

BEST MANAGEMENT PRACTICES FOR CAPITAL PROJECTS

Final Report

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Office of
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Table of Contents

INTRODUCTION..... 2

OBJECTIVES 3

STATE CAPITAL BUDGET PROCESS..... 3

PUBLIC WORKS CONTRACTING 6

ALTERNATIVE FINANCING..... 11

REDUCING CONSTRUCTION CLAIMS..... 12

NEXT STEPS 14

APPENDIX A – CAPITAL BUDGET PROCESS BEST PRACTICES 17

APPENDIX B – PUBLIC WORKS CONTRACTING..... 19

APPENDIX C – ALTERNATIVE FINANCING 20

APPENDIX D – CONSTRUCTION CLAIMS AVOIDANCE..... 20

INTRODUCTION

The 2006 Legislature directed the Office of Financial Management (OFM) to report on best management practices for financing and constructing state capital projects. (See Section 224 of Engrossed Substitute Senate Bill 6384 below.) Specifically, this law required OFM to review:

- best practices for managing capital project costs including long-term information for facility preservation, major facility or system replacement, and new capacity;
- best practices in the state's capital budgeting process and public works contracting procedures;
- appropriate uses of alternative capital project financing; and
- risk management and reduction of potential claims and litigation related to state projects.

In 2007, the Legislature passed Substitute House Bill 2366 (Chapter 506, Laws of 2007) which directs OFM to provide oversight for leased and owned state facilities. This legislation addresses some of the issues and recommendations outlined in this report.

Section 224, Chapter 371, Laws of 2006 (ESSB 6384):

The legislature finds that financing costs are only one important dimension to consider when analyzing and comparing the use of conventional bonds with other capital project financing mechanisms in the development of major public facilities. Other factors to consider include total project and life-cycle costs, long-term costs of capital, scheduling, generally accepted accounting principles, transfer of risk, project management, project complexity, public works contracting procedures, and applicability of private sector strategies or practices in the development and ongoing maintenance of public facilities.

The office of financial management shall provide a report based on available information to the appropriate fiscal committees of the legislature by September 1, 2007, including:

Best practices for managing capital project costs including long-term forecasting information for facility preservation, major facility or system replacement, and new capacity to result in more effective investment decisions for major public facilities and infrastructure;

(2) Best practices in the state's capital budgeting process and public works contracting procedures;

(3) Appropriate uses of alternative capital project financing; and

(4) Management of risk and reduction of potential claims and litigation associated with state construction projects, including the enumeration of best practices for the management of project risk and conflicts, in order to minimize future expenses related to construction claims.

The office of financial management shall collaborate with staff of the appropriate fiscal committees of the legislature while collecting this information.

OBJECTIVES

The objectives of this report are to provide an overview and identify resources for:

- State practices for the procurement of capital projects in the capital budgeting processes, public works contracting procedures, management of risk, and alternative financing.
- Practices established outside of state government for the procurement of capital projects in the capital budgeting processes, public works contracting procedures, management of risk, and alternative financing.
- Next steps that can be taken to better manage and finance state capital construction projects.

STATE CAPITAL BUDGET PROCESS

Chapter 43.88 RCW outlines the requirements of the state budgeting, accounting, and reporting system and mandates a long-range approach to capital budget planning. The statute requires state agencies and higher education institutions to submit a proposed capital spending plan for a ten-year period, starting with the ensuing biennium. This long-range planning is designed to help agencies identify their needs and propose capital projects to address those needs.

The Ten-Year Capital Plan, also referred to as the capital budget, must support the mission, goals, and objectives in an agency's strategic plan. Agency, executive, and legislative staff use various techniques for evaluating proposed projects to assist the Governor and Legislature in making informed decisions on the distribution of funding for capital projects. The following are some of the best practices for undertaking these evaluations.

Early Review of Capital Projects

The best time to affect the scope, schedule and cost of capital projects is during the early planning stages. Therefore, a review should:

- Determine whether the project is necessary for the agency to contribute to statewide results;
- Assess whether existing facilities can accommodate a program without remodeling or renovation;
- Establish reasonable costs for design services;
- Review and make reasonable allocations for furnishings and equipment; and
- Review ratios that reflect reasonableness of cost, including these factors:
 - Project costs in relation to standard cost per square foot for similar types of buildings
 - Assignable square footage as a percentage of gross square feet
 - Percentage of design cost as a function of the maximum allowable construction cost (MACC)
 - Total escalated project appropriation as a percentage of escalated MACC
 - Duration of project schedule as a function of the MACC and building type, and
 - Cost of similar investments over time and between agencies to ensure they reflect a reasonable request level.

Managing Long-term Capital Costs

Agencies may use a variety of techniques and associated activities to manage long-term capital costs, such as:

Using appropriate definitions

- Develop sound, recognizable definitions for types of work such as repair and preservation
- Follow definitions on types of funding allowed, such as what work is bondable

Preserving and repairing existing facilities

- Perform periodic and independent assessments of the severity of needed repairs
- Complete independent assessments of condition classification for state-owned buildings
- Complete professional assessments of infrastructure needs

Managing backlog through targeted investments

- Replace the worst buildings within the agency
- Renovate buildings in poor condition that have a reasonable remaining life
- Keep facilities in good condition with adequate maintenance and operations funding, and make strategic capital repair and minor improvements

Evaluating strategy for meeting additional capacity needs

- Replace smaller buildings with fewer better-performing larger structures
- Provide incentives to consolidate space and build better efficiency in program delivery
- Use agency strategic plans and facility master planning to coordinate investment priorities and project delivery

Maintaining a long-term perspective for capital investment

- Manage the agency's expectations and request what is affordable to the state
- Provide a long-range assessment of a sustainable capital program level adjusted for inflation from the current biennium for the next 10 to 15 years
- Continue to evaluate progress to improve facility condition and reduce backlog each biennium
- Provide and update needs forecast every five years to reassess capital requests based on current market conditions
- Evaluate impacts related to changes in program delivery such as online education, hybrid courses, and interactive television programs
- Provide detailed enrollment forecasts each biennium by higher education institutions to ensure that growth investments align with changing demographics, and
- Use a capital analysis model to assess areas where shortages may exist.

State Agency Considerations

State agencies must consider many components when developing a construction project. The following highlights some of the key considerations.

Budget

The agency needs to determine a realistic budget before proposing to design and construct a capital project. Once the project budget is determined, the state generally requires that the project be completed at or near the established figure.

Predesign

If a project is expected to cost more than \$5 million, a predesign study must be completed. This study should provide a clear, accurate and specific understanding of the program needs to be addressed, including an analysis of alternatives.

Modified Predesign

If a project is expected to cost less than \$5 million, a modified predesign study may be required, depending on the type of project. This study should provide a clear, accurate and specific understanding of the program needs that will be addressed, including an analysis of alternatives.

Design

The project should function as envisioned and fulfill user needs. To this end, an agency must ensure that its design team is well qualified for the type of project being designed, and that users' program needs are clearly conveyed to the design team. Since the design must be buildable and properly communicated, the agency must require project design documents to be constructible, complete and coordinated. The documents should incorporate unique features of the site, such as subsurface conditions, interface with adjoining properties, access, and other characteristics.

Schedule

The availability of funds and need to provide functional space are critical to setting/meeting a completion date. Therefore, a realistic assessment of project duration and sequencing should be performed early in the planning process. The schedule should then be monitored throughout the design and construction phases.

Risk Assessment

The development of a project involves many risks. In construction, issues of risk are closely tied to schedule, site unknowns and budget issues. The agency must understand the risks involved in construction, and make a decision on the allocation of these risks among project participants so that all areas of exposure are properly understood. In considering risk allocation, the agency should assign risks to those parties that exercise control over aspects of the project. For example, the contractor should not be required to correct problems caused by design errors at an extra cost because the contractor generally has little control over the cause or magnitude of design errors.

Agency's Level of Expertise

The agency's familiarity with the construction process and level of in-house management capability will influence the need for outside assistance during project development and construction. This should guide agencies in determining the appropriate project delivery method.

PUBLIC WORKS CONTRACTING

State agencies constructing a capital project must make an important decision about the public works contracting method by which the project is designed and constructed. This decision has become more complex in recent years as several alternative public works contracting procedures have been developed and made available to some agencies. Methods that have gained in popularity include General Contractor/Construction Manager (GC/CM), Design-Build and Agency Construction Management. Proponents of alternative methods promise improvements over the traditional methods in terms of cost, project control and reduction of disputes.

Project Delivery Methods

Design-Bid-Build

The traditional Design-Bid-Build project delivery methodology remains the most popular method for construction projects. The state agency engages a designer (architect/engineer) to prepare the design of the complete facility, including construction drawings, specifications and contract documents.

Once completed, the design package is presented to interested general contractors who prepare bids for the work and execute contracts with subcontractors to perform specialty jobs. In many cases, the contractor submitting the lowest responsive bid is selected to perform the construction. This contractor is then responsible for constructing the facility in accordance with the design. The designer typically maintains limited oversight of the work and responds to questions about the design on behalf of the state agency. The designer may also assist in administering the construction contract, including determination of project progress.

This contracting system offers the advantage of being widely applicable and well understood and having well-established and clearly defined roles for the parties involved. It is the most frequently used approach by state agencies that must comply with state procurement (public works) statutes. Furthermore, it offers agencies a significant amount of control over the end product, particularly since the facility's features are fully determined and specified prior to selection of the contractor. However, agencies have experienced frustrations using this system, which have led to the development of other methods.

Among the main disadvantages of the traditional system are:

- The process is time-consuming since all design work must be completed prior to solicitation of the construction contract (i.e., does not allow for overlapping of the design and construction phases).
- The designer may have limited ability to assess scheduling and cost ramifications as the design is developed, which can lead to a more costly final product.
- The agency generally faces exposure to contractor claims over design and constructability issues since it accepts liability for design in its contract with the contractor.
- It tends to promote more adversarial relationships rather than cooperation and coordination among the contractor, designer, and state agency.
- The contractor pursues a least-cost approach to completing the project, requiring increased oversight and quality review.

- The absence of a contractor's input into the project design may limit the effectiveness and constructability of the design. Important design decisions affecting both the types of materials specified and the means of construction could be made without full consideration of a construction perspective.

When allowed, many agencies make an effort to pre-qualify contractors, either through invitation or an objective set of criteria that consider construction experience and financial capability. This helps to ensure that the contractor is capable of providing a high-quality product. Once the field of bidders is established, an agency bidding a lump-sum project may choose to require sealed bids wherein the lowest responsible bidder will earn the right to perform the work.

General Contractor/Construction Manager (GC/CM)

This delivery system is similar in many ways to the traditional Design-Bid-Build project delivery methodology in that the construction manager acts as a general contractor during construction. That is, the construction manager holds the risk of subletting the construction work to trade subcontractors and guaranteeing completion of the project for a fixed, negotiated price following completion of the design. However, in this scenario, the construction manager also provides advisory professional management assistance to the agency prior to construction, offering schedule, budget and constructability advice during the project planning phase. Thus, instead of a traditional general contractor, the agency deals with a hybrid general contractor/construction manager.

In addition to providing the agency with the benefit of pre-construction services, which may result in advantageous changes to the project, the GC/CM project delivery methodology allows construction to begin prior to completion of the design. The construction manager can bid and subcontract portions of the work at any time, often while design of unrelated portions is not complete. In this circumstance, the construction manager and agency negotiate a guaranteed maximum price based on a partially completed design that includes the construction manager's estimate of the cost for the remaining design features. Furthermore, the construction manager may allow performance specifications or reduced specifications to be used, since his or her input can lead to early agreement on preferred materials, equipment types and other project features.

The primary disadvantages of the GC/CM project delivery methodology involve the contractual relationship among the designer, construction manager and agency once construction begins. Once construction is under way, the construction manager converts from a professional advisory role of the construction manager to the contractual role of general contractor. At that time, tensions can arise over construction quality, completeness of design, and impacts to schedule and budget. Agency and contractor interests can become similar to the traditional design-bid-build system, and adversarial relationships may result. While the fixed guaranteed maximum price is intended to address unfinished aspects of the design, this arrangement can increase disputes over assumptions of features that could have been anticipated when the bid was negotiated.

One mitigating approach to this problem is for the construction manager to share subcontractor bids with the agency to ensure openness in the process. The construction manager may further assume risk by taking some responsibility for design errors discovered during construction, if the construction manager was involved in the review of the design prior to establishing the

guaranteed maximum price. In addition, agreements can be made on risk sharing and profit sharing if there are overruns or underruns in the guaranteed maximum price.

An agency considering whether to use the GC/CM project delivery methodology can realize many benefits. One major advantage is the opportunity to incorporate a contractor's perspective and input to planning and design decisions, and the ability to "fast-track" early components of construction prior to full completion of design. However, since a commitment is made to a contractor earlier in the process, the proper selection of the construction manager is critical.

Design-Build

The design-build project delivery methodology has grown in popularity. It is seen by some in the industry as the perfect solution to limitations posed by other methods. For an agency, the primary benefit is the simplicity of having one party responsible for project development. Other systems often give rise to disputes among project participants, with the state agency acting as referee. In the design-build methodology, these disputes often become internal team issues that do not directly affect the agency.

Under this system, the state agency contracts with a design-build team, which itself is often a joint venture of a general contractor and a designer. Since general contractors are comfortable in the role of risking corporate capital in performing projects, they usually are the lead members of this type of team. However formulated, the design-build team performs the complete design of the facility, usually based on a preliminary scope or design (performance specifications) presented by the state agency.

At some point early in the process, the design-build team will usually negotiate a fixed price to complete the design and construction of the facility. Once under way, the design-build team is then responsible for construction of the project and for all coordination between design and construction. Since the construction team is working together from the outset, the design-build method offers the opportunity to save time and money. However, the advantages of the system are offset by a significant loss of control and involvement by the agency and stakeholders. Accordingly, it is difficult for the agency to verify that it is receiving the best value for its money, if confidence has not been established in the design-build team.

The primary caution for an agency considering design-build is the level of involvement required for a successful project. First, the agency must recognize the effort and completeness necessary in the initial scope/preliminary design (performance specifications), which forms the basis of its contract with the design-builder. Often, the state agency will need additional consultants to help develop its scope or preliminary design.

Second, state agencies with highly specialized program needs or desires may not find it advantageous to turn over responsibility to an outside team without ensuring adequate levels of oversight and communication. The design-build methodology is better suited to conventional projects for which project requirements can be clearly defined and for which expertise is widely available. For example, an office facility might be a project ideally suited for design-build as the agency is not assuming undue risk in ceding control.

Third, the agency must make a wise selection of the design-build team. Since it selects a team that has been created before the final design selection, it may be difficult for the agency to maintain balance among design expertise, financial capability, construction experience, and experience in design-build team roles. In particular, the agency should strongly favor teams with a successful track record of working together in the same roles. More so than in any other delivery system, the success of a design-build project hinges on the initial selection process.

Agency Construction Management

Agency construction management encompasses a range of services provided by a consultant on behalf of a state agency. The consultant can provide a set of services that are applicable to any project delivery system. These services can be used by the agency as necessary to extend or supplement the agency's expertise, and to manage the construction process to mitigate shortfalls of the project delivery system.

A consultant working as an agent can provide the benefit of independent, professional services provided on the agency's behalf throughout the project. In contrast to some other project participants, the consultant has no vested financial interest in the design or construction of the project, and maintains a responsibility to act on the agency's behalf and to provide impartial advice. As such, consultant firms should be selected based on qualifications and not on a cost or low-bid basis. Services offered through an agency construction management model include:

Predesign and design: There are often advantages to obtaining construction expertise during the early planning stages of a project. Services offered by consultant firms during planning stages include the following:

- Selecting the most qualified design team to develop project plans and specifications.
- Providing more refined estimates during the design process to develop the construction budget and to provide a basis of comparison for contractor bids.
- Reviewing the design plans and specifications to verify the design as presented is clear to the contractor, poses no construction conflicts, and is economically feasible to build.
- Reviewing project features to ensure they are provided in the most cost-effective way (value engineering).
- Pre-selecting contractors and developing the bid package to ensure that the contractor selection process is fair and provides the best value.

Consultants are often most cost-effective during the planning stages of the project, because they can provide the careful planning and organizational skills that can help prevent costly problems during construction. Properly executed services can result in significant risk reduction and cost savings by limiting change orders, delays, and contractor claims.

Construction phase: Consultant firms provide a variety of services during construction that include the following:

- Examining project performance on a continuous or periodic basis to review progress, ensuring compliance with specifications and plans, and reviewing housekeeping and safety issues.

- Maintaining project correspondence, conducting progress meetings, handling submittals and requests for information, documenting progress, reviewing pay requests, and scheduling reviews and updates.
- Negotiating change orders with the contractor, coordinating with the designer on design changes, determining responsibility for changed conditions or coordination conflict, and reviewing price and schedule changes.
- Reviewing the project to ensure orderly and timely completion, including development of punch lists; monitoring of implementation, training and warranty periods; resolving outstanding issues; and reviewing and analyzing claims or disputed issues.

The most frequent criticism of consultant services is that they add a level of bureaucracy to a project, resulting in added cost. While such services could ultimately reduce project costs, an agency could realize the benefit of consultant services without committing to more costs by supplementing its own project management and selecting a consultant on a service-specific basis.

The state agency has the option of tailoring its use of consultant services to its needs in order to provide the best combination of project control and cost. For example, a state agency may have inspection personnel, but lacks sufficient management experience to enact effective project cost controls. Or an agency might want to add more construction knowledge into the design process by engaging a consultant firm to perform a value engineering or constructability review. An agency may also prefer to factor in scheduling expertise in coordinating its various designers and contractors for a multi-phase effort.

Other agencies may be comfortable with their design teams, but may need assistance in finding qualified contractors to perform the work. Many agencies use a consultant's construction closeout service to resolve intractable problems on projects that degenerate from disputes with a contractor over schedule and delay issues.

Considerations on Selecting a Project Delivery Method

When an agency is selecting a project delivery method, it should consider the following:

- **Type of project:** Determine the level of complexity and uniqueness of the project, and maintain an appropriate level of control.
- **Size of project:** The level of outside assistance and number of project participants should match the significance of the project. If a project is more complex and costly, the agency's need for professional management and advice is greater.
- **Agency capabilities:** Agencies must realistically assess their in-house capabilities in evaluating project procurement methods.
- **Time considerations:** If the project needs to be constructed quickly, methods adaptable to fast-track construction should be considered. However, the agency must weigh the need for speed against increased costs and risks of fast tracking.
- **Likelihood of changes:** If the agency is aware that its requirements may change considerably during the project, this possibility should be evaluated against the potential cost of such changes. For example, a design build team may present the most fluid method of incorporating changes during construction, but those changes may come at a higher cost than through other methods.

Professional construction management can help ensure the construction of the best project possible, on-time and on-budget. Construction management services are highly desirable, if not essential, to a successful project, especially for agencies lacking expertise. Services are adaptable to any project delivery system and are scalable to meet specific project needs. Agencies should explore construction procurement options and consider benefits of professional management services regardless of the contractual approach used to deliver the project.

ALTERNATIVE FINANCING

For many years, it has been the state's practice to issue general obligation bonds, revenue bonds, and certificates of participation to fund state capital projects. These securities are sold with the state as the issuer.

General Obligation and Revenue Bonds

General obligation bonds pledge the full faith and credit of the issuer as repayment for the debt. Revenue bonds pledge a specific non-tax revenue stream, such as project operating revenues, as the source of repayment. A number of factors, including legal debt limits, market access, and the voter approval process, can limit the amount of general obligation or revenue bonds that a public entity may issue.

Certificates of Participation

A Certificate of Participation (COP), authorized by the Legislature, directs a state agency that undertakes a construction, renovation, remodel or acquisition project to enter into a financing lease with a nonprofit corporation. A public agency issues the bonds to finance the capital project, which is similar to the procedure followed for the issuance of general obligation bonds. The agency either owns or acquires the property, which it leases to the nonprofit corporation under a site lease. The agency then leases the facility back from the non-profit organization, and those lease payments provide funds to pay project costs. This financing method is typically used on projects that have a dedicated source of revenue to support the lease payments.

63-20 Financing

A fourth major option is also available. Although not used as frequently, the Legislature has the authority to allow a state agency to construct state buildings with tax-exempt financing free from the constraints of public works laws. This option was first approved by the Internal Revenue Service in 1963 when it ruled that a nonprofit corporation could issue bonds on behalf of a public agency (commonly referred to as 63-20).

After the Legislature approves the financing method for the project and the State Finance Committee approves the nonprofit corporation and issuance of the bonds, the bond proceeds are deposited in a project fund held by the trustee and are used to finance the capital improvements. The nonprofit corporation is generally responsible for the design, construction, operation, and maintenance of the project. Once the bonds issued by the nonprofit corporation are retired, the title to the project is transferred to the agency. This method is used for projects when flexibility is desired in choosing a project delivery method, and when projects must be constructed quickly.

Other Financing Methods

The option of leasing a facility from a private landlord is often used as an alternative to the purchasing of a facility. A majority of state agency office space is leased. A lease is a contract granting use or occupation of property during a specified period, typically a five- or 10-year period, in exchange for a specified rent. These agreements function as operating leases only and do not meet the criteria of a financing contract. The state uses this method to respond quickly to facility needs. Other benefits of this model include the flexibility to vacate the space after the period of the lease with no long-term commitments, allowing relocation or closing of an office in response to changing program needs. The disadvantage of this model is that the state does not invest in any long-term building assets.

A less-frequently used hybrid of these alternatives is also available. This hybrid is a lease with an option to purchase. Like the lease alternative, it is not considered a financing contract but an operating lease. It does not make any commitments on behalf of the state to purchase the property, but instead provides an option to be exercised if funding is provided to make a building purchase. The Legislature must authorize a purchase before it can be completed. The benefit of this model is that the option to purchase provides the general terms and conditions of the purchase and allows the state an opportunity to assess the condition of the building while occupying it, prior to a purchase. The disadvantage is that until the time of purchase, none of the rent paid to the landlord is an investment in the facility.

REDUCING CONSTRUCTION CLAIMS

Major construction projects, whether undertaken by the public or private sectors, and no matter the delivery method, inevitably raise a degree of financial risk. The state of Washington, which finances the construction of facilities such as school buildings, prisons, major office buildings, and higher education facilities, has a clear interest in managing risks that can increase project cost and/or lead to litigation.

State construction projects receive a significant amount of public attention due to the visibility of activities financed with tax dollars. The number of projects that run into difficulty and result in large claims is relatively small compared to the number of projects managed by the state. However, when a project runs into difficulty, it can receive considerable attention.

Case studies for risk point to common risk factors and events that affect project outcomes. These can be summarized as follows:

- Overly lengthy programming and design phases
- Department realignment and growth, which result in project program change
- Changes in project scope and budget during design and construction
- Poorly defined or unrealistic project program, scope, budget or schedule at the beginning of the project
- Overextended design team, which results in incomplete documents

- Lack of attention to project relationships and failure to develop a project attitude that reduces adversarial relationships
- Inexperience in Washington public works laws by architects, engineers, general contractors, and subcontractors
- Design errors and omissions
- Refusal of contractors to support cooperative and timely resolution of disputed issues
- Failure of contractors to coordinate and manage construction.
- Unyielding schedule requirements for owner occupancy and use
- Construction phasing that results in extended construction duration
- Lack of surge space that contributes to project complexity
- Restrictive project schedule that results from design and bidding delays
- Unusually long times for securing required documents such as zoning, building, environmental, and electrical permits
- Lack of a firm schedule and absence of ongoing monitoring of project progress or delays
- Last-minute addition of major equipment that causes major design changes and delays
- Conflicting interpretations of contract document requirements
- Lengthy resolution of issues
- Issuance of numerous change orders that results in added cost and time
- Restrictive bidding requirements that disqualifies capable bidders
- Public works laws that require owners to award a contract to a low bid contractor who is marginally qualified.

There is still room for improvement in state efforts to manage risks associated with construction projects. In 1998, a risk management committee, created by the Legislature, identified 15 factors that can jeopardize the success of state projects. These factors included the need for a standard process for managing risks, additional staff training, changes in hiring practices and remuneration, and other issues discussed below.

The risk management committee did not recommend one ideal method for preventing risk. However, it identified some guiding principles, or best practices, that can lead to significant improvements in successful project management if implemented faithfully and consistently.

The principles and practices proposed by the committee fall into three major categories. Most are administrative in nature. Actions that can be implemented quickly are listed first. These “near-term actions” will generate quick results but also are the least visible. The longer-term administrative measures will require more time to plan and execute. Recommendations requiring legislation are listed last and also may require additional time to put into action.

Near-term Actions

- Agencies should implement measures to ensure clear definition of the scope of any project during the pre-design phase.
- New training programs for project management should be expanded to develop specific skills.
- The principles of partnering should be adopted as standard procedures for most state design/bid/build construction projects.
- Trained project managers should be given more authority to make decisions to expedite a project within established limitations.
- Project managers should be held responsible for keeping a project on track according to an approved budget, scope and schedule.

Longer-term Measures

- Staff involved in capital construction projects should be paid competitively with the private sector. Agencies should consider hiring professional project managers who are trained in this field.
- Continuing education and training programs should be required for agency supervisors and staff involved in capital construction programs.
- Training and professional information should be standardized throughout state government.

Possible Statutory Changes

- The Legislature may wish to consider adding criteria for pre-qualifying “responsible” bidders on public works projects, similar to criteria used in awarding goods and services contracts.
- The Legislature may consider looking for ways to reduce delays in obtaining permits from other jurisdictions.

NEXT STEPS

This report is intended to serve as a starting point for analysis of best practices. A further in-depth analysis is needed to determine whether these best practices can be implemented as a part of the capital budget development process. The following are key recommendations that should be researched as part of best practices.

Short-term Recommendations

Continue implementation of facility oversight

In 2007, the Legislature passed Substitute House Bill 2366, which directed the Office of Financial Management, with assistance from the Department of General Administration, to improve the oversight of facility investments. Before the law went into effect, both agencies began a more thorough review of new lease requests. This had an immediate effect on the decision-making process. Agencies are still required to complete a business summary on new space that documents the need for the facility.

In June 2007, OFM hired a consultant to develop an implementation plan for SHB 2366. Delivered in the fall of 2007, this plan has been helpful in implementing the components of the legislation, which include:

- Submitting a six-year facility planning by January 1, 2009;
- Deploying the use of the life-cycle cost model;
- Implementing a modified predesign process for space requests to lease, purchase or build facilities;
- Evaluating the Facility Inventory System by the fall of 2008;
- Approving leases for facilities under development; and
- Reviewing lease proposals prior to their execution.

Update of the Enacted Ten-Year Capital Plan

When the Governor submits the capital budget to the Legislature for its consideration, the Ten-Year Capital Plan must be balanced with available revenues. Once the Legislature finalizes the capital budget, the ten-year plan is not subsequently balanced. To create a better baseline for future biennial budgets, the plan should be balanced with available revenues.

Long-term Considerations

Review completed construction projects. Generally, when a construction project is completed, there is no requirement for a final report to be provided to the Governor's Office and appropriate legislative committees. Agencies should be required to submit an annual report on the final cost of their completed projects and how those final costs compared to the original funded amounts.

Update Predesign Manual. The manual was last updated in 2006 after legislation was passed that required buildings with more than 5,000 square feet to be designed or constructed to meet Leadership in Energy and Environmental Design (LEED) silver standards. The manual should be reviewed and updated in the near future.

Update architect and engineer fee schedules, guidelines and conditions of agreement. The fee schedule is generally updated each year. With the rise in construction costs, the current methodology for calculating the fee for these services needs a comprehensive review.

Conduct examination of the inflation rates use when calculating construction costs. With the recent expansion of construction throughout the nation to deal with natural disasters, significant growth in construction internationally, and an increase in the cost of oil products, the construction inflation rates have been very high. To project inflation rates for projects over the next ten years may be very difficult. A consultant should be hired to conduct this review and report his or her findings to the Governor's Office and the fiscal committees of the Legislature.

Review project contingencies. Each state agency has a different methodology for determining project contingencies. A consultant should be hired to develop standards and easily understood methods to determine project contingencies. This will allow executive and legislative decision makers to more accurately assess construction costs.

Evaluate the use of alternative financing. There are a variety of alternative financing methods for capital construction projects authorized by the Legislature. An analysis should be performed on the appropriate use and benefit of each of these methods.

Evaluate how to mitigate the risk of project overruns. An evaluation needs to be done on how to implement recommendations that were provided in 1998 by the risk management committee.

Appendix A – Capital Budget Process Best Practices

2007-2017 Capital Plan Instructions, Washington State Office of Financial Management
<http://www.ofm.wa.gov/budget/instructions/capinst/07-17capinst/default.asp>

2006 Predesign Manual, Washington State Office of Financial Management
<http://www.ofm.wa.gov/budget/instructions/predesign/predesign.asp>

2009-11 Capital Budget Request Documents, Washington State Board for Community & Technical Colleges
http://www.sbctc.ctc.edu/college/_f-bgtdevelopment.aspx

Master Planning, Washington State Board for Community & Technical Colleges
http://www.sbctc.ctc.edu/college/_f-masterplanning.aspx

State Agency Facility Oversight, Washington State Office of Financial Management
<http://www.ofm.wa.gov/budget/facilityoversight.asp>

Limited Public Works Instruction Manual, Washington State Department of General Administration
<http://www.ga.wa.gov/EAS/EA-References/LPWI/lwp%20Manual.pdf>

Government Management Accountability and Performance (GMAP) documents, GMAP
<http://www.accountability.wa.gov/reports/default.asp>

Capital Planning and Asset Management Solutions (CPMS™), VFA Corporation
<http://www.vfa.com/productsandservices/cpms.htm>

Parametric Cost Estimating Model for Buildings, AACE International
<http://www.aacei.org/technical/BuildingModel.shtml>

RSMeans QuickCost Estimator, Reed Construction Data
<http://www.rsmeans.com/calculator/index.asp>

Cost Estimate Validation Process (CEVP)® and Cost Risk Assessment (CRA), Washington State Department of Transportation
<http://www.wsdot.wa.gov/Projects/ProjectMgmt/RiskAssessment/>

California Multi-Agency CIP Benchmarking Study, LA Department of Public Works
<http://eng.lacity.org/techdocs/cabm/>

Joint Legislative Audit and Review Committee (JLARC) Studies:

- Life-Cycle Cost Model Update
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2007/07-5.htm>

- Performance Audit of the Implementation of Competitive Contracting
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2007/07-1.htm>
- Higher Education Capital Facilities Studies: Expanding the Comparable Framework
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-10.htm>
- Refresh of Preservation Information in Comparable Framework
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2006/06-5.htm>
- K-12 School Spending and Performance Review
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-19.htm>
- General Contractor/Construction Manager Procedures Study
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-9.htm>
- Performance Audit of Capital Budget Processes
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-7.htm>
- Overview of Environmental Permitting for Transportation Projects
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-3.htm>
- Overview of Washington State Department of Transportation Capital Project Management
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-3.htm>
- Review of Accountability Mechanisms for Washington State Department of Transportation
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-15.htm>
- Follow-up: 2001 Investing in the Environment Performance Audit
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2005/05-2.htm>
- Higher Education Facilities Preservation Study
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2003/03-1.htm>
- Follow-up: Higher Education Facilities Preservation Study
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2003/03-8.htm>
- Capital Budget Staffing and Administrative Costs Study
<http://www.leg.wa.gov/JLARC/Audit+and+Study+Reports/2002/02-10.htm>

Appendix B – Public Works Contracting

Facilities Design Guidelines & Construction Standards, Washington State Department of General Administration

<http://www.ga.wa.gov/EAS/EA-References/DesignStandards.pdf>

Project Management Tools and Processes, Washington State Department of Transportation

<http://www.wsdot.wa.gov/Projects/ProjectMgmt/>

Capital Projects Advisory Review Board (CPARB)

Contact Nancy Deakins 360.902.8161

[*Tumwater Office Building – Lessons Learned, Washington State Department of General Administration*](#)

Choosing the Best Delivery Method for Your Project, Construction Management Association of America

http://cmaanet.org/best_delivery_method.php

Guidelines for the Successful Construction Project, Construction Guidelines

<http://www.constructionguidelines.org/tableofcontents.htm>

Publications, Project Management Institute

<http://www.pmi.org/Resources/Pages/Our-Publications.aspx>

Project Management Benchmarks, International Facility Management Association

<http://www.ifma.org/tools/index.cfm>

Appendix C – Alternative Financing

King County 63-20 (Bill Angle, DES Facilities Management Division, Capital Project Manager)

<http://www.metrokc.gov/dcfm/GGCip.html>

<http://directory.metrokc.gov/GroupDetail.asp?GroupID=4000>

Manage and operate the county's capital assets by developing and maintaining cost conscious, sustainable, quality facilities and environments.

Colliers International 63-20 Guide

(Document available at OFM Capital Budget office.)

63-20 Financed Projects (example project), Washington State Office of the State Treasurer

http://tre.wa.gov/BondDebt/bnd_63-20cof.pdf

State Agency Lease Purchase Program, Washington State Office of the State Treasurer

http://tre.wa.gov/BondDebt/bnd_state-lp.htm

[Summary of Funding Options \(M. Roberts\)](#)

APPENDIX D – Construction Claims Avoidance

[A Strategy for Risk Management in Capital Construction, Washington State Office of Financial Management](#)

Risk Management Division, Washington State Office of Financial Management

<http://www.ofm.wa.gov/rmd/default.asp>

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