the nature of the project and the project's expected costs. Capital projects fall into one of three categories: capital outlay, maintenance reserve, or projects funded through agencies'/HEIs' operating funds (Figure 1-2). This report focuses on the state's policies and processes for maintenance reserve and capital outlay projects.

FIGURE 1-2
Agencies'/HEIs' capital needs are met through one of three different funding mechanisms, depending on size and complexity



SOURCE: Department of Planning and Budget capital budget instructions document (2025).
NOTES: Maintenance-related projects that cost between $2 million and $3 million (above the maintenance reserve cost amount but below the capital outlay cost amount) can be addressed through either the maintenance reserve or capital outlay processes, as directed by DPB. Projects can go through the capital outlay process even if they fall below the capital outlay cost parameters ($3 million or more, or 5,000 square feet or more of building space created). Certain types of capital outlay projects (e.g., acquisition, demolition) do not have cost parameters; all must go through the capital outlay process.

Maintenance reserve projects are for repairs and updates that typically cost between $25,000 and $2 million (up to $4 million for roofs). The state appropriates a total amount, which is then divided among agencies and public higher education institutions (HEIs) based on DGS calculations of their maintenance needs and DPB and money committee staff adjustments to DGS calculations. These calculations account for things like systems (e.g., HVAC, plumbing, etc.) that are older than their typical lifespan and building types and locations. Agencies and HEIs can use maintenance reserve project funds for a range of projects—like updating built-in equipment or ensuring building and safety code compliance—without receiving prior approval for each project, as long as they meet project criteria and cost parameters. Agencies/HEIs must report their project spending (e.g., project title, the facility/item that is being worked on, total cost, spending to date) to DPB at the end of the fiscal year.

Capital outlay projects are typically large-scale *new construction* projects that cost $3 million or more (or are 5,000 or more square feet), and large *maintenance* projects (e.g., major renovation of an existing building or infrastructure repair) that cost $3 million or more. In contrast to maintenance reserve projects, agencies/HEIs must receive approval from the governor and General Assembly to initiate a capital outlay project (except HEIs with delegated capital outlay authority for non-general fund projects). Agencies/HEIs request approval for capital outlay projects by submitting capital budget requests to DPB. DPB staff evaluate the requests, work with DGS staff to review and refine estimated costs and project scope, and advise the governor on which projects should be considered for inclusion in the introduced budget. The legislature

can add or remove funding for capital outlay projects during the budget process. Agencies/HEIs can proceed with projects that are in the finalized budget.

Capital outlay projects are classified as either "standalone" or "pool" projects. Traditional "standalone" projects receive a set amount of funds to complete the entire capital outlay project and cannot move forward if anticipated costs increase beyond the amount approved. Agencies/HEIs must either lower the cost, such as reducing the project scope, or seek approval for additional funding through the budget process. "Pool" projects have more flexibility if budget changes are needed to complete the project as designed. Additionally, standalone projects are typically fully approved upfront while pool projects are typically approved for initial planning activities, and then future project phases (e.g., construction) are approved through subsequent state budgets. Some projects can begin as one type of project but then be reclassified as another. For example, a project can begin as a standalone project for planning but then be reclassified as a pool project when it is authorized for the remainder of design and construction.

Capital-related projects that cost less than the state's existing cost parameters (less than $25,000 for maintenance-reserve eligible projects and less than $3 million/5,000 square feet for capital outlay projects) are funded through agencies'/HEIs' operating budgets. This includes projects such as painting, replacing fixtures, and other routine maintenance. Agencies/HEIs do not typically receive separate approval or funding for these projects, and projects are undertaken at their discretion as funding allows.

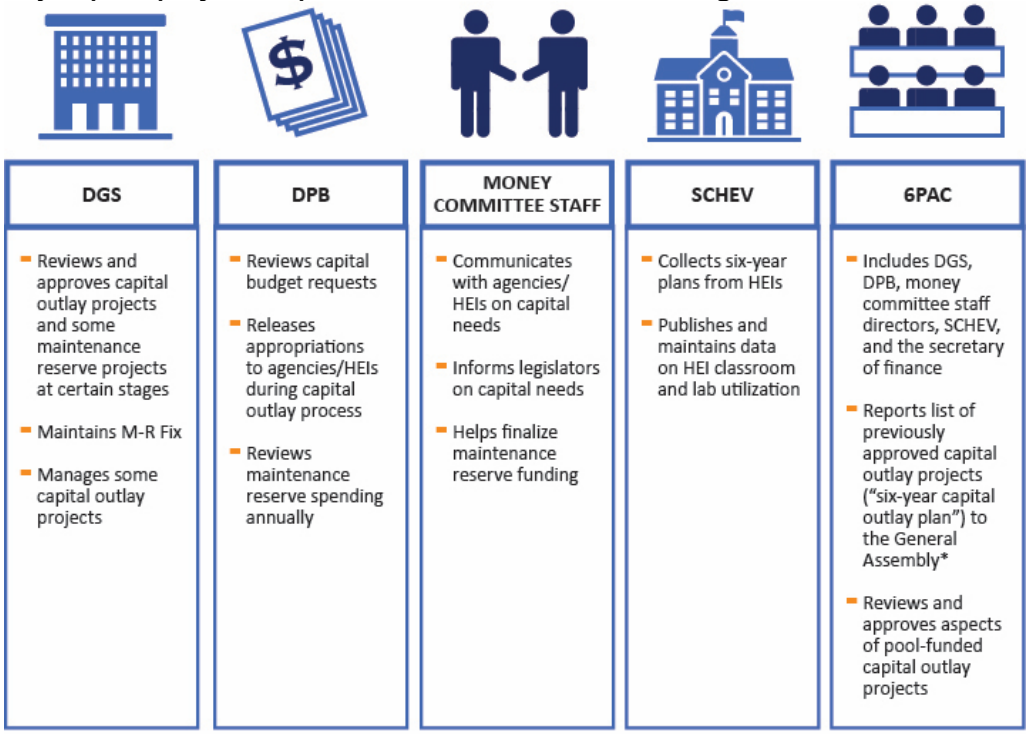
HEIs with capital outlay autonomy (sidebar) are not subject to all of the state's capital outlay policies and processes. For example, some HEIs are not required to submit design documents to DGS staff for approval because they are permitted to hire their own staff to review design documents.

Virginia has three tiers of public HEIs. Tier 1 institutions have limited operational autonomy. Tier 2 institutions enter MOUs to receive additional autonomy in certain business areas (e.g., capital outlay). Tier 3 institutions enter into management agreements to receive autonomy in six business areas, including capital outlay. CNU and VCCS are Tier 2 institutions with capital outlay autonomy. UVA, W&M, VT, VCU, JMU, and GMU are Tier 3 institutions with capital outlay autonomy.

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

Regardless of the project category—maintenance reserve, capital outlay, or operating—state agencies and higher education institutions typically need funding from the state budget for their capital projects. This requires input and approval from both the executive and legislative branches. The primary executive branch agencies are DGS, DPB, and SCHEV. The secretary of finance also has an active role. The legislative entities involved in the process are the Senate Finance and Appropriations Committee and the House Appropriations Committee. Additionally, statute grants the Six-Year Capital Outlay Plan Advisory Committee (6PAC) responsibilities specifically related to capital outlay projects (Figure 1-3).

FIGURE 1-3
Key capital project responsibilities of executive and legislative branch entities



SOURCE: JLARC staff interviews with DPB, DGS, secretary of finance, and money committee staff.
* See Chapter 3 for more information on how the six-year capital outlay plan has changed over time.

Technical reviews conducted by DGS's Division of Engineering and Buildings include examining project design documents, considering construction permit requests, and inspecting the construction site.

DGS manages capital outlay projects for agencies when mandated by the General Assembly through the budget or when requested by agencies in some cases. For example, budget language directs DGS to manage the Virginia State Police's training academy project. DGS voluntarily manages several projects for the Science Museum of Virginia.

DGS handles technical reviews for capital projects, approves projects to move forward at various stages, and manages the overall execution of some projects. DGS's Division of Engineering and Buildings is responsible for the technical reviews of capital outlay projects (and some maintenance reserve projects) to ensure they comply with the state building code and meet other state requirements (sidebar). Projects must receive DGS's approval at several stages before they can advance to the next stage. DGS's Division of Construction Management manages DGS's own capital outlay projects and some other agencies' capital outlay projects (sidebar). DGS also maintains M-R FIX data on state-owned buildings and the systems within them. DGS charges agencies/HEIs for their services through internal service funds.

DPB manages agencies'/HEIs' access to state funding for their capital projects and reviews how agencies have spent their funding. In addition to reviewing agencies'/HEIs' capital budget requests to help the governor decide which projects to include in the introduced budget, DPB releases appropriations to the agencies/HEIs for approved projects as they reach certain milestones. DPB also annually reviews agencies'/HEIs' maintenance reserve fund spending.

SCHEV has two primary roles related to HEI capital. One of its roles is to collect six-year plans from each HEI, which include information on HEIs' future capital outlay projects. SCHEV also publishes and maintains data on HEIs' average classroom and

lab occupancy rates. This information helps policymakers assess how HEIs are using their existing space and determine whether new capital projects are needed.

Staff for the General Assembly's money committees (House Appropriations Committee and Senate Finance and Appropriations Committee) communicate with agencies/HEIs to understand their capital needs, and they share this information with legislators ahead of budget decisions. Money committee staff also compile project information for legislators on specific capital projects seeking budgetary approval and propose revisions to maintenance reserve funding amounts for specific agencies/HEIs, when needed, each budget cycle. Maintenance reserve appropriations are finalized by the General Assembly through the budget development process.

The Six-Year Capital Outlay Plan Advisory Committee (6PAC) includes representatives from DPB, DGS, and SCHEV; the secretary of finance; and money committee staff directors. 6PAC reports the state's six-year capital outlay plan to the General Assembly (sidebar). 6PAC also has an oversight role for "pool" capital outlay projects, which includes reviewing and approving appeals for project funding increases.

6PAC reports Virginia's six-year capital outlay plan to the General Assembly each year. The plan lists the state's previously authorized capital outlay projects that are expected to use at least partial support from the general fund over the next six fiscal years. (See Chapter 3 for more information on capital project planning.)

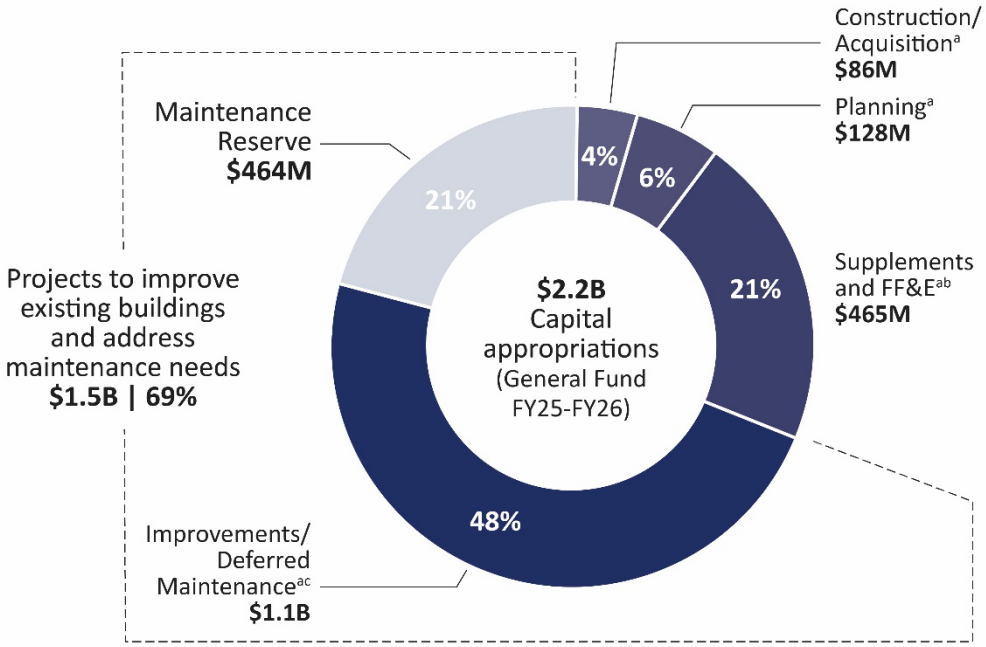
Virginia has appropriated ~$16B for capital maintenance and construction over the past decade

The state has *appropriated* $15.8 billion toward capital projects, including maintenance reserve and capital outlay projects, cumulatively over the past decade (FY17–FY26). Capital appropriations increased 134 percent from FY17 to FY26 (inflation-adjusted). In the current biennium, $2.4 billion was appropriated for FY25 and $1.3 billion was appropriated for FY26. A large portion of the funding appropriated for maintenance reserve and capital outlay projects over time has been through the state general fund or state-supported debt. Some other funding sources (e.g., non-state supported debt service, special revenue funds, etc.) are also used annually for maintenance reserve and capital outlay projects.

The majority of state general funds appropriated for capital in the last two years (FY25 and FY26) went toward capital projects that would improve existing state-owned buildings and help address the state's maintenance needs. Almost half (48 percent) of general fund-related capital funding was appropriated for capital outlay improvement or deferred maintenance projects, and about one-fifth (21 percent) was appropriated for maintenance reserve projects (Figure 1-4).

The state appropriates only a portion of the total capital outlay project funding amount that agencies/HEIs request each year because funding is limited. Many agencies/HEIs request funding for capital outlay projects each biennium, with some requesting funding for multiple projects at the same time. The governor and legislators must choose which projects receive appropriations. The amount appropriated for capital outlay projects each biennium over the past decade, on average, was 25 percent of the total amount requested by agencies/HEIs through their capital budget requests.

FIGURE 1-4
State appropriated majority of general funds to maintenance-related capital (FY25-FY26)



SOURCE: House Appropriations Committee staff analysis of capital funding in the appropriation acts (FY25 – FY26).
NOTES: Figure includes state general fund appropriations and general fund-supported bonds for FY25 and FY26 that were signed into law following the 2025 General Assembly session. Figure does not include any funds appropriated for capital projects through operating expenses or unspent capital or maintenance reserve funds that agencies carried over from previous years.
[a] Types of capital outlay project appropriations that total $1.7 billion.
[b] Supplements = additional project funding for cost increases; FF&E = furnishings, fixtures, and equipment.
[c] Improvements/deferred maintenance may include projects for constructing new buildings if an existing state-owned building is being replaced.

While the state *appropriated* about $15.8 billion in the past decade (FY17–FY26), Virginia *spent* about $11.2 billion on capital projects over the time period. State appropriations and spending differ because capital projects typically take several years to complete, which creates a lapse between when funding is appropriated and spent.

2 State-Owned Building Condition and Utilization

"Building condition" is an important measure of the structural integrity of a building, as well as the functioning of systems within it (e.g., electrical, plumbing, and HVAC systems). Data on the condition of state-owned buildings should inform building repair or replacement decisions. Facility management organizations recommend conducting facility condition assessments (FCAs) to collect building condition information and identify maintenance needs (sidebar). They also recommend using data collected from facility condition assessments to calculate a building condition metric called the facility condition index (FCI) to help decisionmakers objectively assess and compare the condition of buildings (sidebar). Without sufficient data on building condition, decisionmakers lack the information needed to effectively and efficiently invest public funds in the maintenance of state-owned property. For example, without building condition data, decisionmakers are unable to:

- identify state-owned property with the most critical maintenance needs,
- determine whether it is more cost effective to maintain current buildings or build new ones,
- determine whether funding appropriated for building maintenance is adequate,
- effectively prioritize the upkeep of state-owned property relative to other budgetary priorities, and
- evaluate how effectively agencies and higher education institutions (HEIs) are maintaining their facilities.

Building utilization data—such as the number of daily employees/visitors in the building and the function of individual spaces—is also important, according to facility management organizations. Building utilization data helps organizations (1) identify underutilized spaces that can be repurposed or consolidated; (2) make decisions about whether to continue maintaining a building; and (3) know whether buildings are being used to their full potential and whether additional space is needed. Maintaining building utilization data is increasingly important given declines in higher education enrollments and increases in remote work arrangements, which have and will likely continue to affect the use of and need for state-owned office and academic space.

Facility Condition Assessments (FCAs) are visual inspections of a building and its systems to (1) assess building/system condition, (2) identify major maintenance needs, and (3) estimate the costs to address needs. Facility management industry standards recommend that FCAs be conducted every three to five years.

Facility Condition Index (FCI) compares the estimated building repair costs to the cost of replacing the building. The data needed to calculate FCI is collected through facility condition assessments. A building with a good FCI score is a well-maintained facility with minimal deferred maintenance, often requiring only routine maintenance.

Virginia lacks adequate data on condition of state buildings, impeding identification of needed capital improvements

The only central repository of data on state-owned buildings and systems is a DGS-maintained database called "M-R FIX," which contains fairly basic descriptive information reported to DGS by agencies and public HEIs. According to DGS staff, M-R FIX was developed to allocate maintenance reserve funds to agencies/HEIs; it was not intended to collect building condition information. Examples of the information maintained in M-R FIX include property name, property type, location, square footage, primary use of the building, and age. M-R FIX data also includes data on the 12 major "systems" within state-owned buildings, such as the dates they were last replaced. (Building systems are essentially the many components of a building that must be maintained for the building to remain safe and functional, such as the roof, HVAC, etc.) M-R FIX was developed by DGS staff in 2017.

In addition to M-R FIX data, agencies/HEIs have their own internal databases and processes to collect data on their state-owned buildings. These vary in sophistication and comprehensiveness. About half of the agencies/HEIs that responded to a JLARC information request (sidebar) have databases for tracking information on their buildings, and many of these agencies/HEIs track FCI. The remaining agencies use less sophisticated methods, such as spreadsheets or paper files, and typically track basic information such as maintenance records but not FCI.

JLARC sent information requests to agencies/HEIs to collect information on their building condition and utilization, capital planning activities, maintenance reserve projects, and capital outlay projects. A high-level request was sent to all 53 agencies/HEIs that are responsible for maintaining state-owned buildings, and 49 agencies/HEIs responded (92 percent). A detailed request was sent to 12 agencies/HEIs that have 63 percent of the state-owned buildings square footage, and 12 agencies/HEIs responded (100 percent). (See Appendix B for more information.)

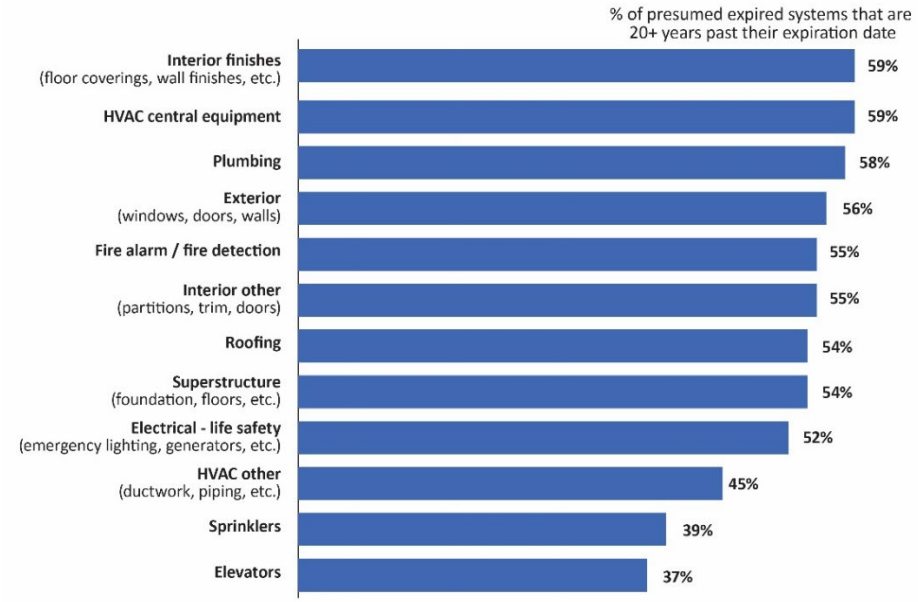
Available data indicates many state building systems are far past their expected lifespans, and almost half of buildings are considered "old"

M-R FIX data has several limitations (e.g., data is incomplete, sometimes inaccurate, and not based on actual building condition), but the data still has useful information about Virginia's state-owned buildings. M-R FIX data on building systems that are presumed to be expired and building age help provide some insight into whether buildings and their systems may have maintenance needs.

M-R FIX data shows that about 35 percent of the systems in state-owned buildings are *presumed* to be expired (~32,300 systems). While this is a significant proportion, it is likely an overestimation because the lifespan metrics are relatively generic and broad. For example, the metric presumes a system is expired without considering other factors, such as construction materials used (sidebar). A more conservative measure is the proportion of all systems that are 20 years or more past their expected lifespan, which is about 19 percent (~17,560 systems). "Interior finishes" (e.g., floor coverings, wall finishes, etc.), "HVAC central equipment," and "plumbing" have the highest percentage of expired systems that are 20+ years past their expiration date in M-R FIX (Figure 2-1).

"Expired" systems in M-R FIX have exceeded the generic lifespan metric DGS set for the system. While these lifespan metrics reportedly use industry standards and internal staff expertise, they have limitations. Lifespans presume a system is expired rather than reflect its actual expiration. For example, DGS uses the same expected lifespan for all roofs even though roofs can have a lifespan of 20–75+ years depending on the roof type and material. (See Chapter 4 for more information about M-R FIX data limitations.)

FIGURE 2-1
Many building systems presumed to be expired are 20+ years past their expected expiration dates



SOURCE: JLARC analysis of DGS's M-R FIX data (2025).
NOTE: Figure shows the percentage of presumed expired systems that are 20+ years past their expiration date for each type of building system. Across all building systems, there are 17,564 systems that are 20+ years past their expected expiration date.

M-R FIX also has data on the age of state-owned buildings (original construction date and building historic era), which shows that half of state-owned buildings were built after 1978 and are 46 years old or less (Table 2-1). Conversely, ~3,800 of Virginia's state-owned buildings are more than 46 years old, with some 100+ years old (sidebar). This means that many state-owned buildings could have significant maintenance needs, especially if their maintenance needs have not been fully addressed over time.

A common benchmark for when a building is considered "old" is when it reaches 50 years of age. Old buildings may have more maintenance needs. Age does not always indicate a building is in poor condition though, because some older buildings are better constructed and built with better materials than more modern buildings.

TABLE 2-1
Half of state-owned buildings were built before 1978 (46+ years 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 [a]	537	7
Totals	**7,628**	**100%**

SOURCE: JLARC analysis of M-R FIX data on the "historic era" of each building.
[a] Two of the historic era categories are "National Historic Landmarks" and "National Register of Historic Places," which means they are of national significance and/or are historic properties worthy of preservation. Age is not a specific requirement for these designations, so the age of these buildings is unable to be determined from M-R FIX data.

M-R FIX does not include data on actual building condition, limiting state's visibility into agencies'/HEIs' capital needs

The state previously funded the Facility Inventory Condition and Assessment System (FICAS), a statewide system that collected data on actual building condition, as well as equipment age and replacement dates. Agencies/HEIs could use FICAS to track FCI and plan for maintenance. Funding for FICAS was eliminated from the budget in FY11 because of fiscal constraints.

Virginia does not have data on state-owned buildings' *actual* condition through M-R FIX or any other state data system. M-R FIX was not designed to collect information on *actual* building condition, according to DGS staff, but was instead intended to be an "apportioning tool" for maintenance reserve funds. State agencies/HEIs are not currently required—and do not receive funding—to conduct facility condition assessments to collect and track data on actual building condition (sidebar).

The state needs accurate data on the actual condition of state-owned buildings to make the most cost-effective and strategic decisions about maintaining, improving, or replacing them. Using a data-driven approach for decisions about state buildings would help to ensure the state is maximizing the investment of public funds appropriated to capital. Statewide, centralized data on the condition of state-owned buildings would have several benefits.

- Statewide data on building conditions would help legislators and the governor make more cost-effective and strategic capital funding decisions.
- Evaluating and tracking the condition of state-owned buildings would help agencies and central decision-makers proactively fund maintenance and repairs. This would help to ensure these taxpayer-funded assets remain safe and usable for individuals who work in them or citizens who visit or are otherwise served by them.
- Regular facility condition assessments would help agencies identify and address problems with building systems before they become serious and require expensive emergency repairs.
- Centralized data on building conditions would allow the state to identify common repair and replacement needs across agencies and negotiate statewide contracts to address such needs. This could make it easier and cheaper for agencies/HEIs to complete needed capital projects.
- Well-maintained state-owned buildings facilitate efficient and effective state agency operations and help ensure that unsafe or rundown physical space does not detract from agencies' ability to recruit and retain employees.

Without accurate and complete data on building conditions, state decisionmakers cannot make fully informed decisions regarding the allocation of limited capital funds across agencies/HEIs. Currently, they rely on information provided by agencies/HEIs. While some have the resources to adequately collect and update this data, many do not. As a result, capital funding decisions are based on information that varies significantly in quality and completeness. Agencies/HEIs with the best data are more likely to receive funding, even if their needs are not as urgent as those of less-resourced agencies.

Collecting and using data on building conditions and maintenance needs is a best practice recommended by facility management and financial experts. The Government Finance Officers Association, for example, recommends that state and local governments establish a system for assessing their capital assets, provide facility condition ratings to state elected officials at least once every three years, and use facility condition information to plan and budget for capital maintenance and replacement needs. Higher education organizations such as the National Association of College and University Business Officers (NACUBO) and Association of Physical Plant Administrators (APPA) support the development and use of FCI.

Large Virginia localities, as well as other states, collect and track centralized data on the actual condition of their buildings:

- Fairfax County contracts with an architecture and engineering firm to conduct facility condition assessments. The assessments involve evaluating critical building systems and assigning a letter grade to each system (e.g., F = eminent failure beyond useful life). Information on building and system condition is used to inform system replacement decisions.
- The City of Alexandria also assigns letter grades to buildings that are based on facility condition assessments (completed every five years for city-owned buildings) and FCI. The city aims for the condition of all assets to be at least a "C" on average.
- North Carolina has a central Facility Condition Assessment Program that provides facility assessments and FCI results on every state facility over 3,000 square feet. North Carolina law requires that requests for renovation projects reference facility condition assessment findings.
- Maryland has a Building Assessment Unit (BAU) that conducts facility condition assessments for all state-owned buildings (except agencies that do their own assessments like the departments of transportation and natural resources and the University of Maryland System). The BAU gives each building a score from one to 100 based on its assessment and plans to calculate FCI in the future. The state uses this information to help prioritize the allocation of capital funds.
- Nevada law requires facility condition assessments to be conducted for state-owned buildings. The State Public Works Division's Facility Condition Analysis Unit inspects and evaluates every state building on a three-year cycle and generates facilities condition analysis reports, estimates repair costs, and makes recommendations about the priority and urgency of maintenance needs. This information is used to identify and quantify the potential short- and long-term fiscal obligation of deferred maintenance, and it is made available to state agency directors and other decisionmakers, including the legislature.

- Montana law requires facility condition assessments to be conducted for all state-owned buildings that have a replacement value greater than $150,000. Montana uses assessment results to identify building deficiencies, calculate FCI, and estimate the total cost of deferred maintenance. These assessments are conducted by consultants hired by the state.

More centralized information on the actual condition of Virginia's state-owned buildings is needed, but completing assessments to collect this information is a significant undertaking that will take time and resources. Virginia should collect and compile centralized data on building conditions (i.e., FCI) for all state-owned buildings and regularly provide this information to state decisionmakers. The state should undertake these assessments incrementally and start by funding facility condition assessments at a selection of agencies/HEIs that (1) do not currently calculate FCI and (2) have a large amount of square footage or older buildings (e.g., the Department of Behavioral Health and Developmental Services [DBHDS], the Department of Corrections [DOC], University of Mary Washington). This approach would identify the buildings and systems with the most significant capital needs and help the state determine the cost of conducting facility condition assessments at the remaining state agencies/HEIs. Improving certain aspects of the state's management of state-owned buildings depends on gathering accurate and thorough information on the actual conditions of its buildings. Therefore, facility condition assessments should be completed at the first group of agencies/HEIs as soon as practicable, ideally by January 1, 2027. Assessments for the remaining agencies/HEIs should be initiated soon thereafter.

Agencies/HEIs will need funds to pay for facility condition assessments because the vast majority will be unable to complete them using their own staff. DGS recently hired a contractor to complete facility condition assessments for several buildings in Capitol Square, and based on this experience and the experiences of other agencies/HEIs, these assessments could cost from $0.07 to $0.30 per square foot of building space. At these rates, conducting facility condition assessments that cover the combined square footage of DBHDS, DOC, and the University of Mary Washington could cost between $1.3 million and $5.7 million.

Agencies/HEIs should ultimately be responsible for implementing their own facility condition assessments (internally or using a contractor), but DGS should also have several key roles. DGS should

- establish a statewide contract to help agencies/HEIs hire a qualified contractor to perform facility condition assessments;
- establish guidelines related to how facility condition assessments are conducted to ensure that assessment results are comparable across agencies/HEIs;
- propose to legislators a long-term schedule and cost estimate for conducting facility condition assessments at agencies/HEIs on a rotating basis (e.g., at least every five years); and

- compile and share with legislators agencies'/HEIs' building-level FCI data from completed facility condition assessments.

Once collected, centralized data on building conditions (i.e., FCI) for all state-owned buildings would enhance—not replace—DGS's M-R FIX database. M-R FIX has useful information on state-owned buildings (e.g., square footage, construction type, location, etc.) that should continue to be collected. FCI data should be added to M-R FIX so the database contains accurate information on actual building conditions. DGS should begin using FCI in its calculations to apportion maintenance reserve funding based on actual building conditions rather than presumed system expiration dates (Chapter 4). Additionally, FCI should be available to help legislators determine which agencies/HEIs requesting capital outlay project funding have the most significant needs (see Chapter 5).

RECOMMENDATION 1

The General Assembly may wish to consider including language and funding in the Appropriation Act to require facility condition assessments for state agencies and public higher education institutions that do not calculate a facility condition index value for their state-owned buildings but that have large square footage or older buildings, with facility condition index results reported to the Department of General Services to improve M-R FIX's building condition data.

RECOMMENDATION 2

The General Assembly may wish to consider including language and funding in the Appropriation Act for the Department of General Services to (1) establish a statewide contract that state agencies and public higher education institutions can use for facility condition assessment services; (2) establish guidelines describing how facility condition assessments should be conducted to ensure results are comparable across state agencies and public higher education institutions; and (3) develop a proposed long-term schedule and cost estimate for conducting facility condition assessments at state agencies and public higher education institutions on a rotating basis to be submitted to the chairs of the House Appropriations Committee and the Senate Finance and Appropriations Committee.

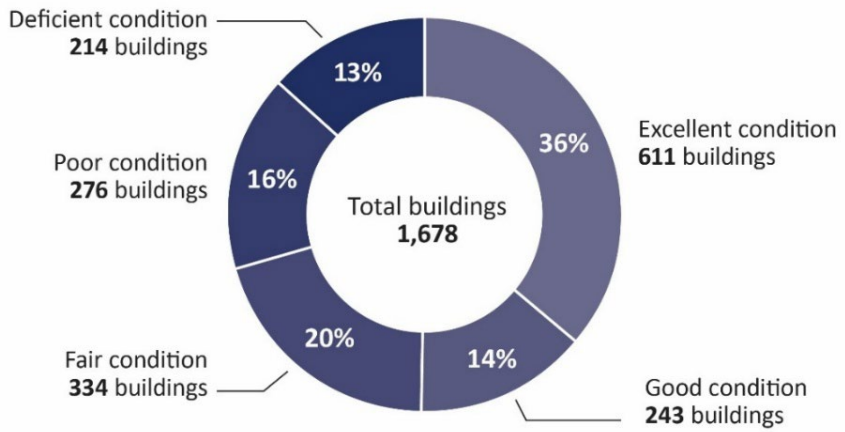
Some HEI facilities are in "deficient" condition based on information they collect on their own

Most HEIs and a few state agencies track data on actual building condition, even though they are not required to do so and do not report the information to DGS. Fourteen HEIs who responded to a JLARC information request indicated they assess the condition of their buildings and calculate FCI. Only five state agencies that responded to JLARC's information request assess the condition of their buildings and calculate FCI.

FCI data is categorized based on Gordian definitions for this report. Gordian is a nationally recognized provider of facility and construction cost data and software. Some Virginia HEIs use Gordian standards internally, while others may use different standards (e.g., APPA standards). Other standards can result in different FCI categorizations for specific buildings and average FCI.

Available data on HEI building condition at seven HEIs shows that some buildings are in deficient condition on HEI campuses. Of the 1,678 HEI buildings with FCI data, 13 percent (214 buildings) have an FCI over 60 percent and are in "deficient" condition (sidebar), which means they require immediate attention and potentially significant renovations or replacements (Figure 2-2). Examples of buildings in "deficient" condition include the Princess Anne Building at Tidewater Community College (a classroom building), College of Education Building #1 and #2 at Virginia State University (two instructional support buildings), Hutcheson Hall at Virginia Tech (an academic building), and the Observatory Mountain Engineering Research Facility at UVA. Another 16 percent of HEI buildings for which JLARC staff collected data are in "poor" condition—the second-lowest rating—based on their FCI. On average, buildings for which FCI was provided are in "excellent" condition at UVA; "good" condition at George Mason University and Norfolk State University; "fair" condition at Virginia Tech, James Madison University, and Virginia State University; and "poor" condition on Virginia Community College System (VCCS) campuses.

FIGURE 2-2
Approximately 30 percent of HEI buildings with FCI data are in "poor" or "deficient" condition



SOURCE: JLARC analysis of HEI FCI data from JLARC's detailed information request for seven public HEIs (GMU, JMU, NSU, UVA, VCCS, VSU, and VT).

NOTES: Figure includes only FCI data for HEIs that shared it with JLARC. Some HEIs did not share FCI data for all of their buildings; therefore, FCI data for an HEI may not reflect its entire campus. Figure includes both E&G buildings (funded with general funds) and non-E&G buildings (funded with non-general funds). FCI data is categorized based on Gordian definitions; other standards (e.g., APPA standards) may result in different categorizations. Gordian categorizations are as follows:

Excellent: Building is well maintained and reliable and needs general capital upkeep.

Good: Building is likely aging but still well maintained with limited risk. Building spaces are beginning to show their age with sections of wear and tear requiring more significant investment on a case-by-case basis.

Fair: Building is beginning to show clear signs of aging and may be experiencing an increase in maintenance requests as systems are nearing the end of their useful life.

Poor: Building is undergoing accelerated aging, with apparent and increasing deterioration. Costly lifecycle replacements are likely required.

Deficient: Building has obvious deterioration, and major building components are no longer running efficiently and, in some cases, may be risking failure. Building space is defined by widespread reliability issues and the risk to business continuity is high.

State's limited data on building utilization makes it difficult to ensure space is used efficiently

State agencies are not required to collect and report building utilization data (or state-owned buildings not in use), even though demographic and cultural changes are making this information increasingly relevant for prioritizing capital funding. DGS tracks some data related to the utilization of state buildings, including the amount of unleased office space in *DGS-owned* buildings and the number of surplus and underutilized buildings/properties (sidebar). However, much of this information is self-reported by agencies/HEIs, and they do not always inform DGS of surplus or underutilized buildings/property, according to DGS staff. Consequently, there is no complete statewide data that shows the extent to which agencies are using their space.

DGS data on unleased office space in DGS-owned buildings indicates that less than 1 percent of DGS-owned square footage of office space had not been leased (and was therefore not utilized), as of July 1, 2024.

DGS data on surplus and underutilized property indicates there are 30 surplus properties that are no longer needed for their intended purpose (some of which are under contract to be sold), and almost 1,000 underutilized buildings across the state, as of 2024.

Some state agencies do collect utilization data for internal purposes, showing that it is feasible for agencies to track this information. The following are examples:

- ABC tracks the number of vacant offices and cubicles for its headquarters and regional offices.
- The Department of Forensic Science monitors how many staff are present at certain times through its staff scheduling system.
- VDOT and the Virginia Department of Agriculture and Consumer Services have floor plans that denote space utilization and programming.
- The Department of Energy has a lock system that tracks each time employees open a building or room lock with their badge.

The State Council of Higher Education for Virginia (SCHEV) collects data on classroom and class lab utilization for the public four-year institutions and community colleges every two years (sidebar). According to SCHEV's data, average classroom utilization rates at public four-year institutions varied significantly, ranging from a low of 37 percent at Longwood to a high of 74 percent at UVA. Almost 70 percent of public four-year institutions' campuses (13 out of 19) were below SCHEV's classroom occupancy guidelines of 60 percent in FY24. Class lab usage at public four-year institutions also varied, ranging from 12 percent at Radford University to 80 percent at JMU. Almost 80 percent of public four-year institutions' campuses (15 of 19) had class lab utilization rates below SCHEV's lab occupancy guidelines of 75 percent.

SCHEV assesses facility utilization by calculating "percent of occupancy" (the percentage of a classroom or lab occupied when in use). Falling below SCHEV's occupancy guidelines indicates that the classroom and lab space is underutilized on average, while exceeding the guidelines can signal a need for additional space.

A higher proportion of community colleges' classroom and lab utilization is below SCHEV's occupancy guidelines than public four-year institutions (Table 2-2). Of the 39 VCCS campuses that reported utilization data, 87 percent (34 of 39) are below SCHEV's guidelines for classroom occupancy, and 92 percent (36 of 39) are below the guidelines for lab occupancy. Utilization rates vary widely among community college campuses. Average classroom utilization ranged from 12 percent at Mountain Empire

Community College to 78 percent at J. Sargeant Reynolds Community College's main campus. Class lab utilization ranged from 22 percent at Paul D. Camp Community College's main campus to 84 percent at Northern Virginia Community College's main campus. (See Appendix D.)

TABLE 2-2
A higher proportion of community colleges are below SCHEV's occupancy guidelines

	% of campuses below SCHEV's occupancy guidelines for...	
Type of HEI	**Classrooms**	**Class labs**
Four-year institutions [a]	68%	79%
VCCS community colleges	87%	92%
All HEIs	**81%**	**88%**

SOURCE: JLARC analysis of SCHEV utilization data, 2024.
[a] Includes Richard Bland College.

Collecting additional utilization data for state-owned buildings could be useful to state decisionmakers in several ways. It would help the state (1) identify underutilized spaces that can be repurposed or consolidated; (2) inform decisions about whether—or to what extent—to continue maintaining a building; and (3) know whether buildings are being used to their full potential and whether renovated or additional space is needed.

The federal government started requiring federal agencies to track utilization for all leased and owned buildings in May 2025. Agencies need to meet a 60 percent utilization threshold for every building in their portfolio, or they need to start planning for consolidation or disposal.

While not many states collect utilization data for their buildings, government interest in this type of data appears to be increasing because of increased teleworking, declining higher education student enrollments, and other changes (sidebar). Regardless, undertaking the initial data collection and keeping the data current will require time and resources, and having more information about space utilization may not significantly affect capital funding decisions.

Virginia could pilot an effort to collect utilization data on state agency/HEI buildings that are primarily office space. Office space utilization is likely more useful to collect than utilization of other state-owned facilities, because it is more comparable across agencies/HEIs and more likely to be affected by changing work patterns like telecommuting. Agencies with a large amount of office space that could be part of a pilot include DGS, DOC, and DBHDS. (Several HEIs—including VT, VCU, and GMU—also have a large amount of office space that is not included in SCHEV's utilization data and therefore could also be included in the pilot.)

The office space data collected could include building capacity, number of full-time employees assigned to that location, actual number of employees and other individuals in the building each day, and information on how building space is used (e.g., meeting spaces, offices, etc.). The pilot could consider the best ways to use the data, including how it could help inform state decisions to repurpose/consolidate underutilized space, continue maintaining space, and fund renovations or new construction.

POLICY OPTION 1

The General Assembly could include language and funding in the Appropriation Act to create a pilot program, administered by the Department of General Services (DGS), in consultation with the State Council of Higher Education for Virginia, to collect office space utilization data at several state agencies and public higher education institutions by (i) requiring a subset of state agencies and public higher education institutions to report office space utilization data to DGS; (ii) directing DGS to determine how office space utilization data could be incorporated into the state's capital outlay processes; and (iii) directing DGS to consider whether it would be feasible and useful to collect office space utilization data for all state agencies and public higher education institutions on an ongoing basis.

Policy options for consideration. Staff typically propose policy options rather than make recommendations when (i) the action is a policy judgment best made by elected officials—especially the General Assembly, (ii) evidence suggests action could potentially be beneficial, or (iii) a report finding could be addressed in multiple ways.

3 Capital Project Planning

Along with better data on building condition and utilization, state decisionmakers need more insight into agencies'/HEIs' plans for addressing their capital needs. Building condition and utilization data will indicate which buildings have the most pressing needs, and capital project planning will map out how those needs will be remedied.

Capital project planning is the way states and state agencies/HEIs identify their future capital needs and document when and how to address them (sidebar). Capital project planning can be centralized at the state level or decentralized at the agency/HEI level. Capital project planning is often documented in a capital improvement plan, which outlines major capital needs (maintenance reserve and capital outlay projects) over several years. Capital improvement plans typically include a description of each project, its cost, and potential funding sources. They also explain a project's necessity and potential timeline. Capital improvement plans should be updated over time to reflect the changing needs of a state or state agency.

Capital project planning refers to the way states and state agencies/HEIs make decisions around the timing, sequencing, and funding of different capital projects (maintenance reserve projects and capital outlay projects). This is different from the planning phase of capital outlay projects, which refers to the predesign work completed for authorized capital outlay projects.

Multiple national industry groups and subject matter experts emphasize the importance of having a state- or agency-level capital improvement plan (sidebar). A capital improvement plan at the agency/HEI level helps agency personnel identify the most important capital needs and create a strategy to prioritize and address them over time. A centralized capital improvement plan provides state decisionmakers with insight into large projects that agencies/HEIs may request funding for in the future. A centralized plan also allows decisionmakers to evaluate agency/HEI funding requests in the context of statewide capital needs, which helps them determine the best use of limited state funding.

> *"State and local governments should prepare and adopt comprehensive, fiscally sustainable, and multi-year capital plans to ensure effective management of capital assets"*
>
> **– Government Finance Officers Association**

Capital improvement plans can be difficult for state governments and agencies/HEIs to create and maintain in practice. This has been the case in Virginia, as well as other states like North Carolina (sidebar). In particular, gathering and continually updating information on agencies'/HEIs' capital needs is staff-intensive, and agencies may not have sufficient internal staff or the funding to pay for contractors. Additionally, even when capital improvement plans exist, agency/HEI leaders and elected officials may deviate from plans and prioritize other projects. Nevertheless, capital improvement plans—particularly those at the agency/HEI level—are useful tools for identifying and documenting the capital projects needed in the near future.

North Carolina prepares a statewide capital improvement plan for the General Assembly every other year that includes capital needs for state agencies and higher education institutions over the next six years. Budget staff indicated that maintaining a statewide plan can be challenging because of agencies'/HEIs' changing needs, shifting political preferences, and cost escalation on projects projected further out.

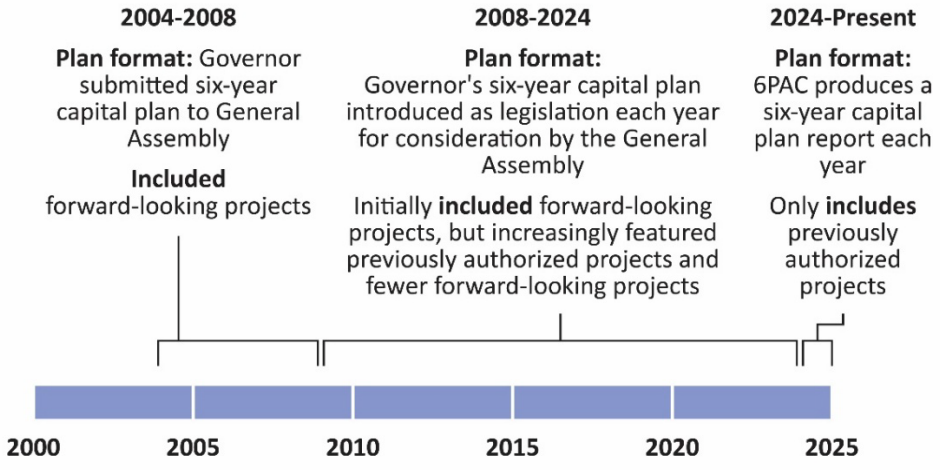
Virginia's centralized capital improvement plan now includes only previously authorized projects

The Six-Year Capital Outlay Plan Advisory Committee (6PAC) is a group with representatives from the executive and legislative branches (DPB, DGS, SCHEV, the secretary of finance, and money committee staff directors). 6PAC is responsible for reporting the state's six-year capital outlay plan to the General Assembly and overseeing capital outlay projects that receive funding in multiple stages ("pool" projects).

Each year the Six-Year Capital Outlay Plan Advisory Committee (6PAC; sidebar) is required to submit a Six-Year Capital Outlay Plan to the General Assembly. The plan lists the state's previously authorized capital outlay projects that are being funded at least partially with state general funds over the next six fiscal years.

Virginia's statewide capital planning activities have narrowed in scope over time. In the early 2000s, the governor submitted a capital improvement plan every two years to the General Assembly that highlighted the state's capital needs over a six-year period and proposed which capital outlay projects to fund in the upcoming budget (Figure 3-1). Legislation passed in 2008 changed several aspects of the capital outlay planning process, including shifting the plan from a report to legislation to be passed by the General Assembly. Over the next decade, the plan began to include fewer proposed future capital projects and focused more on those that had already been authorized. In 2024, budget language changed the plan so that 6PAC produces an annual report listing "projects that have been authorized for planning only, in addition to any other obligations for authorized projects that the Six-Year Capital Outlay Plan Advisory Committee deems appropriate which have not yet been funded." Additional legislation in 2025 removed the requirement for 6PAC to recommend capital outlay projects to be included in the plan. Virginia's centralized capital planning activities have focused only on larger capital outlay projects, not projects that would qualify for maintenance reserve funds.

FIGURE 3-1
Virginia's statewide capital improvement plan has changed over time



SOURCE: JLARC staff review of six-year capital outlay plan information in Department of Planning and Budget documents, past legislation, and 6PAC reports.

Because the statewide capital outlay plan now documents only projects that have been authorized by the General Assembly, decisionmakers do not have an official, centralized resource for identifying and prioritizing state agencies'/HEIs' potential future capital needs. Legislators risk approving projects in the near term that they might not have otherwise approved if they had a fuller picture of agencies'/HEIs' anticipated capital needs and future funding requests. However, while maintaining a statewide, forward-looking capital plan seems prudent because it could serve as a roadmap for capital funding decisions, it may not always be practicable. Individual legislators would inevitably propose funding for projects not included in the statewide plan that would directly benefit their districts and constituents. Furthermore, the plan would require continual revisions as agencies'/HEIs' capital needs and priorities shift from one year to the next because of changes in their facilities' conditions or their leadership's priorities. Virginia reportedly abandoned its long-term capital planning for the current approach because these practical realities diminished the plan's usability.

Without a centralized capital improvement plan that identifies and prioritizes future capital projects, the governor and legislators base capital funding decisions on criteria that reportedly include factors like a project's impact on health and safety and its alignment with the governor's or General Assembly's policy or funding priorities. (High level priority criteria are published each year, but there are other undisclosed criteria used by decisionmakers to rank and prioritize individual projects.)

In the current process, agencies/HEIs work with their relevant cabinet secretary to determine which capital outlay projects to submit to the Department of Planning and Budget (DPB) for consideration. Then, DPB and the governor's staff review agencies'/HEIs' submissions to decide which projects to include in the introduced budget. The General Assembly and its staff also review project requests during the budget process. The governor and legislators ultimately decide which projects to include in the introduced and finalized budgets, and the basis for these decisions changes to some extent as executive and legislative branch leaders change.

Most agencies/HEIs should maintain their own capital improvement plans, but some do not

While maintaining a statewide, centralized capital improvement plan may not be feasible, most individual agencies/HEIs should have their own capital improvement plans. Agency-level plans are useful for agencies/HEIs when developing annual budget requests, and if made available to the governor and General Assembly, can provide a more risk-based and data-driven basis for capital project decision making. (Small state agencies might not need a capital improvement plan if they rarely request funding for capital outlay projects.)

Virginia's public HEIs are required to do some capital planning to identify future needs. State law requires HEIs to develop six-year plans biennially. In addition to reporting on their programs, academic outcomes, and finances, HEIs also use their six-

year plans to identify their highest priority capital outlay project needs over the next six years and demonstrate how these projects align with their goals. HEIs also typically have an internal capital improvement plan and/or master plan that shows short-term and/or long-term plans for future capital outlay projects around their campuses. HEI capital plans do not currently outline needed maintenance reserve projects.

State law requires only two state agencies (Department of Conservation and Recreation and Department of General Services) to produce a long-range master plan (e.g., projecting 10 years or more into the future) that includes capital projects.

Several agencies do not have a capital improvement plan, including some with large capital needs (e.g., high square footage, significant maintenance needs) (sidebar). Three agencies that have large capital needs do not have a written capital improvement plan, according to agency staff. In addition, two agencies with large capital needs have some capital planning documents, but they lack important details such as project priority level and sequence over time. For example, one agency maintains lists of capital needs but does not formally rank their importance or indicate when they will request funding for the projects, which makes it difficult to anticipate the agency's future capital funding requests. This agency owns 10 percent of the state's total building square footage, and 46 percent of its systems are presumed to be expired.

Even among the agencies that have comprehensive capital improvement plans, the information is not necessarily shared with external stakeholders. Since there is no central entity that collects capital improvement plans from agencies, plans may not be consolidated into a single document that is easily understandable and accessible to decisionmakers. For example, one agency has a complex spreadsheet with many sections that makes it difficult to find relevant information.

Expired systems data in M-R FIX has limitations because it reflects the number of systems in state-owned buildings that are presumed to be past their useful life based on generic date metrics. (See discussion of data limitations in Chapter 2.) Data on actual building condition (e.g., FCI) is a better indicator of maintenance needs and should be used to determine agencies with high maintenance needs if Virginia starts collecting this data. However, until more accurate information is available, it is reasonable to use M-R FIX data to identify agencies/HEIs with especially high maintenance needs.

Central state stakeholders in other states require agencies to submit information on their capital needs to inform the state's budget process. In Tennessee, for example, agencies must submit their capital budget requests for the current budget as well as their capital needs over the next four years. Similarly, Ohio requires agencies to project their capital needs over a six-year period. In both states, central state stakeholders use the projected project information to understand the breadth of needed capital projects and inform budgetary decisions.

Similar to practices in other states, Virginia's large state agencies and HEIs (e.g., own over 2 million square feet) and agencies/HEIs with high maintenance needs (e.g., over 50 percent of systems presumed to be expired in M-R FIX [sidebar]) should be required to produce and submit capital improvement plans to 6PAC biennially that reflect their agencies' capital needs and costs over the next six years. (This would represent close to 90 percent of the state's total square footage.) 6PAC's membership of executive and legislative branch representatives, and its historical role reviewing proposed capital outlay projects, uniquely situates the committee to review agencies'/HEIs' capital improvement plans. 6PAC should also be given the authority to request that specific additional agencies/HEIs produce and submit their capital plans to the committee at the committee's discretion. The plans that agencies/HEIs submit to 6PAC should include information on potential future projects (maintenance reserve and capital outlay), including their estimated budget, timeline, and priority. This will

give 6PAC key information about state agencies' largest capital needs over the next few years.

RECOMMENDATION 3

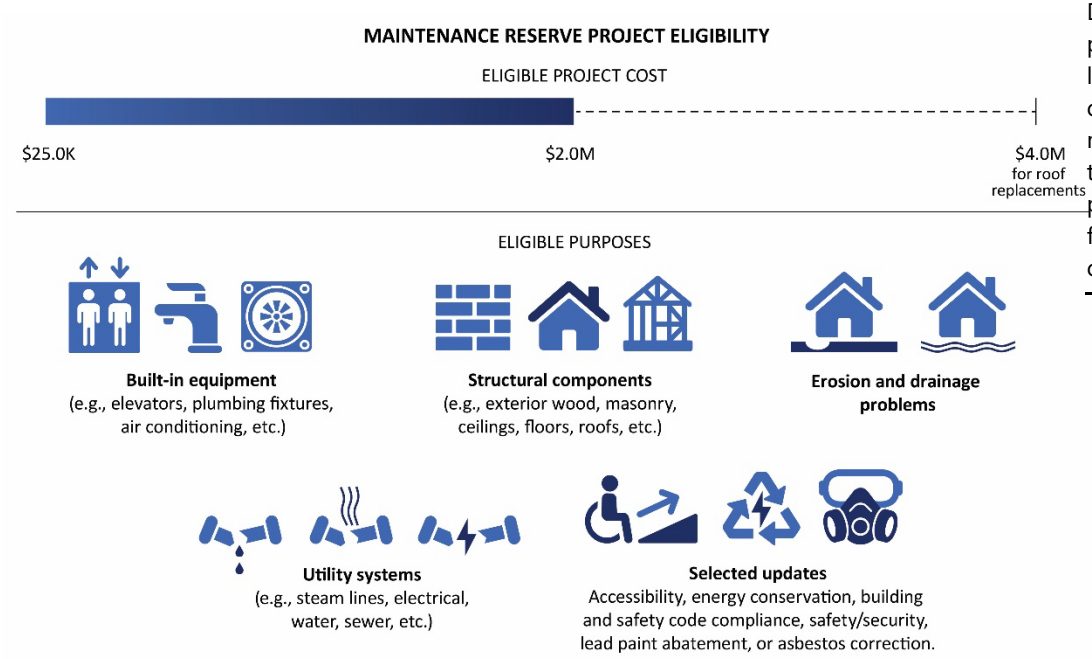
The General Assembly may wish to consider amending § 2.2-1517 of the Code of Virginia to (i) require state agencies and public higher education institutions with a large capital footprint (based on square footage) and/or high maintenance needs to submit a six-year capital improvement plan to the Six-Year Capital Outlay Plan Advisory Committee (6PAC) every two years and (ii) give 6PAC authority to request that additional agencies and public higher education institutions submit their capital improvement plans. These plans should detail needed maintenance reserve and capital outlay projects, estimated project costs, project priority levels, and proposed funding timelines.

4 Maintenance Reserve Funding and Projects

Virginia's maintenance reserve process provides state agencies and public higher education institutions (HEIs) with funding for building/system maintenance projects that are too large to address using agency/HEI operating funds, but too small to require capital outlay project funding. Maintenance reserve-eligible projects can cost up to $4 million, depending on the type of project (sidebar), and they are undertaken for purposes such as replacement of functionally obsolete, damaged, or inoperable built-in equipment (e.g., elevators, plumbing, HVAC), or work related to accessibility (Figure 4-1). Maintenance reserve funds cannot be used for routine maintenance (e.g., painting or cleaning) or for constructing new space.

Maintenance reserve projects typically cost up to $4 million for roof replacements and up to $2 million for other eligible maintenance projects. Maintenance-related projects that exceed these cost parameters (e.g., over $2 million for non-roofing projects) can be addressed through either the maintenance reserve or capital outlay processes, as directed by DPB. Large maintenance projects that cost $3 million or more (and new construction projects) must be addressed through the capital outlay process. (See Chapter 5 for more information on capital outlay projects.)

FIGURE 4-1
State maintenance reserve funding is allocated to agencies/HEIs for eligible maintenance projects



SOURCE: Department of Planning and Budget capital project request instructions (2025).
NOTE: Projects that do not meet these criteria may still be approved to use state maintenance reserve funding if DPB grants an exception or there is enabling appropriation act language.

The source for state maintenance reserve funding is mostly state general funds, though state-supported bonds have been a revenue source in some years. Since FY19, 71 percent of state maintenance reserve funding has come from state general funds, and the remaining 29 percent has come from bond proceeds (used in FY19, FY20, and FY21).

The state is more likely to use bond funding for state maintenance reserve funding during economic downturns. It is generally not advisable to use bond funding for building maintenance or repairs because these projects are often short-term and recurring, while bonds have a long payback period.

Maintenance reserve projects are only one of the ways that Virginia currently addresses state-owned buildings' large maintenance needs. Many projects to improve existing buildings and address deferred maintenance are funded through the state's capital outlay process. Maintenance-related capital outlay projects are larger and typically cost more than maintenance reserve projects. Maintenance-related capital outlay projects must also be individually authorized in the state budget. Agencies/HEIs have greater flexibility with maintenance reserve projects, which can be pursued as long as they meet the eligibility criteria prescribed in state policy. (See Chapter 5 for more information on capital outlay projects.)

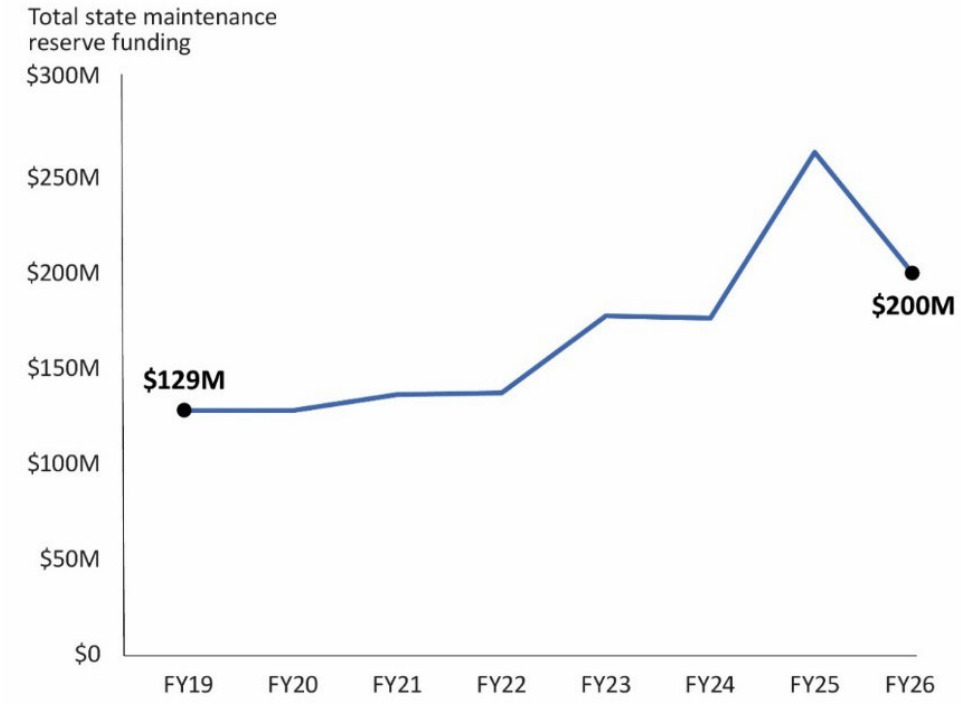
Capital maintenance needs far exceed what can be addressed with available state funding

Virginia appropriated $200 million or more in state maintenance reserve funding annually in the most recent biennium to help address agencies'/HEIs' maintenance needs. This amount has generally increased over time, growing 23 percent between FY19 and FY26 when adjusted for inflation (Figure 4-2). In FY26, the state appropriated $200 million in maintenance reserve funding, which represents about 15 percent of the $1.3 billion capital-related appropriations (general fund and non-general fund).

Despite the increase in state maintenance reserve funding over time, agencies'/HEIs' maintenance needs appear to far exceed the maintenance projects that can be completed with available funding. Nearly two-thirds (65 percent) of agencies/HEIs responding to JLARC's information request (sidebar) said they did not receive enough state maintenance reserve funding in FY24 for essential maintenance reserve-eligible projects. The state does not currently have an estimate for the total cost of addressing needed maintenance at state-owned buildings. However, data collected by JLARC staff from the 12 agencies/HEIs with the majority of state-owned building square footage indicates that current maintenance reserve project needs exceed $1.1 billion. This estimate is low because it does not include the maintenance needs of over 40 other agencies/HEIs that maintain state-owned buildings.

JLARC sent information requests to agencies/HEIs to collect information on their building condition and utilization, capital planning activities, maintenance reserve projects, and capital outlay projects. A high-level request was sent to all 53 agencies/HEIs that are responsible for maintaining state-owned buildings, and 49 agencies/HEIs responded (92 percent). A detailed request was sent to 12 agencies/HEIs that have 63 percent of the state-owned buildings square footage, and 12 agencies/HEIs responded (100 percent). (See Appendix B for more information.)

FIGURE 4-2
State maintenance reserve funding appropriations have generally increased over time



SOURCE: JLARC staff analysis of Appropriation Acts.
NOTES: Figure shows central state maintenance reserve funding. Funding decreased between FY25 and FY26, but the combined funding for FY25 and FY26 ($464 million) was more than previous biennium.

The cost of needed building system repairs or replacements escalates when these projects are not undertaken in a timely manner. Projects may not be addressed immediately for several reasons, such as insufficient funding, insufficient staffing, poor planning, or decisions by agency/HEI leaders. Cost escalation occurs because prices for the materials and the cost of labor to complete maintenance projects rise over time. The cost of maintenance services has increased 51 percent over the past decade (2016–2025), according to building cost index data (sidebar). An example of the escalating cost over time is a HEI maintenance reserve project, which included replacing a roof and conducting exterior repairs, that increased 32 percent ($436,000) above original estimates over 20 months largely because of construction cost increases.

Building cost index (BCI) data indicates that construction costs (e.g., labor, materials, and equipment) have increased 51 percent between 2016 and 2025.

Deferring ongoing maintenance needs until problems occur leads to expensive repairs and replacements that likely could have been avoided. Systems not repaired when problems initially occur often cost more to fix as maintenance problems become more extensive. In addition, systems pushed to the point of failure may have to be replaced, which typically costs more than repairs.

Delayed maintenance can lead to problems that extend beyond the system itself. One HEI, for example, has had to reroof several buildings in phases because the institution

lacks sufficient state maintenance reserve funding to fully replace the roofs. Areas of the buildings that were not reroofed leaked during storms, causing additional damage that needed to be repaired, and created health and safety risks that could have been avoided if the institution had been able to fully reroof the buildings when needed.

Maintenance reserve appropriations currently have no relationship to the state's actual maintenance needs. Maintenance reserve funding is appropriated based on both prior years' appropriations and available funding each year. It is not feasible to appropriate sufficient state funding to address all of the state's maintenance needs at once, or even over several budget cycles. Consequently, agencies'/HEIs' inability to address current maintenance needs has led to a widening gap between available funding and agencies'/HEIs' maintenance needs.

The General Assembly could more strategically fund the state's capital maintenance needs if there were a more direct relationship between funding appropriations for state maintenance needs and estimated maintenance costs. Three potential methods to accomplish this are:

1. The General Assembly could appropriate between 1 and 3 percent of the total replacement value of state-owned buildings each year for maintenance needs. This is a maintenance investment practice recommended by industry experts. One percent of the replacement value of state-owned buildings is about $479 million, or $958 million over a biennium. The General Assembly may have met that goal through the most recent budget when funds appropriated for large capital outlay improvement and deferred maintenance projects ($1.1 billion for the biennium) are added to maintenance reserve appropriations ($464 million for the biennium), but that is difficult to confirm because of data limitations. While it is encouraging that Virginia may have met this industry benchmark and has funded important maintenance-related projects, it has not been intentionally working toward funding a specific percentage of building replacement value. In addition, most of this funding was not specifically appropriated for maintenance reserve projects but was instead dedicated to maintenance and improvements funded through the capital outlay process, which does not grant agencies much spending flexibility.

2. The General Assembly could appropriate between 1 and 3 percent of state-owned buildings' replacement value (the practice recommended by industry experts) and direct this funding into only *maintenance reserve* projects. This approach would give agencies/HEIs the flexibility to address their most pressing maintenance needs and proactively maintain their buildings to avoid system deterioration and failure because maintenance reserve projects do not require state approval like capital outlay projects. This approach would also essentially double the funding available specifically for maintenance reserve projects. This may be too much of an increase for some agencies who carry over unspent maintenance reserve funds for certain reasons, such as staffing constraints.

The **2024 introduced budget proposed a statewide maintenance investment percentage**. The budget language directed the state to target "at least one percent of general fund revenue...to address maintenance and deferred maintenance of the Commonwealth's existing facilities" (item 4-4.02), but the language was not adopted.

(See discussion in this chapter regarding factors that cause agencies to carry over maintenance reserve funds.)

3. The General Assembly could decide to fund a defined proportion of the total cost of agencies'/HEIs' maintenance reserve project needs each year. To illustrate using hypothetical figures, if agencies/HEIs identify that their total maintenance reserve project needs amount to $3 billion, and the state established a goal of funding 10 percent of that amount, the annual appropriation of maintenance reserve funds would increase to about $300 million (10 percent of $3 billion). (These are illustrative figures because the total cost of maintenance needs is currently unknown, and a goal to fund a certain percentage of funding needs has not been set.)

The third option is recommended (Recommendation 4) because, more so than the other two options, it would ensure that capital maintenance needs directly influence appropriation amounts. Furthermore, the goal could be set intentionally to increase maintenance reserve appropriations, which is needed, while ensuring the increased funding remains in agencies'/HEIs' ability to spend additional funds. The state's Six-Year Capital Outlay Plan Advisory Committee (6PAC) should be responsible for setting the specific percentage goal because its membership includes executive and legislative members (sidebar).

6PAC is a group that reviews certain aspects of capital outlay projects and funding. 6PAC membership includes the secretary of finance and staff from DPB, DGS, SCHEV, the Senate Finance and Appropriations Committee, and the House Appropriations Committee.

To set a maintenance reserve funding goal based on statewide maintenance needs, the state must first quantify them, which is currently not done. Quantifying needed maintenance costs should ideally be done through facility condition assessments of state-owned buildings, which are not performed by many agencies/HEIs but are recommended in Chapter 2 of this report. Cost estimates should not be developed based on M-R FIX data, given the system's data limitations. Until better data is available through facility condition assessments, the Department of General Services (DGS) could request cost estimates for needed maintenance reserve projects directly from agencies/HEIs, as JLARC staff did for this study.

RECOMMENDATION 4

The General Assembly may wish to consider amending § 2.2-1516 of the Code of Virginia to direct the Six-Year Capital Outlay Plan Advisory Committee to establish (i) a method for agencies and public higher education institutions to estimate the cost of their capital maintenance reserve project needs and (ii) a goal to fund a certain percentage of combined capital maintenance reserve project costs across state agencies and public higher education institutions through maintenance reserve appropriations each year.

RECOMMENDATION 5

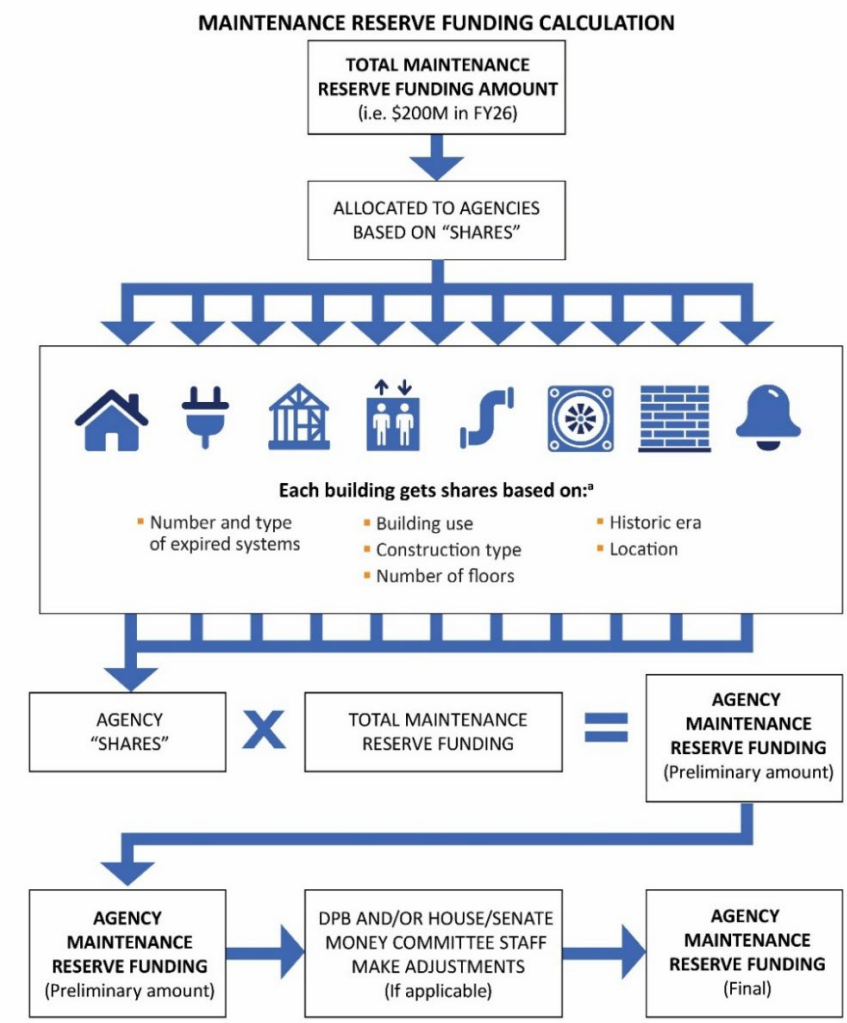
The General Assembly may wish to consider including language in the Appropriation Act directing the Department of General Services to estimate the cost of the total combined capital maintenance reserve project needs across state agencies and public higher education institutions each year and report this to the Six-Year Capital Outlay Plan Advisory Committee and the chairs of the House Appropriations Committee and the Senate Finance and Appropriations Committee.

Maintenance reserve funding formula and available data do not accurately reflect agencies' needs

Virginia allocates the state maintenance reserve funding it provides each year primarily based on a formula that gives agencies/HEIs a certain number of funding "shares." DGS calculates these "shares" using M-R FIX data. The shares represent the proportion of total state maintenance reserve funding that each agency/HEI should receive based on factors such as the type, age, and size of their state-owned buildings (sidebar) and the number of building systems that are presumed to have exceeded their expected lifespans (Figure 4-3). Only buildings with system information are included in the "shares" calculations—buildings without systems information are excluded. After DGS determines each agency's/HEI's "share" of the total amount of maintenance reserve funding, Department of Planning and Budget (DPB) and money committee staff can adjust agencies'/HEIs' funding amounts, and each agency's/HEI's final adjusted amount is included in the budget. Adjustments may be made to (1) reduce or eliminate maintenance reserve funding for agencies/HEIs that are funded primarily with non-general funds, (2) reduce or eliminate funding if an agency/HEI has a large amount of unspent maintenance reserve funding, or (3) increase funding if the amount of funding for a particular agency/HEI is low compared with prior years.

The "shares" formula considers an agency's infrastructure in addition to its buildings. Infrastructure includes domestic water production and distribution (i.e., acquiring and purifying water from wells or other non-public sources for drinking, cooking, and sanitation), and sewer treatment and collection. Challenges discussed with building systems in this chapter also apply to infrastructure.

FIGURE 4-3
Formula for allocating maintenance reserve funds focuses on buildings and number of expired building systems



SOURCE: JLARC analysis of DGS documents and interviews with DGS staff.
NOTE: Figure shows the primary calculation used to determine agency/HEI maintenance reserve funding, However, some maintenance reserve funding (12.5 percent) was allocated in the FY24–26 biennium based on total building square footage as a smoothing factor while the state transitions to the M-R FIX methodology, according to DPB staff. In the future, the state plans to allocate these funds entirely based on the M-R FIX methodology.
[a] The "shares" formula also calculates shares for agency/HEI infrastructure, but infrastructure is not included in this figure because it is not discussed separately in this report.

Data used to allocate maintenance reserve funding is not fully complete or accurate

The state needs accurate data to ensure it allocates maintenance reserve funding based on agencies'/HEIs' actual needs, but M-R FIX data is not always accurate or complete. This seems to be at least partially because M-R FIX data is self-reported by agencies/HEIs, some of which reported not having sufficient staff to collect and report

accurate information. When M-R FIX data is not accurate and complete, agencies'/HEIs' building conditions and maintenance needs are inaccurately represented, which can lead to an allocation of funds that is not proportional to needs. Improving the accuracy and completeness of M-R FIX data would lead to a more accurate calculation of fund shares and should help ensure that agencies/HEIs receive their "fair share" of maintenance reserve allocations.

Incomplete data in M-R FIX

There are 485 buildings (4 percent) in M-R FIX that are missing the data necessary to calculate maintenance reserve "shares." (In total, more than 40 percent of the buildings in M-R FIX [5,558 buildings] do not have complete data, but there are understandable reasons data is missing for many of these buildings [sidebar].) In addition, some buildings may not be in the M-R FIX data and are therefore excluded from their agency's/HEI's shares calculation, but it is difficult to identify missing buildings unless the state conducts a complete inventory of state buildings to compare against M-R FIX data.

Buildings may lack complete data in M-R FIX for two primary reasons:

(1) Many buildings belong to agencies that do not receive maintenance reserve funding allocated using M-R FIX, so the agencies do not routinely provide data to M-R FIX. (VDOT and DMV, for example, have received maintenance reserve funding from the Commonwealth Transportation Fund in some years.)

(2) Some buildings are small structures or properties that do not have any systems (e.g., rifle ranges, picnic shelters, or pit toilets) and therefore would not be included in their agency's/HEI's maintenance reserve "shares" calculation.

Some agencies/HEIs reported during interviews that it was difficult to provide complete data for M-R FIX because they do not have records for some of their buildings, especially older buildings and underground items (e.g., water and sewer pipes). The Department of Conservation and Recreation, for example, said it is difficult to know the age of some of the underground pipes at their state parks (some of which are over 100 years old), and in some cases they may not even know they exist.

Inaccurate data in M-R FIX

Some agencies/HEIs have concerns about the accuracy of the M-R FIX data. Agencies/HEIs have the best insight into the accuracy of M-R FIX data because agency/HEI staff report the data to DGS each year. More than one-fourth of the agencies/HEIs responding to JLARC's information request reported they are "not confident at all" or only "somewhat confident" that their data in M-R FIX is accurate and up-to-date. One agency, for example, reported that it has not updated systems data in M-R FIX since they first entered the data several years ago, which could inflate the agency's number of expired systems and could increase the amount of M-R FIX funding they receive. Another agency said they "have no confidence that the state's records are up-to-date."

JLARC staff identified some inaccuracies while analyzing the M-R FIX data that could affect DGS's "shares" calculations and result in some agencies/HEIs receiving more or less maintenance reserve funding than they should. For example

- The "primary use" of some buildings is categorized inaccurately. All buildings for one agency, for example, are categorized as a single type of facility even though the agency has multiple types of facilities. In many cases, this results in the agency receiving extra "shares" because the facility category they are using for their buildings receives more "shares" than some other types of buildings. Some buildings would also receive more shares than they currently do if the buildings were correctly categorized. When considered together, the agency would have received 3 percent less "shares" if all of its buildings were categorized correctly. In the current biennium, this could have equaled approximately $1.0 million in maintenance reserve funding in FY25 and $972,000 in FY26.
- Some buildings are incorrectly identified as being "in use" when they should be classified as "underutilized" or "surplus." For example, an agency has a facility that has been "mothballed." Some buildings in the facility are used for training purposes, but not all buildings are in use. The facility still receives "shares" in M-R FIX, and these shares represent 20 percent of the agency's total shares. The agency's maintenance reserve funding could have been reduced by an estimated $450,000 in FY25 and $345,000 in FY26 if it had not received shares for the mothballed facility.

DGS received $500,000 in FY25 and was authorized to use an additional $1 million of its maintenance reserve funding to assess "existing systems associated with the management of Commonwealth capital assets." DGS spent part of this funding to hire consultants to audit the accuracy and completeness of a sample of M-R FIX data (sidebar). This is the first time M-R FIX data has been audited. As of July 2025, the consultants had reviewed M-R FIX data for 24 agencies/HEIs and found

- incorrect age data for some buildings/systems,
- incorrect measurements and counts (such as errors in gross square footage or linear feet, number of parking spaces, etc.),
- inaccurate data for the proportions of buildings that are used for education and general (E&G) purposes (sidebar), and
- ~450 buildings that should be deleted from M-R FIX because they have been razed or abandoned or are duplicates.

DGS's consultant will continue to audit the accuracy and completeness of M-R FIX data for additional remaining agencies/HEIs through late 2025, according to DGS staff. Data issues identified during audits will be corrected, and updated M-R FIX data will be used to determine FY27 state maintenance reserve "shares."

DGS should continue to conduct periodic audits of the accuracy and completeness of M-R FIX data and use the results to improve the data in M-R FIX. DGS should hire a consultant to conduct these reviews on a routine basis, at least every five years.

The **sample of M-R FIX data DGS had audited** covers all agencies/HEIs and various locations around the state but not all state-owned buildings/systems.

E&G expenditures are the core instructional related activities of higher education institutions. Non-E&G expenditures include non-academic expenditures such as dining halls and sports facilities. The "shares" formula excludes buildings, or portions of buildings, that are used for non-E&G purposes.

Future audits of M-R FIX data may cost less than DGS's initial audits because many data inaccuracies will have already been identified and addressed.

RECOMMENDATION 6

The General Assembly may wish to consider including language and funding in the Appropriation Act for the Department of General Services to hire a qualified consultant to audit the accuracy and completeness of M-R FIX data at least every five years and update the data as needed.

DGS's methodology for allocating maintenance reserve funding does not focus on state's actual or most pressing maintenance needs

DGS has used different methods to allocate maintenance reserve funds to state agencies/HEIs over the years. The state implemented the Facility Inventory Condition and Assessment System (FICAS) in 2005 to centrally measure and assess building conditions for agencies/HEIs, but very few agencies/HEIs are currently using this system (sidebar). There is limited historical knowledge about the implementation of FICAS and how agencies/HEIs or the state used the system's data to address capital maintenance needs. In the mid-2010s, the state began to allocate maintenance reserve funds based on agencies'/HEIs' total building square footage. However, this method did not account for variations in building type, use, value, or lifespan of building systems and infrastructure. Language in the 2017 budget directed DPB to "revise the formula to account for higher maintenance needs resulting from poor facility condition, aging of facilities, and differences in facility use." M-R FIX was developed in response to this budget language and is an improvement over using square footage because it considers multiple factors about a building's needs. DGS staff indicated the current method is a compromise between the former methods because it uses more detailed building/system information to allocate state maintenance reserve funding than just square footage, but it does not apportion funding based on actual building condition.

Virginia used to collect building condition data centrally in the FICAS system, but the General Assembly eliminated funding for the system beginning in FY11 because of fiscal constraints. Using the system is now optional and must be funded through agency/HEI revenues. Some HEIs and at least one state agency still use the system to track the condition of their buildings.

Current methodology focuses on systems that are presumed to be expired, not systems that have actually expired and need to be replaced

DGS allocates agencies'/HEIs' "shares" of state maintenance reserve funding primarily based on the number of building systems that are presumed to have reached their expected lifespans (i.e., expired), rather than the *actual* condition of those systems or the agencies'/HEIs' true maintenance needs (sidebar). This means that agencies'/HEIs' actual maintenance needs are often not accurately accounted for. For example, the calculation does not account for a system that has urgent maintenance needs *before* its presumed expiration date. An agency/HEI would not receive shares for such a system and would therefore receive a smaller allocation than it should have based on its needs. If this omission occurs over multiple years, an agency's/HEI's backlog of deferred maintenance projects can increase, making it difficult to complete

> *"Shares do not correlate to building health; it's not like FCI. Shares show, at best, what systems have expired. M-R FIX data was not intended to show condition. You need data on the actual condition of systems to know whether they are truly expired, or whether they are functional."*
>
> **– DGS staff**

planned projects because funding must instead be used to address unplanned system failures.

The methodology also does not account for systems that are presumed to be expired but remain in good condition, which could result in an agency/HEI receiving shares (and therefore funding) that might otherwise have been directed to more pressing needs at other agencies/HEIs. For example, one HEI's internal condition data showed that only nine of its 30 roofs that were beyond DGS's 20-year expected roof lifespan required replacement. If the remaining 21 roofs were not presumed expired in DGS's shares calculations, the HEI could have received $58,000 less in state maintenance reserve funds in FY25 and $44,000 less in state maintenance reserve funds in FY26.

Another concern with DGS's method for determining agencies'/HEIs' "shares" of state maintenance reserve funding is that generic lifespans are used to determine whether agencies'/HEIs' systems are expired. These generic lifespans do not account for varied lifespans of particular systems within some system types. DGS uses the same expected lifespan (20 years) for all roofs, for example, even though roofs can have a lifespan of 20 to 75+ years depending on the type of roof (e.g., hipped, gabled, flat), the materials used (e.g., metal, slate, rubber membrane), or the builder/manufacturer. This "one size fits all" approach is imprecise and can result in agencies/HEIs receiving "shares" for systems that are still in good condition or not receiving shares for systems that need maintenance but are not presumed to be expired.

DGS should refine the expected lifespans assigned to systems to better approximate when each system will be beyond its useful life. To minimize the time and resources DGS would need to spend on this, DGS could focus on the types of systems that have the most variability in their expected lifespans, such as roofs and HVAC systems.

RECOMMENDATION 7

The Department of General Services should develop expected building systems lifespan benchmarks that more precisely approximate when each type of system will be beyond its useful life, including developing multiple benchmarks for system types that have varied lifespans.

Current methodology does not focus on the state's most pressing or "important" needs

DGS's method for determining agencies'/HEIs' "shares" of state maintenance reserve funding may under-prioritize some key building systems. The formula assigns a weight to each system that represents their proportion of a building's costs, and some important systems have the lowest weights. For example, roofs have a weight of three—one of the lowest weights—while some other systems, like building interiors (e.g., floor coverings, wall finishes, and ceiling tile) have a higher weight (12). This seems inconsistent with the policies governing maintenance reserve funding, which encourage agencies/HEIs to prioritize roof repairs/replacements.

DGS's "shares" calculations also do not properly account for buildings that are not being used. M-R FIX currently includes some buildings that agencies/HEIs have identified as "underutilized" or "surplus" buildings, including several buildings that are associated with facilities that have closed (e.g., Eastern State Hospital, James River Correctional Center). DGS staff indicated these buildings need a basic level of maintenance and upkeep to prevent them from deteriorating. However, maintenance reserve funds are intended to be used for larger maintenance projects (such as replacing roofs or other systems) and not routine maintenance and upkeep. In addition, most agencies/HEIs do not receive enough funding to complete the maintenance reserve projects needed for buildings that *are* in use; therefore, it does not seem prudent for them to receive maintenance reserve funds for underutilized or surplus buildings.

While underutilized and surplus buildings represent only about 1 percent (~1 million square feet) of total square footage in M-R FIX, they should not be included in the maintenance reserve calculation. Excluding these buildings would affect the amount of shares some agencies receive. For example, surplus and underutilized buildings represent almost 5 percent of shares for Department of Corrections (DOC) and Norfolk State University (NSU). If these buildings were removed from shares calculations, DOC could have received $1.5 million less and NSU $180,000 less maintenance reserve funding in FY26.

RECOMMENDATION 8

The Department of General Services should exclude buildings that agencies and public higher education institutions have identified as underutilized and surplus buildings from the maintenance reserve shares calculations.

Current methodology does not account for actual condition of buildings and their systems

Other state and local government entities allocate maintenance funds based on the actual maintenance needs of buildings identified through facility condition assessments. North Carolina, for example, allocates its Repairs and Renovations Fund based on a formula that considers building condition (which is based on facility condition assessments conducted by the state), square footage, and building value. Similarly, Maryland allocates funds from its facilities renewal program based on agency requests that are driven by facility condition assessment results. Moreover, Nevada uses facility condition assessment results to make recommendations on the priority and urgency of facility maintenance needs. In Virginia, Fairfax County allocates maintenance funds based on actual maintenance needs (generally based on facility condition assessments) and the number of service calls.

As discussed in Chapter 2, Virginia does not have enough statewide data on the actual condition of buildings and their maintenance needs to determine the proportion of funding each agency should receive. Virginia should work toward including

information on agencies'/HEIs' actual building/system condition in DGS's maintenance reserve funding allocation methodology.

RECOMMENDATION 9

The Department of General Services should revise the methodology used to calculate the proportion of state maintenance reserve funding that state agencies and public higher education institutions receive to be based on the actual condition of state-owned buildings and systems, incorporating metrics such as the facility condition index into the methodology, once such information becomes available.

Collecting more information about actual building/system maintenance needs is essential to improving the maintenance reserve methodology and better ensuring that the agencies/HEIs with the greatest needs receive the most funding, but this will take time and resources. To implement Recommendation 9, the state will need to implement Recommendation 1 from Chapter 2 and then pursue facility condition assessments for the remaining agencies/HEIs. This will take several years to implement, which means changes to the allocation methodology will need to be addressed over time. In the short term, before actual condition information is available, revising the current allocation methodology will help ensure that the agencies/HEIs with the greatest needs receive the most funding. These revisions should include (1) updating and refining the expected lifespan benchmarks for some systems to more accurately capture when systems are likely to be beyond their useful life (Recommendation 7) and (2) excluding underutilized and surplus buildings from the "shares" calculation (Recommendation 8). Over the long term, when the state has collected actual condition information for all agencies/HEIs, DGS should allocate maintenance reserve funds based on the actual condition of state-owned buildings and systems, incorporating metrics such as the facility condition index.

Unspent maintenance reserve funds are not always an indication of agency inaction

Maintenance reserve funding must be used for projects that meet state eligibility requirements outlined in the budget (Figure 4-1, page 27). Requests to use state maintenance reserve funding for projects that do not meet the state's eligibility requirements must be granted an exception by DPB. Agencies/HEIs are encouraged by DPB staff and money committee staff to use as much of their maintenance reserve funds as possible to address their maintenance needs, but they can carry forward the balances of unspent state maintenance reserve funding each year.

Agencies/HEIs have unspent maintenance reserve funding because they are saving for projects, facing staffing constraints, or managing multi-year projects

Total state maintenance reserve funding available in FY25 was $513 million (general funds and general fund-supported bonds). This total included $249 million in reappropriated funding from the previous year that agencies/HEIs did not spend and $264 million in new state appropriations.

Most agencies/HEIs (87 percent; 41 of 47) that received maintenance reserve funding in FY25 had spent less than half of their total maintenance reserve funding (including funding carried over from previous years) at the end of the fiscal year, according to DPB data. Unspent maintenance reserve funding amounts for these agencies/HEIs ranged from ~$172,000 to ~$69 million. Statewide, 66 percent (~$341 million) of agencies'/HEIs' total maintenance reserve funding was unspent at the end of FY25 (sidebar).

There are three key reasons that agencies/HEIs do not spend all of their state maintenance reserve funding each year.

- Some agencies/HEIs are saving their funding to accumulate enough to complete a needed maintenance project or to have funding for emergencies and project cost increases.
- Some agencies/HEIs have an insufficient number of staff to plan and implement maintenance reserve projects. (Virginia State Police, for example, has only two employees who manage approximately 134 state-owned structures [~515,000 total square feet], and they are not solely dedicated to maintenance reserve projects).
- Many agencies/HEIs have complex maintenance reserve projects that take multiple years to complete, which results in a large portion of their maintenance reserve funding being *obligated* but not spent at the end of the fiscal year (sidebar). (VCU, for example, had over $20 million in unspent maintenance reserve funding at the end of FY25, but over $13 million was already obligated for in-progress projects.)

Obligated state maintenance reserve funding is funding that agencies/HEIs have committed to pay for maintenance work that is in progress. Agencies/HEIs using a contractor have signed a contract agreeing to pay for maintenance work.

DPB collects information on agencies'/HEIs' maintenance reserve spending each year, but the information collected does not indicate the reasons for agencies'/HEIs' unspent funds. DPB collects information on the types of projects that agencies/HEIs spent maintenance reserve funds on and the amount of maintenance reserve funding that is spent and unspent for each agency/HEI at the end of the fiscal year. However, DPB does not routinely collect information describing why agencies/HEIs have unspent maintenance reserve balances. DPB surveyed agencies/HEIs on the reasons for their maintenance reserve balances in 2024, but this survey is not regularly administered.

Decisionmakers would benefit from having additional insight into agencies'/HEIs' unspent reserve maintenance funding. To provide this, DPB should routinely collect information from agencies/HEIs on the reasons for their unspent maintenance reserve funding (e.g., saving for a future project, staffing constraints, multi-year projects underway, etc.), as well as the amount of unspent maintenance reserve funding that

has been *obligated* to projects that are in progress. DPB should collect this information when agencies/HEIs report their maintenance reserve spending each fiscal year. This information could help DPB, DGS, and agency/HEI leaders identify the need for additional project management resources to complete maintenance projects and ensure that maintenance reserve funding allocations are informed by a more complete picture of agencies'/HEIs' maintenance spending history.

RECOMMENDATION 10

The Department of Planning and Budget (DPB) should require state agencies and public higher education institutions to include in their annual report on maintenance reserve spending (i) the reasons for unspent state maintenance reserve funding and (ii) the total amount of unspent state maintenance reserve funding obligated to in-progress maintenance reserve projects, including the project name and obligated amount for each project.

Cost parameters need to be updated to make it easier for agencies/HEIs to spend maintenance reserve funding

The current cost parameters for maintenance reserve projects can make it difficult for some agencies/HEIs to use their state maintenance reserve funding for needed projects and should be updated. These parameters have not been updated since 2017 even though building cost index data indicates that construction-related costs have increased 51 percent over the last decade because of inflation.

Most (31 of 39) agencies/HEIs that responded to a JLARC information request said that Virginia's state maintenance reserve cost parameters should be updated. The majority of these agencies/HEIs said the maximum ($2 million for most projects or $4 million for roofs) should be increased because current maintenance reserve project costs are substantial (sidebar), and the state's current maximum has not kept pace with inflation. Several agencies/HEIs also said the minimum cost ($25,000) should be decreased to allow entities with smaller maintenance projects to be able to use maintenance reserve funding instead of operating funding for needed maintenance projects. Many of the agencies/HEIs that provided this feedback are smaller entities that may have smaller-scale maintenance projects.

> *"Increasing the [maintenance reserve] threshold to a higher level is imperative. For example, Mechanical, electrical, plumbing (MEP) costs in the current economy are significant. Increasing the [maintenance reserve] threshold will increase purchasing power to accommodate these higher costs. Additionally, an increased threshold would allow for inclusion of projects that are appropriate for [maintenance reserve] scope but not achievable within the current limitation without a cost waiver/exemption."*
>
> **– Higher ed staff**

Agencies/HEIs that have maintenance reserve projects that do not fall within the current cost ranges can obtain an exception from DPB before proceeding with their projects, but this requires an extra step. While exceptions are generally approved, they require staff time to review them and can delay projects.

To ensure that the state's maintenance reserve cost parameters reflect inflationary increases and limit the need for DPB to grant exceptions, the state should review the appropriateness of the state's maintenance reserve cost parameters and make adjustments as needed. DPB should conduct the reviews at least once every three years and work with DGS staff to assess the extent to which costs related to building

maintenance have changed during that time period. According to DPB staff, DPB proactively initiated a review of the state maintenance reserve funding cost parameters during this study and is currently conducting research to identify appropriate revised parameters.

RECOMMENDATION 11

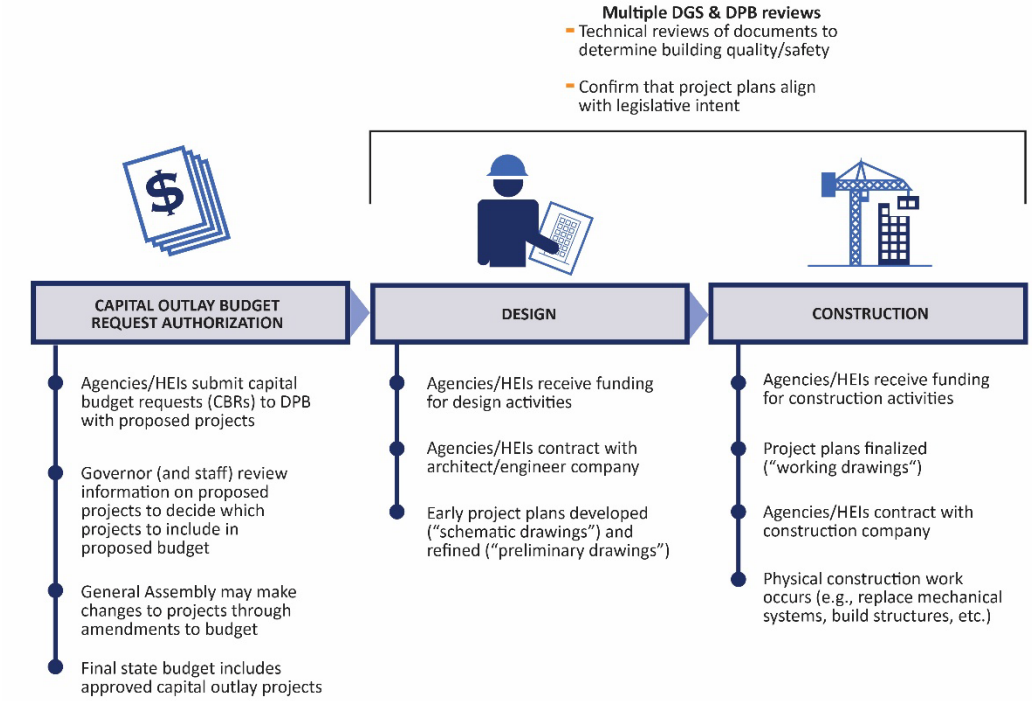
The Department of Planning and Budget should work with the Department of General Services to review the appropriateness of the state maintenance reserve funding cost parameters at least every three years and, through the budget development process, recommend updates to Appropriation Act language establishing the parameters, as needed, based on inflation and other factors affecting the cost of maintenance reserve projects.

5 Capital Outlay Projects

Capital outlay projects are major projects that are individually authorized through the budget process. They may involve new construction, maintenance (e.g., major renovation of an existing building or infrastructure repair), equipment purchases, demolition, or acquisition of property. Capital outlay projects for new construction typically cost $3 million or more or are 5,000 or more square feet. Capital outlay projects for maintenance typically cost $3 million or more.

Each capital outlay project has three main phases (Figure 5-1). First, the governor and General Assembly decide through the budget process which of agencies'/HEIs' requested capital outlay projects should be funded. Next, authorized projects enter the design phase, which includes working with architects and engineers to develop and refine project plans and drawings. After designs have been developed, projects begin the construction phase. Projects are subject to multiple reviews and approvals by the Department of General Services (DGS) and the Department of Planning and Budget (DPB) staff during the design and construction phases of the project.

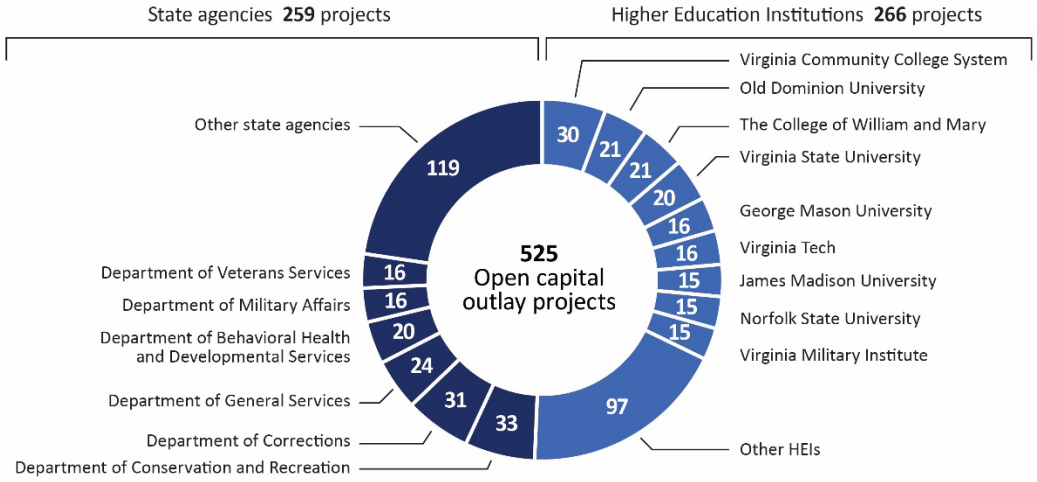
Figure 5-1
Before construction, capital outlay projects must be authorized and designed



SOURCE: JLARC analysis of DGS and DPB publications and interviews with DGS and DPB.

As of spring 2025, 525 state government capital outlay projects were "open." Public higher education institutions (HEIs) had slightly more open capital outlay projects in total (51 percent) than state agencies (49 percent; Figure 5-2). The number of projects open per agency/HEI ranged widely, with at least 30 projects each at three agencies/HEIs (Department of Conservation and Recreation, Department of Corrections, Virginia Community College System [VCCS]), but only one project open at nine agencies/HEIs.

Figure 5-2
HEIs have slightly more open capital outlay projects than state agencies



SOURCE: JLARC analysis of DPB data on capital outlay projects as of April 2025.
NOTES: Agencies/HEIs reported within "other state agencies" or "other HEIs" have fewer than 15 open capital outlay projects. "Open" capital outlay projects include projects that are undergoing design, construction, or project closure activities (e.g., warranties, final contractor payments). See Appendix B for more information.

Some capital outlay projects take much longer than expected

Completing capital outlay projects in a timely manner benefits the state. Capital outlay projects require significant state funding, making it important to allocate sufficient time for intentional design, safe construction, and third-party reviews for both quality and compliance. Yet, the faster a project is completed, the more likely it is to stay on budget, and the sooner it fulfills its purpose. Concerns about unnecessary delays for the state's capital outlay projects were one reason JLARC members requested this study.

JLARC's research for this study focused on capital outlay project delays that were caused by factors within the state's control and that could be avoided in future projects through policy changes. However, many agencies/HEIs reported that some of the delays identified in JLARC's staff's research were caused by the COVID pandemic. Many capital outlay projects reportedly experienced significant cost increases that slowed progress and created longer-than-usual delays for equipment because of supply

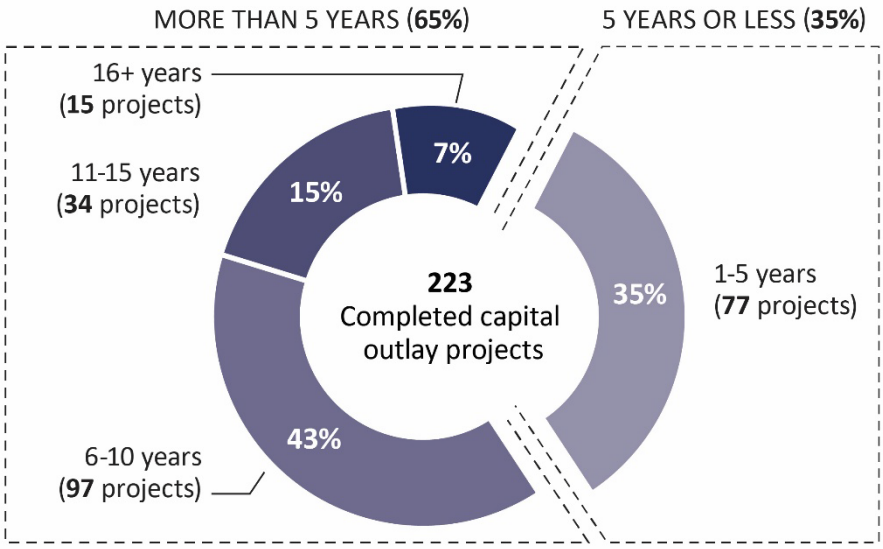
chain problems. Sometimes, projects were deprioritized by agency/HEI staff as a result.

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

While Virginia lacks comprehensive data on the status of capital outlay projects, JLARC staff were able to determine that nearly two-thirds (65 percent) of projects "completed" since FY21 have taken longer to finish than a typical benchmark of five years (Figure 5-3). Five years is a reasonable expectation for the lifespan of a large capital project, according to several other states and Virginia localities, though some projects that are particularly large or complex may take longer (sidebar). For example, projects involving multiple locations (such as all high-risk dams) or requiring implementation in phases (such as acquiring land and then constructing a building on it) could need more time than a typical project. Almost a quarter of projects (22 percent) took more than 10 years to complete, measured from the year they were initially authorized in the budget until the year they were completed.

State-owned buildings are often expected to have a longer lifespan (e.g., 50 years) than private sector buildings (e.g., 20 years), according to DGS staff. DGS's capital process manual says Virginia has a building design philosophy that "envisions a long and useful life for state buildings." Designing and constructing buildings with long lifespans can increase the complexity and duration of capital outlay projects in some cases.

FIGURE 5-3
Majority of capital outlay projects completed since FY21 exceeded five years to complete, and almost one-fourth exceeded a decade

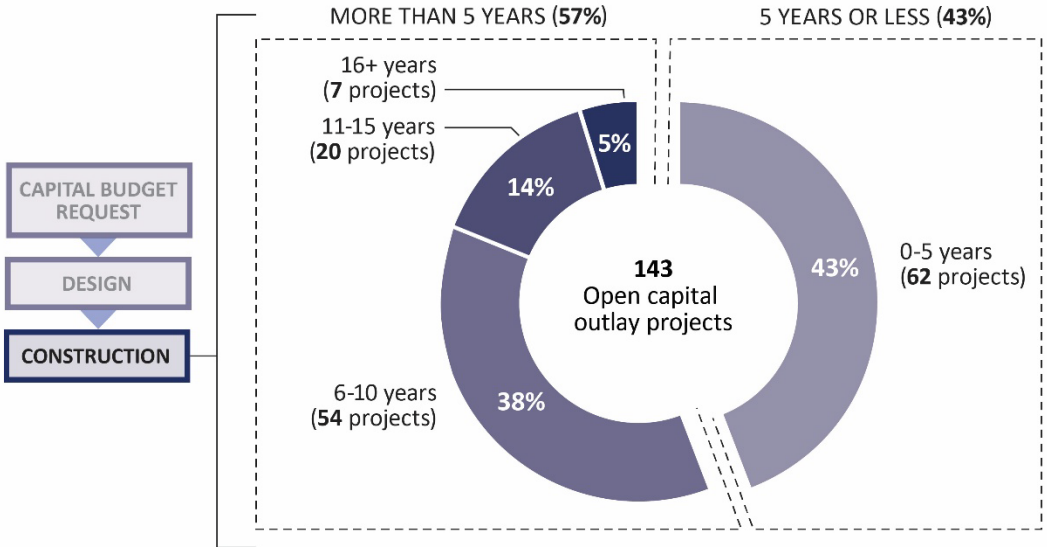


SOURCE: JLARC analysis of DPB data on capital outlay projects.
NOTE: Data shows the number of years between when a capital outlay project was first authorized in the budget and the last fiscal year there was a project expenditure. "Completed" capital outlay projects were defined by JLARC staff to include projects that were closed between FY21 and FY25. See Appendix B for more information.

Many of Virginia's "open" capital outlay projects have exceeded the five-year benchmark, and some are still not complete more than a decade after they were initially authorized in the budget. In fact, the majority of projects currently *under construction*

were authorized more than five years ago (Figure 5-4). About one-fifth of projects under construction were authorized over 10 years ago.

FIGURE 5-4
Majority of open capital outlay projects have already exceeded five years, and a substantial portion have exceeded 10 years



SOURCE: JLARC analysis of DPB data on capital outlay projects as of April 2025 and DPB's 2025 "year-end" compilation of agency/HEI reports on their open capital outlay projects.
NOTE: Data shows the number of years between when a capital outlay project was first authorized in the budget and 2025. Data includes projects with the status of "construction" or "equipment installation" and excludes projects with design-related statuses (e.g., "preplanning" and "working drawings").

Some capital outlay projects significantly exceed agencies'/HEIs' own predicted timeframes for completion. Periodically during design and construction, agencies/HEIs adjust the expected completion date for their capital outlay projects to reflect actual progress and updated plans for remaining work. In 2025, DPB asked agencies/HEIs to report updated completion dates for their open capital outlay projects. Almost half of agencies'/HEIs' open projects for which data was reported had postponed expected completion dates. Similarly, 21 percent of agencies'/HEIs' open projects had a new expected completion date that exceeded the original date by at least three years.

Project delays usually increase costs and can hinder government services

Building cost index (BCI) data indicates that construction costs (e.g., labor, materials, and equipment) have increased 51 percent between 2016 and 2025.

The longer a capital outlay project exceeds its originally expected completion timeframe, the more project costs are likely to escalate. Extended delays increase the likelihood that project designs will need revisions, which increase architecture and engineering expenses. Common reasons for design revisions are new government requirements and changing agency/HEI preferences. In addition, construction costs are likely to increase over time because of rising materials and labor costs (sidebar).

Lengthy projects may also result in additional indirect costs, such as extended use of temporary spaces and maintenance of systems slated for replacement.

Several examples of Virginia's capital outlay projects show how costs can increase because of delayed project timelines.

- Virginia State University (VSU) is demolishing two buildings and constructing one building to replace them. The new building includes academic classrooms, a fitness center, health services, and other uses. The project was originally expected to be completed in 2021 but is now expected to be completed in 2026. VSU's contractor estimated the cost of delays to be almost $3 million, reflecting higher salaries for contractor staff and responsibility for managing a new state prevailing wage requirement.
- The Department of Behavioral Health and Developmental Services (DBHDS) is replacing Central State Hospital, which provides inpatient psychiatric services in Petersburg. The project was first authorized in 2014, waited five years to receive authorization from the governor and General Assembly to begin detailed design, and is now expected to be completed in 2027—13 years after initial authorization. DBHDS has been required to continue to perform costly maintenance on old mechanical equipment that will no longer be needed once the new hospital building is constructed.
- VCCS is renovating two buildings that primarily contain classrooms and laboratory space. The project was originally expected to be completed in 2021 and is now expected to be completed in 2028. To keep the old buildings usable in the interim, staff set up temporary HVAC systems costing $2 million.

Even small delays can have a compounding effect on both time and cost. For example, a project delay that increases costs over the project's approved budget could prompt the agency/HEI to reconsider design choices (such as selecting less expensive building materials), which requires the architect/engineer to redo design plans. Additionally, increasing costs may require an agency/HEI managing a project to request supplemental project funding from 6PAC, which can take several months.

Delayed projects have sometimes impeded the public's access to an agency's/HEI's services or threatened the quality of those services. In some cases, a prolonged capital outlay project has even increased the potential for physical danger to the public or state employees. For example, the delay in the replacement of Central State Hospital has necessitated continued operation of the existing facility with inadequate security features that compromise staff's ability to properly secure or monitor patients, many of whom can be violent. The current facility, which the General Assembly recognized the need to replace 13 years ago, lacks security features that would help to prevent escapes. In addition, the hallway layout does not allow staff to comprehensively monitor patients for violent behavior. These risks have increased as the percentage of patients from the criminal justice system has increased.

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

In Virginia, state agencies and HEIs who own and maintain their buildings are typically also responsible for managing their own capital outlay projects. Agency/HEI staff have several key responsibilities, including

- determining the general purpose and programmatic goals of a project;
- requesting state authorization and funding for capital outlay projects (in full or for specific stages, as needed);
- procuring contractors (e.g., architects, engineers, construction firms) and ensuring they meet agency/HEI programmatic needs; and
- submitting various documents (e.g., design plans and funding requests) to DGS and DPB for review at particular milestones.

> *"[Project managers] have the responsibility to wisely spend taxpayer dollars …the [project manager] must be a practitioner of ever-increasing technical, management, regulatory, and procedural knowledge and possess the soft skills required to motivate and lead personnel supporting the project."*
>
> **– Federal Acquisition Institute**

The types of staff who are responsible for completing these activities vary by agency/HEI, but they often include staff in procurement, project management, and leadership roles.

National and Virginia subject matter experts emphasize the importance of agency/HEI staff having the knowledge and skills necessary to keep capital outlay projects on schedule and fulfilling their intended purpose (sidebar). Insufficient agency management of capital outlay projects can cause projects to take longer than needed. While individual delays may not be substantial, they can significantly increase project length and costs over a project's lifetime.

Some capital outlay projects are delayed because agency/HEI staff make mistakes when submitting documents to DGS and DPB

Capital outlay projects have frequently been delayed because of mistakes the agency/HEI staff managing the project made when submitting required documents to DGS and DPB (e.g., design documents, funding requests). Common agency/HEI staff mistakes include using outdated cost estimates, submitting incomplete materials, resubmitting materials without addressing all issues, and skipping or not initiating steps in the process (e.g., capital budget requests for equipment). Such mistakes have delayed recent capital outlay projects. Submitting and using an outdated cost estimate to these central agencies delayed one HEI's project by at least a year, as its renovation of an academic building was delayed because it used an outdated cost estimate for the trailers needed for temporary classrooms during the renovation. The HEI estimated the trailers' cost in 2016, produced detailed designs for them, then requested bids for the trailers in late 2017. However, the HEI did not update the project cost estimate in the bid to reflect recent increases in market prices or include the type of trailers it had chosen during the design process, so the bids for the trailers significantly exceeded the project's

budget. To keep the project cost within budget, the HEI had to redesign the trailers to lower their cost.

The mistakes agency/HEI staff make when submitting capital outlay project documents reportedly stem from inadequate knowledge of the state's capital outlay process and policies and inadequate project management skills (e.g., strategic scheduling, anticipating project challenges, effective communication with contractors, etc.) (sidebar). These challenges are especially prevalent at agencies/HEIs with historically few capital outlay projects, as staff are less likely to have been through the state's capital outlay process and typically are not in roles dedicated solely to managing capital outlay projects.

> *"It can also be difficult to recall processes and keep up with changes when we have significant time gaps between projects. … Things necessarily slow down for us while we figure out next steps. … There are still parts of the process that we are unsure of, and we do have to spend a lot of time finding the right source to provide guidance. … I am sure a lot of this knowledge comes with repetition."*
>
> **– Higher education institution staff**

DGS currently has no minimum qualifications or mandatory training and exams for the agency/HEI staff managing capital outlay projects, which increases the risk of agency/HEI staff mistakes. Agency/HEI staff do not need to possess certain certifications or complete prescribed training or exams before being assigned to manage capital outlay projects. DGS has several certification programs that include training and exams, but none are required or intended specifically for the agency/HEI staff managing capital outlay projects. For example, DGS requires individuals who award construction contracts ("Virginia Construction Contracting Officers") to complete two trainings on procurement, contract administration, and technical reviews, but these trainings are typically taken by agency/HEI procurement staff. DGS also offers a voluntary certification ("Virginia Contract Administrator and Risk Management") for agency/HEI staff that focuses on procurement skills, basic contract knowledge, and contract administration skills, but the training is focused on goods and services contracts instead of capital outlay projects.

DGS should establish mandatory qualifications, training, and exams for agency/HEI staff or contractors managing capital outlay projects. This will help ensure they have the knowledge and skills necessary to manage projects effectively and avoid costly delays. The *qualifications* DGS establishes should prescribe the specific training, exams, and other requirements (e.g., academic degree, years of experience, etc.) needed to manage capital outlay projects, which should apply to all agencies/HEIs. Consideration could be given to exempting HEIs with Tier II and III delegated capital outlay authority (sidebar) as long as they can demonstrate that they have safeguards to ensure that their capital outlay project management staff are sufficiently qualified. The *training and exams* DGS develops (internally or through a third party) should cover all aspects of capital outlay management, including DGS policies, DPB policies, the legislative cycle, and specific skills and actions needed for effective project management.

Several Virginia public HEIs have delegated capital outlay authority, including CNU and VCCS (Tier 2) and UVA, W&M, VT, VCU, JMU, and GMU (Tier 3). These HEIs are not subject to the same capital outlay policies as other agencies/HEIs. For example, some use the state's construction and professional services manual (CPSM), while others have their equivalent capital process manual.

DGS should develop both basic and intensive trainings. Agency/HEI staff managing capital outlay projects should be required to take the basic training/exam regardless of the cost and complexity of their projects. Agency/HEI staff assigned to the most costly and complex projects (e.g., $50 million or more, difficult construction conditions, etc.) should be required to take intensive training. Agency/HEI staff with certain professional qualifications (e.g., licensed engineers, holders of private-sector project

management certifications) could be exempt from the more intensive training/exam but could still benefit from a basic training that covers state government processes and requirements.

Having DGS establish qualifications and develop mandatory training and exams for agency/HEI staff managing capital outlay projects would be consistent with the state's approach to managing large IT projects. VITA has detailed standards outlining the qualifications, training, and exams that project managers must complete before managing IT projects. DGS could use VITA's standards and materials as initial resources to help expedite efforts to develop qualifications, training, and exams for capital outlay projects.

RECOMMENDATION 12

The General Assembly may wish to consider amending § 2.2-1132 of the Code of Virginia to direct the Department of General Services to (i) establish the qualifications individuals must have to manage capital outlay projects, including necessary training and demonstrated competence and (ii) develop and administer mandatory training and exams on key skills and Virginia capital outlay policies and processes for capital outlay project managers.

The General Assembly could also ensure more timely capital outlay projects by requiring DGS to manage capital outlay projects that meet certain criteria. DGS's Division of Construction Management currently manages at least 13 capital outlay projects for other state agencies/HEIs (sidebar). The General Assembly should make this DGS division the capital outlay project manager for especially costly or complex projects (e.g., $50 million or more, difficult construction conditions, etc.) when the agency/HEI does not have a staff member or contractor to manage the project who meets DGS's prescribed qualifications (Recommendation 12).

The budget specifies whether DGS's Division of Construction Management is responsible for managing certain capital outlay projects involving buildings owned by agencies/HEIs. However, for DGS-owned buildings, the DGS director determines whether it or another division manages projects.

DGS needs to develop criteria to determine which capital outlay projects DGS's Division of Construction Management would manage if the agency/HEI does not have an adequately qualified project manager. The criteria for determining whether DGS's Division of Construction Management would manage a project should be based on project cost, project complexity, and other project characteristics (e.g., project type or location). Requiring DGS management for certain projects under certain circumstances should not preclude or deter DGS from managing or assisting with the management of projects at individual agencies'/HEIs' request.

Requiring DGS to manage certain capital outlay projects would be similar to the state's approach to procurement; only agencies/HEIs with "delegated authority" from DGS are allowed to procure certain goods and services. In addition to acting as the project manager in certain cases, DGS should also continue to act as the project manager when directed to do so through the budget for specific projects. This typically occurs when capital outlay projects are considered high priorities by decisionmakers or when an agency/HEI has a poor track record of timely project completion.

RECOMMENDATION 13

The General Assembly may wish to consider amending § 2.2-1132 of the Code of Virginia to require the Department of General Services (DGS) to: (i) develop criteria to identify complex and high-risk capital outlay projects that require specialized project management qualifications, considering factors such as project cost, complexity, and other characteristics (e.g., project type and location); and (ii) require DGS's Division of Construction Management to manage projects meeting the criteria when agencies or public higher education institutions are unable to assign project management to a qualified staff member or third-party contractor.

Legislation implementing these recommendations should ensure its effective date gives DGS enough time to develop trainings and exams for project managers and acquire sufficient resources to manage additional projects. Otherwise, capital outlay project delays could be exacerbated. DGS will need to hire more project managers (state employees and/or contractors) to manage additional capital outlay projects. (These staff could be funded through an increase in internal service fund charges to agencies/HEIs that use DGS for project management, or the General Assembly could appropriate funds for DGS to hire or procure additional project management staff to avoid increased charges to agencies/HEIs.)

Some capital outlay projects are delayed because agency/HEI staff change project "scope," requiring projects to be redesigned

Agencies/HEIs propose the scope of a capital outlay project when they request funding for the project through the budget process. A capital outlay project's scope includes its purpose, square footage, and the general approach to completing it (e.g., renovation versus replacement). Once a project is finalized through the state budget, its scope cannot undergo substantive changes without requiring it to go back through the budget process for consideration and approval by the governor and General Assembly.

Some capital outlay projects have been delayed because agencies/HEIs decide to change the project scope after the project has been authorized in the budget. Decisions to change project scope are typically made by agency/HEI leaders and can be prompted by several reasons, such as leadership turnover or changing financial circumstances. Regardless of the reason, changes to the scope of an authorized capital outlay project means the project must be reconsidered through the budget process to receive authorization for the revised scope. Revising the scope can also create the need to redo prior work, such as design documents.

For example, one HEI's capital outlay project for replacing a building experienced delays because of scope changes as well as other factors (e.g., COVID-related work delays and cost increases). HEI staff originally planned to keep two old buildings until construction of a new building was completed, but HEI staff altered the project scope to demolish a building earlier than expected. This scope change was prompted by the need to reduce project costs and the old building's proximity to the construction site.

As a result of the scope change, HEI staff had to redo early-stage project designs, which added time to the project. Other agencies/HEIs have changed the scope of capital outlay projects and experienced similar challenges.

Some capital outlay projects are delayed because agency/HEI staff delay project initiation

There is sometimes a prolonged period between when capital outlay projects are authorized in the budget and when work begins. One way to measure the time it takes for agencies/HEIs to start a project is to look at the number of years between the project's first authorization in the budget and the agency's/HEI's first project expenditure. When looking at all currently "open" capital outlay projects, at least three years elapsed before the first expenditure for almost one-fifth of projects.

Insufficient staff capacity is a key reason that agencies/HEIs sometimes delay starting their capital outlay projects. According to information collected from agencies/HEIs by JLARC staff, one-third of 33 agencies/HEIs that reported experiencing capital outlay project delays selected inadequate staff "capacity" as a reason. One large agency reported often waiting over one year to start capital outlay projects because of inadequate staffing. Architects and engineers that have worked with the state on capital outlay projects observed that some agencies/HEIs do not have enough staff to keep up with the capital outlay process.

Additionally, agencies/HEIs may wait to move forward with a project because of financial circumstances. For example, one HEI had a capital outlay project to build a new academic building that was authorized in the budget in 2012, but the HEI did not start work on the project until 2018. The delay was partially because the project required the HEI to first spend its own institutional resources, and the institution was not in a financial position to do so.

State lacks centralized oversight mechanism to identify and give needed attention to delayed capital projects

The way the state currently tracks capital outlay project progress centrally makes it difficult for central agencies as well as the General Assembly to identify delayed projects and proactively intervene to address problems causing delays. Information about the performance of individual projects is fragmented, making it difficult to draw conclusions about whether a project is delayed, by how much, and why. Additionally, key metrics about capital outlay projects are not easily comparable across projects, making it difficult for decisionmakers and their advisors to identify the most delayed projects.

Both DGS and DPB collect some data on capital outlay projects, but the information does not present a complete picture of projects' statuses, and their efforts are not well coordinated. Each year, DGS requests information from agencies/HEIs about open and completed projects and compiles their responses into two separate statutorily required reports. Separately, DPB also requests information about open capital outlay

projects each year to identify completed projects and transfer money from projects to centralized accounts. Some key information is collected by both DPB and DGS but defined differently, which makes it difficult for decisionmakers and staff to interpret the results. Lastly, some information, such as whether a project is considered "substantially complete," is not collected—even though it is a key factor in analyzing a project's status and in understanding capital outlay project completion timeliness more broadly.

DGS and DPB should work together to produce one annual report on capital outlay projects. The report should include timeliness data about each open and recently completed project, as well as summary information across all projects. The report could be a traditional written report, or it could be published on a webpage as a dashboard. While a large portion of the information in the report would be similar to the information available in existing reports, it could be compiled in one place and designed to clearly show the timeliness of capital outlay projects. When collecting information for the report from agencies/HEIs, DGS and DPB should coordinate to reduce duplicative requests where possible to save staff time at agencies/HEIs, DPB, and DGS.

RECOMMENDATION 14

The General Assembly may wish to consider amending the Appropriation Act to require the Department of General Services and Department of Planning and Budget to coordinate to develop a single report summarizing the status of open capital outlay projects relative to their original deadlines and the timeliness of recently completed capital outlay projects. The report should be submitted to the chair of the Senate Finance and Appropriations Committee, chair of the House Appropriations Committee, and the Six-Year Capital Outlay Plan Advisory Committee.

Periodically reviewing the status of capital outlay projects across state government would enable decisionmakers (sidebar) and staff to identify delayed projects that need more attention or additional support. This information could also help the governor and General Assembly make funding decisions. For example, decisionmakers may decide that an agency/HEI with multiple lengthy or delayed projects is unprepared for another project.

Decisionmakers include the governor, General Assembly, and cabinet secretaries.

Currently, there is limited central oversight of delayed capital outlay projects. The Appropriation Act requires 6PAC members to review project progress four times a year, but many projects are excluded from this requirement, such as "standalone projects" (which have less flexibility for budget changes than "pool" projects and typically receive authorization for the entire project upfront). Moreover, the information that 6PAC members receive on certain projects cannot easily be used to identify projects that are stalled or progressing too slowly, because the information does not always include the dates needed to determine when a project started and should be completed. DGS and DPB both regularly collect information on project status, but they do not systematically identify or review significantly delayed projects to encourage progress.

The General Assembly should assign 6PAC responsibility for systematically reviewing the timeliness of capital outlay projects. 6PAC members represent agencies with critical responsibilities and expertise in capital outlay; therefore, the body is well suited for this oversight role. 6PAC's role should include (1) establishing criteria for projects that appear to be "significantly delayed" (e.g., at least six years since their initial authorization date or expected completion date three or more years beyond their originally expected completion date), (2) routinely identifying and reviewing projects that meet the criteria, which could be accomplished using the information compiled by DGS and DPB in Recommendation 14, and (3) requiring agencies/HEIs to develop and submit corrective action plans (e.g., updated schedules, strategies to address challenges, etc.) for projects that are significantly delayed without reasonable justification to 6PAC for review and consideration. Regular 6PAC reviews of delayed projects would align with guidance from industry experts (sidebar) and provide insight into whether project delays are becoming more widespread or prolonged.

"State tracking procedures should be ongoing with early warning capabilities to keep projects on time and within budget."

– National Association of State Budget Officers

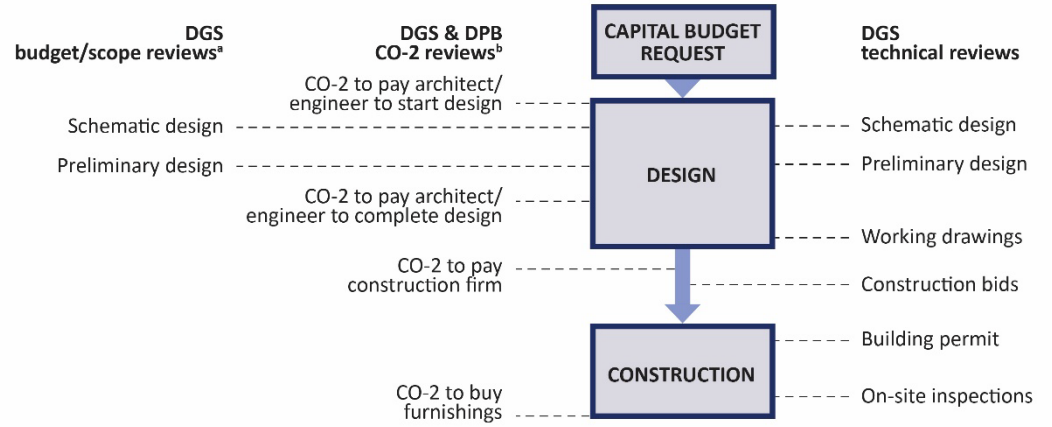
RECOMMENDATION 15

The General Assembly may wish to consider amending § 2.2-1516 of the Code of Virginia to direct the Six-Year Capital Outlay Plan Advisory Committee to (i) establish criteria for what constitutes a "significantly delayed" capital outlay project, (ii) identify and review projects that meet the criteria each year, and (iii) request that state agencies and public higher education institutions develop and submit corrective action plans for projects that are significantly delayed without reasonable justification, when appropriate.

Technical and administrative reviews are critical but add time to projects

Capital outlay projects must receive approval from DGS or DPB at several stages to progress from one phase to the next (Figure 5-5). For example, DGS technical reviews are required as the agency/HEI refines the project's design from a high-level idea to the detail needed for construction. Additionally, an agency/HEI receives funding incrementally for capital outlay projects, and funding distributions are contingent on DPB and DGS reviewing and approving funding through administrative reviews. DGS also reviews whether project budgets and plans align with their state budget authorization. In combination, these various DGS and DPB reviews are intended to ensure that capital outlay projects result in safe buildings, agencies/HEIs obey state rules for fairness and accountability, and state funds are spent only on work intended by the legislature. However, agency/HEI staff interviewed for this study sometimes expressed frustration with their perception of unnecessarily prolonged technical and administrative reviews.

FIGURE 5-5
DGS and DPB conduct technical and administrative reviews of capital outlay projects at many milestones



SOURCE: JLARC analysis of DGS policies such as the Construction and Professional Services Manual, capital outlay project files, and interviews with DGS and DPB staff.
NOTE: Figure illustrates a common scenario for a typical capital outlay project, but the number and timing of reviews vary by project. For example, more reviews can be triggered by a major change to design documents, an appeal to DGS or 6PAC for more project funding, another legislative authorization, or multiple funding disbursements from DPB.
[a] All projects are subject to basic checks, but more in-depth reviews occur for "pool" projects (which have more flexibility for budget changes than "standalone" projects and are typically authorized in stages).
[b] Funding from CO-2s may also be used to pay for agency/HEI project management and contractors for specialized services such as soil testing.

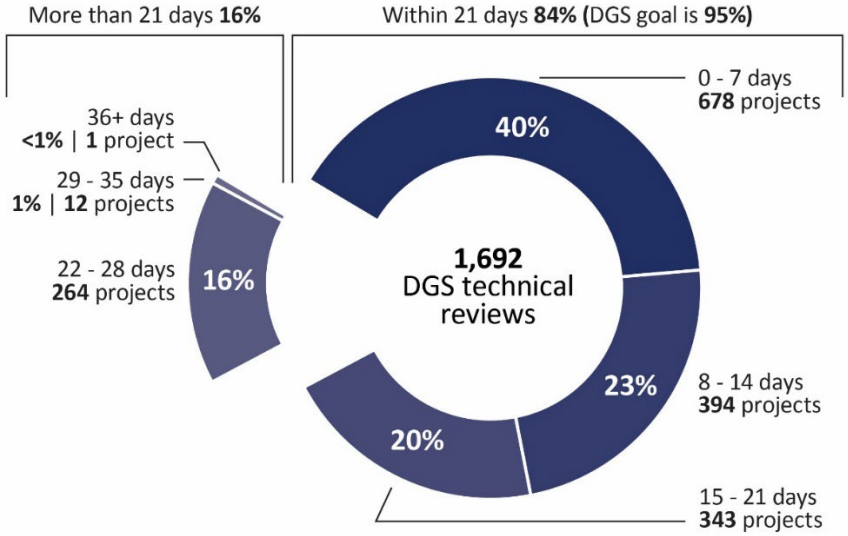
DGS conducts most technical reviews within three weeks, but some take longer than necessary

DGS technical reviews occur at many project milestones and are essential for ensuring that buildings are held to certain safety and quality standards. DGS staff confirm that projects will comply with state and federal rules related to structural strength, fire-resistant materials, disability accessibility, energy efficiency, low-cost procurement, and other areas.

Both DGS and the agency/HEI contribute to the time spent on technical design and compliance checks for each capital outlay project. DGS's policies establish which steps require review, including three stages of design documents, construction bids, and construction site inspections (Figure 5-5). For each review, agencies/HEIs must wait for DGS staff to approve their submission before proceeding, which often requires multiple rounds of revised submissions. Between DGS reviews, an agency/HEI may be working on the next technical submission or other project tasks, or they may be prioritizing other responsibilities. When agencies/HEIs prioritize other responsibilities, they add time to the project's design and construction phases. For five projects examined by JLARC, the time projects spent waiting for *DGS* action when they were in design and construction was at most 17 percent of the total time the project spent undergoing technical reviews, while the remaining time was spent waiting on *agency/HEI* action.

DGS reviews most technical submissions within a few weeks, although it does not fully comply with its own internal goals. For example, one DGS goal is reviewing 95 percent of technical submissions within 21 calendar days. For 2024, DGS reviewed 84 percent of technical submissions within that timespan (Figure 5-6). All but one submission was reviewed within 35 days.

FIGURE 5-6
DGS reviews most technical submissions within three weeks



SOURCE: JLARC analysis of data extracted from DGS's Building Information Tracking System on submissions for core technical reviews received in 2024. Reflects submissions from 42 agencies/HEIs and 829 projects.

Even when DGS reviews individual technical submissions quickly, projects that require many submissions can spend a substantial amount of total time under DGS review. The need for agencies/HEIs to resubmit materials contributes to the time and number of technical reviews. Agencies/HEIs sometimes expressed frustration with the number of resubmissions required before DGS approval, with some projects experiencing four to six rounds of submissions at a particular stage (sidebar). According to DGS staff, the bulk of resubmissions would not be needed if agencies and HEIs consistently had staff who were sufficiently attentive to the requirements and had adequate expertise to properly prepare the first submission. For example, DGS reported that it receives technical submissions with clear violations of the building code or missing mandatory forms. These avoidable mistakes can add days or months to technical reviews and reflect poor management of capital outlay projects by agency/HEI staff. Improving agency/HEI management of capital outlay projects would help reduce technical review document submission mistakes and the time required.

> *"We are seeing projects take up to six submissions prior to approval to go to permit drawings."*
>
> **– Higher education institution staff**

Staffing challenges at DGS are one reason some capital outlay project technical reviews have been delayed. DGS's division that conducts the technical reviews has been understaffed and has experienced staff turnover in recent years, according to DGS leadership. DGS is in the process of hiring at least two new reviewers this year to help

improve review times. DGS has also changed which submissions are the highest priority for staff; rather than reviewing submissions in order of when they first come in, DGS will prioritize those that can be reviewed most quickly.

DGS and DPB administrative reviews are necessary to ensure projects meet state intent and are adequately funded, but they can prolong projects

In addition to technical reviews, projects must undergo administrative reviews at multiple milestones. Through these reviews, DGS and DPB check that projects' budgets are reasonable, funds will be used as the legislature intended, and/or state funding is available for agency/HEI use. The two main types of administrative reviews are "CO-2s" (the form requesting a funding disbursement) and "budget/scope reviews" (Table 5-1).

TABLE 5-1
DGS and DPB conduct many administrative oversight reviews for each capital outlay project at critical milestones

	CO-2	Budget/scope review
Purpose	Confirm budget & scope fulfills legislative intent Ensure state funds are available for transfer	Confirm budget & scope fulfills legislative intent Adjust budget based on most recent information available [b]
Approval required before…	Signing contract (e.g., with architect/engineer) Applying for each funding disbursement	Starting preliminary design Starting working drawings
Number per project [a]	1 to several dozen	0 or 2 [c]
Approval required by:	DGS then DPB	DGS then sometimes 6PAC

SOURCE: JLARC analysis of DGS policies such as the Construction and Professional Services Manual, capital outlay project files, and interviews with DGS and DPB staff.

[a] The number of reviews varies by project, with more reviews potentially needed when: the budget is modified through an appeal to DGS or 6PAC for more project funding, the project has multiple authorizations to move forward, or the project has multiple funding disbursements.

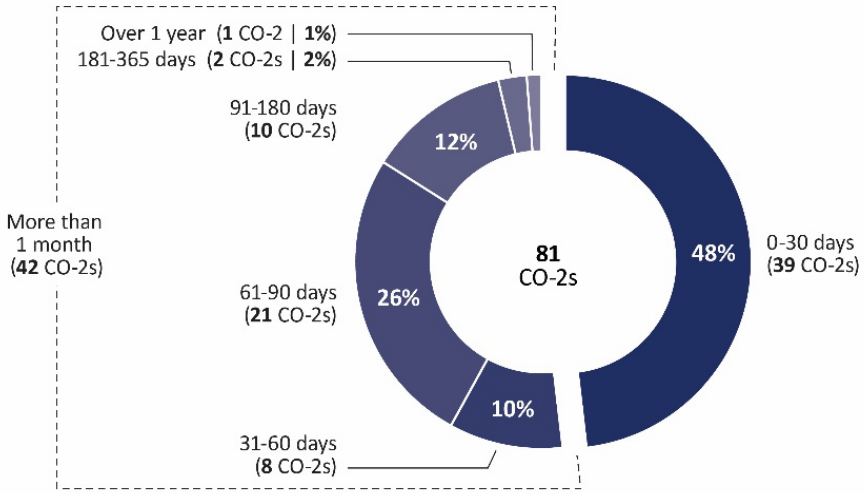
[b] Only applicable to "pool" projects

[c] Two budget/scope reviews are a routine requirement for "pool" projects.

DGS's and DPB's administrative reviews often take more than a month and sometimes take several months. Multiple agencies/HEIs expressed frustration with lengthy wait times to receive a decision from DGS or DPB after submitting their materials (sidebar). A sample of six projects analyzed by JLARC showed the length of these reviews varied. From JLARC's review of 81 *CO-2s*, the majority (42 CO-2s) took over 30 days for a decision (Figure 5-7). For the *budget/scope reviews* of two of those projects with available data, one took nine days and another 37 days.

> *"We are experiencing lengthy delays for approval of CO-2s and in obtaining [budget/scope review] reports… on many occasions in the past 18 months."*
>
> **– Higher education institution staff**

FIGURE 5-7
For six selected capital outlay projects, the majority of CO-2 reviews exceeded one month



SOURCE: JLARC analysis of data extracted from DGS's Building Information Tracking System on CO-2s for six selected projects. Excludes CO-2s whose reviews were voided or are not yet completed.

According to DGS and DPB staff, mistakes in the paperwork from agencies/HEIs are one factor that prolongs administrative reviews. DGS described frequently receiving submissions with avoidable errors, which adds time because the agency/HEI must provide follow-up information. DPB staff also noted this issue for some of their administrative reviews. Moreover, DGS and DPB may understandably deprioritize administrative reviews relative to their state budget development responsibilities in some months because of especially high staff workloads.

> *"[DGS] has established a target turnaround time of 21 days for reviewing technical drawings. This helps with initial project scheduling. Past CO-2 ... forms have taken anywhere from a few days to 6 months turnaround for approval by DPB and the reason for the timing is not always clear."*
>
> **– Higher education institution staff**

To measure how frequently especially lengthy administrative reviews are occurring, DGS should establish goals for turnaround time and annually calculate the percentage of submissions meeting these goals. Unlike technical reviews, there are no timeliness goals for administrative reviews, and the timeliness of these reviews is not currently tracked. DGS's goal of 21 calendar days for technical reviews could also be used as a timeliness goal for administrative reviews. Timeliness goals could help ensure administrative reviews are more predictable for agencies/HEIs (sidebar). If this data reveals that many submissions had a long waiting period before approval, DGS could request additional staff or modify its processes to improve turnaround times. For CO-2s, it is important to isolate the time spent at DGS versus DPB. Similarly, DGS's timeliness goal for budget/scope reviews should exclude the time waiting for 6PAC reviews.

RECOMMENDATION 16

The Department of General Services should develop a goal for reviewing CO-2s within 21 calendar days and annually report the percentage of submissions meeting its goal to the Six-Year Capital Outlay Plan Advisory Committee.

RECOMMENDATION 17
The Department of General Services should develop a timeliness goal for completing budget/scope reviews within 21 calendar days and annually report the percentage of submissions meeting that goal to the Six-Year Capital Outlay Plan Advisory Committee.

DPB should also begin tracking the timeliness of its CO-2 reviews. DPB should establish a goal for the number of days that a DGS-approved CO-2 is waiting for DPB approval and regularly identify the proportion of CO-2 reviews exceeding this goal. These efforts would help DPB assess whether its processes and staff capacity are adequate for turning around CO-2s in a timely manner.

RECOMMENDATION 18
The Department of Planning and Budget should develop a reasonable goal for reviewing CO-2s and annually report the percentage of submissions meeting its goal to the Six-Year Capital Outlay Plan Advisory Committee.

Elected officials, staff need more information on capital projects & buildings for funding decisions

While the governor and General Assembly need centralized data on the status of capital outlay projects (Recommendation 14), they also need additional information to effectively make funding decisions with limited resources. In the 2025 General Assembly session, the final budget authorized 33 capital outlay projects out of 100 capital outlay projects that were requested by agencies/HEIs through capital budget requests. Similarly, the 2024 session budget authorized less than half of capital outlay projects requested by agencies/HEIs. As described throughout this report, there is insufficient information on building condition, agencies'/HEIs' capital needs and plans, and the status of ongoing capital outlay projects to inform decisions about capital investments. Input obtained through several interviews conducted by JLARC staff indicates that elected officials and the staff who advise them desire more information than is currently available to support their recommendations and decisions.

Some legislators serving on capital outlay subcommittees who responded to a JLARC survey (sidebar) indicated they do not have access to all the information they believe would help them decide which proposed capital outlay projects to authorize (sidebar). Several types of *project-specific* information could help legislators assess specific proposed capital outlay projects and determine whether they should be authorized, including

- the number of building systems presumed to be past their useful life ("expired") for buildings relevant to the proposed project;
- facility condition index for buildings relevant to the proposed project (if available, sidebar next page); and

JLARC staff surveyed selected legislators for their perspectives on several topics, including the sufficiency of information on proposed new capital outlay projects, previously authorized capital outlay projects, and maintenance needs. JLARC surveyed the 14 members of the capital outlay subcommittees of the Senate Finance and Appropriations Committee and the House Appropriations Committee as well as the chairs of those committees.

The survey received seven responses, a 44 percent response rate.

> *"It's hard, I think, for the House and Senate to look at capital budget requests when it is not comparative data based on actual need."*
>
> **– Legislator**

- whether the proposed project is part of the agency's/HEI's long-term capital improvement plan (if available).

This information could be made available to legislators through the capital budget request process. Some additional work by DPB, DGS, and agencies/HEIs would be required to provide this information. Certain data, such as the number of building systems presumed to be past their useful life, is already compiled centrally by DGS. Other data, such as FCI and whether a project is part of an agency's/HEI's long-term capital improvement plan, would need to be provided by agencies/HEIs and may not be available if the relevant building has not had a facility condition assessment, or the agency/HEI does not have a capital improvement plan.

Facility condition index (FCI) compares the estimated cost of repairs in a building to the total cost of replacing the building. The formula for calculating FCI is: Cost of Deficiencies/Repairs (Backlog) / Current Replacement Value. FCI data is not currently available for all state-owned buildings. (See Recommendation 1 in Chapter 2).

RECOMMENDATION 19

The Department of Planning and Budget, coordinating as necessary with the Department of General Services and State Council of Higher Education for Virginia, should coordinate with state agencies and public higher education institutions to ensure that capital budget requests related to the renovation or replacement of a building indicate (1) the condition of the building intended for renovation or replacement and (2) whether a project is part of the agency or institution's capital improvement plan.

Summary-level information about agencies'/HEIs' capital needs and current and past capital outlay projects would also help the governor and General Assembly decide which capital outlay projects to authorize. Funding decisions are not made about each project in isolation; the governor and General Assembly consider each agency's/HEI's list of requested projects and overall needs. Therefore, summary-level data about building condition (e.g., FCI) and utilization, by agency/HEI, would help the governor and General Assembly prioritize funding for agencies/HEIs whose buildings are in worse condition (sidebar) or more crowded. Access to information on the status of open capital outlay projects and whether agencies/HEIs have a history of completing projects on time could also further inform capital outlay decisions and help direct funding to projects likely to be completed sooner.

> *"Clear benchmarks are needed for existing asset deferred capital maintenance across all organizations to clearly articulate highest needs."*
>
> **– Legislator**

Relevant summary-level information about agencies'/HEIs' capital needs should be compiled annually for the governor and General Assembly. The first compilation of information should be available for the 2027 legislative session. Coordination across DGS, DPB, and SCHEV will be necessary because the data comes from several different sources. (See Appendix E for an example of summary information that could be updated annually for the governor and General Assembly.)

RECOMMENDATION 20

The General Assembly may wish to consider including language in the Appropriation Act directing the Department of General Services, Department of Planning and Budget, and State Council of Higher Education for Virginia to annually (1) compile information on average building condition, average building utilization, status of all open capital outlay projects, and timeliness of previously completed capital outlay projects for each state agency and higher education institution, and (2) report this information by September each year to the chair of the Senate Finance and Appropriations Committee, chair of the House Appropriations Committee, and the Six-Year Capital Outlay Plan Advisory Committee.

Appendix A: Study resolution

State Capital Assets
Authorized by the Commission on November 7, 2024

WHEREAS, the Appropriation Act includes funding each biennium from a combination of general funds, non-general funds, and bond proceeds to maintain the state's existing capital assets and to plan and construct new assets ($2.7 billion was provided for the FY24-26 biennium); and

WHEREAS, the Department of General Services (DGS) tracks the condition of the state's facilities using the M-R FIX system, and DGS received $500,000 in FY25 to assess ways to improve the M-R FIX system; and

WHEREAS, the State Council for Education in Virginia maintains data on the utilization of higher education facilities; and

WHEREAS, funding for new capital projects is generally provided through a pool process in the Appropriation Act, and general funds for the maintenance of existing facilities are allocated using the M-R FIX system; and

WHEREAS, the Six-Year Capital Outlay Plan Advisory Committee produces a six-year capital outlay plan for state agencies and higher education institutions and monitors the funding for projects in the capital pools; and

WHEREAS, the General Assembly should have a broad understanding of the state's capital needs, both for maintenance and new capital assets, when deciding how to prioritize and provide capital funding; and

WHEREAS, state agencies and higher education institutions reportedly vary in their success at completing capital projects in a timely fashion; now, therefore, be it

RESOLVED by the Joint Legislative Audit and Review Commission that staff be directed to review the state's approach to planning, maintaining, and funding capital assets at its state agencies and higher education institutions. In conducting its study staff shall (i) determine the availability and usability of information on the condition and utilization of the state's capital assets; (ii) evaluate the process for identifying, prioritizing, planning for, and funding the maintenance of the state's existing capital assets, and identify whether the process could be improved; (iii) evaluate the process for identifying, prioritizing, planning for, and funding new capital assets, and identify whether the process could be improved; (iv) review the roles of the Six-Year Capital Outlay Plan Advisory Committee, the Department of General Services, the State Council for Higher Education in Virginia, and other key stakeholders in the state's capital outlay process; and (v) assess the reasons for why some capital projects are not completed in a timely manner, and determine how the timely and successful completion of capital projects can be improved.

JLARC may make recommendations as necessary and may review other issues as warranted.
All agencies of the Commonwealth, including the Department of General Services, State Council for

Higher Education in Virginia, the Department of Planning and Budget, and Department of Treasury shall provide assistance, information, and data to JLARC for this study, upon request. JLARC staff shall have access to all information in the possession of agencies pursuant to § 30-59 and § 30-69 of the Code of Virginia. No provision of the Code of Virginia shall be interpreted as limiting or restricting the access of JLARC staff to information pursuant to its statutory authority.

Appendix B: Research activities and methods

Key research activities performed by JLARC staff for this study included:

- structured interviews with state agencies, public higher education institutions, national subject-matter experts, and capital-related entities in Virginia localities, other states, and the federal government;
- information collection from state agencies and public higher education institutions (HEIs);
- data analysis of capital-related appropriations and expenditures, building condition and utilization information, maintenance reserve project needs and funding, and capital outlay project timeliness;
- case file review for selected capital outlay projects;
- focus group of architects and engineers that have worked on capital projects in Virginia;
- a survey of Virginia legislators on capital-related subcommittees; and
- document and policy reviews, including state laws, regulations, policies, capital improvement plans, and national research relevant to capital project need, planning, funding, and timeliness.

Structured interviews

Structured interviews were a key research method for this report. JLARC staff conducted about 70 structured interviews. Key interviews included staff from:

- central state agencies, such as the Department of General Services (DGS), Department of Planning and Budget (DPB), House Appropriations Committee (HAC), Senate Finance and Appropriations Committee (SFAC), State Council of Higher Education for Virginia (SCHEV), Department of Treasury (Treasury), and Virginia Information Technologies Agency (VITA); and
- state agencies and public higher education institutions; and
- capital-related subject matter experts from Virginia localities, the federal government, other states, and national industry organizations.

Central state agencies in Virginia

JLARC staff conducted multiple interviews with DGS staff. Topics varied across interviews but were primarily focused on DGS's (1) capital-related data maintained in the M-R FIX database; (2) "shares" calculations for agencies'/HEIs' state maintenance reserve allocations; (3) technical and administrative reviews conducted for capital outlay projects; and (4) project management services for certain capital outlay projects.

JLARC staff also conducted several interviews with staff from DPB. These interviews focused on DPB's (1) data on maintenance reserve project spending and capital outlay projects; (2) capital budget

request review process; (3) statewide six-year capital outlay plan; and (4) 6PAC meetings and responsibilities.

JLARC staff interviewed staff from Virginia's money committees (House Appropriations Committee and Senate Finance and Appropriations Committee) to learn more about the way maintenance reserve funding is allocated to agencies/HEIs and how General Assembly members select capital outlay projects. Money committee staff also discussed the information that is currently available to members related to building condition and agencies'/HEIs' future capital-related needs.

JLARC staff interviewed staff from SCHEV to learn more about their role in reviewing capital outlay projects requested by HEIs, as well as their guidelines and data on HEIs' lab and classroom utilization.

JLARC staff interviewed staff from Treasury to better understand the replacement value of state-owned buildings, the different types of bonds Virginia uses to fund capital-related projects, and the effect that capital projects have on Virginia's bond rating.

JLARC staff interviewed staff from VITA to learn more about their role in helping agencies/HEIs manage IT projects, including the project management standards, training, and exams that VITA has for agencies/HEIs that are managing complex IT projects.

State agencies and public higher education institutions in Virginia

JLARC staff conducted interviews with 10 state agencies and public higher education institutions that have half of the state-owned building square footage (University of Virginia, Department of Corrections, Virginia Tech, Virginia Community College System, George Mason University, Department of General Services, Department of Behavioral Health and Developmental Services, Department of Conservation and Recreation, Virginia State University, and Longwood University). Interviews focused primarily on (1) their understanding of the state's maintenance reserve and capital outlay policies and processes; (2) capital-related data they collect and track; (3) their approaches to capital project planning; (4) the adequacy of maintenance reserve funding; (5) factors contributing to the timeliness of their capital outlay projects; and (6) suggested improvements to address capital-related challenges they have experienced.

Capital-related subject matter experts from Virginia localities, federal government, other states, and industry organizations

JLARC staff conducted interviews with staff from capital-related offices in Fairfax County and the City of Alexandria. The purpose of the interviews was to understand the types of capital-related data they collect and track; their approaches to capital project planning; their approaches to tracking and funding maintenance-related capital needs; and the strategies they use to help complete capital outlay projects in a timely manner.

JLARC staff interviewed staff from the Government Accountability Office (GAO) to collect information on best practices related to capital data collection and tracking, capital planning, capital maintenance project tracking and funding, and capital outlay project selection and timeliness.

JLARC staff interviewed representatives from capital-related agencies in four other states (North Carolina, Ohio, Tennessee, and Maryland). These states were selected because they are geographically

close to Virginia. The purpose of these interviews was to learn more about the way other states approach capital data collection and tracking, capital planning, capital maintenance project tracking and funding, and capital outlay project selection and timeliness.

JLARC staff also interviewed several experts from national industry organizations. The National Association of State Budget Officers (NASBO) was interviewed to learn about their 2014 report *Capital Budgeting in the States* and other best practices. The National Association of State Chief Administrators (NASCA), the Institute for Public Procurement (NIGP), and the Project Management Institute (PMI) were interviewed to obtain their perspectives on state government's capital outlay processes, particularly regarding project management policies and practices. Additionally, JLARC staff interviewed a researcher leading a study on capital funding for higher education institutions.

Information collection

JLARC distributed two information requests to agencies/HEIs to collect information that is not available centrally as well as feedback on the state's capital policies and processes.

High-level information request

A high-level request was sent to 53 agencies/HEIs that are responsible for maintaining state-owned buildings. The request had multiple sections that asked agencies/HEIs about capital asset data collection, planning for future capital needs, capital maintenance needs, maintenance reserve funding, and capital outlay project challenges and timeliness. In total, 49 out of 53 agencies/HEIs responded, resulting in a 92 percent response rate. Most agencies/HEIs responded to all sections of the request, though a few agencies/HEIs did not respond to certain sections because they were either not applicable (e.g., not all agencies/HEIs that received the request receive state maintenance reserve funding), or the agency/HEI was unable to provide the requested information.

Detailed information request

A detailed request was sent to 12 agencies/HEIs that have the majority (63 percent) of the state-owned building square footage in Virginia.

- Department of Behavioral Health and Developmental Services
- Department of Conservation and Recreation
- Department of Corrections
- Department of General Services
- George Mason University
- James Madison University
- Longwood University
- Norfolk State University
- University of Virginia
- Virginia Community College System
- Virginia State University
- Virginia Tech

The information that each agency/HEI was asked to provide varied depending on the types of data they indicated they collect in JLARC's initial high-level information request. The agencies/HEIs that were asked to provide the most information were asked to share: facility condition index data for their state-owned buildings; examples of five buildings in greatest needs of maintenance/repairs; a list of needed maintenance reserve projects and their estimated cost; reasons for unspent state maintenance reserve funding; a list of capital outlay projects that were not requested through the budget process; and building utilization data. Responses were received from 12 agencies/HEIs, resulting in a 100 percent response rate.

Data analysis

JLARC staff collected and analyzed several types of data for this study.

Analysis of capital-related appropriations and expenditures (Chapter 1)

JLARC staff analyzed the state's appropriations and expenditures on capital projects over the last decade (FY17–FY26). JLARC staff completed this analysis using DPB data on capital outlay projects authorized between 2016 and 2025, state budget information on maintenance reserve appropriations over the last decade, and DPB data on maintenance reserve expenditures over the last decade. JLARC staff totaled the amount the state appropriated and spent on maintenance reserve and capital outlay by year and over the last decade. JLARC staff used Consumer Price Index (CPI) data to adjust for inflation over time.

JLARC staff also analyzed the amount of *state-supported* capital appropriations for maintenance reserve and capital outlay in the recent biennium. Staff used the final state budget and the House Appropriations Committee budget summary documents for FY24–FY26 to identify the amount of capital appropriations that came from general fund cash and general fund-supported bonds. JLARC staff used information from House Appropriations Committee staff to identify the "types" of capital outlay projects that received state appropriations (e.g., improvements/deferred maintenance, new construction/acquisition, etc.).

Analysis of data on building characteristics and condition (Chapters 1, 2, and 4; Appendix E)

JLARC staff analyzed data from DGS's M-R FIX database to provide (1) descriptive statistics on state-owned buildings and (2) information on the age and condition of state-owned buildings. Staff also analyzed data received from several HEIs to provide data on actual building condition (i.e., facility condition index [FCI]) for these HEIs.

M-R FIX includes data that DGS uses to calculate the "shares" for allocating maintenance reserve funds. It includes descriptive data such as square footage, construction date, type/use of building, and location. It also includes data on each building's 12 primary building systems, including the date each system was last replaced or overhauled (i.e., "restored to new" condition).

JLARC staff received M-R FIX data from DGS that was updated by agencies as of July 1, 2024. This dataset contained 13,186 properties (after excluding leased buildings and properties that were land instead of buildings). Of the 13,186 properties, 5,558 properties did not have complete data, including some of the descriptive data and systems data that is used to calculate "shares." Therefore, these

properties were excluded from JLARC's analysis, and staff focused their analysis on the 7,628 properties in M-R FIX that had complete data on building systems. JLARC staff called these properties "state-owned buildings."

Staff analyzed M-R FIX data to provide descriptive information on the state's buildings and to illustrate their magnitude. This included analyzing data such as square footage and number of buildings by agency/HEI, location, and building type. Staff also calculated and analyzed data related to building condition, including the age of buildings and building systems, the number of systems in each building that were past their expected lifespans, and the number of years each system was past its expected lifespan. This data was summarized by system type and by agency/HEI to better understand which systems and agencies/HEIs have the worst conditions.

M-R FIX does not currently include data on facility condition index (FCI); therefore, JLARC staff collected FCI data from seven HEIs to further assess building condition (George Mason University, James Madison University, Norfolk State University, University of Virginia, Virginia Community College System, Virginia State University, and Virginia Tech). JLARC staff calculated an average FCI for the HEIs that provided data and summarized the number of buildings statewide by the various FCI ratings (i.e., excellent condition, good condition, etc.). Some of the HEIs that provided FCI data did not provide FCI data for all of their buildings; therefore, some FCI averages do not reflect the average building condition for all buildings on an HEI's campus.

JLARC staff also analyzed data on building replacement value from the Department of the Treasury and data on building market value from M-R FIX. The building values in M-R FIX were reported by agencies/HEIs to DGS and are different from the Treasury data in many cases, so JLARC staff presented a range for the total value of state-owned buildings in Chapter 1.

Analysis to determine effects of changes to M-R FIX (Chapter 4)

Staff replicated DGS's formula that is used to calculate building and agency maintenance reserve funding "shares" using the original M-R FIX prototype provided by DGS and actual M-R FIX data (as of July 1, 2024). This analysis was used to determine how changes to M-R FIX would affect agency/HEI "shares" if at all. For example, JLARC staff excluded buildings that were identified as "surplus" and "underutilized" in M-R FIX from the calculation to determine the extent to which agency/HEI shares would be affected. JLARC staff used information on changed "shares" to estimate how changes to M-R FIX could affect the amount of maintenance reserve funding received by agencies/HEIs. It is not possible to determine exact funding impacts because "shares" are used to allocate each agency's *proportion* of funding, and one "share" does not equal one dollar of funding. However, JLARC developed estimates for illustrative purposes by assuming that if an agency's/HEI's shares were reduced by 2 percent, for example, their maintenance reserve funding in FY25 and FY26 would also have been reduced by 2 percent.

Analysis of capital outlay project length (Chapter 5)

To analyze the timeliness of capital outlay projects, JLARC obtained data from DPB on capital outlay projects as of April 2025. DPB data included capital outlay projects that were (1) newly authorized in the 2025 budget, (2) *open* as of April 2025, (3) *completed* as of April 2025 (if closed FY21 or later), or (4) completed before FY21 (if authorized in the 2016 budget or later). JLARC also used DPB's 2025

"year-end" collection of capital outlay project information from agencies/HEIs to analyze the timeliness of capital outlay projects. All analyses were limited to capital outlay projects for specific agencies/HEIs and exclude project codes used solely for accounting purposes. They also exclude capital outlay projects classified as "maintenance reserve" by DPB. Analyses of timeliness did not exclude capital outlay projects based on their funding source (e.g., projects solely funded with non-general funds are still included). "Open" capital outlay projects have been authorized through the budget and are active in the state's accounting system. After projects finish construction, they must finish several administrative activities (e.g., undergoing a warranty period, agency/HEI paying final bills to contractors, DPB moving remaining funds to another account) before they are fully completed. While capital outlay projects are generally a one-time activity, some projects receive regular infusions of funding from the state. These projects are included in analyses of open projects because there is no way to easily identify them in statewide data.

All calculations of capital outlay project length used the year in which a project was authorized through the state budget as the beginning of the project. These calculations excluded projects lacking data on their first authorized year.

- To calculate the length of *completed* projects, JLARC used expenditure data. Because no variable in DPB's data identified when projects finished construction, the analysis of completed projects was limited to projects completed between FY21 and FY25. Those projects were estimated to end in the last year they had expenditures. (Projects with zero expenditures were excluded from this analysis.) Using these parameters, JLARC staff calculated the length of completed projects for 223 projects.
- To calculate the length of *open* projects, JLARC combined capital outlay data obtained from DPB with DPB's 2025 "year-end" collection of information from agencies/HEIs. Usable data from both data sources was not always available. For example, many projects were absent from DPB's year-end collection because they were closed, and many projects included in DPB's year-end collection reported project phase information that could not be categorized (e.g., "various"). For reporting statistics about projects *under construction*, JLARC staff combined the statuses of "construction" and "equipment installation." The length of *open* projects was defined as the number of years between first authorization and 2025. The length of open projects under construction was calculated for 143 projects.

To calculate the difference between capital outlay projects' *originally expected* and *currently expected* completion dates, JLARC used DPB's 2025 year-end collection of capital outlay project information from agencies/HEIs. Comparing *originally expected* and *currently expected* completion dates was only possible for 189 of the 480 capital outlay projects in the data because many agencies/HEIs either did not report dates, or they reported responses other than a date (e.g., "TBD", "various").

Analysis of reviews conducted for capital outlay projects (Chapter 5)

JLARC staff analyzed the turnaround time for DGS's technical reviews for capital outlay projects using internal DGS data. First, JLARC extracted all agency/HEI document submissions received in 2024 from DGS's BITS system—DGS's internal system for tracking capital outlay projects. Next, JLARC staff limited the data to submissions for the five core types of technical reviews: schematic

design, preliminary design, working drawings, building official forms (e.g., construction permits), and waiver requests. This excludes other types of technical reviews, such as uncommon scenarios (e.g., demolition permit) and technical reviews not consistently recorded in BITS. JLARC staff also excluded DGS turnaround times for documents classified as correspondence that were not full reviews, such as follow-up information provided via email. This resulted in 1,692 document submissions for analysis.

For a sample of five capital outlay projects, JLARC staff used BITS data to analyze the amount of time that the projects spent undergoing technical reviews. Across the five projects, technical reviews were conducted for 139 document submissions (limited to the five core types of technical reviews). JLARC calculated the proportion of time the projects were waiting for DGS technical reviews. The *numerator*—the total time waiting for DGS technical reviews—was defined as the number of days during which any technical submission had been received by DGS, and DGS had not completed its review. This definition was necessary because projects sometimes have multiple submissions under review at the same time. The *denominator*—the total time period during which technical reviews occurred—was defined as the number of days between when DGS received materials for the project's first technical review and concluded the project's last technical review.

BITS data was used to calculate turnaround time for CO-2 reviews for a sample of six capital outlay projects. For this analysis, "voided" or "in-progress" forms were omitted, leaving 81 CO-2s. Because the original data only included the decision dates for approved CO-2s, JLARC manually added the decision date for denied CO-2s.

Review of capital outlay project case files

JLARC staff selected six capital outlay projects for case studies. Projects were selected for review based on consideration of many factors. For example, JLARC staff focused on projects most likely to be experiencing delays, using objective measures such as the time since authorization and status most recently reported to DGS and DPB. JLARC staff also considered suggestions from money committee and DGS staff. Projects were excluded from selection for reasons such as receiving a low proportion of funding from the state or using an atypical funding method. Additionally, JLARC sought a variety across case studies in characteristics such as project cost, secretariat, and the number of total projects "open" for the relevant agency/HEI.

JLARC staff collected information from a variety of sources to learn about the capital outlay projects selected as case studies. Staff reviewed legislation, annual reports to DGS and DPB, forms in DGS's BITS system (e.g., CO-2s), DGS files (e.g., budget/scope review results), 6PAC minutes, and other data and documents. JLARC staff interviewed agency/HEI staff and DGS staff to understand the circumstances of the case study projects.

This case file review informed JLARC staff's assessment of the timeliness of capital outlay projects. Because no centralized data exists for many aspects of the state's capital outlay process, JLARC manually collected relevant information for the case studies. For example, JLARC identified the number of legislative authorizations needed by each project and the turnaround time for CO-2 reviews. Additionally, the case studies provided useful examples of challenges to timeliness that were identified through other research methods. Overall, the case studies strengthened JLARC's knowledge about

how the state's capital outlay process works in practice and the wide variety of implementation approaches across agencies/HEIs.

Focus group of architects/engineers

JLARC staff conducted a focus group of architecture and engineering companies with experience working on state capital outlay projects. JLARC invited members of professional associations such as the Virginia branch of the American Institute of Architects and the Associated General Contractors of Virginia to participate. Representatives of four companies participated in the focus group and shared perspectives on factors influencing capital outlay project timeline, including agency/HEI project management and DGS technical reviews. They also shared suggestions for ways to reduce delays.

Survey of selected legislators

JLARC conducted an online survey of selected Virginia legislators. The survey was administered electronically to 16 legislators: the six members of the Senate Finance and Appropriations Committee's Capital Outlay and Transportation Subcommittee, eight members of the House Appropriations Committee's General Government & Capital Outlay Subcommittee, and both chairs of those committees. The survey received seven responses, a 44 percent response rate.

The survey covered several topics, including the information available to legislators regarding proposed new capital outlay projects, previously approved projects needing budget authorization to progress, and maintenance reserve funding. It also provided an opportunity for legislators to share perspectives on other aspects of the state's capital policies.

Document and policy review

JLARC staff reviewed numerous capital-related documents and literature, such as:

- Virginia laws, regulations, and policies related to capital, including DGS, DPB, and 6PAC requirements, and budget language about particular capital outlay projects and general capital outlay policies;
- DGS documents and reports, including the Construction and Professional Service Manual; Agency Procurement and Surplus Property Manual; Combined Real Estate Reports to the Governor and General Assembly (2024); FY24 Buildings, Facilities, and Maintenance Expenditure Report and Unleased Office Space in Department of General Services-Owned Facilities (RD 511); Annual Completed Projects Report (multiple years); Annual Report on Capital Outlay Projects (multiple years); Building Information Tracking System trainings; and explanations of capital outlay processes;
- DPB documents and reports, including: a 2025 presentation about capital budget processes, instructions for Preparing Capital Project Requests (multiple years), Capital Project Review and Year-End Capital Execution Instructions (2024 and 2025), past six-year capital plans (multiple years), and capital budget request submissions (multiple years);
- 6PAC meeting minutes, meeting materials (including Quarterly State of the Pools reports), and sample communications to agencies/HEIs;
- State agencies'/HEIs' capital improvement plans and master plans;

- Other state agency/HEI documents, including facility condition assessments conducted for various state-owned buildings, project-specific internal updates and schedules;
- Other states' capital policy documents and reports, including capital improvement plans, capital budget instructions and guidance, policies related to facility condition assessments and FCI, descriptions of how maintenance is funded and how funding is allocated among agencies, and policy reports on capital asset management, capital financing, capital project planning, and capital project management;
- Federal government reports on capital assets, including those done by Congressional Research Service (e.g., CRS's Deferred Maintenance and Repair at Civilian Agencies: Causes, Risks, and Policy Options [2024]), Government Accountability Office (GAO), and the Office of Management and Budget (OMB) (e.g., OMB's Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets);
- Industry research related to capital project planning, building condition assessments, types of facility-related data organizations should track, average building system lifespans, deferred maintenance; and
- National associations' reports on capital project planning and capital asset management and funding, including the Government Finance Officers Association and the National Association of State Budget Officers.

Capital improvement plans

To understand how different agencies/HEIs plan for their capital needs, JLARC staff asked agencies/HEIs about their capital project planning in a high-level information request. JLARC staff also reviewed capital improvement plans and planning documents from 18 agencies/HEIs. Agencies/HEIs reviewed typically had a large amount of capital assets (e.g., large square footage and/or number of buildings) and/or high maintenance needs (e.g., over 50 percent of buildings' systems expected to be expired). Some agencies/HEIs had multiple capital project planning documents, including internal capital plans, master plans, strategic plans, and weekly reports, that outlined the agencies'/HEIs' capital needs in conjunction with one another. These capital improvement plans commonly had information on project types, project justifications, estimated budgets, and projected timelines.

JLARC staff also reviewed capital improvement plans from several other states, which are discussed below.

Other states' capital policies and processes

JLARC staff reviewed capital-related policies in other states, including centralized capital improvement planning documents, facility condition index (FCI) information, and cost estimating procedures for proposed capital projects. As part of these reviews, JLARC staff analyzed how different states plan for capital projects (at the statewide and/or agency-level), use FCI and facility condition assessment in their capital policies and processes, fund maintenance projects and deferred maintenance, and instruct agencies/HEIs on early cost estimating for proposed projects. Further research from other states included reviewing procedures for approving, managing, and overseeing large capital projects.

States included in these reviews include North Carolina, South Carolina, Georgia, Maryland, Montana, Nevada, Pennsylvania, Tennessee, and Ohio.

Industry research on capital policies and processes

Staff collected insights from industry groups on a variety of capital-related topics, including capital project planning, capital project management, capital project financing, building condition assessments, types of facility-related data organizations should track, average building system lifespans, and deferred maintenance. To gather best practices on these topics, JLARC staff reviewed articles and reports from the Government Finance Officers Association, the National Association of State Budget Officers, International Facility Management Association, Association of Physical Plant Administrators, and other facilities management organizations. Private sector industry's best practices were gathered from Oracle, Disher, and H+M.

Appendix C: Agency responses

As part of an extensive validation process, the state agencies and other entities that are subject to a JLARC assessment are given the opportunity to comment on an exposure draft of the report. JLARC staff sent an exposure draft of the full report to the secretary of administration, secretary of finance, the Department of Planning and Budget, and the Department of General Services (DGS). The State Council of Higher Education for Virginia (SCHEV), House Appropriations Committee staff, and Senate Finance and Appropriations Committee staff were provided relevant portions.

Appropriate corrections resulting from technical and substantive comments are incorporated in this version of the report. This appendix includes response letters from the Office of the Governor, DGS, and SCHEV.

COMMONWEALTH of VIRGINIA

Office of the Governor

September 30, 2025

Hal E. Greer
Director, Joint Legislative Audit and Review Commission
919 E Main St, Suite 2101
Richmond, VA 23219

Dear Director Greer,

Thank you for the thoughtful review and analysis in JLARC's report on Virginia's *Capital Maintenance and Construction*. We agree with many of the observations and conclusions in your report, including:

- Many state buildings and systems are old, and have significant deferred maintenance needs.
- The Commonwealth should continue to allocate funding to maintenance reserve activities to address deferred maintenance, and should ensure agencies are spending those dollars prudently and timely.
- The cost of capital projects and maintenance services has increased significantly over the past decade and especially since the pandemic.
- The Commonwealth needs accurate data on the overall building condition of state-owned facilities, as well as individual building systems to make the most cost-effective and strategic decisions about maintaining, improving and replacing them.
- Using a data-driven approach for decisions regarding state buildings helps ensure the state is optimizing the investment of public funds appropriated to capital.
- Improvements and investments to our maintenance and capital IT systems are fundamentally important to make these decisions, and detailed facility condition index assessments of all state-owned property are valuable inputs into these systems.
- Many state buildings, including higher education institution (HEI) facilities, have lower utilization today versus pre-pandemic, and this should be continuously quantified and monitored to make better capital allocation decisions.
- The capital pool process is lengthy and efforts should be made to ensure projects do not encounter unnecessary delays and are closed out timely.

- The Six-Year Capital Outlay Plan Advisory (6PAC) Committee serves an important role in monitoring capital projects and needs across the Commonwealth.
- Agency and higher education staff capacity and expertise can contribute to capital outlay project delays and issues.

The Youngkin Administration identified many of these trends from day one and we have made significant improvements to better manage the capital and maintenance processes:

Focus on Maintenance Reserve Funding

- We have increased the focus of Commonwealth capital towards maintenance reserve, funding $1.7 billion of maintenance reserve dollars over the previous four fiscal years, a 55% increase over the previous four-year period. This includes $950 million in maintenance funding for education.
- Total state maintenance reserve funding available in FY25 was $513 million (general funds). This total included $249 million in reappropriated funding from the previous year that agencies/HEIs did not spend, and $264 million in new state appropriations.
- We have carefully examined unspent maintenance reserve appropriations, the reasons why those funds are not spent, and actual funding obligated to projects, to more strategically allocate maintenance reserve dollars. This was not previously done at this level of detail to understand true balances and needs.
- The 2024 introduced budget proposed a statewide maintenance investment percentage. The budget language directed the state to target “at least one percent of general fund revenue…to address maintenance and deferred maintenance of the Commonwealth’s existing facilities” (item 4-4.02), but the language was not adopted. This would have totaled $314 million in FY26. We continue to believe this would be an important legislative action given the state of maintenance backlog.

Improved Data on Building Condition, Values and Utilization

- In 2022 we performed a detailed space utilization analysis of capital square and facility needs. It was clear that we had significant underutilized space in a commercial office environment in downtown Richmond with significant excess capacity, downward pressure on lease rates and building valuations. That environment offered a unique opportunity to vacate the Monroe Building and consolidate agencies in other available state buildings and available private office space for lease or purchase, versus constructing a new office building at a price that would be multiples of a public/private solution. That solution would have also provided a boost to the office market by increasing occupancy in the existing real estate as opposed to increasing the gap with new commodity office space.
- DGS has performed a thorough data accuracy audit on MR-FIX and is examining needs to improve the system and information to better track building facility conditions.
- The Treasury Department has significantly overhauled the accuracy of our statement of values across our $50 billion of owned property, with improved data collection and

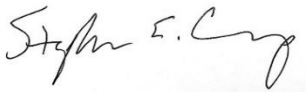
analysis of building and replacement value, leading to a significant reduction in Commonwealth property insurance premiums. They have also conducted flood and catastrophe modeling which serve as valuable insights into the capital and maintenance allocation process and also helps agencies like VDEM decide where to expend risk monitoring dollars and tools like flood monitors to protect Commonwealth property. All of this information is monitored in a newly established risk management system at Treasury, and helps ensure we have accurate building information as well as replacement data, and proper insurance coverage.

Strategic Planning and Oversight - Six Year Capital Outlay Plan Advisory Committee, Op Six and Six Year Plan, Quarterly Management Reviews

- 6PAC, whose members include the Secretaries of Finance and Education, has served as an important central review body of capital project funding including cost overrun needs, and ensuring that agencies that have not followed the required process are properly remedied. We have continued to encourage HEIs to seek private sector philanthropic matches for capital projects where possible given the increase in construction costs over the past several years. Lastly, we have requested DPB close out capital projects that have received their certificate of occupancy but have, for various reasons, not been closed. This has led to millions of dollars returned to the capital pool for other projects.
- Op Six has created data packs on every HEI including details on enrollment, funding, expenditures, and has used SCHEV data on space utilization to inform the Six Year Plan process to incorporate all of this data into better capital allocation decisions. SCHEV is in the process of collecting more detailed enrollment data to better understand headcount on campus and funding needs given the rapidly changing nature of higher education and technology. Capital dollars should be more closely tied to future enrollment and utilization trends for HEIs.
- We have created Quarterly Management Reviews (QMRs) across all executive agencies that examine detailed budgeting and expenditures, procurement, personnel trends and vacancies, IT projects, open audit findings, key risks, major initiatives/challenges and Objectives and Key Results. Capital and maintenance projects, issues, and needs are often discussed and analyzed. This has been a valuable management tool to monitor this and other key topics. This process has created greater transparency and understanding around the realities of building utilization, maintenance and other key issues pertaining to Commonwealth properties.

We are grateful for JLARC's thorough analysis in highlighting these important trends and opportunities for continued investment and improvement. Given the age of state-owned buildings, significant deferred maintenance needs, the higher cost of capital projects, significantly lower facility utilization rates especially post-pandemic, and enrollment challenges for HEIs, data collection and IT systems are crucial to ensuring the Commonwealth is prudently monitoring and allocating capital and maintenance dollars. This should remain a focus and priority for decision makers.

With appreciation,



Stephen E. Cummings
Secretary of Finance

Lyn McDermid
Secretary of Administration

Aimee R. Guidera
Secretary of Education

COMMONWEALTH *of* VIRGINIA
DEPARTMENT OF GENERAL SERVICES

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September 29, 2025

Hal E. Greer, Director
Joint Legislative Audit and Review Commission
919 East Main Street, Suite 2101
Richmond, VA 23219

Re: Draft JLARC Report – Capital Maintenance and Construction

Dear Mr. Greer:

Thank you for the opportunity to review and comment on the exposure draft of the JLARC report, "Capital Maintenance and Construction." The Department of General Services values the effort of JLARC staff to better understand the capital outlay and maintenance reserve process and finding ways to protect the Commonwealth's assets. We will continue to work diligently to support state agencies in this effort.

Sincerely,

Banci E. Tewolde,
Director

COMMONWEALTH of VIRGINIA

A. Scott Fleming
Executive Director

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Harold E. Greer, Director
Joint Legislative Audit and Review Commission
919 East Main Street Suite 2101
Richmond, VA 23219

Dear Mr. Greer,

On behalf of SCHEV, thank you for the opportunity to review the draft JLARC report on Capital Maintenance and Construction**.** We appreciate the thoughtful attention and dedication of your staff in examining this important and complex topic.

We concur with the draft report's observation—based on the sections available to us—that collecting and maintaining more detailed space utilization data would require significant time and resources. Given SCHEV's current data collection practices, the added effort may yield limited utility for our agency's specific functions.

The suggested policy option to collect office space utilization data including employee locations, headcounts, and daily building occupancy could place a considerable burden on institutional resources, with minimal return on investment or impact on decision-making. Institutions of higher education have distinct space utilization patterns in administrative contexts, and if a pilot program is pursued, consultation with SCHEV would be essential. It would also be beneficial to examine similar initiatives in other states to identify best practices and enhance efficiency.

We recognize the report's emphasis on equipping legislators with more comprehensive data to support capital funding and maintenance decisions. SCHEV remains committed to assisting the General Assembly by providing relevant data we collect to inform their deliberations.

Finally, we support the report's recommendation for a more coordinated approach across agencies. This guidance presents a promising path forward for improving data collection and reporting to decision-makers. SCHEV is dedicated to the responsible stewardship of capital assets throughout the Commonwealth and looks forward to contributing to these efforts.

Sincerely,

A. Scott Fleming

Appendix D: Public higher education institution building utilization data

This appendix provides information on classroom and lab building utilization rates at the state's public higher education institutions (HEIs). As discussed in Chapter 2, the state's public four-year institutions and community colleges are required to report building utilization data to SCHEV every two years. SCHEV uses this data to calculate average occupancy rates for each HEI's classrooms and class labs, which is the percentage of the classroom or class lab that is occupied when the classroom or lab is in use. SCHEV has also developed occupancy guidelines that reflect SCHEV's expectations for what the classroom and class lab occupancy should be. If an HEI is below the guidelines, it means their classroom and lab space is underutilized, on average. Being over the guidelines over multiple years could indicate that the HEI needs additional classroom or lab space. The guidelines were last updated in 2001.

TABLE D-1
Utilization of classrooms at public 4-year institutions varies widely, and many are below SCHEV's guidelines (FY24)

Four-year institution	Average classroom occupancy rate (FY24)
SCHEV guideline	***60%***
University of Virginia	74%
Virginia Military Institute	72%
College of William and Mary	69%
James Madison University	69%
Christopher Newport University	64%
Richard Bland College	61%
Old Dominion University	59%
University of Mary Washington	59%
Virginia State University	59%
George Mason University (Fairfax campus)	56%
University of Virginia Wise	56%
Virginia Tech	52%
Virginia Commonwealth University (main campus)	51%
Radford University	48%
Virginia Commonwealth University (health sciences campus)	46%
Norfolk State University	44%
George Mason University (Arlington campus)	39%
George Mason University (Prince William campus)	39%
Longwood University	37%

SOURCE: JLARC staff analysis of SCHEV utilization data, 2024.
NOTE: Includes Richard Bland College, a 2-year institution. George Mason and Virginia Commonwealth University reported data for multiple campuses, rather than a single institution rate. Average occupancy rate represents the percentage of the classroom that is occupied when the classroom is in use.

TABLE D-2
Utilization of class labs at public 4-year institutions varies widely, and many are below SCHEV's guidelines (FY24)

Four-year institution	Average class lab occupancy rate (FY24)
SCHEV guideline	***75%***
Virginia Commonwealth University (health sciences campus)	88%
College of William and Mary	79%
James Madison University	75%
Old Dominion University	75%
University of Virginia	74%
University of Mary Washington	73%
Virginia Military Institute	70%
Norfolk State University	67%
Richard Bland College	66%
University of Virginia Wise	66%
Christopher Newport University	60%
George Mason University (Fairfax campus)	58%
Virginia Commonwealth University (main campus)	58%
Radford University	53%
George Mason University (Arlington campus)	50%
George Mason University (Prince William campus)	48%
Virginia Tech	47%
Virginia State University	46%
Longwood University	38%

SOURCE: JLARC staff analysis of SCHEV utilization data, 2024.
NOTE: Includes Richard Bland College, a 2-year institution. George Mason and Virginia Commonwealth University reported data for multiple campuses, rather than a single institution rate. Average occupancy rate represents the percentage of the class lab that is occupied when the class lab is in use.

TABLE D-3
Utilization of classrooms on community college campuses varies widely, and many campuses are below SCHEV's guidelines (FY24)

Community college campus	Average classroom occupancy rate (FY24)
SCHEV guideline	***60%***
Reynolds (Parham)	78%
Northern Virginia (Loudoun)	77%
Northern Virginia (Manassas)	74%
Northern Virginia (Annandale)	68%
Germanna (Fredericksburg)	63%
Northern Virginia (Medical Education)	55%
Reynolds (Downtown)	54%
Tidewater (Portsmouth)	53%
Virginia Peninsula (Historic Triangle)	53%
Laurel Ridge (Middletown)	51%
Tidewater (Chesapeake)	50%
Tidewater (Virginia Beach)	50%
Tidewater (Norfolk)	44%
Blue Ridge	43%
Laurel Ridge (Fauquier)	42%
Virginia Peninsula (Hampton)	41%
Central Virginia	40%
Eastern Shore	40%
Northern Virginia (Alexandria)	40%
Paul D. Camp (Franklin)	40%
Northern Virginia (Woodbridge)	39%
Piedmont Virginia	39%
Reynolds (Western)	39%
Virginia Western	37%
Patrick & Henry	36%
Virginia Highlands	35%
Brightpoint	34%
New River	34%
Rappahannock (Glenns)	34%
Southside Virginia (Christanna)	34%
Wytheville	34%
Germanna (Locust Grove)	33%
Rappahannock (Warsaw)	33%
Mountain Gateway	31%
Danville	30%
Southside Virginia (Keysville)	27%
Paul D. Camp (Suffolk)	24%
Southwest Virginia	23%
Mountain Empire	12%

SOURCE: JLARC staff analysis of SCHEV utilization data, 2024.

NOTE: Several community colleges reported data for multiple campuses. Average occupancy rate represents the percentage of the classroom that is occupied when the classroom is in use.

TABLE D-4
Utilization of class labs on community college campuses varies widely, and many campuses are below SCHEV's guidelines (FY24)

Community college campus	Average class lab occupancy rate (FY24)
SCHEV guideline	***75%***
Northern Virginia (Annandale)	84%
Northern Virginia (Loudoun)	81%
Northern Virginia (Manassas)	79%
Tidewater (Chesapeake)	70%
Reynolds (Parham)	69%
Central Virginia	64%
Piedmont Virginia	64%
Blue Ridge	63%
Germanna (Fredericksburg)	63%
Germanna (Locust Grove)	62%
Northern Virginia (Woodbridge)	61%
Brightpoint	60%
Eastern Shore	57%
Laurel Ridge (Middletown)	56%
Reynolds (Downtown)	56%
Tidewater (Virginia Beach)	56%
Laurel Ridge (Fauquier)	53%
Tidewater (Portsmouth)	53%
Virginia Western	52%
Patrick & Henry	50%
Tidewater (Norfolk)	50%
Northern Virginia (Medical Education)	49%
Virginia Peninsula (Historic Triangle)	49%
Northern Virginia (Alexandria)	47%
Rappahannock (Warsaw)	44%
Virginia Highlands	44%
Mountain Empire	43%
Southwest Virginia	42%
Reynolds (Western)	40%
New River	39%
Southside Virginia (Christanna)	36%
Paul D. Camp (Franklin)	32%
Rappahannock (Glenns)	32%
Wytheville	31%
Mountain Gateway	30%
Virginia Peninsula (Hampton)	29%
Danville	25%
Southside Virginia (Keysville)	23%
Paul D. Camp (Suffolk)	22%

SOURCE: JLARC staff analysis of SCHEV utilization data, 2024.

NOTE: Several community colleges reported data for multiple campuses. Average occupancy rate represents the percentage of the class lab that is occupied when the class lab is in use.

Appendix E – Summary-level capital information

This appendix includes various metrics that could help legislators and the governor assess the capital needs of the state, as well as individual state agencies and public higher education institutions. The metrics provide insight into (1) the size and condition of the state's buildings; (2) the state's maintenance reserve project needs and funding levels; and (3) the status of the state's capital outlay projects. JLARC staff compiled these metrics using information collected from the Department of Planning and Budget, Department of General Services, and state agencies and public higher education institutions that manage and maintain state-owned buildings. The metrics are reported statewide and by state agency/public higher education institution, where available.

Several metrics that are not currently available statewide or for the majority of state agencies/public higher education institutions could help decisionmakers. For example, many state agencies and public higher education institutions do not currently maintain facility condition index (FCI) data for their buildings. (JLARC staff collected FCI data from a sample of seven public higher education institutions for this study.) Similarly, many state agencies and public higher education institutions do not have a quote or estimate for the total cost of their maintenance reserve project needs (which is based on the results of a facility condition assessment). (JLARC staff asked 12 large state agencies/public higher education institutions to estimate the total cost of their maintenance reserve project needs using their own internal data.)

JLARC report recommendations 1, 2, 4, 5, 10, 14, 15, 19 and 20 would result in the state collecting and/or regularly reporting the information referenced in this appendix.

TABLE E-1
State-owned building footprint and condition

	Total number of buildings	Total building square footage	Building replacement value	Percentage of buildings 46+ years old	Percentage of expired systems 20+ years past their expected expiration date	Average facility condition index (FCI) [a]
Statewide						
	7,628	137,837,523	$46,564,600,767	50%	54%	Fair (28%)
State agency/ public higher ed institution						
Christopher Newport University	79	3,550,944	$926,574,810	13%	24%	N/A
College of William and Mary	217	5,574,368	$2,220,281,141	63	38	N/A
Department for the Blind and Vision Impaired	10	223,459	$91,492,614	70	22	N/A
Department of Agriculture and Consumer Services	17	208,211	$48,450,745	24	33	N/A
Department of Behavioral Health and Developmental Services	144	3,255,323	$2,151,832,882	79	70	N/A
Department of Conservation and Recreation	1,556	2,441,642	$312,098,561	47	70	N/A
Department of Corrections	1,456	13,170,025	$3,068,716,403	43	42	N/A
Department of Energy	3	31,947	$5,105,419	0	0	N/A
Department of Forensic Science	4	560,370	$251,607,446	0	0	N/A
Department of Forestry	224	577,604	$39,241,239	79	57	N/A
Department of General Services	85	8,080,366	$2,076,401,650	53	51	N/A
Department of Historic Resources	10	14,282	$3,362,737	80	73	N/A
Department of Juvenile Justice	99	539,600	$72,683,451	70	26	N/A
Department of Military Affairs	259	1,610,698	$814,458,365	66	76	N/A
Department of Motor Vehicles	21	460,104	$66,327,932	29	26	N/A
Department of State Police	134	515,007	$205,093,693	22	7	N/A
Department of Veterans Services	17	314,109	$154,658,660	0	0	N/A
Eastern Virginia Medical School	14	1,662,191	N/A	36	41	N/A
Fort Monroe Authority	238	1,961,895	$121,215,227	74	69	N/A
Frontier Culture Museum of Virginia	25	71,643	$16,118,265	0	7	N/A
George Mason University	142	9,263,901	$3,502,224,346	16	18	Good (14%)
Gunston Hall	20	26,641	$11,709,157	75	42	N/A

Institute for Advanced Learning and Research	4	181,122	N/A	0	0	N/A
James Madison University	194	7,869,617	$2,707,489,852	52	31	Fair (32%)
Jamestown-Yorktown Foundation	58	474,223	$173,205,835	2	5	N/A
Library of Virginia	1	77,248	$15,814,435	0	0	N/A
Longwood University	70	1,598,408	$708,865,931	63	46	N/A
Norfolk State University	36	2,176,151	$857,808,669	39	51	Good (13%)
Old Dominion University	110	5,394,650	$2,179,042,978	20	25	N/A
Radford University	74	2,856,599	$1,310,358,880	47	24	N/A
Richard Bland College	25	354,991	$110,646,372	80	74	N/A
Roanoke Higher Education Authority	3	185,542	$48,784,711	67	40	N/A
Science Museum of Virginia	3	373,659	$93,882,800	33	18	N/A
Southwest Virginia Higher Education Center	1	106,100	$24,537,074	0	0	N/A
University of Mary Washington	89	2,625,377	$861,707,194	73	58	N/A
University of Virginia	526	13,684,767	$7,005,038,538	66	73	Excellent (8%)
University of Virginia - Hospitals	53	5,264,061	N/A	45	67	N/A
University of Virginia's College at Wise	49	822,189	$372,430,063	41	29	N/A
Virginia Commonwealth University	164	10,384,489	$2,939,841,582	55	69	N/A
Virginia Community College System	346	11,061,187	$3,868,821,067	36	37	Poor (43%)
Virginia Employment Commission	4	32,633	$5,976,435	50	40	N/A
Virginia Institute of Marine Science	81	433,734	$403,128,289	28	56	N/A
Virginia Marine Resources Commission	1	6,835	$650,767	0	20	N/A
Virginia Military Institute	103	1,615,173	$693,012,397	47	78	N/A
Virginia Museum of Fine Arts	6	712,433	$388,775,475	83	70	N/A
Virginia Museum of Natural History	4	122,530	$51,809,344	0	0	N/A
Virginia Retirement System	1	57,000	$15,178,944	100	100	N/A
Virginia School for the Deaf and the Blind	23	465,436	$129,942,331	74	65	N/A
Virginia State University	100	2,119,125	$889,120,395	64	81	Fair (40%)
Virginia Tech	687	11,988,434	$4,334,137,549	48	41	Fair (30%)
Virginia Workers' Compensation Commission	1	141,900	$23,706,382	0	0	N/A
Wilson Workforce and Rehabilitation Center	37	537,581	$191,231,736	92	41	N/A

SOURCE: JLARC staff analysis of M-R FIX data, replacement value data from the Department of the Treasury, and FCI data from public higher education institutions.

NOTE: Data is limited to state-owned buildings. Some state agencies and public HEIs are not included in the table because the table metrics are either not available or not relevant.
[a] Average FCI is based on data for seven public higher education institutions that shared it with JLARC (George Mason University, James Madison University, Norfolk State University, University of Virginia, Virginia Community College System, Virginia State University, and Virginia Tech). Some HEIs did not share FCI data for all of their buildings; therefore, FCI data for an HEI may not reflect its entire campus. FCI data includes both E&G buildings (funded with general funds) and non-E&G buildings (funded with non-general funds). FCI data is categorized based on Gordian definitions; other standards (e.g., APPA standards) may result in different categorizations.

TABLE E-2
State maintenance reserve project needs and funding

		State maintenance reserve appropriations (FY25)			State maintenance reserve spending (End of FY25)		
	Total cost of maintenance reserve project needs [a]	Reappropriated from previous years	Newly appropriated	Total maintenance reserve funding	% Spent	% Obligated	% Unspent/ Unobligated
Statewide							
	N/A	$248,958,295	$264,000,000	$512,958,295	34%	N/A	N/A
State agency/ public higher education institution							
Christopher Newport University	N/A	$3,244,577	$3,512,406	$6,756,983	33%	N/A	N/A
College of William and Mary	N/A	$4,749,045	$6,080,531	$10,829,576	41%	N/A	N/A
Department for the Blind and Vision Impaired	N/A	$993,041	$416,138	$1,409,179	37%	N/A	N/A
Department of Agriculture and Consumer Services	N/A	$883,158	$478,537	$1,361,695	15%	N/A	N/A
Department of Behavioral Health and Developmental Services	$23,383,421	$16,545,573	$10,532,270	$27,077,843	38%	N/A	N/A
Department of Conservation and Recreation	$261,712,048	$3,075,553	$5,517,286	$8,592,839	25%	N/A	N/A
Department of Corrections	$67,922,437	$49,706,458	$35,502,827	$85,209,285	19%	N/A	N/A
Department of Energy	N/A	$434,920	$272,911	$707,831	0%	N/A	N/A
Department of Forensic Science	N/A	$2,751,517	$1,027,481	$3,778,998	14%	N/A	N/A
Department of Forestry	N/A	$2,974,313	$2,513,111	$5,487,424	22%	N/A	N/A
Department of General Services	$7,317,289	$26,446,937	$15,156,661	$41,603,598	23%	N/A	N/A
Department of Juvenile Justice	N/A	$1,351,648	$2,247,152	$3,598,800	49%	N/A	N/A
Department of Military Affairs	N/A	$4,763,327	$3,729,720	$8,493,047	17%	N/A	N/A
Department of State Police	N/A	$2,102,583	$552,547	$2,655,130	93%	N/A	N/A

Department of Veterans Services	N/A	$1,869,088	$303,648	$2,172,736	15%	N/A	N/A
Eastern Virginia Medical School	N/A	$1,028,554	$2,834,276	$3,862,830	0%	N/A	N/A
Fort Monroe	N/A	$3,431,434	$9,280,257	$12,711,691	34%	N/A	N/A
Frontier Culture Museum of Virginia	N/A	$2,563,689	$320,335	$2,884,024	10%	N/A	N/A
George Mason University	$137,077,282	$154,100	$5,416,367	$5,570,467	57%	N/A	N/A
Gunston Hall	N/A	$859,428	$525,508	$1,384,936	10%	N/A	N/A
Institute for Advanced Learning and Research	N/A	$508,520	$268,884	$777,404	11%	N/A	N/A
James Madison University	$462,085,135	$4,529,548	$6,516,008	$11,045,556	49%	N/A	N/A
Jamestown-Yorktown Foundation	N/A	$2,099,438	$1,987,379	$4,086,817	23%	N/A	N/A
Library of Virginia	N/A	$888,349	$282,118	$1,170,467	18%	N/A	N/A
Longwood University	$6,975,000	$1,328,277	$2,934,914	$4,263,191	34%	N/A	N/A
New College Institute	N/A	$2,041,603	$-	$2,041,603	6%	N/A	N/A
Norfolk State University	$8,925,000	$9,299,841	$3,893,157	$13,192,998	62%	N/A	N/A
Old Dominion University	N/A	$5,975,524	$6,424,209	$12,399,733	44%	N/A	N/A
Radford University	N/A	$3,592,876	$6,890,423	$10,483,299	11%	N/A	N/A
Richard Bland College	N/A	$1,625,377	$520,711	$2,146,088	28%	N/A	N/A
Roanoke Higher Education Authority	N/A	$673,309	$874,899	$1,548,208	59%	N/A	N/A
Science Museum of Virginia	N/A	$1,152,672	$1,717,692	$2,870,364	36%	N/A	N/A
Southern Virginia Higher Education Center	N/A	$1,231,995	$282,953	$1,514,948	7%	N/A	N/A
Southwest Virginia Higher Education Center	N/A	$1,416,133	$321,087	$1,737,220	7%	N/A	N/A
University of Mary Washington	N/A	$1,049,234	$8,265,157	$9,314,391	39%	N/A	N/A
University of Virginia	$74,909,441	$811,771	$19,310,254	$20,122,025	99%	N/A	N/A
University of Virginia's College at Wise	N/A	$3,779,792	$2,529,541	$6,309,333	41%	N/A	N/A
Virginia Commonwealth University	N/A	$15,335,300	$20,766,767	$36,102,067	44%	N/A	N/A
Virginia Community College System	$42,410,800	$40,893,073	$33,069,575	$73,962,648	19%	N/A	N/A
Virginia Institute of Marine Science	N/A	$2,477,918	$1,022,796	$3,500,714	28%	N/A	N/A
Virginia Military Institute	N/A	$4,674,532	$3,795,492	$8,470,024	18%	N/A	N/A
Virginia Museum of Fine Arts	N/A	$199,420	$4,019,561	$4,218,981	49%	N/A	N/A
Virginia Museum of Natural History	N/A	$1,557,069	$338,618	$1,895,687	18%	N/A	N/A
Virginia School for the Deaf and the Blind	N/A	$1,154,090	$1,278,106	$2,432,196	40%	N/A	N/A
Virginia State University	$4,180,000	$8,537,912	$5,221,747	$13,759,659	33%	N/A	N/A
Virginia Tech	$38,264,297	$1,759,487	$24,551,095	$26,310,582	68%	N/A	N/A
Wilson Workforce and Rehabilitation Center	N/A	$436,293	$696,888	$1,133,181	32%	N/A	N/A

SOURCE: JLARC staff analysis of DPB maintenance reserve spending data (FY25) and information collected from state agencies and public higher education institutions.

NOTE: Data is limited to state-owned buildings. Maintenance reserve amounts reflect central state maintenance reserve funding. "N/A" indicates that data is not yet available. Some state agencies and public higher education institutions are not included in the table because the table metrics are either not available or not relevant.

[a] JLARC staff collected information from 12 agencies/HEIs (University of Virginia, Department of Corrections, Virginia Tech, Virginia Community College System, George Mason University, James Madison University, Department of General Services, Department of Behavioral Health and Developmental Services, Department of Conservation and Recreation, Virginia State University, Norfolk State University, and Longwood University) on the estimated cost of their currently needed maintenance reserve projects. Costs include only maintenance reserve projects that have not yet been funded.

TABLE E-3
Capital outlay project timeliness

	Capital outlay projects authorized 2015–2024						
	Total number of projects authorized	Number of projects "open"	Percent-age of projects "open"	Number of "open" projects 5+years old [a]	Number of projects "closed"	Percent-age of projects "closed"	Number of "closed" projects 5+years old when closed [b]
Statewide							
	488	**352**	**72%**	**172**	**136**	**28%**	**43**
State agency/ public higher ed institution							
Christopher Newport University	6	5	83	2	1	17	0
College of William and Mary	17	15	88	10	2	12	2
College of William and Mary - Virginia Institute of Marine Science	4	4	100	3	0	0	N/A
Department for the Blind and Vision Impaired	6	6	100	2	0	0	N/A
Department of Agriculture and Consumer Services	1	1	100	0	0	0	N/A
Department of Behavioral Health and Developmental Services	11	10	91	4	1	9	0
Department of Conservation and Recreation	44	28	64	14	16	36	7
Department of Corrections	19	16	84	11	3	16	0
Department of Energy	1	0	0	N/A	1	100	0
Department of Environmental Quality	1	0	0	N/A	1	100	0
Department of Forestry	9	4	44	2	5	56	0
Department of General Services	26	18	69	6	8	31	2
Department of Historic Resources	1	1	100	0	0	0	N/A
Department of Juvenile Justice	4	4	100	2	0	0	N/A
Department of Military Affairs	19	14	74	7	5	26	1
Department of Motor Vehicles	9	4	44	1	5	56	1
Department of State Police	11	9	82	5	2	18	1
Department of Transportation	1	1	100	1	0	0	N/A
Department of Veterans Services	10	7	70	1	3	30	2

Department of Wildlife Resources	6	2	33	0	4	67	0
Eastern Virginia Medical School	6	4	67	2	2	33	2
Frontier Culture Museum of Virginia	4	1	25	1	3	75	0
George Mason University	19	13	68	9	6	32	1
Gunston Hall	5	4	80	1	1	20	0
Institute for Advanced Learning and Research	3	2	67	1	1	33	1
James Madison University	20	12	60	4	8	40	5
Jamestown-Yorktown Foundation	9	9	100	2	0	0	N/A
Longwood University	7	6	86	3	1	14	1
Marine Resources Commission	2	1	50	1	1	50	0
Norfolk State University	10	10	100	5	0	0	N/A
Old Dominion University	16	15	94	9	1	6	0
Radford University	6	4	67	2	2	33	1
Richard Bland College	4	3	75	2	1	25	0
Roanoke Higher Education Authority	4	1	25	0	3	75	0
Science Museum of Virginia	7	6	86	2	1	14	0
Southern Virginia Higher Education Center	1	0	0	N/A	1	100	1
Southwest Virginia Higher Education Center	2	1	50	1	1	50	0
State Corporation Commission	1	1	100	1	0	0	N/A
University of Mary Washington	13	9	69	5	4	31	1
University of Virginia	9	5	56	2	4	44	0
University of Virginia's College at Wise	2	2	100	1	0	0	N/A
Virginia Commercial Space Flight Authority	1	1	100	1	0	0	N/A
Virginia Commonwealth University	12	7	58	4	5	42	2
Virginia Community College System	19	18	95	11	1	5	0
Virginia Lottery	1	0	0	N/A	1	100	0
Virginia Military Institute	24	12	50	3	12	50	6
Virginia Museum of Fine Arts	13	10	77	6	3	23	2
Virginia Museum of Natural History	1	1	100	1	0	0	N/A
Virginia Port Authority	8	5	63	2	3	38	0
Virginia Retirement System	1	0	0	N/A	1	100	0
Virginia School for the Deaf and the Blind	6	5	83	3	1	17	1
Virginia State University	13	13	100	5	0	0	N/A

Virginia State University - Cooperative Extension and Agricultural Research Services	2	2	100	0	0	0	N/A
Virginia Tech	25	16	64	10	9	36	3
Virginia Tech - Virginia Cooperative Extension and Agricultural Experiment Station	5	4	80	1	1	20	0
Wilson Workforce and Rehabilitation Center	1	0	0	N/A	1	100	0

SOURCE: JLARC analysis of DPB data on capital outlay projects.
NOTE: Table is limited to state agencies and public higher education institutions with at least one new capital outlay project authorized between 2015 and 2024.
[a] Data shows the number of years between when a capital outlay project was first authorized in the budget and 2025. Values are "N/A" when the agency/HEI had zero open projects.
[b] Data shows the number of years between when a capital outlay project was first authorized in the budget and the last year there was a project expenditure. Values are "N/A" when the agency/HEI had zero closed projects.

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