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THE VIRGINIA GENERAL ASSEMBLY

OPERATIONAL REVIEW: THE CAPITAL OUTLAY PROCESS IN VIRGINIA

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THE CAPITAL OUTLAY PROCESS IN VIRGINIA

October 10, 1978

Joint Legislative Audit and Review Commission

Through better planning, budgeting, and construction practices, the Commonwealth could strengthen the administration of its capital outlay process. To improve the process the State should:

- place greater reliance on long-range planning as a means to systematically identify future capital project needs;
- conduct an in-depth review of each capital outlay request for its program need and impact;
- establish appropriate sanctions to prevent construction of unauthorized projects;
- seek effective ways to expedite project completion and reduce cost overruns; and
- establish a clear capital outlay definition, comprehensive capital outlay instruction manual, and information collection system.

Since 1966 the State has spent approximately $1 billion on new buildings, the repair of existing ones, and the acquisition of land and equipment. Educationally-related facilities accounted for 60 percent of these funds. Financing has generally been through the use of general funds (36%), general obligation bonds (20%), or special funds (13%). From 1966 through 1977 over 1,400 capital outlay items were appropriated and projects ranged in amounts from $800 to $13.3 million. More than half of these items were for amounts under $100,000.

The Division of Engineering and Buildings (DEB) is authorized by statute to prepare the biennial capital budget and administer the planning and execution of projects. Other agencies having a part in capital outlay administration include the Department of Planning and Budget (DPB), the State Council of Higher Education for Virginia (SCHEV), the cabinet secretaries, and various State and federal regulatory agencies.

A JLARC REPORT SUMMARY

Although these agencies devote a considerable amount of administrative attention to project budgeting and construction, money has been spent to build or alter buildings without the prior approval or knowledge of the administrative agencies, the Governor or General Assembly. In addition, no central agency is specifically assigned capital facility planning responsibilities, even though DPB is directed by law to develop an "integrated planning process" for State government.

GENERAL ADMINISTRATION

Effective and efficient capital outlay administration requires a clear definition of a capital outlay, a manual that is up-to-date and comprehensive, and reliable project information.

Capital Outlay Project Definition (pp. 9-13)

There is no clear definition of a capital outlay project. The appropriations act states that the definition of a "capital outlay project" is contained in the executive budget manual. But no direct statement of what comprises a project is found in the manual. Instead, budget instructions identify capital outlay expenditures and appropriate accounting codes.

Lack of a project definition has led to several problems including: (1) construction of unauthorized buildings, and (2) exclusion of certain types of projects that should probably be treated as capital expenditures such as major equipment items,

vessels and lease-purchase buildings. The Department of Planning and Budget and the Division of Engineering and Buildings should develop a concise definition of a capital outlay project.

The Capital Outlay Manual (p. 20)

The organization, content, and format of the capital outlay manual can be improved. Important information on the capital outlay process is missing. The manual is used by agencies in all phases of capital outlay planning, budgeting,and execution. Therefore, it should include the definition of a capital outlay project, a description of the relationships between the operating and capital outlay budget, identification of the planning and budgeting roles of the cabinet secretaries and legislature, and a diagram of key components of the process. The manual should be formatted in a way that permits easy updating such as using a loose-leaf binder to accommodate revisions.

Project Information (pp. 20-21)

A major obstacle in administering the State's capital outlay process is the poor quality of project information. Agencies frequently fail to submit required forms. For example, the project completion report (CO-5 form), used to officially document final project cost and acceptance by the State, was missing for approximately 50 percent of the projects reviewed for this study. This illustrates the lack of attention and care given by agencies to project documentation.

The Secretary of Administration and Finance should establish appropriate procedures which ensure that all required forms are submitted in a timely and accurate manner.

CAPITAL OUTLAY PLANNING AND BUDGETING

Greater attention must be given to capital outlay planning and budgeting. Neither DPB nor DEB have developed a comprehensive framework for planning capital outlays. In the absence of systematic direction, planning is not uniform at the agency level and capital outlays are not always coordinated with operating needs. Compounding these problems, two independent budgeting systems exist—one for capital outlays and another for operating programs. Because of this split, no one agency performs a comprehensive program review of capital outlay requests.

Long-Range Planning (pp. 22-25)

There is no systematic process for identifying long-range capital outlay needs. As a result each agency uses its own discretionary planning approach. Some agencies, such as the Virginia Port Authority, have developed comprehensive plans or are developing such plans (the Department of Corrections). Other agencies, such as the Department of Mental Health and Mental Retardation and the Virginia Institute of Marine Science, have no comprehensive plans.

An agency should have a long-range planning process which continually reviews program goals, operating and capital outlay needs, and resources required to meet those needs. An important product of this process should be a long-term capital outlay plan which specifically outlines needs for new buildings, renovations, and land and equipment purchases. Such a planning document would be useful to the General Assembly, Governor, DEB, and DPB in determining the Commonwealth's future capital outlay needs, priorities and fiscal requirements.

Consistent with the legislative mandate given to DPB to develop an "integrated policy analysis, planning, and budgeting process within State government", DPB should establish uniform guidelines for the preparation of long-term capital outlay plans. Additionally, the department should begin efforts to formulate a statewide plan for capital development.

Master Site Plans (pp. 25-30)

Although DEB requires agencies to prepare master site plans, few agencies comply. State agencies are supposed to identify existing and planned capital facilities on a map and submit it to DEB. In evaluating compliance with this requirement, JLARC staff found that some agencies which need a site plan do not have one on file with DEB. A further review of other site plans on file at DEB indicated deficiencies in the following areas: (1) incomplete; (2) out-of-date; or (3) did not accurately project future development.

In addition to each agency developing a site plan, legislation specifically directs DEB to prepare a site plan for all State buildings in or adjacent to the City of Richmond. However, the division has not fully complied with this directive. The site plan that has been developed only includes the land area immediately adjacent to the State Capitol building.

DEB should make a concerted effort at keeping site plans up-to-date. The division should develop well-defined guidelines for agencies to follow in preparing site plans. These guidelines should specify under what conditions an agency should prepare a site plan. Furthermore, in order to comply with legislative requirements, DEB needs to prepare a site plan for State-owned buildings in the Richmond area. This plan could serve as the coordinating mechanism for agency siting and office space needs in the capital region.

Program Review (pp. 33-38)

No one agency performs a detailed program analysis of capital budget requests. Such an analysis would include a review of: (1) project conformance with agency plans and programs; and (2) the impact of the proposed project on other projects within the same program area. Since there are two independently administered budgeting systems, neither DEB nor DPB carry out a

program analysis of project proposals. As a result, portions of some recently-built projects are standing vacant or not being used as originally planned.

Program review should be an essential part of capital budgeting. Therefore, DPB should be assigned a formal role in preparing the capital budget and carrying out detailed program analyses of project proposals.

PROJECT IMPLEMENTATION

The final phase of the capital outlay process involves project initiation, design, and construction. While the performance of DEB has been generally good in administering this phase, project control and monitoring activities can be enhanced. Specifically, greater attention should be given to preventing the construction of unauthorized projects, developing effective cost management guidelines, expediting project completion, and controlling agency selection of architects and engineers.

Unauthorized Projects (pp. 45-50)

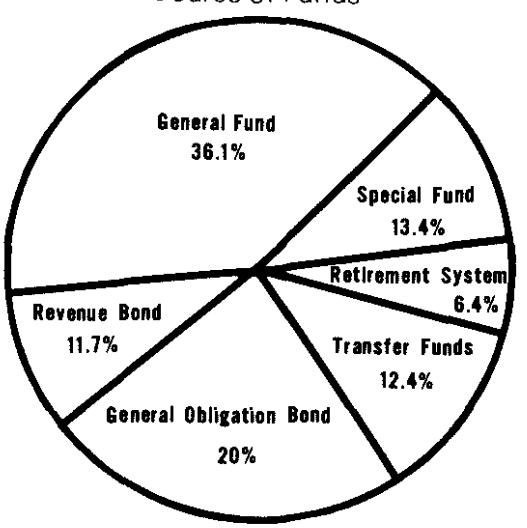
The appropriations act specifically requires that no capital improvements be initiated without the Governor's approval. Despite this provision, since 1965 at least three agencies have built unauthorized facilities worth approximately $1 million:

- The University of Virginia erected eight sheetmetal buildings on concrete slabs for research, storage, and maintenance purposes. The total cost of these structures was over $325,000. In addition, the university spent nearly $200,000 to renovate and equip one building before requesting the required approvals.
- The Virginia Institute of Marine Science constructed major additions to Jefferson and Franklin Halls for research-related activities. The additions provided 16,800 square feet at a total cost estimated to be at least $300,000.
- Virginia Polytechnic Institute and State University built two airplane hangars costing $59,000.

The capital outlay process is relatively easy to circumvent since: (1) no sanctions exist for administrators who expend funds for unauthorized projects; and (2) DEB does not systematically monitor agency construction activities. To prevent unauthorized construction, sanctions should be established for spending public funds for unauthorized capital outlays. Furthermore, agency construction activities should be monitored by DEB.

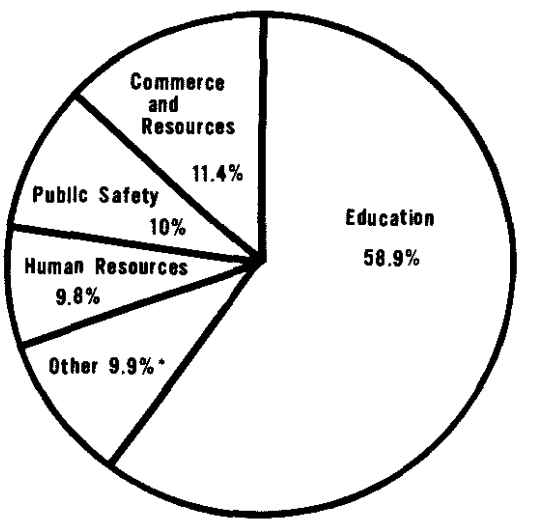
SOURCE AND DISTRIBUTION OF CAPITAL OUTLAY FUNDS
Fiscal Years 1967-1978

Source of Funds



Total Funds: $1,027,350,671

Distribution of Funds by Secretarial Area



Total Funds: $1,027,350,671

Source; Appropriations Act, Comptroller's Reports, Department of Planning and Budget Records, and Retirement System Records.

*Includes Administration and Finance, and The Office of the Governor.

Cost Management (pp. 39-42, 56-58)

DEB does not have a standard cost management policy. Project cost estimates at the appropriations and working drawing stages are frequently unreliable. JLARC staff analyzed 89 projects receiving funds in 1972 by comparing appropriated amounts to final project costs. An additional $6.3 million was needed to complete these projects. Unreliable cost estimates become even more pronounced at the end of the working drawing stage. Even with this detailed level of project design, a higher level of error was found. For 53 new construction projects, 42 received bids over the amount estimated. An additional $4.6 million was needed before contracts could be awarded for these projects.

Understandably, project costs are adjusted throughout the design and construction phases for a variety of reasons. Project scope may be altered. Costs are adjusted upwards during long-range planning and design phases to compensate for rapid inflation in the construction industry. While these adjustments may be unavoidable, an effective cost management procedure should allow for adequate contingencies so that final costs more closely approximate appropriations.

Based on the need for accurate legislative cost information, DEB should develop appropriate policies and procedures for implementing a sound cost management program. Such a program might include pre-planning of large projects, an in-house or consultant cost estimation capability, and capacity to monitor and analyze the effect of design modifications, material substitution, and change orders on final project cost.

Time Delays (pp. 58-62)

Approximately half of all projects receiving appropriations during the 1972-74 biennium were delayed by six months or longer. Some were delayed for as long as two years. Reasons for these time delays include: (1) forms processing by DPB, (2) contractor-related delays, (3) agency management problems, and (4) review requirements of the State's regulatory agencies.

Delays created by DPB could be reduced through staff reorganization and more timely forms processing. To improve contractor performance, criteria are needed to evaluate qualifications of contractors.

Architect and Engineer Selection (pp. 53- 54)

No legal or administrative controls exist over agency selection of architects and engineers. As a result, a number of agencies consider only one firm when hiring an architect or engineer. And several agencies consistently rely on the same firm for design work. For example, Norfolk State College, for the most part, has employed the same architect for the last 15 years. Western State Hospital has a contract in perpetuity with one architectural firm. DEB should develop uniform guidelines that encourage more competition among architectural and engineering firms.

The method by which architects and engineers are compensated should be reviewed to control project costs more effectively. Since fees are based on final project costs, there is less incentive to lower costs. Consideration should be given to alternative payment systems such as: (1) a combination of bid and negotiated fee basis, or (2) a fee based only on the initial construction budget.

CONCLUSION

Virginia's capital outlay process has provided for the construction, renovation, and acquisition of about $1 billion in projects since 1966. Still, the process is not systematically developed and lacks procedural unity. The planning and budgeting relationships between the operating and capital budget processes are ambiguous. Legislative and administrative policies need to be developed to explicitly define the role of DPB in capital planning and budgeting activities.

DEB has generally carried out the implementation phase well and has been responsible for introducing important changes in the project execution phase. However, the lack of systematic attention to project monitoring and control has resulted in unauthorized agency building activities and project cost and time overruns. Sanctions need to be developed to prevent abuse of capital outlay laws. The development of a cost management function could improve project cost estimates and might avoid excessive overruns.

Through improved forms management and the addition of contractor qualifications standards, projects can be completed in a more timely manner. Implementation of these actions can result in a more unified and strengthened capital outlay process for the Commonwealth.

JLARC

JLARC is an oversight agency of the Virginia General Assembly. Its primary function is to carry out operational and performance evaluations of State agencies and programs.

Joint Legislative Audit and Review Commission

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Preface

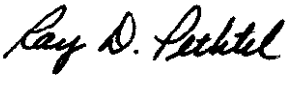
The Joint Legislative Audit and Review Commission has statutory responsibility to carry out operational and performance reviews of State agencies and programs. Each review is designed to report on the extent to which legislative intent is being met and to assess the efficiency and effectiveness of program activity. This report is an operational review of the State's capital outlay process.

Although the report was designed to focus primarily on planning and budgeting procedures related to authorized construction, during the course of our field research, a significant amount of unauthorized construction was discovered. Two special reports were prepared about the unauthorized projects and how they occurred. The reports were transmitted to the Governor on May 9, 1978 and on June 9, 1978. The full text of each special report is not contained in this document, but a discussion of the scope and nature of unauthorized construction activity is contained in the report beginning on page 45.

Following presentation of an exposure draft report to relevant agencies and the Commission on August 1, 1978, the JLARC staff was asked to develop additional information on how Virginia's construction cost estimating accuracy compared with the accuracy of construction estimates prepared by other public and private organizations. Data were obtained from three neighboring states, two localities in Virginia, one private educational institution, and one private construction firm. In each case, the organization surveyed was found to have achieved greater accuracy in its cost estimating than Virginia.

JLARC procedures call for each agency involved in the subject under study to review a draft copy of the report for technical accuracy. Copies of this report were reviewed by the Department of Planning and Budget; the Division of Engineering and Buildings of the Department of General Services; the State Council of Higher Education; and the Department of Mental Health and Mental Retardation. The Secretary of Administration and Finance was also consulted regarding the key findings and recommendations. The agency responses are contained in the Appendix beginning at page 72.

On behalf of the Commission staff, I wish to acknowledge the complete cooperation and assistance of each State agency contacted during the study and for the many helpful comments received from architects, engineers, and contractors involved in the capital outlay process.



Ray D. Pethtel
Director

October 10, 1978

I. Capital Outlays in Virginia

Capital outlay projects are built to support agency program needs. Projects generally include construction of new buildings; renovation or repair of existing facilities; or acquisition of land, buildings, or equipment. Since agency requests for capital outlay projects are usually greater than available funds, it is important that a sound process exist to plan, budget, and build those projects that are approved.

Virginia's capital outlay process relies on a multitude of control documents and formal review procedures. Unfortunately, most of these procedures assume a great degree of agency independence and competence in designing and building projects. The process is not sophisticated or comprehensive. The steps that must be followed to take a capital project from initial concept, through authorization, design, construction, and acceptance for use, do not have a high degree of procedural unity, definitional clarity, or systematic planning and direction. The capital outlay process frequently breaks down. It has significant gaps and it is sometimes ignored.

Lack of a realistic, uniform, and rigorous planning requirement is the single greatest gap in Virginia's capital outlay process.

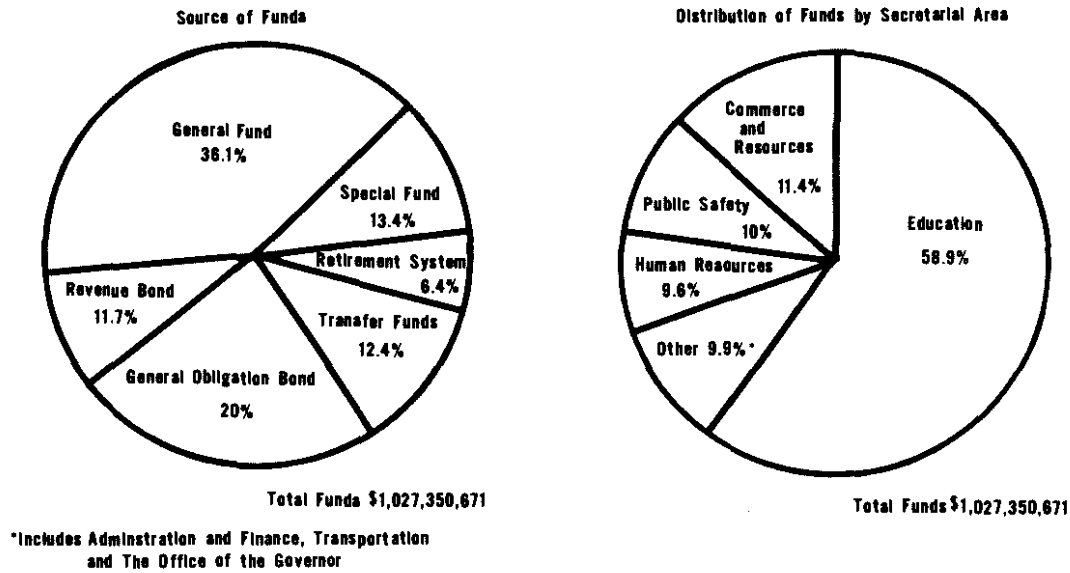
Even though capital projects are intended to support programs, there are no formal procedures by which operating and capital expenditures are jointly planned and budgeted. The Department of Planning and Budget has no statutorily assigned role in assembling the capital outlay budget, although it is responsible for developing an integrated planning and budgeting process. Furthermore, while budgeting, appropriating, and executing phases are governed by a great number of rules and receive a great deal of administrative attention, agencies can and do easily spend money to plan, build, and occupy new or substantially altered buildings without the prior authorization or knowledge of either the legislature or the Governor.

Spending for Capital Outlays

Funds for general purpose capital outlays totaled more than $1 billion[1] between fiscal years 1967 and 1978 (Figure 1). Projects were financed by general funds, special funds, or revenues obtained from the sale of general obligation and revenue bonds, and retirement system loans. During the 12-year span, over half of all capital outlay funds were used to build educational facilities, especially for the Virginia Community College System, the

Figure 1

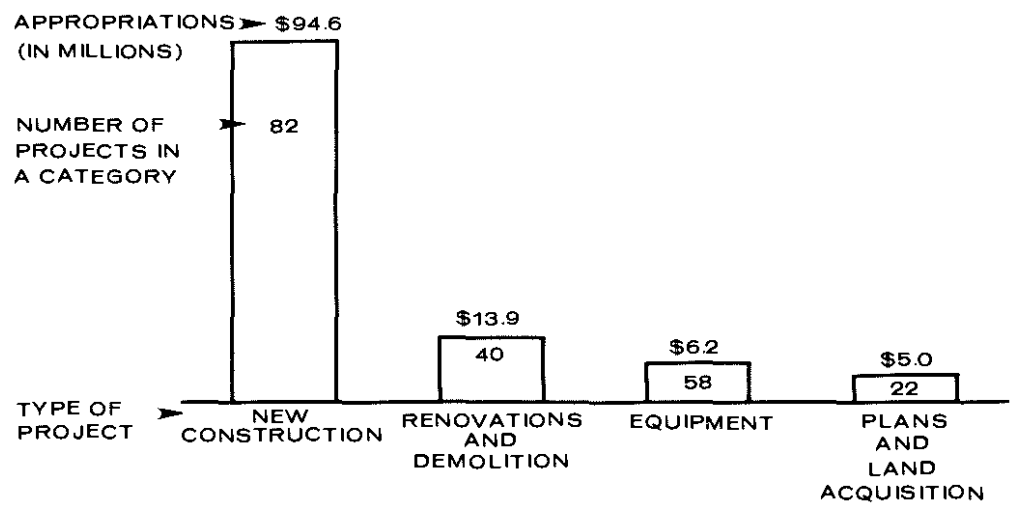
SOURCE AND DISTRIBUTION OF CAPITAL OUTLAY FUNDS
(Fiscal Years 1967 to 1978)



Source: Appropriations Act, Comptrollers Reports, Department of Planning and Budget Records, and Retirement System Records.

Figure 2

CAPITAL OUTLAY PROJECTS BY TYPE AND APPROPRIATION AMOUNT
1972-74
($119.7 million in appropriations*)



*Based on 202 projects.

Source: 1972-74 Appropriations Act.

University of Virginia, and Virginia Commonwealth University (Table 1). The Department of Mental Health and Mental Retardation was the State agency that was appropriated the most funds--$69 million.

Table 1

TEN AGENCIES RECEIVING LARGEST CAPITAL OUTLAY APPROPRIATIONS (Fiscal Years 1967 to 1978)

Agency	Amount Appropriated (in millions)
Department of Mental Health and Mental Retardation	$ 69.0
University of Virginia and Hospital	67.2
Virginia Community College System	57.8
Department of Corrections	48.0
Virginia Commonwealth University and Medical College of Virginia	42.8
Virginia Port Authority	30.8
Virginia Polytechnic Institute and State University	30.6
Office of the Governor	24.8
Commission of Outdoor Recreation	24.7
Commission of Game and Inland Fisheries	18.9

Source: Appropriations Acts.

For fiscal years 1967-78, individual capital outlay items appropriated by the legislature ranged in size from as little as $800 for planning a maintenance building at Clinch Valley College, to as much as $13.3 million for correctional facilities at the new Mecklenburg Maximum Security Prison and the now abandoned Louisa Reception and Classification Center. Of 1,413 appropriation items, over half were under $91,800. In fact, 90 percent of all capital appropriations during this period were for amounts less than $1 million.

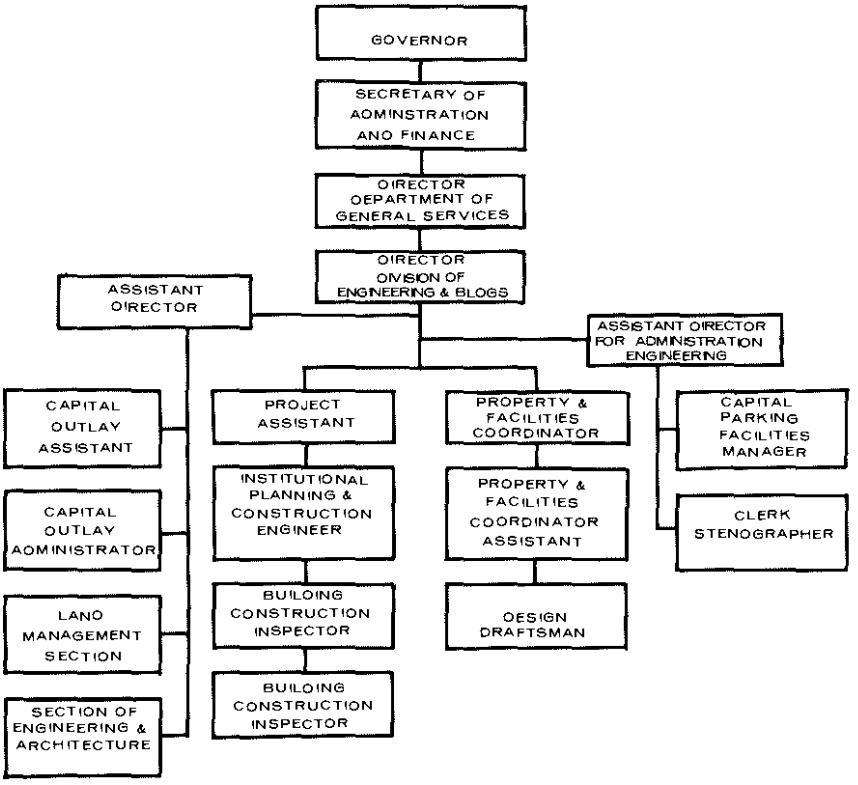
New construction projects have become more frequent in recent years. Analysis of capital outlays authorized in the 1972-74 Appropriations Act shows that new construction projects received the most funds, about $95 million (Figure 2). The next highest category of appropriations was for building renovations and demolitions.

Capital Outlay Administration

The Division of Engineering and Buildings is responsible for administering the State's general purpose capital outlay

Figure 3

ORGANIZATION OF THE
DIVISION OF ENGINEERING AND BUILDINGS



Source: Division of Engineering and Buildings.

program. Between 1966 and 1978, the division operated as an independent agency. However, in 1978 the General Assembly transferred the division to the newly created Department of General Services (Figure 3). Important duties of the division are:

- preparation and administration of the capital outlay budget;
- approval of project plans and specifications;
- provision of engineering and architectural services to agencies;
- care of public buildings and property in the Capitol area; and
- maintenance of real property records.

The director of the Division of Engineering and Buildings is appointed by the head of the Department of General Services. Reporting to the division director is an assistant director who is responsible for supervising the capital outlay program, land management section, and the engineering and architecture section. In June, 1978, the division's total employment was 550 full-time employees. Of these, approximately 17 are assigned to the capital outlay function. For the 1978-80 biennium, about $1.2 million is budgeted for capital outlay related administrative activities.

Study Purpose and Scope

This report provides an operational review of Virginia's capital outlay process and procedures. The purpose, scope, and methodology of the study are outlined below:

Purpose. The objectives of the JLARC review are threefold:

- to identify and document the main components and procedures of the capital outlay process;
- to evaluate agency compliance with legislation and administrative procedures; and
- to determine the efficiency of the process in producing projects that are completed within amounts appropriated and within reasonable lengths of time.

Scope. This study examines the State's capital outlay process. It focuses on the administrative and coordinative activities of the Department of Planning and Budget and the Division of Engineering and Buildings. In addition, the report reviews planning, budgeting, and implementing of capital outlay projects. Excluded from the review are: (1) construction projects of the Department of Highways and Transportation, and (2) comparison or analysis of benefits and costs associated with the various means of financing capital outlay projects.

Methods. In order to evaluate the capital outlay program, information was obtained from a variety of sources. Primary reliance was placed on the records of the Division of Engineering and Buildings, the Department of Planning and Budget, the Department of Accounts, and the State Council of Higher Education for Virginia. Information was also obtained from a JLARC survey of 46 agencies that had received a capital outlay appropriation since 1970. A 100 percent return was obtained on this survey. Case studies were developed and have been used to highlight certain aspects of the capital outlay process.

Since it was important to measure the impact of the capital outlay process, a special analysis was conducted of 276

capital outlay projects receiving appropriations during the 1972-74 biennium. This biennium was chosen because it was assumed that sufficient time had elapsed to allow the projects to be completed. Data for these projects were used as a core of information in analyzing the cost management and timely completion of capital outlay projects. It should be pointed out, however, that a major constraint on this analysis was the quality of information provided by the agencies. Often, agency data were missing, incomplete, or unreliable. The technical appendix explains research methods and data limitations in greater detail.

Report Organization

This report is divided into three chapters. The remainder of chapter one outlines the procedures followed by agencies in planning, budgeting, and implementing capital projects and addresses the capital outlay definition. Chapter two reviews the planning and budgeting phase. Chapter three examines activities related to project implementation. At the conclusion of each major section, recommendations have been included to strengthen the capital outlay process.

CAPITAL OUTLAY PROCESS

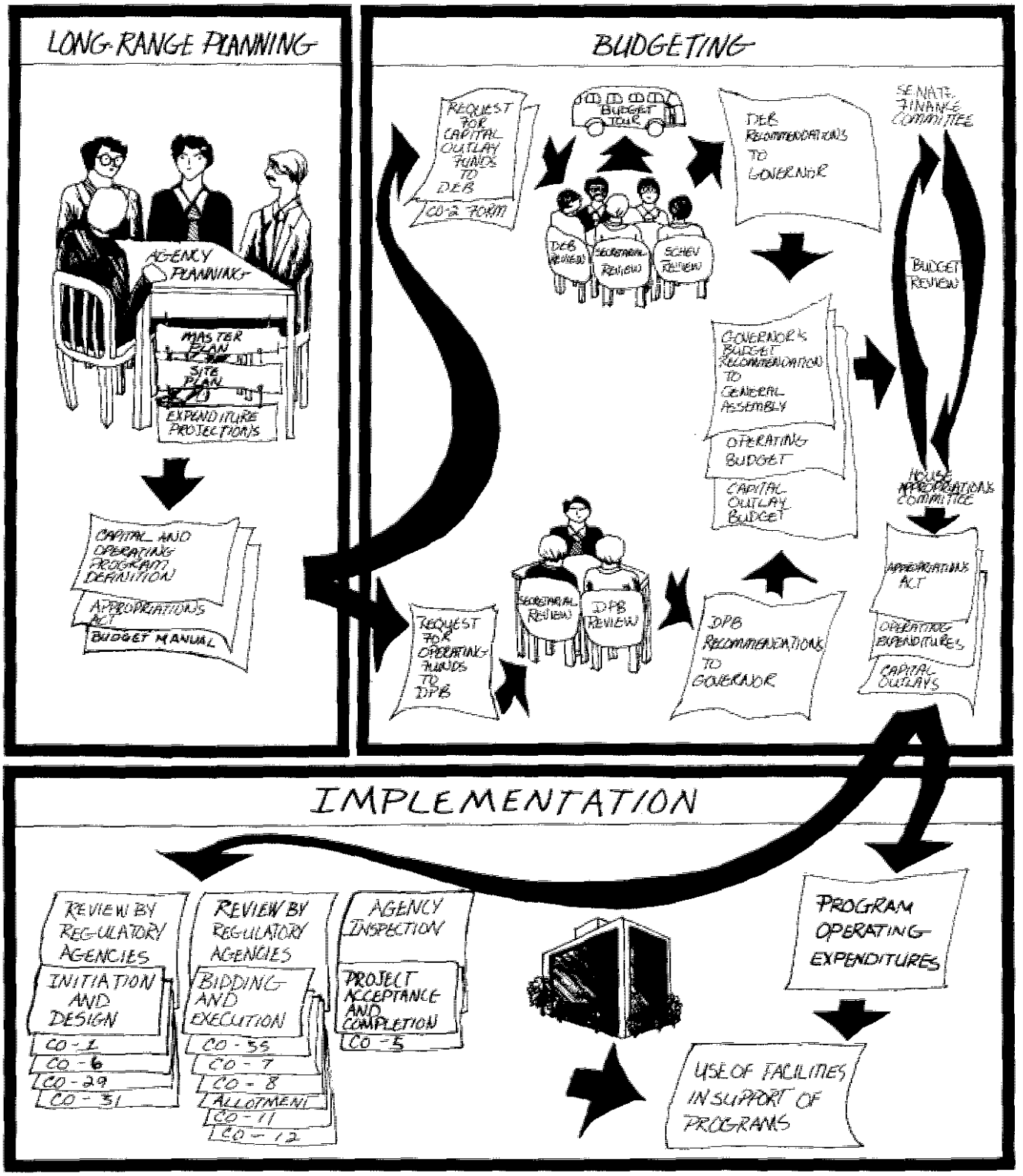
Virginia's capital outlay process has undergone a number of revisions over the years. These revisions are largely a result of legislative and executive study findings. A 1953 study cited a basic concern that has been echoed in subsequent reports--the magnitude of agency capital outlay requests far exceeds the funds available to the State to pay for them.[2] Therefore, ways must be found to deal more effectively and efficiently with the mounting number of agency requests for capital expenditures. Important study recommendations that have been enacted into law include assigning all capital budget preparation responsibilities to the Division of Engineering and Buildings, and authorizing the State Council of Higher Education to apply utilization and space standards in evaluating the physical facility needs of colleges and universities.

In order to provide a framework for understanding the Commonwealth's approach to capital outlay administration, a three phase schematic has been prepared (Figure 4). Phases include:

- *Long-Range Planning* - This stage involves agency identification of program objectives and capital outlays necessary to meet those objectives.
- *Budgeting* - The budgetary phase identifies capital outlays and priorities, and authorizes acquisition or construction of projects.
- *Implementation* - This stage involves the design and execution of the project.

Figure 4

CAPITAL OUTLAY PROCESS



Source: JLARC

A sound capital outlay process will consist of laws and administrative procedures that address each of these phases in a clear and systematic manner. The following discussion examines procedures followed by State agencies in planning, budgeting, and implementing capital outlays.

Long-Range Planning

Long-range plans are used to identify agency goals and needs. Such plans include, but are not limited to, program goals and objectives, operating program requirements, and capital facilities construction or improvement needs. These plans provide a rational basis for requesting capital funds to support operating programs.

Sound planning and budgeting require a clear and positive definition of what constitutes a capital outlay project.

In Virginia, there are no specific statutory or administrative policies requiring agencies to develop an integrated planning approach to operating programs and capital outlays. And, no central agency is specifically authorized to formulate a statewide plan for capital development. As a result, long-range planning is left to the discretion of each individual agency. As Figure 4 illustrates, there are three types of plans that can be developed by agencies--a master plan, a site plan and an expenditure projection. However, only one of these planning activities, site planning, is mandated by legislation.

Lack of a realistic, uniform, and rigorous planning requirement is the single greatest gap in Virginia's capital outlay process.

Master Plan. A master plan is a document developed by an agency which discusses planning goals, programs, and resources necessary to meet future program needs. Master plans are not specifically required by statute or by the Division of Engineering and Buildings. However, the legislature has generally recognized the need for basing capital outlay requests on some form of master plans. Since 1974, the biennial appropriations act has required that each capital outlay request included in the executive budget conform to a "master plan approved by the Governor for a program approved by the General Assembly". The term "master plan" has been narrowly interpreted by the Division of Engineering and Buildings to refer to a master site plan.

Master Site Plan. A master site plan is a map or series of maps illustrating existing facilities, topographic features, buildings, utilities, and highways. In addition, a master site plan should clearly show any future development that the agency contemplates.

The capital outlay manual of the Division of Engineering and Buildings requires agencies to submit a master site plan for the approval of the Governor. Additionally, legislation directs the division to prepare a site plan for the capital city area. The Art and Architectural Review Council, which advises the Governor on the artistic character of building plans and alterations, reviews and comments on these plans. As will be shown, the master site plan requirement is not well administered since compliance is not enforced.

Expenditure Projections. Until 1976, the Division of Engineering and Buildings required all agencies to project their capital needs four years beyond the current biennium. Agencies were asked to summarize briefly key information for each anticipated project including the name, purpose, space requirements, funding source, and estimated cost.

However, in 1976, legislation was enacted which superseded this procedure and established a six-year expenditure planning requirement. The six-year planning requirement differed from the process administered by the division in three important ways: (1) the planning period for agencies was extended to six years beyond the existing biennium; (2) both capital *and* operating expenditures were to be included in the six-year plan; and (3) the Department of Planning and Budget was authorized to coordinate the development of these plans.

Before the long-range six-year planning requirement was fully implemented, the statute was repealed in 1978. The Department of Planning and Budget has indicated that it will establish administrative guidelines requiring six-year plans for operating and capital outlay programs.

Capital Outlay Definition

The culmination of agency planning activities is the preparation of expenditure requests. At this point, an agency must determine whether an expenditure request is an operating expense or capital outlay since the State has two separate budgeting processes. Further, because language in each biennial appropriations act places very specific restrictions on initiating, planning, building, and spending for capital outlays, procedures should clearly specify under what conditions an expenditure is classified as a capital outlay.

The current definition of a capital outlay is not stated clearly, is inappropriate for some purposes, and under some conditions may be subject to differing interpretations by agencies. For example, lack of a clear definition was cited by school officials as the primary cause of unauthorized construction at the University of Virginia.

University of Virginia

Until two years ago, the University of Virginia operated on the assumption that "temporary" structures did not fall within the capital outlay definition. As a result of this misconception, eight buildings of prefabricated steel construction were erected between 1966 and 1976. All of the buildings were said to be temporary to the extent that they are portable and can be removed and erected again elsewhere. The uses assigned to these structures range from storage and maintenance to medical research.

The capital outlay definition, based on budget codes, has always included the construction of new buildings, regardless of cost or life expectancy. The university became aware (apparently for the first time) of this distinction in the definition in 1976 when the Division of Engineering and Buildings notified university officials that certain maintenance facilities should have been submitted for capital outlay review and approval. Since that time, no "temporary" structures have been constructed at the university.

The university did, however, continue to misinterpret the definition as it related to "renovations" in these structures. Until questioned first by a newspaper reporter, and subsequently by JLARC and the division, the university was making substantial renovations without proper approvals.

The university's misinterpretation of the definition resulted in over $500,000 of unauthorized capital expenditures. The photographs in Figure 5 show two of the unauthorized projects.

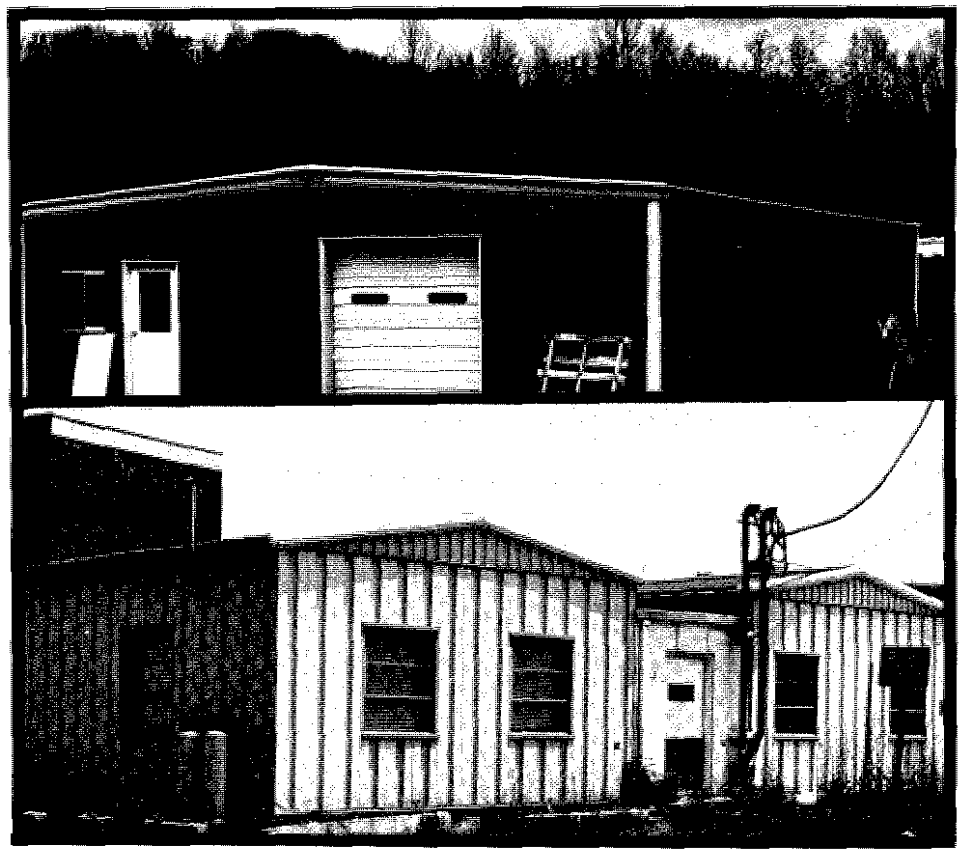
Content of Definition. The 1978-80 Appropriations Act, following the language of previous acts, defines a "capital outlay project" as:

> acquisition, construction or improvement related to land and structures (including plans therefor), as *defined* in the instructions for the preparation of the Executive Budget, for State agency use as owner or lessor. [Emphasis added]

The definition referred to in the Act is supposed to be contained in the budget manual prepared by the Department of Planning and Budget. But, the manual does not contain a clear working definition of a

Figure 5

UNAUTHORIZED BUILDING CONSTRUCTION
AT THE UNIVERSITY OF VIRGINIA



Source: JLARC.

capital outlay. The budget manual makes the following general reference:

> *Capital Outlays:* Those expenditures necessary to meet future needs of the State such as facility construction or renovation, major equipment purchases (exceeding $10,000), and acquisition of land and/or facilities.

The manual also contains (1) a list of various expenditure classifications and appropriate accounting codes and (2) directions that agencies are to prepare their capital outlay requests according to instructions contained in a memorandum dated September 1, 1976, prepared by the Division of Engineering and Buildings.

The memorandum prepared by the division instructs agencies to use certain budget manual expenditure classifications (2600 series) as the definition of a capital outlay.

The Division of Engineering and Buildings memo does note there have been problems in interpreting the definition:

> If there are any questions concerning the [capital outlay] definition, please contact Mr. J. Stuart Barret, Assistant Director. It has been noted in the past that M&O [maintenance and operating] items have been requested as capital outlay and that capital outlay items have been requested as M&O items. If the definition is given close attention and requests made accordingly, considerable time and funds on the part of the reviewing agencies will be saved.

The division's memorandum does not, however, clarify, restate, or otherwise elaborate on the definition of a capital outlay item.

Thus, agencies are expected to define capital outlays on the basis of whether or not requested items fit into one of thirteen expenditure codes. That is, if a proposed expenditure meets the definition used to explain and classify a specific expenditure, it also meets the definition of a capital outlay. Defining capital outlays in this manner leads to several problems.

First, some expenditures may be made by an agency for capital outlay purposes but the expenditure classification scheme would not clearly identify them as such during the budget request phase. For example, purchase of Building Materials (Code 1371) and Utility Materials (Code 1372) which were to be used in constructing buildings might not be requested as part of a capital outlay budget item by an agency even though construction of buildings is a capital expense. In other words, a request for $2,000 to build a storage shed is defined as a capital outlay, but purchase of $2,000 worth of building materials (that may subsequently be used to build a storage shed) is first an operating budget request and only becomes a capital item after expenditure.

Second, there are several inconsistencies between the expenditure codes and the definition. For example, the general reference to capital outlays contained in the budget manual indicates that major equipment purchases which exceed $10,000 are to be treated as capital items. But, the capital outlay codes only cover built-in equipment or equipment initially purchased as part of a new or renovated structure.

Third, certain expenditure items are not defined as capital outlays, but they probably should be treated as capital outlay expenditures. One omission is the acquisition and maintenance of aircraft and vessels. There are numerous examples in which past appropriation acts have earmarked capital funds for equipping or repairing vessels. However, vessel acquisition is not within the existing scope of the capital outlay codes.

Another type of capital outlay which is not covered by expenditure code definitions is a building that is constructed by lease-purchase arrangements. During the past twelve years, the State has made major lease-purchase agreements with the Virginia Supplemental Retirement System to finance approximately $65.2 million in capital facilities. These projects include the new Division of Motor Vehicles headquarters building, the Twin Towers office complex, the General Assembly building, and the Broad Street tract. Because lease-purchase agreements eventually result in the acquisition of land and structures, these expenditures logically should be classified as capital outlays and appropriated as such.

Finally, there is poor linkage between the expenditure code scheme and legislative project planning and execution requirements. For example, the appropriations language prohibits any architectural or engineering planning of a capital outlay project without approval regardless of source of funds. Yet, it is unclear at which point this restriction would be effective based on the existing definition.

Dollar Limit. For some construction items, the amount to be spent or the life expectancy of the item must be considered as a part of the definition. For example, major repairs or improvements to buildings costing $10,000 or more and having a life expectancy of ten or more years are classified as capital outlays. While this dollar figure has been adjusted twice since 1966, about half of the 46 agencies surveyed for this study believe that another adjustment upwards is necessary.

A practical reason for raising the dollar limit would be to exclude minor repairs and renovation projects from inordinate delays or unnecessary review requirements. Each project, regardless of size, requires a certain amount of administrative time to process necessary documents. Additionally, review by central agencies and the need for special appropriations treatment add to the processing time. Since 20 percent of all capital outlay appropriations between fiscal years 1967 and 1978 were for amounts under $23,000, and many of these items were for normal building repair and maintenance, a considerable amount of time could be saved by more careful definition and exclusion of relatively small expenditure requests.

Budgeting

The biennial budget is the end product of numerous agency requests for operating and capital expenditures. In Virginia, the capital outlay section of the biennial budget is prepared independently of the operating budget. The Department of Planning and Budget, although responsible for "the development and direction of an integrated policy analysis, planning, and budgeting process within State government", has virtually no role in assembling or

reviewing the capital budget. The Division of Engineering and Buildings reviews and coordinates all capital budget requests and prepares recommendations for consideration by the Governor.

Budget Preparation. State agencies and educational institutions prepare proposals for capital outlay funds about one year before the General Assembly meets to consider the executive budget. Both the Division of Engineering and Buildings and the State Council of Higher Education play a prominent role in screening initial project proposals.

The division encourages agencies to consult with their appropriate cabinet secretary prior to formulating project requests and priorities.[3] Once requests are submitted, they are reviewed by the division staff for technical adequacy and accuracy. Upon completion of the review, the division notifies the agency if additional information is needed. If modifications are necessary, the agency makes them and submits a revised request to the division.

While the budget is being prepared, the division also receives project information from the State Council of Higher Education. The council has a legislative directive to perform a comprehensive review and analysis of capital outlay proposals submitted by colleges and universities. The council develops recommendations for the approval or modification of these requests and submits a list of project priorities to the division for review.

About six months before the legislature convenes, finalized agency requests for capital outlay funds are to be submitted to the division for consideration in preparing the capital budget. Traditionally, the Governor and his Budget Advisory Committee conduct a capital outlay tour of selected agencies and educational institutions prior to the final submission of requests.

Capital Budget. The Division of Engineering and Buildings forwards its capital budget recommendations to the Governor about two months before the General Assembly meets. The appropriations act specifies four determinations which the Governor must make before including a capital project in the budget. These determinations are:

- the relative priority of each project;
- whether the proposed plans and specifications are suitable and adequate, as well as whether they involve excessive expenditures;
- whether construction, acquisition, and material costs will be reasonable; and
- whether the project conforms to a master plan approved by the Governor for a program approved by the General Assembly.

The capital outlay budget is finalized under the direction of the Governor and in cooperation with appropriate members of his cabinet.

During December, the capital budget is transmitted to the Department of Planning and Budget for incorporation into the executive budget. Then, the Governor submits the executive budget to the General Assembly for review and consideration. The decision process of the legislature results in an appropriations act which, when signed by the Governor, establishes the official budget plan for the Commonwealth in the succeeding biennium. This act identifies those capital projects which agencies may proceed to acquire, renovate, or construct during that biennium.

An important exception to the appropriation process is the Governor's discretion to authorize changes in approved capital outlay projects and to initiate projects not included in the biennial appropriations act. The 1974-76 Appropriations Act first specifically assigned this authority to the Governor.

Implementation

Unlike the planning and budgeting phases, project implementation activities are monitored through use of a number of forms (Table 2). These forms are used to control agency project activities related to: (1) initiation and design, (2) bidding and execution, and (3) project acceptance. The capital outlay manual contains detailed instructions on the use of these forms. (The Division of Engineering and Buildings renumbered these forms in September, 1978 to reflect sequential use.)

Initiation and Design. After the budget bill is signed, the agency submits a CO-1 form requesting authorization from the Division of Engineering and Buildings and the Department of Planning and Budget to initiate the project. The initial authorization usually includes funds for the hiring of an architect or engineer. However, if an agency already has drawings approved by the division, it can immediately proceed to the project bidding and execution stage. In either case, authorization to expend funds is contingent upon the approval of the Division of Engineering and Buildings and the Department of Planning and Budget.

Depending on the size and nature of the project, an agency may retain an architect or engineer to develop three sets of drawings--schematic, preliminary, and working. The architect or engineer working with the agency develops project criteria and schematic drawings utilizing program information supplied by the agency. The schematic drawings generally consist of single line drawings of each floor showing space requirements and a single vertical space diagram. Project criteria and schematic drawings are reviewed by the division and the Art and Architectural Review Council.

Table 2

CAPITAL OUTLAY FORMS
(In approximate order of use)

Form Number	Project Activity	Authorizing Agency*	Purpose
CO-2	Budgeting and Design	DEB	Request for capital outlay funds and description of project
CO-1	Initiation and Design	DEB/DPB	Request to initiate project and expend funds
CO-6	Design	Owner Agency	Contract for employment of architects and engineers
CO-29	Design	DEB	Application for approval of preliminary drawings and specifications
CD-31	Design	DEB	Application for approval of working drawings and specifications
CO-33	Bidding and Execution	DEB/DPB	Application for approval of award of contract
CD-7	Bidding and Execution	Owner Agency	Form of agreement
CO-8	Execution	DEB	Standard performance and payment bond
CD-10	Execution	Owner Agency	Schedule of values and certificate of payment
CO-11	Execution	DEB/DPB	Application for approval of change orders over $2,500
CO-12	Execution	Owner Agency	Affidavit of payment
CO-5	Acceptance	DEB	Notification of project completion

*Agency responsible for executing the form. Division of Engineering and Buildings (DEB). Department of Planning and Budget (DPB).

Source: Division of Engineering and Buildings.

Further refinement of the schematic drawings are successively the "preliminary" and "working" drawings. These drawings must be approved by the division. Additionally, drawings may be reviewed by other regulatory and advisory agencies such as the Art and Architectural Review Council, State Fire Marshal, and State Health Department, and Council on the Environment. These agencies have statutorily recognized roles in reviewing project drawings for conformance to various regulations, codes, or standards.

Project Bidding and Execution. The division reviews the working drawings, specifications, and cost estimates, and authorizes the agency to receive bids. The actual advertisement and review of bids on capital projects is generally the responsibility of the owner agency. The "lowest responsible bidder" is selected and is usually awarded the construction contract within 30 days of the bid opening date. The contract award must be approved by the

division and the Department of Planning and Budget. The contractor then must organize the appropriate financing and establish the construction schedule. An agency may assign project inspectors to assist in construction monitoring.

The execution phase consists of building construction, facility renovation, or acquisition of land, equipment, and buildings. An architect or engineer is generally responsible for administration of a construction or renovation project and receives 25 percent of his fee for this supervision. On major projects inspectors paid by the agency review workmanship and materials on a periodic basis reporting to the architect and agency. During facility construction, various regulatory agencies such as the Fire Marshal, Water Control Board, or Health Department may also visit the project site.

Project Acceptance. Upon completion of major projects, a final inspection occurs. Generally, the architect, the contractor, and representatives from the agency and the division inspect the project. The inspection involves a review of workmanship, conformance to project plans and specifications, and compliance to legal codes. If necessary, a checklist of construction problems is developed. When the architect and the owner agency certify that these problems have been satisfactorily remedied by the contractor, the division issues a letter of project acceptance. The contractor provides a one-year guarantee period for the project. Any defects found must be reported by the agency to the contractor, architect, and the division before the guarantee expires.

Completion Reports

It is difficult to audit agency capital outlay operations if project information is incomplete and unreliable. Therefore, agency compliance with legislative and administrative reporting requirements is essential. Unfortunately, the JLARC review encountered numerous instances of agencies submitting inaccurate or misleading (in at least one instance, false) data on capital outlay forms to the Division of Engineering and Buildings, especially on the project completion report (CO-5 form).

A completion report is the only public document on which agencies officially record a final summary of total project cost. Information is requested by the division on the final cost of the construction contract, architectural and engineering services, supervision, and equipment. A JLARC review of all 1972-74 capital project files found that agency submittal of completion reports is generally poor and that cost data are frequently in error. Of a total of 276 projects, 135 were missing completion reports. Some agencies claimed that projects were not complete or were involved in litigation. Usually, however, reports had simply never been forwarded to the division. Despite a letter of request to agencies

by the division staff, 50 completion reports from the 72-74 period remained outstanding beyond October, 1977.

Another problem is the submission of misleading or inaccurate project information. This can occur in two ways: (1) two or more appropriated projects can be included on one completion report without an adequate explanation of each; and (2) projects funded by a lump sum appropriation are often poorly described on a completion report. In fact, agencies frequently fail to file a report on this type of project. These practices are an obstacle to subsequent comparisons of appropriation amounts with the actual project costs.

STRENGTHENING CAPITAL OUTLAY PROCEDURES IN VIRGINIA

There are a wide assortment of laws, administrative procedures, and forms which serve as the framework for Virginia's capital outlay process. Still, many of the basic steps involved in planning, budgeting, and implementing a capital project are unclear or not defined. Several observations can be made about the capital outlay process:

- There needs to be a more systematic method by which operating and capital expenditures are planned. The planning phase should include preparation of several essential documents--long-range plans and master site plans--but agencies are not mandated by law or administrative procedure to follow an orderly approach to planning. *Planning requirements should be uniform and mandatory.*

- Neither the Division of Engineering and Buildings nor the Department of Planning and Budget are required to perform an in-depth evaluation of capital outlay proposals for their compliance with program objectives and impact on program operations. *Every capital outlay request should be reviewed and evaluated for program impact.*

- Although capital outlay proposals are supportive of operating programs, they are budgeted separately from the process which is used to develop operating expenditures. *Operating and capital budgets should be prepared jointly.*

- A number of administrative procedures and forms have been developed to monitor and control agency project implementation activities. *Form processing procedures should serve the capital outlay process--not delay or hinder it.*

These issues are addressed in greater detail in chapters two and three. The remainder of this section points out some specific administrative weaknesses noted during the JLARC review of capital outlay procedures. Recommendations are made to correct these problems.

Capital Outlay Definition

The current definition for capital outlays relies on using expenditure codes contained in the Department of Planning and Budget's budget manual. The format and substance of this manner of definition make it difficult to interpret and apply. Currently, the definition is used basically as a screening device to ensure that projects which have engineering aspects are brought to the attention of the Division of Engineering and Buildings for engineering review. The definition should, however, also clearly identify projects and purchases subject to statutory and administrative control.

Recommendation. The Department of Planning and Budget and the Division of Engineering and Buildings should develop a clear, concise and positive definition for capital outlays based on characteristics of the project or purchase and not rely solely on expenditure codes. The definition should cover all items of a capital nature which require expenditures above a fixed dollar amount and have a significant fiscal and program impact beyond a single biennium, or require central engineering reviews. Where feasible, a minimum cost figure should be established *above which all capital outlay approvals must always be sought*. The definition should refer to program, fiscal, life expectancy, and engineering characteristics.

A procedure should also be developed so that agencies can report expenditures of a capital nature which meet at least one but not necessarily all of the definitional criteria. In this way, there can be state-level monitoring of the continuing adequacy of the capital outlay definition.

Development of a usable definition may require a considerable amount of time to ensure it covers the needs of each type of agency and each type of expenditure. In the meantime, the Department of Planning and Budget and the Division of Engineering and Buildings should revise their manuals to include the same instructions about definitions and list the kinds of expenditures and projects which are to be treated as capital outlays.

Capital Outlay Manual

If an agency decides to submit a capital outlay request, its primary reference source is the *Manual for the Planning and Execution of Capital Outlays*. The current edition, most recently revised in 1974, is not comprehensive or up-to-date. Important items of information excluded from the manual are:

- the definition of a capital outlay and illustrative examples of projects;
- an explanation of the relationship between the program budgeting system and capital outlays;
- a description of the roles of the legislature and cabinet secretaries in the planning and budgeting of capital outlays;
- a flow diagram describing key components of the capital outlay process; and
- a short summary of various federal and State regulatory requirements.

Additionally, revisions to the manual are often made by sending a memorandum to agencies. There is no systematic way in which agencies can easily incorporate these revisions into the manual.

Recommendation. An accurate and up-to-date manual of instructions is essential to effective and efficient capital outlay planning, budgeting, and execution. The existing manual does not communicate all the necessary items of information required by agencies to participate successfully in the capital outlay process. Therefore, the Division of Engineering and Buildings, with the assistance of the Department of Planning and Budget, should undertake a thorough review of the organization, content, and readability of the manual and revise it accordingly. The manual should be formatted in a way that allows easy updating, such as using a loose-leaf folder clearly identified as the capital outlay manual, with regular instructions for posting revisions. All capital outlay instructions should be contained in the manual.

Project Information Systems

JLARC staff encountered two basic problems with the information systems established for capital outlay projects. First, the information systems are not comparable between central agencies and, secondly, the information is often incomplete, missing, or disorganized.

Information files are maintained by the Division of Engineering and Buildings, the Department of Planning and Budget, and the Department of Accounts. These project files are dissimilar since a different numbering system is used by each agency. The division uses the appropriation number while the Department of Accounts uses an account number. And, the budget department's records contain both numbers. Furthermore, none of the numbering systems provide a means of tracking expenditures and documents for individual projects when an appropriation is divided into several projects or when projects extend beyond one budget cycle.

In researching project files at the Division of Engineering and Buildings, JLARC staff encountered many instances where required forms or project data were missing or incomplete. For example, the completion report (CO-5 form) required by the Division of Engineering and Buildings is the only public document on which agencies officially report the total cost of a project. However, agencies in many cases fail to submit these reports. Also, the total cost identified on the completion report often does not agree with the expenditure total for the project account maintained by the Department of Accounts.

Recommendation (1). The new Commonwealth Accounting and Reporting System (CARS) establishes a project numbering format that can be used to monitor capital projects. The system allows an account to be subdivided into tasks (for distinguishing multiple projects) and phases (within a single project). Clearly, this new format should be implemented to its fullest potential and all agencies should be required to uniformly use this system for identifying capital projects. Many project monitoring functions of the Department of Planning and Budget could be simplified by fully utilizing the CARS information base for capital outlay projects. It is possible to obtain periodic reports on project account balances so that the department will have at its disposal the information needed to make funding decisions for allotments, transfers, and reversions. Furthermore, CARS allows the placing of a predetermined expenditure plan on the computer so that actual project expenditures can be monitored during implementation.

Recommendation (2). The Division of Engineering and Buildings and the Department of Planning and Budget should carry out a comprehensive review of their forms management. The division should develop a sequential system of form numbering that coincides with project events. That is, the first form to be filed should have the lowest number and the last form filed should have the highest number. The Secretary of Administration and Finance should establish procedures, and appropriate sanctions, to ensure that all forms, (especially the project initiation and completion forms) are submitted in a timely and accurate manner. In addition, the Department of Planning and Budget should regularly review completion reports and verify reported expenditures with the records of the Department of Accounts.

II. Planning and Budgeting

Planning and budgeting of capital outlays require close coordination with operating programs. Agencies need to relate long-term capital needs to program goals contained in the operating budget. Additionally, capital projects often require general fund expenditures for additional staff, maintenance services, and equipment. In Virginia, there is no meaningful planning of capital outlays by agencies. And capital outlays are not effectively coordinated with program needs and services.

In the absence of a systematic approach to capital outlay planning and budgeting, agencies frequently submit erroneous information to the General Assembly on project need and estimated cost. For example, portions of some recently-constructed buildings are standing vacant or are not being used as originally planned. Furthermore, an analysis of the construction costs for 33 new construction projects authorized during the 1972-74 biennium revealed that $6.3 million more was required for completion than

Better coordination is needed between the capital and operating budget processes.

initially appropriated. Such problems indicate the need to address specific weaknesses in capital outlay planning and budgeting, as well as technical and administrative difficulties in developing reliable cost estimates.

PLANNING

Capital outlays are long-term investments. Buildings, when properly maintained, have a life expectancy of 30 years or more. Only careful planning can ensure maximum utilization over this extended period. Moreover, without adequate planning, capital projects can result in undue financial burdens on the State.

Capital outlay planning, as carried out in Virginia, is shortsighted and lacks central direction. In fact, most planning occurs after the legislature authorizes funds for design and construction of capital projects. There is also little systematic identification of the need for capital projects as operating programs are being planned at the agency level. Several needs related to capital planning are examined in this section: long-range planning, master site planning, information for planning, and coordination of capital needs with operating programs.

Long-Range Planning

There are no legislative or administrative requirements directing agencies to prepare long-range plans detailing specific capital outlay needs. This lack of central direction has brought about a fragmented approach to capital planning in Virginia. Each agency has a great deal of discretion in developing plans and in formulating capital project requests. Certain agencies have a highly developed facilities planning process, while others have no process at all. For example, the Virginia Port Authority relies on comprehensive plans to identify future capital needs.

Virginia Port Authority

The Virginia Port Authority has developed a plan for each port facility under its jurisdiction. Each port plan identifies long-term goals and, using import and export trends as a statistical base, develops specific and measurable program objectives such as "tons of cargo per year". Other aspects of the plan include land use, population, and economic growth in the area of the terminal in question. The authority updates and revises each plan on a regular schedule.

The strength of this planning approach is its comprehensiveness. It includes a review of current operations, an analysis of historical trends, inventories of existing programs and facilities, and finally, projections of future operating and capital outlay requirements.

In the absence of long-range plans, however, agencies may encounter difficulties in coordinating capital outlay needs with operating programs. For example:

Department of Mental Health and Mental Retardation

The department does not have a long-range plan. Despite spending over $69 million since 1966 on capital projects, no plan exists to guide and coordinate all of the institutions and programs under its supervision. Accordingly, each institution under the department independently determines its operating and capital requirements and then applies to the department for approval. The lack of a plan creates coordination problems between the central office and its institutions.

For example, the Lynchburg Training School and Hospital requested for the 1978-80 biennial budget three 100-bed residences for nonambulatory,

severe and profoundly retarded individuals at a total cost of $13 million. However, the department did not view this request as a priority. The result was that the request was denied. This lack of coordination during the budget preparation phase reflects one of the main problems created by the absence of a plan in a large organization like the Department of Mental Health and Mental Retardation.

Virginia Institute of Marine Science

Due to the aggressiveness of VIMS administration in soliciting federal and private grants for research, the institute's yearly special fund budget has grown 780 percent since 1970--from $744,595 in 1970 to $6,555,640 in 1978. During this period, the institute has actively pursued research grants, but has failed to develop a plan for its future growth and development. The institute does not have an institutional planning process or document which clearly sets forth long-range goals, program directions, and capital needs. As a result, the institute has readily accepted funds for research activities without considering the full impact on existing facilities. Today, the institute is faced with a critical shortage of space to house its expanding research programs. This, in part, has led to the construction of unauthorized projects (discussed fully in chapter three).

Agency planning is essential to the success of the capital outlay process. A well-developed planning system could help the central office of the Department of Mental Health and Mental Retardation improve budget coordination with individual institutions. A long-range plan which clearly identifies the mission of the Virginia Institute of Marine Science, and operating and capital needs to satisfy this mission, might have helped justify budget requests to alleviate the acute space shortage that currently exists.

The discretionary planning approach used by agencies does not ensure uniformity, standardization, or consistency in the way the State's capital planning function is managed. Agencies formulate capital requests without long-range capital planning guidance from the Division of Engineering and Buildings or the Department of Planning and Budget. The instructions (CO-2 form) which are issued by the division specify the minimum information necessary to justify capital projects. However, these instructions are intended for capital outlay budget purposes only. The administrative procedures contained in the capital outlay manual assume that agencies have carried out appropriate long-range planning--an assumption which is not always correct.

The JLARC findings on long-range planning are not new. Since 1966, two other study commissions have recognized the need for a strong capital outlay planning function at the State level. The first, prepared by the Commission for Economy in Governmental Expenditures, found that:

> ...the most pervasive need is for earlier, more detailed, more informed planning. An overriding conclusion, however, is that improving the master planning as well as providing for definite developmental planning of projects prior to submitting the budget request is the key to speeding up and optimizing the whole capital outlay program. Many practices that are of dubious utility now would become more valuable if supported by accurate long-range plans and coordinated forecasts.[1]

As a means of strengthening the capital outlay process, the commission recommended the formulation of a "moving six-year plan". Each biennium, an updated and evaluated plan was to be presented with the proposed capital outlay budget. These recommendations were not implemented.

Four years later, in 1970, the *Governor's Management Study* indicated a need for better long-range, integrated planning at the State level. The report said about the capital outlay process:

> Requestees do not consistently use a forward planning procedure. Furthermore, there is no integrated statewide planning effort to ensure all capital resources are used to best advantage in making progress towards attainment of the Commonwealth's overall objectives.[2]

The study committee recommended an innovative procedure to institutionalize planning at the agency level. It suggested that agencies earmark a portion of their total general fund request to finance planning activities and to update the master site plans. This recommendation was not acted upon.

Today, many of the capital planning problems identified by these earlier studies still remain; some have intensified.

Master Site Planning

A master site plan provides information on existing and planned capital facilities. Although legislation requires preparation of site plans by the Division of Engineering and Buildings and State agencies, compliance has been generally inadequate.

Agency Site Plans. Section 4-7.01 of the Appropriations Act requires the Governor to review each agency capital outlay

request for its conformance to a master plan approved by the Governor for a program approved by the General Assembly. Officials of the division have interpreted this provision as meaning the development and preparation of agency site plans. To carry out this legislation, the division has established specific informational requirements for an agency master site plan. These include:

- a topographic map;
- a site plan map illustrating existing and proposed building sites, roads, walks, grades, monuments, main utility lines, and general scheme of landscaping; and
- overall capacity of the institution and the rated capacity of each building.

The plans are supposed to be revised if there are any changes in location, size, or use of buildings. Each agency is required to submit a copy of its master site plan to the director of the Division of Engineering and Buildings.

The JLARC survey showed that many agencies simply do not comply with master site planning requirements. Of the 46 agencies surveyed, 15 reported not having a master site plan, including the Virginia Employment Commission and the Department of State Police. Of the site plans on file at the division, JLARC reviewed a random sample of 15 in cooperation with the division staff. Each of the plans reviewed was deficient in at least one of the following ways: (1) incomplete; (2) out-of-date; or (3) did not accurately project future facility development. None of the plans contained information on building capacities. Additionally, the format and substance of the plans varied considerably, some containing substantial information and others very little. Some of the specific deficiencies noted in several of these plans are described in Table 3.

Lax enforcement of master site plan requirements may not seriously impair long-range planning, but it can create cost overruns during the project development stage. For example, not having a current master site plan at Southwest Virginia Mental Hospital necessitated a special survey before construction could begin on a covered walkway project. Even this new survey failed to locate utility lines correctly, resulting in $30,000 more in project costs than was anticipated.

As interpreted by the division, master site plans are required by legislation. Therefore, the division as well as each agency must make a concerted effort to keep these plans current. The division should make a routine practice of reviewing site plans for accuracy and timeliness. Deficiencies that are noted must be brought to the attention of the agencies involved, and appropriate changes made.

Table 3

DEFICIENCIES IN AGENCY MASTER SITE PLANS

1. *Bland Correctional Center:* The topographic map is incomplete and does not include recent structures and site work. Utilities for the dormitories are not shown.

2. *Blue Ridge Sanitorium:* A number of residences shown on the most recent drawing (1958) have been demolished. Interstate 64 (built in 1970) crosses the property, but is not shown. Extensive landscaping improvements are not illustrated on the plan.

3. *Catawba State Hospital:* The site plan on file was developed in 1957. At least one structure, the main repair and maintenance building, and existing utilities are inadequately shown.

4. *Department of State Police:* Several new buildings and facilities are not included on a 1958 map of the department's headquarters complex in Chesterfield County. Facilities not included are the physical education building, pistol range, site work on the new pistol range, and the emergency services complex.

5. *Eastern State Hospital:* A drawing was completed in 1969, but has not been revised to show the nursing education program building.

6. *Gunston Hall:* Gunston Hall, the main historical structure, and much of the estate's property are not shown on the map.

7. *Hanover Learning Center:* The topographic map and utilities map are incomplete and do not show utilities or land work associated with the latest buildings.

8. *James Madison University:* The education building and several dormitories located near a university-owned lake are not illustrated. The topographic map is incomplete.

9. *Woodrow Wilson Rehabilitation Center:* Property boundaries are not shown.

Note: none of the above site plans included information on institutional or building capacities.

Source: JLARC.

Capital Site Plan. Section 2.1-489 of the *Code of Virginia* requires the division to prepare a long-range site plan for all State buildings in or adjacent to the City of Richmond. Furthermore, Section 2.1-491 states: "No building for State use shall be erected or acquired nor other property acquired for State use, in or adjacent to the City of Richmond, unless it shall first have been approved by the Governor as conforming to the site plan as approved by him." These provisions are not being fully complied with:

- As Figure 6 shows, the April, 1970 site plan encompasses only those buildings in the immediate vicinity of the Capitol building--not the entire Richmond area as required by statute.

- When compared with the June, 1966 plan in Figure 6, the 1970 master site plan is substantially less informative. There are no topographic features; buildings are not labeled; some State-owned buildings near the State Capitol are not shown on the map (Finance Building and Federal Reserve Building); and there is no legend to distinguish existing buildings from those that are planned.

- Finally, buildings have been acquired by the State that have never appeared on a master site plan--General Assembly and Federal Reserve buildings. Additionally, the State is currently negotiating the purchase of the old Richmond city hall. But the planned use of this structure is not shown on the 1970 master site plan.

Clearly, long-range master site planning for the capital area has not been carried out in accordance with legislative provisions. In recent years, the lack of adequate long-range site planning has contributed to the random scattering of agency offices throughout the Richmond metropolitan area. In fact, a 1975 report jointly prepared by the staff of the Division of Engineering and Buildings and former Division of State Planning and Community Affairs found that:

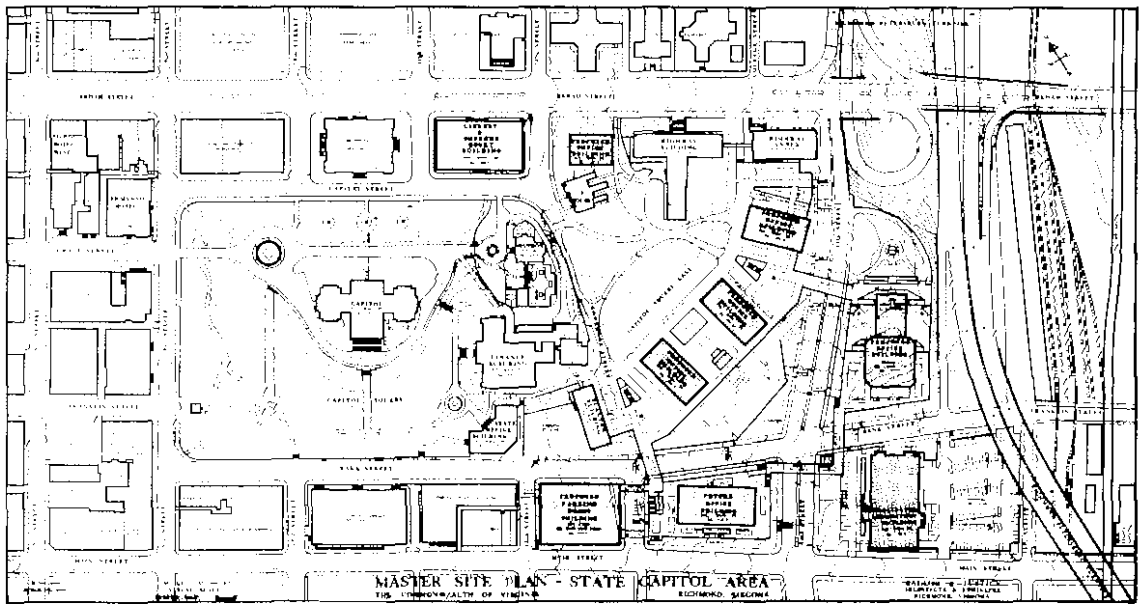
- agencies have been located throughout the Richmond area due to space limitations, agency initiative, or other causal factors; and

- State plans and policies have not kept pace with the increased demands and changing conditions of State office space utilization.

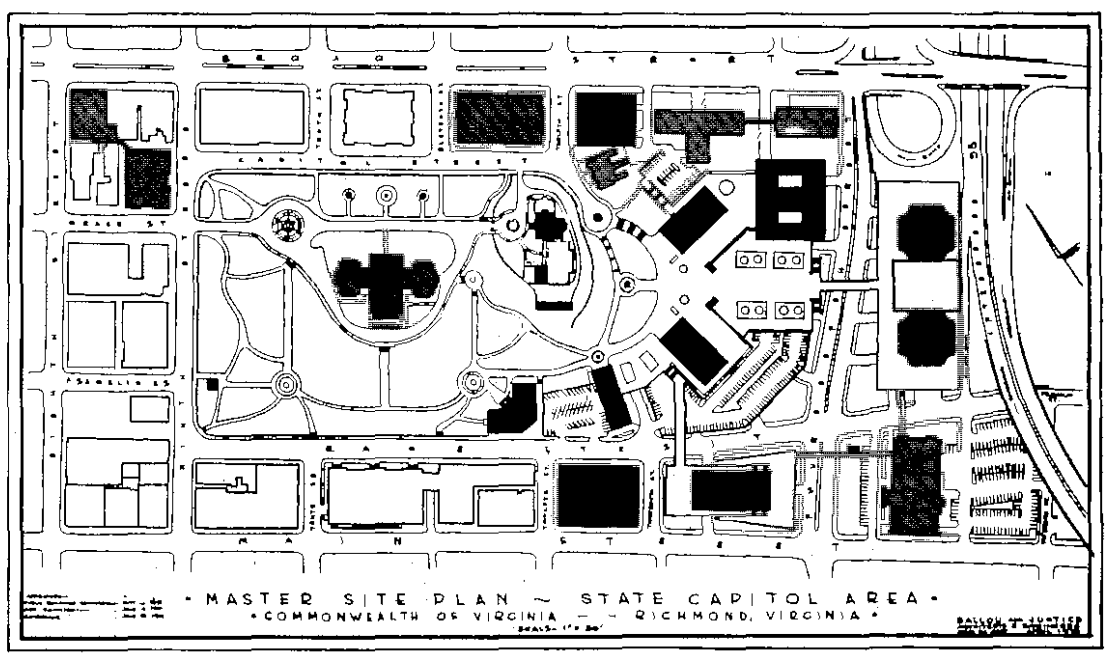
Figure 6

CAPITOL AREA SITE PLANS FOR 1966 AND 1970

1966



1970



Source: Division of Engineering and Buildings.

The division should comply with existing legislative requirements and expand the scope of its master site plan to encompass all State government facilities in the Richmond metropolitan area.

Information for Planning

Accurate and timely information is a prerequisite to effective planning. Important kinds of information that are used to determine the need for capital facilities are:

- *Space utilization standards* - These standards generally prescribe the amount of space necessary to accommodate certain types of activities or uses (for example, the amount of laboratory space per student).

- *Inventories of space* - Inventories accumulate information on capacities and adequacies of existing facilities and equipment.

- *Projections* - Projections estimate future demand for public facilities, equipment, and services.

The funding of capital projects in cases where these data are not available may lead to excessive or unnecessary construction.

In Virginia, information for planning is of uneven quality and reliability. Educational institutions are required to compile various types of facility planning data for the Council of Higher Education, but no such requirement exists for other State agencies.

Higher Education. The State Council of Higher Education has a legislatively-mandated planning role for institutions of higher education.[3] As the coordinating agency for higher education, the council maintains a comprehensive data information system. A two-man facility staff maintains utilization standards, a room inventory system, and enrollment projections which provide a sound statistical base for planning educational facility needs. Much of the data are computerized, and this simplifies data manipulation and analyses by the institutions.

The council has developed an extensive set of standards for measuring current use of space. These standards assist individual institutions and the council staff to identify space shortages and to justify the need for additional facilities.

As a special planning requirement, the council has developed detailed inventory procedures which are published in a handbook. All rooms, buildings, and parcels of land must be recorded, key punched, and submitted to the council according to

the guidelines set out in the handbook. Despite the comprehensiveness of the current inventory system, there is room for improvement. As shown in Table 4, most institutions of higher education found the renovation schedule to have only poor to fair usefulness. Another frequently-cited concern is that the inventory system does not sufficiently account for space quality. The council is developing a procedure which may improve this aspect of the inventory system.

Table 4

EVALUATION OF THE STATE COUNCIL OF HIGHER EDUCATION'S INVENTORY SYSTEM

Inventory Type		Poor	Fair	Good	Excellent	No Response
Room-by-Room	(F1)	1	3	8	5	-
Building	(F2)	1	5	9	2	-
Land	(F3)	3	4	7	3	-
Renovation Schedule	(F10)	3	8	4	1	1

Note: Based on response of 16 colleges and VCCS.

Source: JLARC agency survey.

Another responsibility of the council is to review enrollment projections. To carry out this provision, the council requires each college to project its enrollment, by level, for ten years into the future. At the same time, the council develops corresponding projections for each college with the assistance of demographic experts at the Tayloe Murphy Institute and Department of Planning and Budget. Representatives from each college and the council collaborate, resolve any discrepancies in the projections, and certify a mutually agreeable projection profile. The ten-year profile becomes a base for planning and evaluating facility requests.

Other Agencies. In contrast to the council's planning role, little central direction is given to agencies in the development of information for planning purposes. From 1966 to 1977, the Division of Engineering and Buildings was legislatively authorized to develop space utilization standards. The 1978 General Assembly modified this statute making the preparation of standards permissive. During the ten years in which legislation was in force, general standards were developed by the division for office space size.[4] However, specific standards relating to the unique needs of correctional institutions and mental hospitals have not been developed. Instead, the Department of Mental Health and Mental Retardation and the Department of Corrections must rely on generalized standards established by outside accrediting organizations.[5]

Moreover, the JLARC survey showed that 12 agencies have no utilization standards at all, including the Department of Military Affairs, Department of Game and Inland Fisheries, and the Department of Vocational Rehabilitation.

The Division of Engineering and Buildings has no specific legislative authorization to direct agencies to develop space inventories. Consequently, many agencies simply do not have information on such essential planning data as current room sizes and uses (Table 5).

Table 5

BUILDING INVENTORY SYSTEMS

Data Item	Agencies Compiling Data Item	Percentage of Agencies
Useable (assignable) area	8	36%
Room users	6	27
Room sizes	8	36
Room use	5	23
Room quality	2	9

Agencies responding: 22 (excludes educational institutions)

Source: JLARC agency survey.

Finally, projections are an important aspect of long-range planning, particularly at agencies with rapidly changing patterns of service. Because of the time involved in designing and constructing a major new facility, agencies must have the capability to anticipate future increases or decreases in population, clients, and service needs. However, responsibilities within State government for work load projections are diffuse. The Department of Planning and Budget, through Section 2.1-391(B) of the *Code of Virginia*, has overall responsibility for development, storage, retrieval and dissemination of data on the social, economic, physical, and governmental aspects of the State. But, neither the department nor the Division of Engineering and Buildings has developed methods for bringing projections into the capital outlay planning process. As a result, work load projections at the agency level are not always reliable indicators of future capital outlay needs.

Agencies compile a great deal of information that can be used for planning. However, much of this information is disorganized, unreliable, or out-of-date. The Department of Planning and Budget and the Division of Engineering and Buildings should provide agencies greater direction in developing a more uniform and accurate data base for capital planning.

Planning of Operating Programs and Capital Outlays

Capital needs should be identified as operating programs are being planned. This type of planning is commonly referred to as program planning and involves the identification of public needs, development of goals and objectives, analysis of alternative programs to achieve objectives, and identification of operating and capital expenditures needed to implement programs.

In 1976, the General Assembly directed the Department of Planning and Budget to establish such a planning system for all agencies to follow. However, a recent report prepared by the Commission on State Governmental Management found the department had made limited progress in implementing its program planning duties. Budget officials have indicated to JLARC staff that the findings of the report are essentially correct--traditional budget functions have received a higher priority than program planning. Officials also indicate that greater emphasis will be placed on the planning of operating programs during the 1980-82 budget cycle.

However, in spite of all the attention being directed at strengthening central management, review, and control over operating programs, no formal actions have been taken to include the planning of capital outlays. Capital outlay administration should be an integral part of program planning and budgeting. As programs are developed by agencies, capital needs should also be determined. The separation that currently exists between operating programs and capital outlays does not ensure that this task will be effectively carried out by agencies. Neither the department nor the Division of Engineering and Buildings has taken steps to identify the planning relationship between operating programs and capital outlay needs.

BUDGETING

Capital budgeting is essentially a continuation of the planning process. Information developed during the planning phase is used in preparing the capital budget proposal for the Governor's review and consideration. The ultimate product is the executive budget which is presented to the General Assembly. In a sense, the biennial budget is a short-range plan which allocates limited revenues and establishes a two-year capital outlay program to be pursued by the State.

Program Review

A major function of the budgeting phase should be to achieve effective coordination between the operating and capital budget. To ensure that projects will be able to accommodate

programs satisfactorily, agency objectives and plans must clearly justify the need for capital improvements. Thus, it is critical that an agency demonstrate how a project request will assist it in achieving program objectives. This determination is a key step in the decision to include a capital request in the executive budget. Accordingly, the budget process must be able to effectively evaluate agency requests in terms of program implications.

Lack of Central Review. Several agencies participate to some extent in reviewing agency requests for capital outlay funds. However, no central agency performs a comprehensive program analysis of the project. Such an analysis would include a detailed review of:

- project conformance with agency plans and programs;
- the adequacy of the planning process by which the agency prepared its request; and
- the impact of the project on other projects within the same general program area.

Because there are two independent budget processes, neither the Division of Engineering and Buildings nor the Department of Planning and Budget carries out an extensive program analysis of project proposals. The Division of Engineering and Buildings, which is largely staffed with architects and engineers, has limited itself to performing a technical review of project applications, and only a cursory review of program compliance. On the other hand, the Department of Planning and Budget has professional staff who are skilled in policy and program analysis, but it has no role in the evaluation of capital budget requests.

While the capital budget is being prepared, the cabinet secretaries are supposed to play a major role in reviewing and coordinating agency resource needs. Legislation adopted by the 1976 General Assembly calls for each agency to report its budget request "through the responsible Secretary designated by statute or executive order". In addition, the statutory provisions assign each secretary the duty of directing "*the formulation of a comprehensive program budget... encompassing the programs and activities of the agencies*" under his or her supervision (emphasis added).[6] Essentially this legislation directs each cabinet secretary to consolidate the budgets of all the agencies under his supervision into a single program budget.

The role of the secretaries in the capital budget process was recognized by the Division of Engineering and Buildings in a memorandum dated June 12, 1974. The memorandum specified that:

> Each member of the Cabinet (shall)...prepare and provide the Division of Engineering and Buildings with a priority listing of projects that they determine worthy of serious consideration for inclusion in the Governor's recommended budget both: (a) in a consolidated listing covering all agencies and institutions within their functional group, and (b) in a priority listing covering each total department or total institutional request (as opposed to individual institutional priorities in the case of multiinstitutional agencies).

The division has attempted to encourage secretarial involvement in the capital budget process. However, participation of the cabinet secretaries in capital budgeting has been limited and unsystematic, at best.

The State Council of Higher Education reviews capital budget requests of higher education institutions. Although the council has a degree of familiarity with the programs and missions of each institution, its review does not yet formally examine the relationship between educational programs and facility needs. Furthermore, colleges and universities are not routinely required to submit this information to the council. Instead, the council relies upon space guideline statistics. As a result, some colleges rely solely on these statistics as their justification for a capital request even though space guidelines were not meant as a substitute for program-based information. Accordingly, the council should take appropriate steps to develop an effective program analysis of college requests which can later be used by the Governor and General Assembly in their deliberations on the State budget.

Finally, one device that has been used to acquaint the Governor and the General Assembly with the capital outlay needs of various government programs has been the biennial budget tour. The impetus for the tour has been the statutory requirement that the Governor and his assistants biennially survey State agencies to obtain a working knowledge upon which to base budget recommendations.[7] At each of the stops, a brief meeting is held with agency administrators regarding the capital outlay needs for their facility. However, the limited scope and depth of this tour minimizes its potential value in presenting information that would be useful in analyzing the full impact of project proposals on agency programs.

Effects of Inadequate Program Review. The effects of program requirements not being adequately considered as part of the capital outlay process are demonstrated in the following case studies.

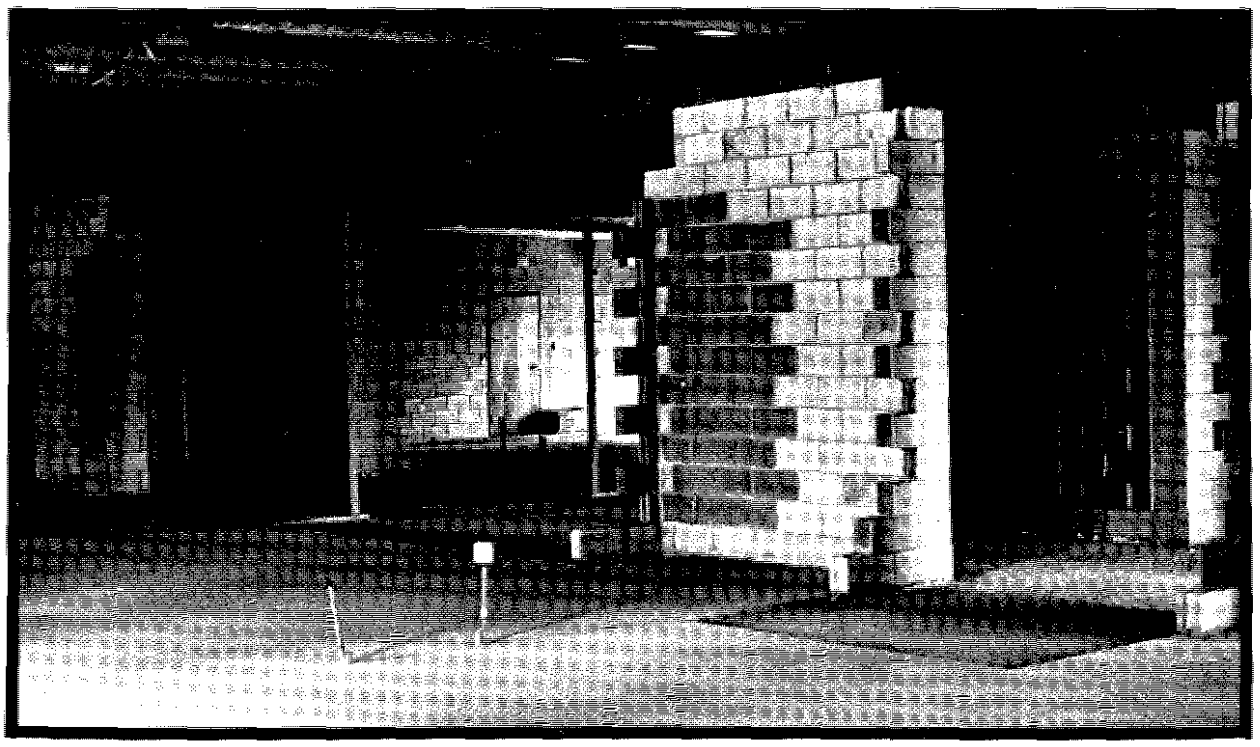
Figure 7

HIGH SCHOOL FOR THE BLIND
VIRGINIA SCHOOL AT HAMPTON, EXTERIOR

Source: JLARC.

Figure 8

VIRGINIA SCHOOL AT HAMPTON,
INCOMPLETE INTERIOR ROOMS



Source: JLARC.

Virginia School at Hampton

Until 1974, the Commonwealth had two separate schools providing academic and vocational education to deaf and visually handicapped students--the Virginia School for the Deaf and the Blind at Staunton and the Virginia School at Hampton. In 1971, a 12-room high school building for blind students was planned for the Hampton campus. In 1973, the Virginia School at Hampton requested an estimated $400,000 to construct this building.

Based on a study conducted in 1973 by the Secretary of Human Resources, a decision was made to consolidate all State high school programs for the blind at the Hampton campus. Funds were included in the 1974-76 capital outlay budget for the high school building. Construction proceeded on the building and the exterior was completed (Figure 7). However, the project encountered cost overruns and only five of the 12 interior rooms were completed (Figure 8).

Although the 1973 study indicated a trend toward a decreasing number of blind students requiring high school residential care, no adjustments were made in the size of the proposed high school facility. Recent statistics show that enrollment has declined slightly between 1974 and 1977.

The high school's enrollment is not large enough to justify the new high school. In fact, only one of the completed classrooms is used by blind high school students. The others are used by blind elementary age children. Thus, only a small fraction of this building is actually being used by the educational program for which it was initially built.

A thorough analysis of the educational programs and facility needs of the Virginia School at Hampton would have indicated that the high school for the blind was too large or unnecessary.

Department of Mental Health and Mental Retardation

In 1974, $2,935,300 was appropriated to the Department of Mental Health and Mental Retardation for the construction of the Southern Virginia Mental Health Institute at Danville, a 100-bed inpatient mental hospital, which also includes an outpatient unit.

Planning for this hospital included adapting the plans from the Northern Virginia Mental Health Institute. This included building an entire wing for outpatient services.

The hospital was built as planned. However, the outpatient clinic has never been used as intended since a fully operational psychiatric outpatient clinic for the City of Danville is located nearby and has not relocated to the new hospital. Other changes from the designed space use include: an x-ray room being used for storage and certain program areas being altered to provide a canteen for staff members. Thus, it was unnecessary to fund the construction of these additional spaces in this facility.

These case studies illustrate the need to develop a closer relationship between the operating and capital budget processes. During the early stages of budget preparation, greater attention must be given to the program implications of project proposals. This can be accomplished by systematically involving the Department of Planning and Budget and the cabinet secretaries in the capital budgeting process.

Budget Information

The capital outlay manual specifies that each agency must justify its request with a project report (CO-2 form) containing information on need, priority, standards and cost. A JLARC review of these reports indicates that project information is often incomplete or unreliable.

An analysis of agency capital outlay requests for the 1978-80 biennium revealed that supporting documentation and project cost data were frequently in error or missing. The analysis was based on a review of eight common data elements required by the Division of Engineering and Buildings in its capital outlay manual and letter of instructions to agencies. Table 6 lists the eight data elements and shows the frequency of incomplete or missing data among the capital outlay project requests sampled by JLARC.

As Table 6 indicates, agencies are routinely submitting project requests that are incomplete. For example, the omission of required data in certain cost categories occurred as frequently as 68 percent of the time in the sampled requests. Because agencies are given six months to prepare the requests, it is inexcusable that the quality of these submissions is so poor.

An incomplete project request results in delays in the technical review which the division conducts on each project. An extra burden is placed on the division because it must notify the

Table 6

COMPLETENESS OF CAPITAL OUTLAY REQUESTS
(Initial CO-2 Form Submission)

	Sample Size	Number Incomplete	Percentage Incomplete
Supporting Documentation			
Utility needs (e.g., capacity of existing utilities)	5	1	20%
Utilization data (e.g., space occupied, number serviced)	17	4	24
Mandated projects (e.g., regulatory agency citations, accreditation needs)	5	3	60
Cost Information			
Breakdown of construction costs into components	42	9	21
Inflation rate documentation	52	15	29
Utility projects - breakdown of costs for equipment and materials	17	7	41
Furniture costs documentation	13	7	54
Source of cost estimates	50	34	68

Source: JLARC analysis of 55 project requests (CO-2 form).

agency involved to supply the missing information on its project. More importantly, these incomplete requests cast doubts on agency planning and budgeting procedures since even routine and basic information is often missing.

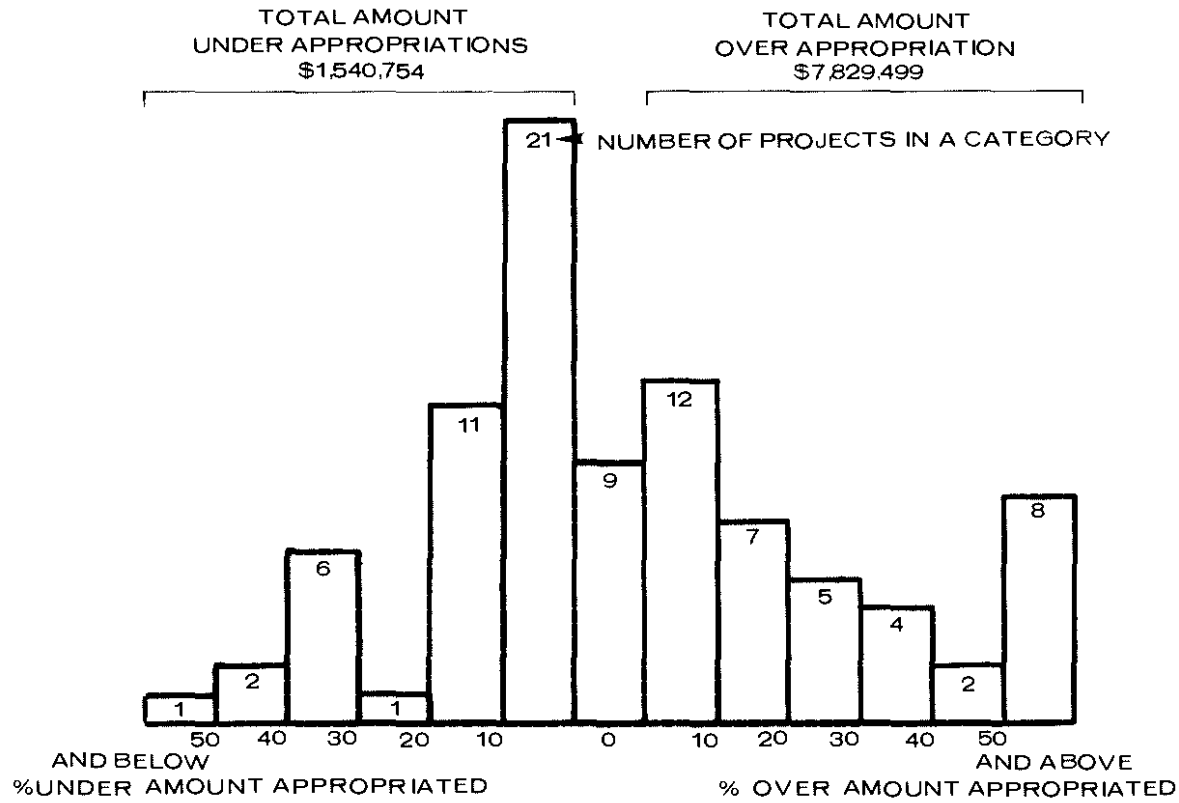
Appropriations and Project Cost

Once the general information requirements for a project have been adequately met, the Division of Engineering and Buildings reviews the *accuracy* of the cost information submitted by the agency. The biennial appropriations act directs that the following two cost determinations be made: (1) whether proposed plans and specifications involved expenditures which are excessive for the purposes intended; and (2) whether labor, materials, and other requirements can be obtained at reasonable costs.

To ensure compliance with these requirements, the Division of Engineering and Buildings has required agencies to provide information on the breakdown of project costs including plumbing, heating and air conditioning systems, structural systems, furnishings, equipment, utilities, site work, and architect's fees. Agencies are also requested to document the source of cost estimates and to compute an inflation factor. Sometimes an architectural or engineering firm will develop this cost information for the agency, either on a remunerative or on a gratis basis. Occasionally, the division will adjust agency cost estimates when they appear grossly inaccurate.

Figure 9

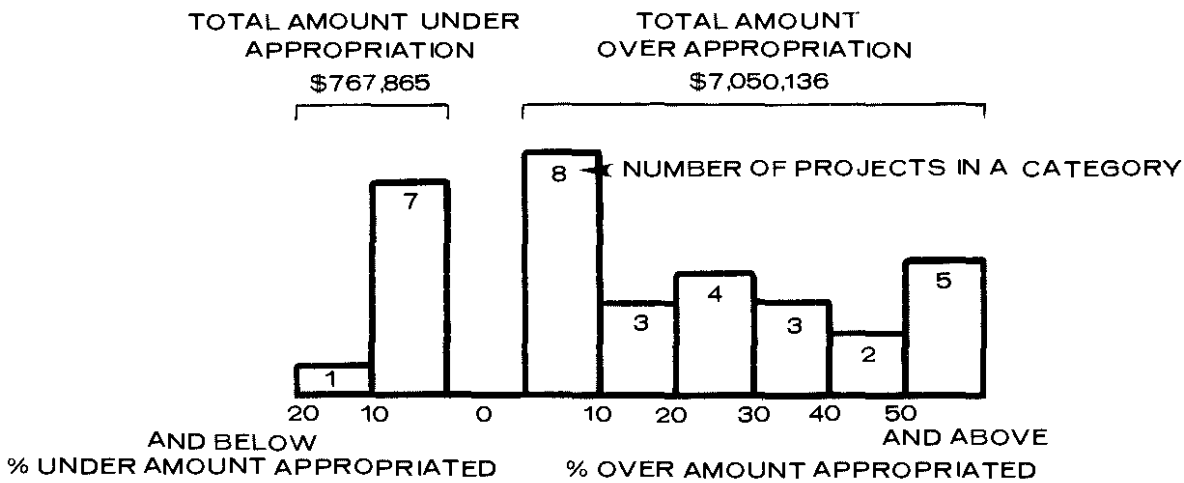
COST COMPARISON:
ORIGINAL APPROPRIATION TO PROJECT COMPLETION
(89 Projects)



Source: JLARC Analysis, 1972-74 Capital Outlay Projects.

Figure 10

COST COMPARISON:
ORIGINAL APPROPRIATION TO PROJECT COMPLETION
(33 Projects - New Construction Only)



Source: JLARC Analysis, 1972-74 Capital Outlay Projects.

The accuracy of project cost information submitted to the General Assembly was analyzed as follows:

- The actual cost of the project was compared to the original appropriation.

- Of the projects appropriated during the 1972-74 biennium, 89 were selected for analysis. The total amount appropriated for these projects was $77.8 million.

- Cost comparisons were made: (1) for all types of capital outlay projects, and (2) for new construction projects only.

The JLARC analysis found numerous instances of project estimates being inaccurate or unreliable. In fact, of the 89 projects for which cost data were available, 38 cost more than the original appropriation (Figure 9). An additional $7.8 million was needed to complete these projects. As Figure 10 shows, most of the cost overruns occurred on new construction projects.

There are several reasons for final project costs exceeding initial appropriations, including the general lack of professional consultation at the agency level and the absence of a cost estimating capability within the Division of Engineering and Buildings. Other reasons may include alteration of project scope, inflationary costs, and site conditions. The following case studies illustrate agency cost estimation problems.

George Mason University

George Mason University requested a total of $264,395 in the 1972-74 biennium for the construction of a 12,000 square foot maintenance building and the extension of utilities to the site. The Division of Engineering and Buildings and the Governor recommended an appropriation of $224,455, which the General Assembly granted.

The construction bids far exceeded the project budget. As a result, funds were transferred from other university projects to finance the construction of the building. The ultimate cost of the project was $339,022. Although the facility is a relatively simple structure, the budget request was in error by 28 percent and the recommendation made by the division was in error by 51 percent.

Mary Washington College

Mary Washington College was appropriated $4,750 in 1970 to hire an architect and develop plans for a maintenance and storage facility. Based on these plans, the college requested $483,250 for the 1972-74 biennium to construct the facility. The Division of Engineering and Buildings recommended that only $447,250 be appropriated and the General Assembly concurred with this amount. Bids received were too high and to bring the project in line with the amount appropriated, college officials eliminated many aspects of the project, including curbs and gutters. Even with these modifications, a total of $586,913 was required to build the facility. The college's estimate was in error by 21 percent and the division's estimate was in error by 31 percent.

Virginia School for the Deaf and the Blind

For the 1968-70 biennium, the Virginia School for the Deaf and Blind in Staunton requested capital outlay funds in the amount of $152,640 for renovation of Swanson Hall, an elementary school building. The Division of Engineering and Buildings determined from its review that the cost estimate was too high and consequently the recommendation made to the General Assembly was that only $115,800 be appropriated for the project. The school was appropriated the recommended figure.

Upon securing the services of an architect for the project, it was found that the funds were grossly inadequate to perform the renovation since it necessitated extensive structural support work. The project ultimately cost $276,700. The school's estimate was in error by 81 percent and the division's estimate was in error by 139 percent.

These case studies indicate that the Division of Engineering and Buildings and other State agencies have considerable difficulty in estimating project costs accurately. The division is unable to generate more accurate cost estimates for construction projects because the majority of its staff effort is concentrated on reviewing projects after legislative authorization. Consequently, the legislature is denied reliable cost information when considering the full fiscal impact of the capital budget.

STRENGTHENING THE PLANNING AND BUDGETING PROCESS

The need for an effective capital outlay planning and budgeting system is of extreme importance because of the large number of agency requests for capital improvement funds. However, Virginia lacks a systematic approach to capital planning and budgeting. Legislative policies and administrative procedures do not call for the Department of Planning and Budget to participate in the planning of capital outlays. While the Division of Engineering and Buildings has been assigned lead responsibility for the capital outlay budget, it does not have a central planning function or conduct a program analysis of proposed projects.

In order to ensure closer coordination between operating programs and capital improvement requests, meaningful ways must be found to meld the program planning duties of the department with the design and engineering expertise of the division.

Planning

In order to be effective, capital outlay planning must be a part of the larger process by which the State plans and develops its operating programs. Each agency should relate long-range capital needs to specific program goals.

Recommendation (1). The Department of Planning and Budget should develop uniform guidelines for the submission of long-range capital outlay plans which require each agency to relate its capital needs to program goals. These guidelines should mandate a planning period of more than a single biennium. Each agency should be required to estimate the fiscal impact of all new construction on the operating budget.

Recommendation (2). The Department of Planning and Budget should formulate a statewide long-range plan for capital development. This plan would project the Commonwealth's capital outlay needs over a period of more than a single biennium. The plan should be updated every two years.

Information for Planning

Accurate and timely information is essential to the Governor and General Assembly in deciding on capital outlay needs and priorities. Planning information usually includes projections, space inventories, and space use standards. Currently, no central agency is responsible for developing a uniform information base for capital outlay planning.

Recommendation. The Department of Planning and Budget, with the assistance of the Division of Engineering and Buildings,

should establish and maintain an information system for all non-higher education agencies which contains the amount of space in each building and the programs to which it has been assigned. Further, the department, with the cooperation and assistance of individual agencies, should develop uniform methods for accurately projecting agency work loads and service demands and should establish space standards which accurately reflect the amount of space needed to meet agency program objectives.

Master Site Plan

A master site plan is a map which illustrates existing and planned capital facilities. This plan can be used to identify functional relationships between buildings and to guide the future location of buildings and utilities. Although the manual prepared by the Division of Engineering and Buildings requires agencies to develop master site plans, few agencies actually have useful, up-to-date plans. Furthermore, the division has failed to comply with legislative provisions requiring the development of a long-range site plan for all State facilities in the Richmond area.

Recommendation. The Division of Engineering and Buildings should place a high priority on revising and updating agency master site plans. The division should develop a uniform format for the submission of master site plans and direct all agencies that own property to comply with these site planning requirements. In addition, the division should prepare a long-range site plan as statutorily required for State buildings in and adjacent to the City of Richmond.

Budgeting

Capital projects often require increased operating expenditures. Therefore, capital budgeting should be integrated with the operating budget to determine the full impact of new facilities. Currently, the Commonwealth has two totally separate budget processes. The capital outlay budget is prepared by the Division of Engineering and Buildings, while the operating budget is developed by the Department of Planning and Budget. This approach defeats the purpose of the new program budgeting process which calls for an integrated planning and budgeting system.

Recommendation. The Commonwealth should have an integrated budget system operated by a single agency. To accomplish this, the Department of Planning and Budget should be assigned the full responsibility of preparing the capital outlay budget and carrying out an in-depth program analysis of project proposals. The role of the Division of Engineering and Buildings should be to provide expert and technical advice in areas relating to the capital budget, such as project cost estimates and engineering reviews. Under this organizational arrangement, administration of the project execution phase would remain with the division.

III. Project Implementation

The implementation phase involves project initiation, design, and construction. While better defined procedurally than capital outlay planning and budgeting, segments of this phase lack efficient and effective central control.

Agencies bear the primary burden for carrying out project management activities including initiation, facility planning and design, and hiring of architects and engineers. In contrast, the Division of Engineering and Buildings and the Department of Planning and Budget assume a reactive role in the implementation phase. The division and department are preoccupied with form processing and responding to specific project problems. Agency autonomy over capital outlay operations and the absence of strong central leadership have resulted in several problems which require the immediate attention of the Commonwealth, most notably: (1) the initiation of unauthorized capital outlay projects, (2) unreliable estimates of project costs, and (3) lengthy delays in project completion.

Despite legislative and administrative prohibitions, some capital projects have been planned and constructed without the required authorization of the executive and legislative branches.

PROJECT INITIATION

Because capital projects are costly, controls are necessary to prevent agencies from prematurely initiating projects without review and approval. In Virginia, once funds for a capital project have been appropriated, an agency must obtain the approval of the Division of Engineering and Buildings and the Department of Planning and Budget before project initiation. Two measures which can be used to assess the effectiveness and efficiency of project initiation controls are: (1) the extent to which agencies are complying with existing requirements and (2) the length of time required to review and approve project initiation requests.

Agency Compliance

Section 4-7.01(c) of the 1978-80 Appropriations Act clearly states that agencies cannot initiate capital improvements without the prior approval of the Governor.

> No architectural or engineering planning for, or construction of, or purchase of any capital outlay project shall be commenced or revised without the prior written approval of the Governor.

Despite the existence of similar legal provisions in prior appropriations acts, at least three agencies--University of Virginia, Virginia Polytechnic Institute and State University, and Virginia Institute of Marine Science--have initiated nearly $1 million in unauthorized capital improvements since 1965.

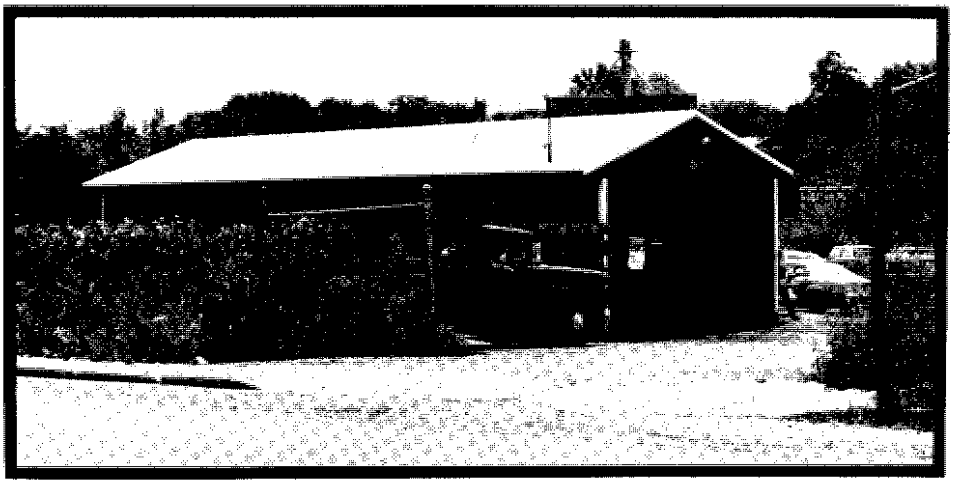
University of Virginia

Between 1965 and 1977, the University of Virginia constructed eight unauthorized sheet-metal buildings (a total of 31,825 square feet) to accommodate research, storage, and maintenance-related activities. Total cost of the unauthorized structures exceeded $325,000.

In addition, the University attempted to renovate Medical Research Laboratory #3 (one of the eight unauthorized buildings) in early 1978 without obtaining the necessary approval from the Governor or General Assembly. The first stage of the renovation was to construct plastic surgery and general surgery laboratories and was expected to cost $200,000. In June, 1978, the university halted construction in order to seek appropriate approval.

Figure 11

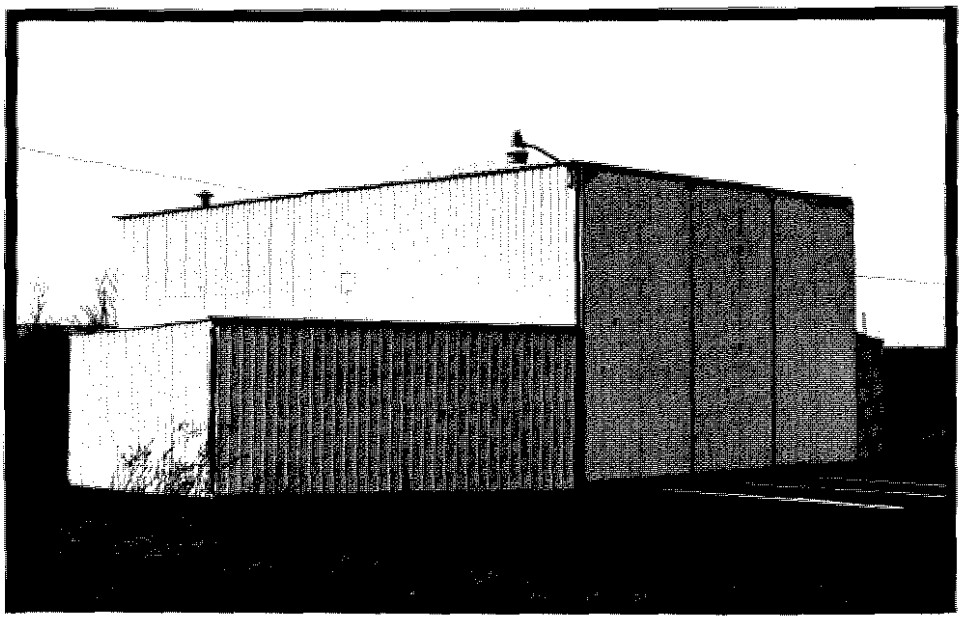
UNAUTHORIZED VEHICLE MAINTENANCE BUILDING AT UNIVERSITY OF VIRGINIA



Source: JLARC.

Figure 12

UNAUTHORIZED AIRPLANE HANGAR AT
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY



Source: JLARC.

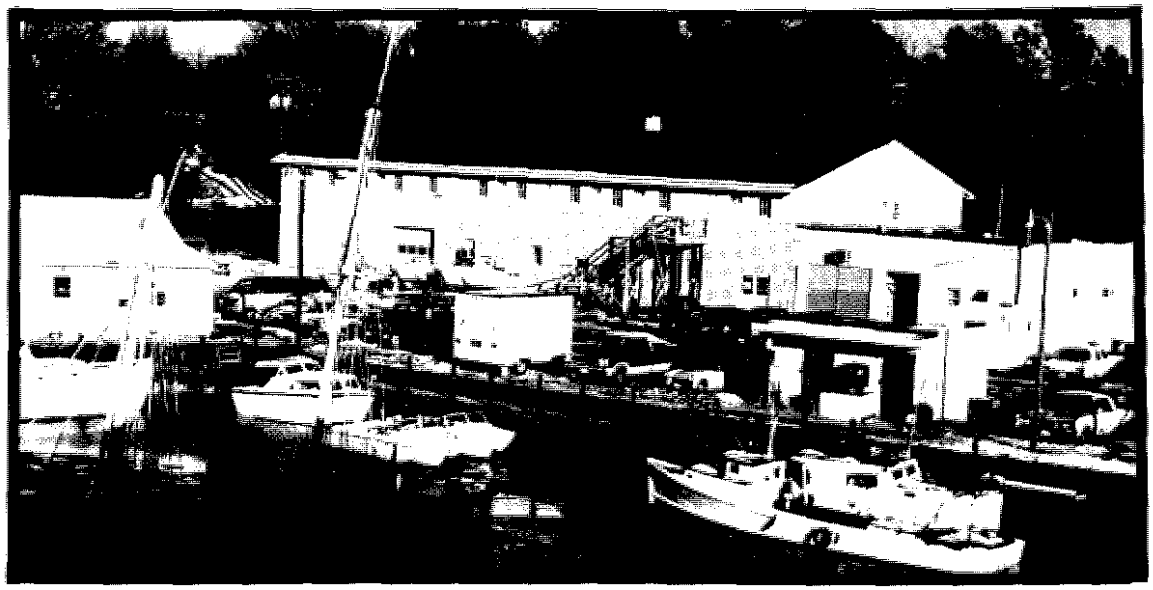
Virginia Polytechnic Institute and State University

Two airplane hangars at the Virginia Polytechnic Institute and State University airport were built without the approval of the Governor or General Assembly. The first was an eight-plane hangar which cost over $50,000 and was occupied in February, 1971. The second (Figure 12) was built to house a twin-engine plane and was occupied in February, 1974. The cost of this hangar was $8,803.

Funds for the two hangars were provided by the VPI&SU Educational Foundation, a private alumni organization. The funds are being repaid through hangar rental fees. The larger loan was paid off in 1975; the smaller loan will be repaid in 1979.

Figure 13

UNAUTHORIZED CONSTRUCTION AT THE
VIRGINIA INSTITUTE OF MARINE SCIENCE



FRANKLIN HALL

JEFFERSON HALL

Source: JLARC.

Virginia Institute of Marine Science

Major expansions of two buildings--Jefferson Hall and Franklin Hall (Figure 13)--were undertaken by the Virginia Institute of Marine Science (VIMS) without the approval of the Governor or General Assembly. The Total estimated costs of these projects exceeded $300,000.

Construction was started on Jefferson Hall in 1972 and included three additions totaling 6,610 square feet. Direct costs for materials were over $30,000, but there is no documentation of labor costs since VIMS used its maintenance staff. Nevertheless, based on an index of 1974 construction prices, the cost of the three additions was over $100,000.

Between April, 1973 and mid-1975, three major additions were made to Franklin Hall. Originally, the building contained 2,558 square feet. Until June, 1978, work was continuing on the interior of these additions. The construction has been performed by agency personnel.

The total cost of the Franklin Hall project was estimated by the Division of Engineering and Buildings to approximate $200,000. However, only a small portion of the costs incurred in the construction of this facility can be traced due to inadequate accounting and bookkeeping procedures.

On May 9, 1978, the Joint Legislative Audit and Review Commission transmitted a special report to the Governor on the construction of unauthorized capital projects at the institute as well as abuses in the handling and reporting of expenditures for authorized projects.

As a result of this report, the Board of Administration at VIMS has initiated several actions to bring the institute's capital outlay program into compliance with State law. One of these actions was the cessation of all building improvements to Franklin Hall.

Explanations for Unauthorized Projects

Two agency-related reasons exist for the occurrence of unauthorized projects--misinterpretation and intentional abuse of the process. Agency misinterpretations result from the lack of a concise definition of a capital outlay. Several problems with the definition were identified in chapter one. Unless the definition is comprehensive, explicit and readily accessible, it is to be expected that capital projects will continue to be undertaken by agencies without the approval of the General Assembly and Governor.

It is relatively easy for agencies to intentionally circumvent the process since:

- no penalties exist for administrators who are responsible for the abuse; and

- central agencies rarely inspect agency capital outlay activities for compliance with State laws and authorized appropriations.

Agencies exercise a great deal of independence over fund resources without corresponding accountability for the misuse of these funds.

To ensure that funds are not expended on unauthorized capital outlay projects, appropriate statutory sanctions should be established to hold agency administrators financially accountable for such expenditures. Moreover, agency capital outlay activities must be more closely monitored by the Division of Engineering and Buildings, Department of Planning and Budget, and Department of Accounts.

Delays in Project Initiation

A project initiation request (CO-1 form) may be submitted to the Division of Engineering and Buildings and Department of Planning and Budget immediately following passage of the appropriations act. However, most requests are not submitted until after the start of the biennium, almost three months later. The submissions usually include a request to employ an architect or engineer and to receive a fund allotment. Any major time delays after the start of the fiscal year could adversely affect project cost. Therefore, it is essential that project initiation proceed as swiftly and smoothly as possible.

Yet, data show that substantial delays occur in the Department of Planning and Budget. Based on the JLARC survey, 32 agencies indicated that form processing in the department is a source of consistent project delays. Fourteen agencies indicated

the time delays occurred with the approval of the project initiation form. Typical agency responses follow:

- An official of the Commission of Game and Inland Fisheries stated that "the most consistent problem has been time delays in getting authority to initiate a capital outlay project (CO-1 form) approved by Department of Planning and Budget".

- According to a spokesman for Old Dominion University, "the State budget office has, for the past several years, been unable to process CO-1 forms and allot funds in a timely manner. 60 to 90 days are the general rule".

JLARC follow-up concerning these problems showed that approval of eight selected Department of Mental Health and Mental Retardation projects required an average of 111 calendar days to be reviewed (Table 7).

Table 7

PROJECT INITIATION TIME DELAYS:
DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

Project Name	Project Size	Review Time-Days: Division of Engineering and Buildings	Review Time-Days: Department of Planning and Budget
Correction of Fire Hazards, Eastern State Hospital	$ 27,470	3	269
Remodel Buildings, Eastern State Hospital	1,089,500	2	89
Parking Spaces and Road, Petersburg Training School	27,500	3	37
Condensing Unit, Petersburg Training School	2,950	84	68
Fire Alarm System, Southside Virginia Training Center	24,486	3	196
Sprinkler System, Southwestern Virginia Training Center	80,000	5	93
Equipment, Southern Virginia Mental Health Institute	270,000	24	72
Renovations, Western State Hospital	80,840	4	64
Average Review Time		16	111

Source: Department of Mental Health and Mental Retardation.

Another source of delays is the review and approval of fund allotments. The Commission of Game and Inland Fisheries reported that 50 percent of its 1976-78 projects required an average of 25 days to have funds allotted following approval of project initiation (Table 8). In fact, four projects required one month or more to process. The capital outlay manual explicitly states that allotments shall be made "at the time" of the CO-1 form approval. However, the Department of Planning and Budget estimates that allotments at this stage for "clean projects"

Table 8

ALLOTMENT TIME DELAYS:
DEPARTMENT OF GAME AND INLAND FISHERIES

Project Name	Date DPB Approved CO-1 Form	Date DPB Approved Allotment	Elapsed Time (Days)
Development of Crooked Creek	10-7-76	1-7-77	92
Stafford County Fish Lake	10-28-76	11-3-76	6
Dismal Swamp Access	10-18-76	10-26-76	8
Gloucester Point Access	10-22-76	11-12-76	21
White Bank Access	10-22-76	11-17-76	26
Clover Bridge Access	10-22-76	11-17-76	26
Watkins Bridge Access	10-22-76	11-17-76	26
Improvement of Game Division Structures (Statewide)	10-13-76	10-13-76	0
Motts Run Access Area	10-22-76	11-17-76	26
Repair Onancock Boat Ramp	12-7-76	12-13-76	7
Land Addition, Rappahannock Wildlife Management Area	11-29-76	2-9-77	41
Land Addition, Amelia Wildlife Management Area	12-8-77	12-28-77	20
Land Addition, Crooked Creek	1-3-77	2-16-77	44
Land Addition, Rappahannock Wildlife Management Area	2-1-77	2-9-77	8
Land Addition, Rappahannock Wildlife Management Area	2-9-77	2-15-77	6
Design Dam Repair-Laurel Bed	4-12-77	6-10-77	59
Land Addition, Chickahominy Wildlife Management Area	4-29-77	5-2-77	3
Repair, Brookneal Hatchery	6-8-77	8-12-77	65
Land Addition, Crooked Creek	5-20-77	6-8-77	19
Land Addition, Powhatan Wildlife Management Area	7-1-77	7-15-77	14
Land Addition, Ragged Island	7-1-77	7-6-77	5
Average Review Time			25

Source: Department of Game and Inland Fisheries.

involving only general funds take from 7 to 10 days. Projects with more complex funding take even longer to be approved. Factors which aggravate the timely processing of forms by the department include incomplete data being submitted by agencies and large numbers of requests being submitted simultaneously. In spite of this, there is substantial disagreement between the statement contained in the manual and the department's actual allotment practices. The department should develop a procedure where project approval and an initial allotment of funds occur immediately at the start of the new biennium.

Many of the JLARC findings concur with a recent report of the Department of Management Analysis and Systems Development. The report was critical of the Department of Planning and Budget's system for reviewing and approving capital outlay forms. Important reasons cited for delays in form processing were: (1) duplication of technical reviews already performed; (2) nonessential data corrections; and (3) unnecessary research of historical records.

PROJECT DESIGN

The design phase formally begins after the project initiation documents are approved. Funds are used to engage an architect or engineer to prepare project plans and drawings. After final drawings have been approved by the Division of Engineering and Buildings, a cost estimate is prepared. The following discussion reviews several key aspects of the design phase including the selection of architects and engineers, participation of regulatory agencies in project review, and project cost estimates.

Selection of Architects and Engineers

Due to the absence of legal and administrative provisions, agencies have total discretion in selecting architects and engineers. This may lead to questionable practices in the selection of firms. Three different selection methods are used by agencies ranging from open invitations to direct employment of a firm which has performed well in the past. The JLARC survey indicated that direct employment of a firm is the most commonly used practice (Table 9). Additionally, 11 agencies reported that one person had primary responsibility for selection of the architect or engineer. Others do use screening committees. Direct employment of a firm, coupled with a single individual responsible for engaging consulting services, is likely to stifle competition among architectural and engineering firms and may not always result in the best possible building design at the lowest possible cost.

Another practice restricting selection is the provision of services by architectural and engineering firms at no cost to

Table 9

ARCHITECT AND ENGINEER SELECTION METHODS USED BY AGENCIES

Method	Number of Agencies	Percent
Direct Employment	26	70%
Selective Invitation	6	16
Invitation - All Firms	5	14

One agency used the competition method for selection.

Source: JLARC Survey.

the agency. Due to the lack of cost estimation expertise of agency staffs, agencies often rely on free estimating services provided by consulting firms. This practice does not legally commit an agency to later hire the same firm. However, 83 percent of surveyed agencies indicated that they have hired the firm that initially provided estimating services.

Moreover, certain agencies have relied exclusively on one architectural or engineering firm for project planning and design services for many years. Norfolk State College, for the most part, has employed the same architectural firm over the last 15 years. The College of William and Mary and Christopher Newport College have acted in a similar manner. Most surprising, however, is that one architectural firm has a contract in perpetuity with Western State Hospital for designing certain types of facilities. This contract was signed in 1946 and has been determined twice to be a legal contract by the Office of the Attorney General.

Complex and time consuming procedures have been developed in several states to correct abuses in hiring practices. For example, because of abuses, Maryland and New Jersey have had to develop centralized selection procedures for employing architectural and engineering firms. There does not appear to be a need for such elaborate procedures in Virginia. During this study, no evidence of abuse in the selection of professional consulting firms by agencies was encountered. Nevertheless, public agency selection practices should be clearly defined and carefully monitored. Steps should be taken by the Division of Engineering and Buildings to ensure greater uniformity in agency selection practices. Also, all nonstandard contracts should be required to be reviewed and approved by the Office of the Attorney General.

Drawings Preparation and Regulatory Review

The preparation of drawings is a critical activity for agencies. It is at this point in the capital outlay process that agencies communicate their program and project needs to the

architect. The architect is responsible for translating these needs into project criteria and final working drawings.

While drawings are being prepared, various regulatory agencies may review the proposed project to ensure compliance with federal and State regulations. As many as 11 different State regulatory agencies can review and approve drawings (Table 10). Some of these agencies may also inspect projects under construction and at completion. In addition, there are numerous federal agencies such as the Environmental Protection Agency, the Army Corps of Engineers, and the Coast Guard which may have review authority, depending on the project.

Table 10

EXAMPLES OF STATE REGULATORY OR REVIEW REQUIREMENTS

Name	Type of Project Reviewed	Average or Maximum Review Time
Review Agencies		
Historic Landmarks Commission	Affecting registered landmarks	-
Department of Vocational Rehabilitation	All requiring handicapped access	-
Art and Architectural Review Council	External improvements and ornamental fixtures	-
Council on the Environment	Projects over $100,000, except highway-related	60 days[1]
Regulatory Agencies		
Fire Marshal	Public buildings	-
Department of Labor and Industry	Boilers and pressure vessels	21 days[2]
Air Pollution Control Board	Air pollution emitting devices	90 days[1]
Water Control Board	Wastewater treatment-related projects.	114 days[2]
Department of Health	Cafeteria equipment, wastewater treatment projects, potable water projects	60 days[1]
Soil and Water Conservation	Ground disturbing activities (over 10,000 square feet)	30 days[1]
Marine Resources Commission	Affecting "wetlands" or subaqueous land	60 days[1]

[1]Maximum review time.
[2]Average project review time.

Source: JLARC.

Compliance with legislatively mandated regulatory standards is a necessary step in the capital outlay process. Agencies must take into account lengthy review requirements when estimating completion dates for various stages of project planning, development, and construction. Therefore, to ensure that regulatory reviews occur at the appropriate time in the implementation phase,

agencies should identify all necessary reviews before project planning and design begin. To assist the agency in carrying out this task, an abbreviated summary of federal and State regulatory review requirements should be included in the capital outlay manual. Agencies experiencing unreasonable delays from regulatory agencies should notify the Division of Engineering and Buildings.

Final Cost Estimate

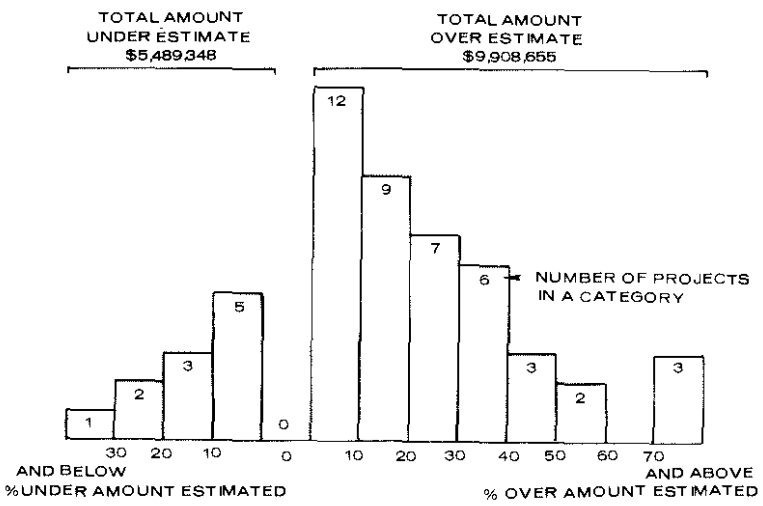
A detailed cost estimate is prepared after completion of the working drawings. This estimate is usually developed by the architect or engineer and reviewed by the agency. The accuracy of cost estimating procedures was analyzed as follows:

- The value of the original construction contract (including costs for the building, built-in equipment, utilities, and site work) was compared with the estimate of construction costs by the architect.

- Of the 117 projects appropriated for which data were available during the 1972-74 biennium, all new construction projects were selected for the comparison. Renovations, repairs, and land and equipment acquisitions were excluded from the analysis.

Figure 14

PROJECT COST COMPARISON:
CONSTRUCTION ESTIMATE TO CONTRACT AWARD
(53 Projects - New Construction Only)



Source: JLARC Analysis 1972-74 Capital Outlay Projects.

Table 11

SELECTED PROJECT COST COMPARISONS:
CONSTRUCTION ESTIMATE TO CONTRACT AWARD

Project Name	Architect Estimate	Construction Contract	Difference Percent/Dollars
Maintenance Building, George Mason University	$ 174,000	$ 305,000	75%/$131,000
Sewage Treatment Plant, Unit 30, Department of Corrections	150,000	239,203	59%/$ 89,203
Maintenance Building, Mary Washington College	360,000	562,924	56%/$202,924
Swimming Pool, Eastern State Hospital	63,500	85,790	35%/$ 22,290
Occupational-Technical Building, Eastern Shore Community College	1,090,065	1,367,951	25%/$277,886
North Wing Enlargement, Virginia Museum of Fine Arts	4,322,014	5,265,000	22%/$942,986
Campus Center, Christopher Newport College	1,042,400	1,268,800	22%/$226,400
Western Virginia Bicentennial Center	614,483	452,703	-26%/$161,780

Source: JLARC Analysis 1972-74 Capital Outlay Projects.

Based on an analysis of 53 projects, cost estimates for construction were frequently under the amount bid by contractors. Figure 14 indicates that most projects are estimated incorrectly. For example, the cost of Mecklenburg Maximum Security Prison was estimated at $5,658,739, but the low bid was $7,088,000--25 percent higher than the estimate. Occasionally, significant overestimates also occurred such as with the Division of Motor Vehicles headquarters building. The construction contract was $13,185,000, about 24 percent less than the cost estimate. Table 11 shows several examples of project cost comparisons included in Figure 14.

Project cost estimation is a concern in both the budgeting and project implementation phases of the capital outlay process. The importance of accurate estimates is based on the need for reliable cost information by the General Assembly and Governor. If costs are overestimated, funds which could be utilized for other projects are needlessly committed. On the other hand, when costs are underestimated, it may be necessary to rebid the project,

construct something less than initially intended, or defer the project indefinitely. Clearly, each agency and the Division of Engineering and Buildings must improve the accuracy of project cost estimates. Additionally, the demonstrated ability of architectural and engineering firms to accurately estimate costs should be considered in hiring decisions.

CONSTRUCTION

The construction phase involves five basic steps: bid advertisement, selection of the lowest responsible bidder, project construction, final inspections, and lastly, document completion. This section examines the ability of agencies to meet scheduled project completion dates, the role of project inspectors, and agency submission of project completion reports.

Timely Completion

Timely completion of capital outlay projects is important not only to agency service delivery but also to controlling costs. Failure to complete projects within a reasonable period of the target date may adversely affect the provision of program services. Time delays may also result in increased costs through leases for temporary facilities, early employment of personnel, and lost program revenues.

In order to determine the State's ability to provide capital projects in a timely manner, JLARC conducted an analysis of 218 projects appropriated in the 1972-74 Appropriations Act. The dates used in the comparative analysis were:

- *Earliest estimated date of completion* as reported by the agency on the capital outlay quarterly progress report.

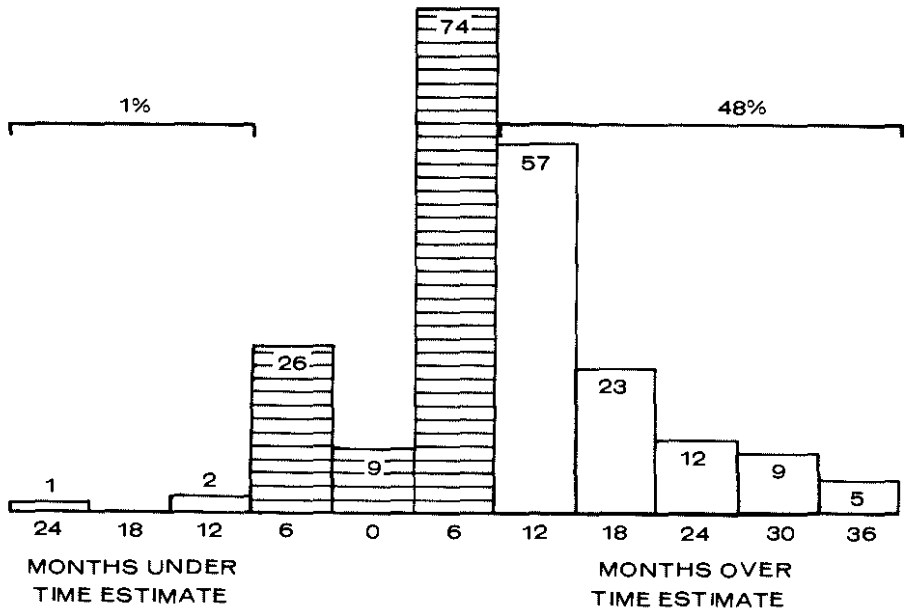
- *Actual completion date* as reported on the capital outlay quarterly progress report.

In comparing these dates, it was found that 48 percent of the projects were delayed by six months or more (Figure 15). Reasons most often cited by agencies for the delays include: (1) form processing within the Department of Planning and Budget, (2) contractor-related problems, and (3) weaknesses in agency internal management and project scheduling.

Form Processing. The Department of Planning and Budget is a major source of project time delays throughout the capital outlay process. During the construction phase, agencies experience delays when awaiting approval of allotments.

Figure 15

PROJECT TIME COMPARISON:
EARLIEST ESTIMATED DATE OF COMPLETION
TO ACTUAL COMPLETION DATE*



*Based on 218 projects.

Source: Capital Outlay Quarterly Progress Reports.

Upon approval of the construction contract, an allotment is issued to cover the cost of the construction contract and other related expenses. The JLARC survey found 19 agencies that had experienced excessive time delays in the approval of allotments by the Department of Planning and Budget. For example, Old Dominion University reported that for five of its projects in the 1976-78 biennium, an average of 62 days elapsed between the contract approval date and the time the department actually authorized the allotment.

In another case, a contractor working on a renovation project at Southside Virginia Training Center for the Mentally Retarded threatened in a telegram to cease work since the State was 90 days overdue in paying him $46,141. The delay in payments was the result of the Department of Planning and Budget holding up or delaying reallotment of funds at the start of a new biennium.

Form processing by the Department of Planning and Budget has not been accomplished in a timely manner. The department

should take immediate steps to ensure that allotment requests are processed within a reasonable period of time.

Contractors. Contractor-related delays can be caused by labor-management disputes, inadequate financing, and lack of project experience. The following case studies illustrate several problems resulting from poor contractor performance.

College of William and Mary

The low bidder on a dormitory project was financially unqualified. However, because legislation requires agencies to accept the lowest responsible bid, the college awarded the contract to this firm. When the contractor went bankrupt, a surety bond company had to assume control over the project and employ a new contractor. This resulted in a time delay of more than six months. The new contractor performed marginally and failed to meet all contractual obligations.

Old Dominion University

In 1972, the mall project at Old Dominion University was appropriated $526,525. The project involved substantial concrete and landscaping work. However, the contractor submitting the low bid was inexperienced in concrete work. This inexperience and poor project management eventually resulted in the firm losing money and finally abandoning the project. Ultimately, the project had to be resubmitted for bidding and reduced in scope. These problems escalated the project cost by more than $200,000 and resulted in a two-year delay in project completion.

These case studies clearly demonstrate that employment of unqualified or inexperienced contractors can result in significant delays in project completion as well as cost overruns.

Legislation requires agencies to award the construction contract to "the lowest responsible bidder". Although the purpose of this legislation is to ensure that capital projects be constructed at the lowest possible cost to the Commonwealth, this requirement may result in the hiring of unqualified contractors, and ultimately cost the State more. A major deficiency in the legislation is the absence of any formal criteria to define a "responsible bidder". Agencies would benefit from the establishment of uniform criteria to judge the qualifications of contractors prior to the opening of bids. Such criteria could require contractors to submit information

on previous work experience, financial ability, and capacity to carry out existing project obligations.

Agency Project Management. Finally, internal management factors, such as priority-setting, project scheduling, and the use of agency labor forces, impact on project deadlines. At times, agencies receive capital funds, but lack the necessary expertise to effectively manage the project. Buildings have been only partially completed and left vacant for as long as four years because of inadequate project planning and scheduling. The construction of a marine laboratory at the Virginia Institute of Marine Science and a cell block at Bland Correctional Center are examples of buildings taking an inordinate amount of time to complete.

Virginia Institute of Marine Science

Bids were received in September, 1973, for construction of the Demonstration and Marine Technology Laboratory at the Virginia Institute of Marine Science (VIMS). The bids exceeded the appropriated funds by more than 100 percent and thus were rejected.

VIMS was granted authority in October of 1973 by the Governor's Office to proceed with the construction of the facility by utilizing agency staff, as well as by subcontracting portions of the work. Construction went slowly. In September of 1976, an inspection was requested by the project architect. The inspection, conducted by the Division of Engineering and Buildings and the State Fire Marshal's Office, revealed that the work was still incomplete and that the design had been altered so that it no longer complied with fire safety regulations.

A review of the facility by JLARC staff in February, 1978, found that the facility had actually been expanded during construction. Although occupied, the building did not have central heating at the time--four years after the start of the project.

Presently, the facility still lacks a salt water distribution and temperature control system which must be added before the facility is operational. Thus, after five years of work on the project, it still cannot support the marine demonstration programs it was designed to house.

Bland Correctional Center

Bland Correctional Center was appropriated $284,800 in 1968 to construct a cell block using prison labor. However, because of the use of inmate labor, construction was slower than anticipated. This resulted in increased material costs due to inflation. The building was not completed until 1974. Final cost was $340,000. The project required six years to complete.

Because agencies play an integral part in project management, they must be capable of completing projects on schedule. If an agency has recurring problems with capital projects, such as VIMS and the Department of Corrections, the Division of Engineering and Buildings should recommend changes in the agency's capital outlay operations or provide direct staff assistance to ensure timely completion of projects.

Agency Inspectors

During the implementation phase, agencies may assign an inspector to a project. The inspector is responsible for monitoring construction activities at the site and reporting to the agency and architect on the quality of materials, workmanship, and adherence to plans. Although important, the inspector position has been given little emphasis in Virginia.

Guidelines determining when inspectors should be used have not been developed or applied uniformly by agencies. Some agencies regularly employ inspectors, while others do not. For example, all buildings of the Virginia Employment Commission have been built without the use of inspectors. On the other hand, 20 full-time inspectors are employed by other State agencies.

Many times, persons not qualified as inspectors are selected to monitor construction activities. For example, regular agency employees are commonly called upon to act as inspectors. Due to other job responsibilities, these employees neither have the time nor experience to effectively carry out on-site inspections. Twenty-nine agencies indicated on the JLARC survey that they had used inspectors to monitor construction work. However, 23 of these agencies used staff persons with other primary duties such as: laboratory director, business affairs manager, branch office manager, vice-president for business affairs, and department heads.

In order for the State to obtain maximum use of project inspectors, the Division of Engineering and Buildings should develop uniform guidelines for their use on capital projects. These guidelines should specify when inspectors should be used on projects and what their reporting responsibilities are.

STRENGTHENING PROJECT IMPLEMENTATION

Project implementation is guided by a series of detailed procedures. However, certain activities are poorly defined or inefficiently administered. Numerous problems identified in this chapter indicate that increased legislative and administrative attention is necessary to make the project implementation phase more efficient and effective.

This section recommends several ways to strengthen the capital outlay process. The objectives of these recommendations are:

- to make the implementation phase more unified under the Division of Engineering and Buildings;
- to enhance timely completion of projects; and
- to incorporate safeguards and cost control methods into the selection of architects and engineers.

Control of Unauthorized Projects

A number of instances were found in which agencies had initiated, constructed, and occupied new facilities without obtaining required capital outlay approvals. Some degree of responsibility must be assumed centrally to monitor agency construction activities. Further, clear sanctions for agency administrators must be attached to the expenditure of funds for unauthorized projects.

Recommendation. The Division of Engineering and Buildings should schedule its staff to make periodic site visits to agency facilities for the purpose of reviewing construction activities and facility conditions. These reviews could be carried out in conjunction with the division's work in revising and updating agency master site plans. Statutory sanctions should also be established to discourage agency governing bodies and administrators from willfully misusing public funds for unauthorized capital projects.

Expediting Project Completion

Lengthy project time delays have been caused by the Department of Planning and Budget and by regulatory agencies. Presently, all capital outlay reviews and approvals required of the Department of Planning and Budget are processed through its Capital Outlay Section. The section is separated from the operating budget analysts who are familiar with agency operating programs and expenses.

This limits coordination between operating and capital resources and expenditures. Furthermore, the concentration of all capital outlay form processing activities in one section has proven to be a source of significant time delays for projects.

At least 11 State agencies have review responsibilities which relate to facilities or facility construction. Since some of these review agencies may not be generally known by State agencies undertaking a capital outlay project, procedures should be developed to ensure that the necessary reviews for a project are applied for and obtained in a timely manner.

Recommendation (1). The Department of Management Analysis and Systems Development has made a series of sound recommendations regarding more efficient form processing by the department including: relieving the Capital Outlay Analyst of general clerical functions, revising the system of form processing, and using individual budget analysts for the review of capital outlay documents.

Several recommendations are now being implemented by the department, but the use of budget analysts for reviewing and approving capital outlay forms has been rejected. This is unfortunate since the delegation of review responsibilities to individual analysts might not only reduce the time necessary to review capital outlay forms, but most important, budget analysts responsible for operating program expenditures would be involved in the review of related capital expenditure requests. In light of the need to expedite the review of forms and to bridge the gap between operating programs and capital outlays, the department should assign budget analysts to capital outlay review functions. However, it may still be necessary to maintain some specialized staffing for capital outlays to ensure consistency and coordination.

Recommendation (2). The Division of Engineering and Buildings should include in its capital outlay manual a summary description of the requirements of each review agency exercising authority over facilities or facility construction. Further, the division should require agencies to indicate at the initiation of a project those review agencies from which it intends to secure approvals so that the division is assured that the proper reviews will be obtained.

Selection of Architects and Engineers

A significant number of State agencies consider only one firm when hiring an architect. In addition, the selection is sometimes made by a single individual acting alone. Although no abuse was found in agency hiring practices, it is in the public interest that minimum guidelines be established for the selection of architects and engineers.

Additionally, architects and engineers are presently compensated according to a standard fee structure established by the Division of Engineering and Buildings. Basically, the fee for a project is computed as a percentage of the final construction cost. This method of compensation acts as an incentive for architects to increase project costs, because the fee increases proportionately.

Recommendation (1). A greater degree of control should be exercised over the selection of architects and engineers. The Division of Engineering and Buildings should develop uniform guidelines for agencies to follow that encourage open competition among architectural and engineering firms and that ensure the best possible design at the lowest cost to the Commonwealth. The use of screening committees should be encouraged.

Recommendation (2). There are two alternative payment methods which might also have a positive effect on controlling project design costs. The first option would be to use the present fee structure and base the fee payment on the initial construction budget set at the time the architect is employed. If change orders are required during construction, only those changes which significantly alter the design and scope of the project would be paid according to the present fee structure. Under this alternative, architects and engineers would not be reimbursed for increased construction costs that did not require architectural or engineering services.

The second option would be to negotiate a fixed fee for a project with the architect based on schematic drawings. No additional compensation would be provided for change orders which did not affect the scope of the project. Under this approach, the agency would submit three firms in order of preference to the Division of Engineering and Buildings. The division would be responsible for negotiating the fee with the architect. Only if an agreement could not be reached with the first named firm would negotiations be initiated with the second (and subsequently third) choice of the agency. The State of North Carolina has adopted such a negotiated fee procedure for compensating architects.

Cost Management

Inadequate performance in the area of cost estimation has been identified at two key points in the capital outlay process: during budget preparation and after the completion of working drawings. Currently, the Division of Engineering and Buildings does not have a formal program for managing project costs. The division does not have the capability to develop reliable cost estimates, nor does it have procedures for requiring professional cost estimates on certain types of projects.

Recommendation. The Division of Engineering and Buildings should establish a cost management program. Such a program might

include: a policy governing pre-planning of large, complex projects; an in-house cost estimation capability; and, systematic monitoring and analysis of design modifications, material substitution, and change orders affecting project cost. The division should establish specific guidelines for determining whether a project should receive the additional scrutiny of a cost estimate or pre-planning.

Contractor Qualifications

Only two criteria need to be satisfied by the low bidder on a contract to be awarded the job--a performance bond and the proper license. Some serious cost overruns and time delays on State projects have been caused by the performance of unqualified contractors.

Recommendation. The *Code of Virginia* should be amended to permit a determination of the qualifications of contractors according to the category of construction activity. Basic information as to previous work experience, financial stability, and capacity to handle the project in light of existing work commitments should be required of bidders. To assure uniformity of decisions, the Division of Engineering and Buildings should make the determination as to whether the lowest bidder is sufficiently qualified to perform the contract.

Agency Inspectors

Agencies are totally unrestricted in the hiring of project inspectors. As a result, some large projects have no inspectors or the inspector may actually be a permanent staff person with almost no construction experience.

Recommendation. Guidelines need to be established by the Division of Engineering and Buildings which prescribe those projects for which an inspector should be hired. Additionally, there should be clarification as to whether the inspector reports to agency personnel or to the project architect or engineer.

CONCLUSION

The approach to project implementation can best be described as unevenly administered and controlled. Legislation and administrative procedures require participation of the Division of Engineering and Buildings and Department of Planning and Budget in certain key areas of the capital outlay process. However, agencies still maintain a substantial amount of decision-making authority during project planning and development. As a result, there is a great deal of diversity in the way agencies carry out capital projects.

While many improvements have been made in recent years to strengthen central review and control functions, more attention must be given to unifying project initiation, design, and construction activities under the Division of Engineering and Buildings. The division must be given increased responsibility and take a more aggressive leadership role in preventing the initiation of unauthorized projects, improving project cost estimates, and monitoring selection of architects and engineers. Implementation of such actions will result in a strengthened capital outlay process.

APPENDICES

JLARC policy provides that each State agency involved in a program review be given the opportunity to comment on an exposure draft. This process is one part of an extensive data validation process.

Appropriate corrections resulting from the written comments have been made in the final report. It should be noted that page references in the responses relate to the draft report and do not necessarily correspond to page numbers in the final report.

CAPITAL OUTLAY TERMS

Allotment	An authorization to expend a portion of the funds appropriated to a capital outlay project account. Each allotment must receive the prior approval of the Department of Planning and Budget.
Appropriation	The designation of revenues to be used for a specific purpose through an official act of the General Assembly.
Capital Outlay Budgeting	The executive branch's process of evaluating capital outlay requests of State agencies and assimilating selected requests into a single capital outlay budget for presentation to the General Assembly.
General Obligation Bonds	A promise to pay issued with the approval of the Governor, the General Assembly, and the citizens of the Commonwealth for financing the construction or renovation of a facllity. G.O.B. indebtedness is retired with general fund dollars.
Lease Purchase Agreement	An agreement obligating the State to lease a facility, at the end of which the State assumes ownership.
Lowest Responsible Bidder	As now interpreted, the lowest bidder on a construction contract who is licensed and bonded.
Project Criteria	A report which accompanies schematic drawings describing the space, equipment, use, and material for a proposed project. A consultant may, upon approval, prepare this report.
Project Design	The project design phase encompasses the development of project criteria, followed by the development of schematic, preliminary and working drawings.
Revenue Bonds	A promise to pay issued with the approval of the Governor and the General Assembly to support the purchase, construction, or renovation of a revenue-producing facility, such as a college dormitory or stadium.

END NOTES

Chapter I

1. An additional $5.36 billion was spent to finance highway construction projects of the Department of Highways and Transportation.

2. VALC, "Economical Practices in Capital Outlays", 1953, p. 1.

3. DEB, "Cover Letter Transmitting CO-2 Instructions to Agencies".

Chapter II

1. Commission for Economy in Governmental Expenditures, "Management and Policies Relating to Capital Outlays", February, 1966, p. 1-1.

2. Virginia, "Governor's Management Study", November, 1970, p. 163.

3. *Code of Virginia*, Section 23-9.6:1(a), Section 23-9.9.

4. The Division of Engineering has developed space standards for offices. These standards account for the amount of square footage individuals in an organization should have based on rank. For example, the private office of an agency or department head should not exceed 16 feet by 16 feet (256 square feet). Evaluation was not made regarding compliance with these standards.

5. The Department of Corrections is currently developing a master plan which will incorporate specialized space standards. To be endorsed for official use, these space standards must be approved in accordance with Section 4-7.01(g) of the 1978-80 Appropriations Act. In addition, space standards used by the Department of Mental Health and Mental Retardation are the ones issued by the Joint Commission on Hospital Accreditation, the Department of Health, Education and Welfare and the State Health Department. Since these standards are not approved as space planning guides in accordance with the Appropriations Act, they cannot be viewed as officially accepted by the Governor or General Assembly.

6. *Code of Virginia*, Sections 2.1-51.8:1, 51.14, 51.17, 51.20, 51.23, and 51.26.

7. *Code of Virginia*, Section 2.1-396, 397.

TECHNICAL APPENDIX
(Available on Request)

JLARC policy and sound research practice require a technical explanation of research methodology. A technical appendix was prepared for this report and was part of the exposure draft. The technical appendix is available on request from JLARC, 910 Capitol Street, Suite 1100, Richmond, Virginia 23219.

The technical appendix includes an explanation of analytic procedures and relevant statistics for five special studies:

1. Survey of State Agencies. In Virginia agencies and institutions play an important part in the planning, design, and construction of buildings. To obtain comprehensive agency feedback regarding the capital outlay process and information on specific problems that agencies have encountered, JLARC organized an extensive written questionnaire. Questions were pre-tested. The survey was sent to each of 46 agencies receiving a capital outlay since 1970. Each agency completed and returned the questionnaire.

2. Follow-up Telephone Survey. To obtain information on specific problems brought out through the first survey and through site visits, a telephone survey was used. Each agency involved in the first survey was contacted regarding six items and a 100% response rate was received.

3. Project Data. A descriptive analysis of each project appropriated during the 1972-74 biennium. The data included the number, type, secretarial area, priority, amount requested and amount appropriated.

4. Time of Completion. This data was used to compare the initial estimate of project completion to the actual completion data. Information was taken from the quarterly progress reports for projects appropriated during the 1972-74 biennium.

5. Project Cost Comparison. Cost data was taken from DEB forms used to document requests (CO-2), estimates of working drawings (CO-31), bids accepted (CO-33), and final cost (CO-5). The analysis of cost data involved a series of comparisons between estimated and actual costs. Because of reporting irregularities and numerous cost documents that were missing, many projects could not be analyzed.

COMMONWEALTH of VIRGINIA
Department of General Services

OFFICE OF DIRECTOR

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(804) 786-8694

September 11, 1978

Mr. Ray D. Pethtel, Director
Joint Legislative Audit and
Review Commission
General Assembly Building
Richmond, Virginia

Dear Mr. Pethtel:

This is in response to your transmittal of July 27, 1978, of the draft report entitled "Capital Outlay in Virginia: An Operational Review." In your letter of transmittal you offered the opportunity for me to submit a written response to be included as a part of your Commission's Report to the General Assembly, and subsequently you verbally requested a response as you said it would be very helpful to you and your staff. Pursuant to your request, I, with the advice of the Director of the Division of Engineering and Buildings, respond to those statements and recommendations of apparent substance toward the end of assisting in the refinement and improvement of our capital outlay process on the one hand, and avoiding practices or procedures which may not be practically implemented or cost effective on the other.

For the sake of reference and clarity, I will key my comments to page numbers and quoted statements in the Report.

On page 1, third paragraph, the statement is made "The Department of Planning and Budget has virtually no role in assembling the capital outlay budget," etc. This statement is repeated several times in the Report. Although the Code places the responsibility for the preparation of the capital outlay budget for the Governor within the Division of Engineering and Buildings in the Department of General Services, the Department of Planning and Budget receives the official capital outlay requests from all agencies and institutions when budgets are submitted in August of the odd-numbered year and receives copies of the preliminary requests and most all other information pertinent thereto. The State Council of Higher Education receives this information from institutions of higher education, and for almost ten years has worked as closely with the Division of Engineering and Buildings in the preparation of the capital outlay budget for those institutions as if they were a part of the staff of the Division. Recommendations and other input by the State Council

of Higher Education has been helpful, significant, and followed very, very closely in the formulation of the capital outlay budget. Such input and relationship from and with the Department of Planning and Budget on an increased basis could be easily effected and would be welcomed.

At the bottom of page 1 and top of page 2, the statement is made "Furthermore, while budgeting, appropriating, and executing phases each are governed by a great number of rules and receive a great deal of administrative attention, agencies can and do easily spend money to plan, build, and occupy new or substantially altered buildings without the prior authorization or knowledge of either the legislature or the Governor." I do not feel this is a totally accurate statement. Your study focused on unauthorized construction at three institutions totalling approximately $1 million (of approximately $1 billion in total expenditures) and occurring over the past ten years. There may be other instances not specified, and certainly without establishing sufficient staff to visit all institutions on a periodic basis to monitor their activities, the opportunity exists for agencies to violate the provisions of the Code of Virginia and the established administrative procedures. I am of the opinion that the vast majority of our agencies and institutions make a sincere effort to follow proper procedures. One must realize, however, that the creation of the Division of Engineering and Buildings, just 12 years ago, was for the purpose of giving specific attention to the capital outlay process and that our current procedures have evolved through this period. These procedures will continue to be refined with additional requirements evolving as to circumstance and need. At the same time it has been my understanding, and certainly our established procedures substantiate this, that our process is based upon substantial involvement and responsibility placed at the level of the administrations of the agencies and institutions.

On page 10 you speak to the need for long range planning on a statewide basis, as well as by agencies and institutions. I concur with this fully while recognizing certain inherent problems. Changing technology and methodology, particularly in the fields of health, mental health and corrections during the past ten years, together with mandated requirements by the Federal Government and accrediting agencies, have caused a large measure of frustration in such an effort. Regardless, any effort toward long range planning, no matter how imperfect, cannot be other than helpful to some degree. We have diligently pursued the subject of institutions having master site plans for facilities. In our role up to this point, we have not felt that we had the authority and/or responsibility to require master plans with respect to missions, programs and functions, even though we feel this is the primary need with

respect to the master site plan for facilities (a secondary and supporting plan for the former). Although we did not feel authorized to require the primary master plan, we have on numerous occasions spoken affirmatively to the subject with heads of agencies and institutions in encouraging them to do so. Whether through our efforts or through the initiation of the administrations of certain agencies and institutions, some have prepared such plans. I would suggest that the proper offices for requiring and coordinating such overall master plans would be the offices of the Governor's Cabinet.

On page 12 and further in the Report you speak to the need of improving the definition of capital outlay. I concur fully. Efforts have been expended in this direction on several occasions in recent years. For something that appears fairly simple on the surface, a clear and finite definition of capital outlay is difficult to attain. We welcome input from you and your staff, or any other source, in improving our current definition just as we have sought help in the past from major agencies and institutions in this regard.

On pages 15, 16, and 17 you speak to the application of the definition of capital outlays and certain inconsistencies arising therefrom. Some of these are by design and through mutual agreement with the Department of Planning and Budget. On page 15 the first paragraph uses the illustration of "$2,000 to build a storage shed is defined as capital outlay, but purchase of $2,000 of building materials (that may subsequently be used to build a storage shed) is first an operating budget request and only becomes a capital outlay item after the expenditure." This is a true statement but in practicality, without very close and continual monitoring on site at each State institution, I know of no way to preclude such liberty being taken with our procedures. I would like to think that such instances would not be intentional or devious in nature. The second paragraph speaks to the capital outlay budget in covering major equipment purchases which exceed $10,000. Since the Department of Planning and Budget have staff available and more expertise and experience in most major equipment purchase than the Division of Engineering and Buildings, we have by agreement left such major equipment acquisition to them and retained only the review of equipment for new buildings so as to place greater emphasis by our staff on construction. This also serves to reduce the number of items in the capital outlay budget, for most such items would be small in dollar value, but numerous.

The last paragraph on page 16 and the first paragraph on page 17 speak to the "dollar limit." I have no personal objection to the dollar limit in the capital outlay definition being increased. I would make two observations. For a number of years we have included small appropriations for major repairs in the capital outlay

budget (which should properly and probably have been in the maintenance and operation budget) in order to assure that these major repairs would be accomplished and the funds not directed to some other pressing matter that occurred during the biennium at the particular institution. I think this approach has been helpful. At the same time, although large institutions might be relieved of certain paper work by raising the dollar limit, smaller institutions could be hurt with such items included in their maintenance and operation budget, which is subject to an "across the board cut" during the budgetary process.

On page 27 you state that our Manual for the Planning and Execution of Capital Outlays needs revision with inclusion of information not heretofore set forth. This Manual has been under review for revision for the past six months, and these recommendations will be given every consideration. To format the Manual through the use of a loose-leaf folder as you suggest would be helpful, I am sure. When one considers the number of Manuals we publish and the broad distribution it receives, we would have to evaluate the additional cost versus the benefit of this format. This Manual from its inception was intended to set forth procedures from the point of an appropriation for a capital outlay project. Conversely, it was not designed with the intent of being a comprehensive document to cover every step of the capital outlay process from the concept of need through the budgetary process, etc. If a broadened scope is deemed necessary to improve the overall process, we would certainly be agreeable, but care must be exerted for budget instructions and facets of the budgetary process change more frequently than circumstances necessitate overall review of the Manual.

On page 29 under Recommendation (2) you state "The Division should develop a sequential system of form numbering that coincides with project events." I concur fully that this is logical. When we inherited the current numbering system from the Division of the Budget in 1966, I personally questioned the somewhat illogical numbering system of forms. From a practical standpoint, I have been reluctant to "bite the bullet" and incur at one time the cost of "throwing out the old forms" while producing a new supply of forms for use throughout state government. An attendant problem is that of our Manual having to be revised simultaneously. Lastly, such a change would require "reeducation" of all persons involved in the process with the new numbering system. The above has somewhat mitigated our efforts toward this agreed upon more logical system until several months ago when the decision was made to initiate this program.

On page 30 the second paragraph states "agencies frequently submit faulty and erroneous information to the General Assembly

on project need and estimated cost" and that analysis of construction costs for 33 projects during the 1972-74 biennium revealed $6 million additional was required for completion over initial appropriations. The following sentence stated "These problems indicate that specific weaknesses in capital outlay planning and budgeting activities, as well as technical and administrative difficulties in developing reliable cost estimates, must be addressed." The subject of estimation of costs is a continuing serious problem, and I will speak to that in more length in a later reference. It must be remembered that since late 1967 or early 1968 we have experienced a period of varying but significant instability in the construction market. The 1972-74 biennium was a particularly frustrating period, and I personally feel that we were fortunate indeed to get under contract the projects that were placed with no more additional funding than was required.

On page 31, the first paragraph, the following statement was made, "Capital outlay planning, as carried out in Virginia, is shortsighted and lacking central direction. In fact, most planning occurs after the legislature authorizes funds for design and construction of capital projects." A significant improvement could be made in our capital outlay process if "pre-planning funds" could be made available to agencies and institutions, on a selective basis, to prepare a full project report with simple schematics on the highest priority projects before such projects were presented to the Governor and the legislature for funding for design and construction. This approach would result in thorough project documentation as to justification of need and description and would afford the basis for something more finite in preliminary cost estimation than "'guesstimates' based on construction of a similar nature." Such an approach was recommended to the Governor by the Division of Engineering and Buildings in late 1969 and recommended by the Governor to the General Assembly at the 1970 session. The General Assembly did not concur.

On page 34, the second paragraph states: "As a means of strengthening the capital outlay process, the commission recommended the formulation of a 'moving six-year plan.' Each biennium, an updated and evaluated plan was to be presented with the proposed capital outlay budget. The commission's planning recommendations were not implemented." It is my understanding that our procedure of requiring with the submission of requests for the forthcoming biennium a listing of requests for the two succeeding biennia was initiated pursuant to that study and commission report, and the past 12 years we have required six-year capital outlay projections.

On page 35 in the first paragraph under Master Site Planning, the statement is made "Although legislation requires preparation

of site plans by the Division of Engineering and Buildings and State agencies, compliance has been generally inadequate." We have required of agencies and institutions having facilities constituting "a campus" (or a site involving multiple buildings), a master site plan. We have not recommended the funding of many requests for updating these master site plans in recent years due to the severe limitations on funds in most instances, and particularly in those instances where little if any funding appeared to be available for the addition of physical facilities. Nevertheless, most of our larger institutions continue to have revisions made to their master site plans periodically without a specific capital outlay appropriation for that purpose. Moving to the top of page 36, we have not required of the Division of Motor Vehicles, the Virginia Employment Commission, and the State Police for their area offices (or similar agencies) a document entitled "Master Site Plan" for their facilities; for I believe in most instances their facilities involve one building on a small site which is not anticipated to be developed further (except through possibly an addition to the original building). In these instances, the site plan for the construction for the initial building, in fact, constitutes a Master Site Plan for that location. The second paragraph on page 36 contains the statement "Clear disinterest in the site plan requirement may not seriously impair long-range planning, but can create cost overruns during the project development stage. For example, an official at Southwestern State Hospital told JLARC staff that because the institutional Master Site Plan erroneously located water lines on the property, a covered walkway project cost $30,000 more than originally anticipated." First, I do not think the phrase "clear disinterest in the site plan requirement" is a fair statement, for there is genuine interest on the part of most agencies and institutions in the preparation and updating of master site plans as budget requests over the last four biennia will verify. The instance cited at Southwestern State Hospital with respect to the erroneous location of water lines on the property costing "$30,000 more than originally anticipated" is unfortunately an occurrence that happens to most any institution and practically every local government. We understand the Institution employed a professional for the specific purpose of locating the utilities prior to construction in this instance, but a discrepancy in the prepared plan versus actual underground location occurred. The continuing program in the Division of Engineering and Buildings of having aerial photographs of State institutions made by the Department of Highways and Transportation, with topographical maps for the ultimate plotting of utilities by the survey party of the Division, is an effort to economically provide an ongoing service necessary to all institutions. Unfortunatley, this endeavor has been strongly curtailed in recent years due to the required reductions in expenditures. Persons experienced in such

work, however, will verify that with every reasonable effort utility locations will occasionally appear on current utility maps in an erroneous location.

On page 38, the first paragraph states the provision in the Code with respect to the Master Site Plan for the Capitol area. I will agree that a literal reading of the Code would indicate every State-owned building, in or adjacent to the City of Richmond, should appear on such a site plan. The practical interpretation, and insofar as I know the intent of this Code provision, was to have a Master Site Plan for the seat of government in and adjacent to Capitol Square and at any other location in this area acquired or utilized for housing "the seat of government." To give this provision of the Code a broad interpretation would involve a mammoth site plan including all facilities of Virginia Commonwealth University, the Department of Corrections, the Virginia Museum, etc. I will agree that the 1970 Master Site Plan does not include all the information shown on the June 1966 plan for the Capitol Square area. The 1970 Master Site Plan was prepared at no cost to the Commonwealth of Virginia by a then member of the State Art Commission. Although certain information is missing from the 1970 Master Site Plan, all such "missing information" lies within the files and record plans for the Division of Engineering and Buildings. The Federal Reserve Building, soon to be acquired by the Commonwealth of Virginia, and the General Assembly Building (formerly the Life of Virginia Insurance Company property), as well as the Old Richmond City Hall, are all shown on the 1970 Master Site Plan. It is certainly true that at that time the specific planned uses for the Federal Reserve, Life Insurance Company of Virginia, and Old Richmond City Hall were not anticipated in specifics. As of today, I know of no "specific planned use" for the Old Richmond City Hall. The last sentence on page 38 states "In recent years, the lack of adequate long-range site planning has contributed to the random scattering of agency offices throughout the Richmond Metropolitan Area." I would suggest that the major contributor to the random scattering of agency offices throughout the Richmond Metropolitan Area in leased space has been the unavailability of funding for acquisition and/or construction, or the reluctance to allocate scarce funds for this purpose in light of other pressing demands. From 1968 to 1974, plans for a high rise State office building lay dormant due to lack of approved funding for construction. Additionally, the Life of Virginia property was purchased to provide needed space for the Executive Branch, but the more pressing needs of the General Assembly preempted its use as such.

One inherent problem in promulgating Master Site Plans that extend beyond the boundaries of State-owned property is the predicament in which the private owner is inescapably placed. The potential for the sale of the private owner's property is blighted as

the State projects future need for his property. At the same time the State, through its agencies and institutions, can rarely tell the private owner when they will acquire the property for this depends upon projected needs becoming realities, funding for acquisition, and finally funding for development.

The first paragraph on page 41 states "In Virginia, information for planning is of uneven quality and reliability. Educational institutions are required to compile various types of facility planning data for the Council of Higher Education, but no such requirement exists for other State agencies." The first paragraph on page 43 also speaks to this subject. In consultation with involved officials from approximately 20 states, I find no "space utilization standards, etc." promulgated by states for institutions such as mental health and corrections. One state has prepared a Master Site Plan of its correctional facilities which contains certain space standards, but the plan is geared specifically to the philosophy and approach of that state toward the correctional problem. In these areas, it is my understanding that Federal and/or accreditation requirements prevail or dictate. We intend to pursue with the involved agencies the subject of establishing such standards, but a primary requisite must be the establishment of an overall master plan which will set forth the philosophy and approach with respect to programs deemed appropriate for Virginia. The Department of Corrections has prepared two such overall master plans during approximately the last ten years, and I understand has a new plan approaching completion.

On page 44, the second paragraph states that "The Department of Planning and Budget and the Division of Engineering and Buildings should provide agencies greater direction in developing a more uniform and accurate data base for capital planning." Other similar references are made to these two agencies requiring statewide master planning, etc. I would suggest that the Governor's Cabinet is a more appropriate location for this responsibility, with the Department of Planning and Budget and the Department of General Services providing the Cabinet support and assistance as appropriate.

On page 47, the first paragraph begins "Since there are two independently-administered budget processes, neither the Division of Engineering and Buildings nor the Department of Planning and Budget carry out an extensive program analysis of project proposals." I see no reason, as I commented previously, why such program analysis cannot be effected through joint effort of the Department of Planning and Budget and the Department of General Services, in conjunction with other expertise existing within certain agencies at the seat of government, since both Departments operate under the Secretary of Administration and Finance and can be required to closely coordinate their efforts. Such an arrangement has worked very

effectively between the Division of Engineering and Buildings and the State Council of Higher Education for a number of years. At the same time, I feel the role of the Governor's Cabinet should be primary in this area, as was the basic intent of the quotation from the memorandum set forth at the top of page 48.

The last paragraph on page 56 speaks to the inability of the Division of Engineering and Buildings and other State agencies to more reliably estimate costs of projects. This is spoken to again on page 75 of your Report, and in the last paragraph on page 86 you recommend that the Division of Engineering and Buildings establish a cost estimating function to more effectively monitor costs during the design of projects. For approximately four years, on practically every project of size as well as a number of smaller projects, we have required a cost estimate at the preliminary planning stage and/or working drawing stage to be prepared by an outside cost consulting firm specializing in estimation of construction costs. This procedure has been beneficial, but by no means has it been a panacea for the problem. Even from firms of the private sector who specialize in this work "day in and day out," significant variations have occurred between the estimate and the low bid on a project. I do not believe the Division of Engineering and Buildings could establish a cost estimating function that could improve on services obtained from professionals of the private sector. I strongly question the advisability of pursuing such a program. At a recent conference of capital outlay administrators, involving states of the southeast, southwest, and northeast, cost estimates on construction projects were a genuine source of concern and frustration to every state involved. One can only surmise that the instability of the overall construction market is a prime factor in this problem. We utilize the procedure of estimates by the design consultant, a cursory review as to cost by our review architects and engineers and a cost estimate by a private cost consultant firm. As ineffective as this approach oftimes appears to be, I do not know how this procedure can be significantly improved. This is substantiated by the fact that the number of bidders (and subbidders to general contractors) on a given project seems oftimes to relate directly to the low bid being favorable. Additionally, a careful review will show that on many projects the range of bids is wide (from low bidder to high bidder) which indicates a significant divergence of opinion among general contractors as to what the true cost of construction of a given project will be.

On page 58, last paragraph, it is recommended that the Department of Planning and Budget, with the assistance of the Division of Engineering and Buildings, should establish and maintain an information system for all nonhigher education agencies which contains the amount of space in each building and the programs to which it has been assigned. Work has been underway for some months, through combined efforts of the Department of Management Analysis and Systems Development, the State Council of Higher Education, the Divison

of Engineering and Buildings, and others, to determine the best approach to establishing such a system of information. Hopefully, the system presently utilized by the State Council of Higher Education can be incorporated into a larger and more comprehensive system for all State facilities, together with land holdings which would assist our evolving land management program.

On page 59, the last paragraph, the recommendation is made to transfer responsibility for the preparation of the capital outlay budget from the Division of Engineering and Buildings of the Department of General Services to the Department of Planning and Budget. This recommendation is somewhat confusing, as it goes on to say "The Division of Engineering and Buildings' role should be restricted to acting in an advisory capacity on technical aspects of the budget, such as project cost estimates and engineering reviews." This recommendation seems to restrict the role of the Division of Engineering and Buildings in contradiction to a number of other recommendations throughout the Report that call for a somewhat expanded role by the Division of Engineering and Buildings. Regardless, I feel that the current circumstance of the Director of the Department of General Services and the Director of the Department of Planning and Budget being directly responsible to the Secretary of Administration and Finance gives every necessary ingredient for as coordinated and integrated effort as is needed to address the necessary coordination between capital expenditures and the many facets of the maintenance and operation budget. Beyond this, we live in an era of increasing demand by persons involved in functions of State government, both within and without, to have their problems reviewed in detail by the "top responsible official." The growth in problems arising during bid openings, during the construction of projects, with design consultants, in effecting change orders to construction contracts, etc., has been significant and ever increasing over the past six to eight years. If it is the decision to return the responsibility for the capital outlay budget to the Department of Planning and Budget, I feel the entire responsibility should be returned rather than returning approximately half and leaving a divided responsibility. In 1966 the administration of the capital outlay budget was placed within the Division of Engineering and Buildings (pursuant to the cited study by the Commission for Economy in Governmental Expenditures) to give this program additional emphasis and allow more detailed administration. I feel these reasons are more pertinent today than ever before. The most effective and productive approach will be through effecting closer coordination along the lines referred to as existing between the State Council of Higher Education and the Division of Engineering and Buildings over the past eight or more years.

On page 69, second paragraph, one cannot argue the fact that services provided by architectural and engineering firms at no cost

to agencies and institutions in preparing budget requests can lead to that firm being engaged to design that project. I doubt, however, that this is attributable just to the lack of cost estimation and cost expertise on agencies' and institutions' staffs. Although it is doubtful that we will ever reach the point that the majority agree that State projects are spread widely enough among designing firms, this has been a subject of continuous discussion with agencies and institutions, and recent data indicate significant improvement in this. At the same time, one must recognize that there is merit in an agency's or institution's argument, where they have few capital outlay projects, that they wish to continue to use the firm that has "been very satisfactory and thoroughly knows our institution, etc."

In the first paragraph on page 70, it is certainly gratifying to read the statement that during the study "no evidence of abuse in the selection of professional consulting firms was encountered." Further, in that paragraph the statement that "steps should be taken by the Division of Engineering and Buildings to insure greater uniformity in agency selection practices" is well taken and is to be pursued.

The case study on the Yorktown Victory Center on page 71 is of a project that due to its unique circumstances and limited time frame does not fall in the category of the "usual" project being reviewed and processed under "normal" procedures.

The first complete sentence at the top of page 73 states "Any agencies experiencing unreasonable or recurring delays from regulatory agencies should notify the Division of Engineering and Buildings" does not address the subject completely. The Division of Engineering and Buildings, or the Department of General Services, in which it is lodged, has no authority to require change in regulatory agency practices and/or procedures. An enlargement of the statement to include notification to the head of the regulatory agency and the appropriate member of the Governor's Cabinet might be helpful to alleviate delays which might be avoided.

The first paragraph on page 79 addresses the subject of "the lowest responsible bidder" and goes on to suggest the establishment of uniform criteria on which to judge the qualifications of contractors prior to the opening of bids. Such criteria, the report states, could require information on previous work experience, financial ability, and capacity to carry out existing project obligations. This indicates the establishment of a "qualified bidder's list." There are many problems in administering such a program for the many agencies and institutions of the State under our present system, as contrasted to the approach taken by the Department of Highways and Transportation. Regardless, it is difficult to

disqualify a General Contractor who is licensed by the State Registration Board for Contractors of the Department of Commerce and can present a bid bond and a performance bond that assures the Commonwealth, by a surety company, that the project will be constructed according to specifications and for the sum of the bid. Strengthening of procedures and requirements in this area should more properly be addressed through the State Registration Board for Contractors.

The paragraph beginning at the bottom of page 80 and extending to the top of page 82 states that the Division of Engineering and Buildings should assist agencies having recurring problems with capital outlay projects. This has been done through informal conferences and continues to be done in that manner wherever we have felt we could be helpful, within the limits of our personnel capabilities. We have not felt that we had either the authority or the responsibility to formally recommend organizational or procedural changes within another agency to its Director, the appropriate Secretary or the Governor.

Further, on page 81 in the first paragraph, speaking to agency responsibilities, the statement is made "the inspector position has been given little emphasis in Virginia." This could be true with some agencies and institutions, but over the history of the Division of Engineering and Buildings, we have emphasized to the administrations of agencies and institutions the necessity for having competent inspectors on their projects. Just as we have, on projects at the seat of government, been very diligent in securing inspectors for construction contracts, I am impressed that others have shared our concern and followed this approach. The example cited with respect to the Virginia Employment Commission probably should not indicate the trend throughout the State agencies and institutions, for these facilities are handled somewhat differently from their inception to include their source of funding as well as legislative authorization for the project. Regardless, we shall certainly see that the use of competent construction inspectors is again formally called to the attention of the heads of our agencies and institutions.

The first paragraph on page 82 states that the Division of Engineering and Buildings should develop a uniform guideline for the use of inspectors on capital projects. Sections 62.01, 62.02 and 62.03 of the Manual for the Planning and Execution of Capital Outlays speak to the responsibilities. We shall review these as to any deficiency. The Department of Personnel and Training has the established classification of Building Construction Inspector with attendant description and qualifications. This may also be a case requiring review for deficiency and/or refinement.

Page 83, first paragraph, states as follows: "The Division of Engineering and Buildings should schedule its staff to make periodic site visits to agency facilities for the purpose of reviewing construction activities and facility conditions. These reviews could be carried out in conjunction with the Division's work in revising and updating agency master site plans. Statutory sanctions should also be established to discourage agency governing bodies and administrators from willfully misusing public funds for unauthorized capital projects." For several years during lulls in the workload of reviewing plans for projects, we have utilized the somewhat limited staff of architects and engineers in maintenance surveys of institutions. Review work in the past two or three years has severely restricted this activity, and we are currently budgeted for and in the process of establishing three positions to maintain such an effort on a more consistent basis. Regardless, if I read the intent of this recommendation correctly, it would require site visits to each institution on possibly a quarterly basis. This would require a significant increase in personnel. Further, up to this point, work with agencies and institutions in revising and updating master site plans has been performed by consultants of the private sector. To initiate this new function would also require additional personnel.

On pages 85 and 86, Recommendation 2: In the current revision of our Manual for the Planning and Execution of Capital Outlays, we are addressing the question of continuing our fee schedule for design consultants based on the "cost of construction" versus an agreed upon lump sum fee at a point during design where a fair estimate of construction cost could be determined. This is a difficult subject which requires detailed study and is underway. The suggestion that the Division of Engineering and Buildings be responsible for selecting "one of three firms submitted by each agency on each project" would not only add significant workload and personnel requirements, but would raise other problems not addressed in the recommendation.

On page 87, the recommendation that the Code be amended to permit a determination of the qualifications of contractors and that the Division of Engineering and Buildings should make determination as to whether the lowest bidder is "sufficiently qualified to perform" has already been addressed. This, too, would require additional personnel.

In closing, I would like to express my appreciation through you to Mr. Clendenin of your staff for the courtesies extended me during this study. I wish time and circumstance would have permitted more in-depth sharing of information he and your staff gathered during the approximate 15 months involved in the study. Hopefully, this can be shared in more detail with us in the immediate future, for we share your interest, and that of the legislature, in continuously desiring improvement in our procedures and the service we

render. Oftimes, and particularly during the past four years, fiscal constraints have precluded or mitigated efforts we would like to have initiated.

Should you desire further information or discussion with respect to this response, please advise me.

Sincerely,

H. Douglas Hamner, Jr.
Director

HDHJr:di

cc: The Governor of Virginia
Secretary of Administration and Finance
Director of Engineering and Buildings

COMMONWEALTH of VIRGINIA

Department of Planning and Budget

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August 14, 1978

Mr. Ray D. Pethtel, Director
Joint Legislative Audit and Review Commission

Joint Legislative Audit and Review Commission Report, "Capital Outlay in Virginia: An Operational Review"

Within the time constraints established by the period given us for review and by the necessity for maintaining the current work flow, we shall endeavor to provide constructive observations concerning the referenced. We recognize the difficulties inherent in such a study, with a number of agencies involved, elements not necessarily subject to control by agencies affected and different perspectives which can be resolved only by bringing the participants together for direct exchanges of views and information. Consequently, our observations include concurrence with portions of your report while, at times, taking exception to the context in which they are presented. To condense the response, the observations will be divided into three parts, concerning long-range planning and budgeting, procedures, and general comment.

1. Long-Range Planning and Budgeting

   a. General

   We agree that the planning process is deficient in the separation of capital outlays and operating expenses. While the report states legislative policies and administrative procedures do not call for the Department of Planning and Budget (DPB) to participate in capital outlay planning, it might have stated that § 2.1-483, Code of Virginia, explicitly confines DPB's involvement to "funding only."

   Historically, long-range capital outlay planning was initiated by the former Division of the Budget in about 1939-40, anticipating an on-going process which was aborted by World War II and a reduced Division staff. Legislative and Executive studies made in the administrations of Governors Stanley, Almond and Harrison are not mentioned. The relevance of these earlier efforts, in which the Division of the Budget had a significant

part, would be in an analysis of their success or failure and the reasons therefor. Similarly, a void in the report's discussion of planning is any commentary on the nature of legislative concerns and the varied bases for capital outlay appropriations initiated by the General Assembly or influenced by its concerns.

The repeal of Chapter 760 (1976) was not caused by agency protests.

b. Guidelines

If DPB is assigned capital outlay planning responsibilities and is provided resources for them, it will undertake actions of the kind recommended. Some of these now exist. Implementing any changes will require that distinctions be made between policy requirements established by DPB and record or file maintenance which may best be administered in another agency.

c. Budgeting

Planning and budgeting should be parts of a whole process; essentially, budgeting is planning.

d. Requirements to execute recommendations

It should be understood that execution of the recommendations is more complex than a simple statement of them. Not only are resources required, but also time. The expectations aroused by proposed change should be realistic. We are now well into the basic requirements for the establishment of a coordinated planning-budgeting process. This is not quickly accomplished. We have been advised by more experienced states that our progress is of a more than reasonable pace.

2. Procedures

a. The definition of "capital outlay," in our opinion, is neither stated as well as it might be, nor as poorly as the report terms it. The definition has been the subject of constant review by DPB, its predecessor agency and the Division of Engineering and Buildings (DEB). It is apparent that the complete definition includes the definitions of expenditure classifications. The distinctions can be complex and the length of the definition content is not a measure of its reliability.

The examples of "problems" given in the report imply that legitimate borderline interpretations can be easily relieved. Our experience does not support this simplification. Further, the assumption of the report that definition difficulties are responsible for misapplications is questionable. In its recitation of incomplete and unsubmitted forms, where definitions were not an issue, your report weakens the assumption. The entire system of jurisprudence is evidence that despite the best efforts at definitions, there are "misinterpretations" for which the fault may not be in the language alone.

There is a valid question regarding the omission of aircraft and vessels; conceivably, other items of expensive (as to acquisition and use) equipment might be included.

b. The report recommendations concerning forms and internal procedures are noted. They vary in significance, and in the validity of the basis upon which they are made. The forms, of course, are the principal responsibility of DEB, which does coordinate content changes with DPB. The completion report, in our view, should be monitored by the Department of Accounts and DEB. The new Commonwealth Accounting and Reporting System (CARS) is in effect and we anticipate changes which can utilize its products.

c. The internal DPB organization for capital outlay responsibilities is mentioned in the report by reference to another agency's study. A planned separation of unrelated activities has been effected in order to relieve an intolerable work overload. Superficially, distribution of capital outlay forms processing to all Budget Analysis Sections appears to have advantages. However, Budget Analysis Sections with responsibilities for operating expenses in functional areas are now consulted when new funding questions surface; they are provided with DEB capital outlay budget proposals when they are received. A fragmentation of the forms processing would be counterproductive, and would create a new time lag problem during the operating expense peak load periods, of which the Budget preparation periods are examples. In the event capital outlay planning is assigned to DPB, there will also be Division of Planning Program/Policy Section staff involved. Coordination is attainable within the present organization.

3. General Comment

It is understood some agencies received your exposure drafts before one was sent to us. We do not know if their observations are reflected in the copy we have.

It appears to us that some examples of adverse conditions in your report lack sufficient context for the benefit of the report users. For instance, Table 7 (Page 66) lists a group of projects as in the 1976-78 Appropriation Act; however, the group includes projects that were portions of other appropriations in previous Appropriation Acts and involved multiple projects, requiring verification of fund availability and other information from sources outside DPB. While we make no brief for excessive delays, the report does not display the many factors which contribute to them. Similarly, the abbreviated information in Table 8 (Page 67) does not reflect all related factors. This letter is not the appropriate medium for resolving the different perspectives of the several agencies which produce and review the paperwork, but errors and procedures in more than one place generate delays in both the faulty paper and the time lost to move correct papers.

The capital outlay manual, as you have noted, requires updating.

John R. McCutcheon

cc: Mr. Charles W. Walker
Secretary of Administration and Finance

ordon K. Davies
irector

COMMONWEALTH of VIRGINIA

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August 10, 1978

Mr. Ray D. Pethtel
Director
Joint Legislative Audit and Review
Commission
Suite 1100, 910 Capitol Street
Richmond, Virginia 23219

Dear Ray:

This is in response to your request for comments regarding the draft report "Capital Outlays in Virginia: An Operational Review". I appreciate the opportunity to review this draft report.

While references to the State Council's role in the capital outlay process are, in general, complimentary, there are several areas in the report about which I would like to comment:

State Council Room-By-Room Inventory

In analyzing the survey responses from institutions of higher education, the JLARC report cites the inability of the inventory system to identify the functional suitability of space. This was a shortcoming in the past inventory procedures. The Council staff, however, has corrected this deficiency so that the functional suitability of each room can now be appropriately identified. This procedure was used for the Spring 1978 inventory reports. I attach a copy of the inventory instructions relating to accessibility as well as functional adequacy; these are now part of the Council's current inventory classification manual.

State Council Renovation Schedule

Table 4 on page 42 indicates that eleven of the sixteen reporting institutions think the F-10 report is fair-to-poor in terms of usefulness for facilities planning. The implication of this statistical table has already been discussed with members of the JLARC staff. It is my

understanding that the survey did not include specific comments from the institutions as to why they reported as they did. We believe that the information included in the F-10 form is, in fact, a very significant part of planning for renovations. In our Fall 1978 inventory and utilization workshops we will discuss this report in detail with the institutions and attempt to determine why they rated it as they did. In view of the lack of background information in the JLARC survey concerning the reasons for specific classifications, I recommend that the statement in the JLARC report on page 41 that the "Council renovation schedule could be strengthened" be deleted and the following substituted: "In view of the statistical data indicated in Table 4, the Council should meet with institutional representatives to identify the specific reasons for rating the report as they did".

Relationship Between Program Review and Space Planning Guidelines

The report is critical of Council's heavy reliance on space planning guidelines on the basis that the guidelines are used in lieu of programmatic review (p. 48). Although lacking in some respects, I should point out that program information is a very important part of the Council's capital outlay evaluations and recommendations. Programs are reviewed prior to the application of the guidelines. For example, in reviewing the program of instruction, the SCHEV staff projects enrollment over a ten year planning period. Included within these enrollment projections are institutional plans for changes in degree programs and the classification of associated enrollments into disciplines requiring various types of space. At the same time, the Council examines the instructional program from an historical perspective through the space utilization studies. It is only upon the completion of these steps that the guidelines are used in order to provide standards for estimating programmatic space needs. The Council's procedures, therefore, include a programmatic review since they integrate the matter of enrollment projections, program plans, and related space needs.

Long Range Planning

The report calls for the Department of Planning and Budget and the Division of Engineering and Buildings to centralize and strengthen the function of long range planning for capital outlay. This is a sound recommendation insofar as it pertains to master site planning. I believe, however, that the Council effectively plans for higher education capital outlay ten years in advance. With regard to master site planning, however, I am concerned that the Council has only minimal involvement in it. Since this role is essential to the proper coordination of higher education in the state, I believe that a specific recommendation in the JLARC report should include Council as one of the agencies participating in the master site planning process.

With the adoption of the space planning guidelines developed in coordination with the Division of Engineering and Buildings and other state agencies, the Council now plays a major role in long-range capital outlay planning for higher education. The guidelines and the detailed

procedures for using these facilities management tools are included in a capital outlay manual published by the Council and updated for each biennium. These published procedures, coupled with instructions issued by the Division of Engineering and Buildings, require institutions of higher education to project their capital outlay needs for new or renovated facilities for the short and long range (10 years) planning period. These capital plans are based on planning criteria developed by the Council which consider approved enrollment projections, programmatic trends, and utilization patterns. Any recommendations to strengthen the total capital planning process in Virginia should recognize and strengthen the role of the Council in this process.

I would be most happy to discuss these comments with you or members of the JLARC study team. Thank you for the opportunity to review the report.

Sincerely,

Gordon K. Davies
Director

GKD:bs

Enclosure

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August 14, 1978

Ray D. Pethtel, Director
Joint Legislative Audit and Review Commission
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Richmond, Virginia 23219

Dear Mr. Pethtel:

As requested, we have reviewed the Commission exposure draft on Capital Outlays in Virginia and offer the following comments.

In general, we are in agreement with the findings of the report and support the recommendations as presented. There are several areas with which we feel corrections should be noted or the information strengthened. These are as follows:

Page 32-Case Study A-Lynchburg Training School & Hospital

The example used wherein Lynchburg Training School and Hospital requested three 100-bed residencies for non-ambulatory retarded residents implied the Department eliminated this request due to a policy of not increasing existing number of beds in institutions. This in an error since the buildings were requested for replacement beds and would not have increased the total bed capacity for Lynchburg Training School and Hospital. These buildings were requested to provide space for residents that have been rehabilitated to the point where they no longer are bed ridden but are in wheelchairs much of the time. The Department did not support this request as a priority item for the 1978-80 biennium budget, however, this will be supported in subsequent budgets. There was no difference between the Central Office policy and the institution but rather a difference in priorities.

Page 36-Paragraph 2-Master Site Plan for Southwestern State Hospital

Although the report indicates the master site plan was outdated and did not show water lines on the property, it should be noted that a survey

was conducted by an independent surveyor which did reveal water lines on the property and allow the plan to be updated. Subsequent to this survey the covered walkway was constructed as originally planned and the stairway located in a position most convenient to the facility. The location of the stairway required the movement of water lines which would have been necessary even if their location had been shown on the original site plan.

Page 50-Case B-Southern Virginia Mental Health Institute.

The original plans for the outpatient clinic at this hospital was based upon anticipation of the local psychiatric outpatient clinic being moved to the institute. Subsequently, this move did not occur, however, the institute still plans to use this area for treatment purposes and is considering operating a daycare program similar to Northern Virginia Mental Health Institute within this area. There was only one x-ray room in the original plans which is currently being used for storage and the original plans did call for a staff dining area as well as a canteen area for patients. The staff dining area has been relocated in the basement and the original area used for needed additional space for food storage.

Page 74-Project Cost Comparison

It should be noted the cost overruns occurred in 1972-74 when there was a period of unprecedented or unanticipated double digit inflation.

Page 87-Building Construction Inspectors

Although we support the recommendation for the use of building construction inspectors, it should be noted that the Department of Mental Health and Mental Retardation does have such positions established for this specific purpose in accordance with job specifications established by the Department of Personnel and Training. While they may not be used by other agencies, it appears this Department is in compliance with the proposed recommendation.

The Department supports the recommendation for a clearer definition of Capital Outlay projects which would be consistently used by all agencies, the Division of Engineering and Buildings and the Department of Planning and Budget. Improvements in the processing of allotments within the Department of Planning and Budget are severely needed and the Department would support the utilization of agency budget analysts for Capital Outlay budget processing. Also the use of targets or budgetary ceilings for agencies to use to limit budget requests for Capital Outlay would improve the process of establishing priorities. One area which was not addressed and remains a problem is the difficulty in dealing with general contractors after a contract has been awarded where there are deficiencies in the quality of work, schedules, etc.

I trust the comments will be beneficial in finalizing this report. The Department appreciates the opportunity to participate in this study and to respond to the draft.

Sincerely,

Leo E. Kirven, Jr., M.D.
Commissioner

LEKjr/RHSjr/bj/22-14

cc: The Honorable Jean L. Harris, Secretary of Human Resources

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