



Recommended Capital Budgeting
and Reporting Options
for the
Washington State Department
of Transportation's
Capital Construction Program

Phase 1 Supplemental Report

July, 2006



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Table of Contents

Purpose	1
Summary Recommendations	2
Context	4
Application of Contingency Allowances	4
Example of Contingency Guidelines	5
Converging Accountability Objectives	6
National Perspectives on Delegated Authority	6
WSDOT's Oversight and Reporting Conundrum	7
OFM 603 Transfer Conditions and Protocols.....	8
OFM's Project Management and Fund Balance Definitions and Constraints.....	8
Section 603 Process	8
SPMG Strategic Plan Budget Flexibility and Reporting Recommendations.....	9
Objectives	9
Budgeting and Reporting Recommendations	10
Proposed Budgeting Framework	11
Principles.....	11
Program and Sub-program Funding Levels and Feasibility.....	12
Funding Sources	12
Reporting on Project Scope, Schedule and Budget	13
Funding Contingencies and Budget Transferability.....	13
Recommended Modifications to Budgeting and Reporting Provisions	14
Section 603 Modifications	14
Added Delegated Authority	15
Comparison of Authority to Approve Budget Changes.....	16
References	20

List of Tables

Table 1 – Example of LA TIMED Contingency Guidelines	5
Table 2 - Section 603 Transfer Scenarios and Recommended Budget Actions	17

Purpose

ESSB 6241 enacted the FY2006 Washington State Transportation Supplemental Budget. This legislation required that the Washington State Department of Transportation (WSDOT) prepare a strategic plan for program and project delivery to manage Washington's unprecedented \$15 billion capital construction program. WSDOT retained the Statewide Program Management Group (SPMG) to assist in the plan preparation and implementation. SPMG has provided the following major products:

1. Interim Report completed March 2006;
2. Strategic Plan completed June 2006, and
3. This Supplemental Report on Capital Budgeting and Reporting Options.

SPMG was charged with identifying a set of improved business processes, tools and systems that enable WSDOT to deliver the \$15 billion program on schedule and under budget. This report addresses the budget and reporting options requirements of the following sections of the budget legislation:

Sec. 219. FOR THE DEPARTMENT OF TRANSPORTATION-- PROGRAM DELIVERY MANAGEMENT AND SUPPORT-- PROGRAM H

The department shall report to the transportation committees of the house of representatives and senate, and the office of financial management, by July 31, 2006, on recommended capital budgeting and reporting options. Options must include appropriate project groupings for reporting purposes, and appropriate measures for reporting project progress, timeliness, cost, and criteria and processes for project transfers.

Sec. 603. 2005 c 313 s 603 is amended to read as follows:

(1) The director of the office of financial management may authorize a transfer of spending allocation within the appropriation provided and between projects funded with transportation 2003 account (nickel account) appropriations, transportation partnership account appropriations, multimodal transportation account appropriations, freight mobility account appropriations, or freight mobility investment account appropriations, in order to manage project spending and efficiently deliver all projects in the respective program under the following conditions and limitations:

- (a) Transfers may only be made within each specific fund source referenced on the respective project list;
- (b) Transfers from a project may be made if the funds allocated to the project are in excess of the amount needed to complete the project;
- (c) Transfers from a project may be made if the project is experiencing unavoidable expenditure delays;

- (d) Transfers from a project may not be made as a result of the reduction of the scope of a project, nor shall a transfer be made to support increases in the scope of a project;
 - (e) Each transfer between projects may only occur if the director of the office of financial management finds that any resulting change will not hinder the completion of the projects approved by the legislature;
 - (f) Transfers may not occur to projects not identified on the applicable project list; and
 - (g) Transfers may not be made while the legislature is in session.
- (2) At least five working days prior to any transfer, a report of the transfers made to date shall be submitted to the legislative evaluation and accountability program (LEAP). The report must also include a list of monitored projects or transfers currently under consideration by the department, and a financial plan consistent with legislative intent. Within five working days, LEAP shall review the proposed financial plan and report to the joint transportation committee as to whether the expenditures and revenues are sufficient to deliver the projects listed on the most recent legislatively approved project list.

Summary Recommendations

Recognizing the realities of the time constraints of project delivery, SPMG recommends that more authority to make changes should be made administrative, rather than legislative. The Office of Financial Management (OFM) can hold the authority, acting on the Legislature's behalf, and administratively adjust to changing conditions, delegating additional operational authority to WSDOT as appropriate, and rescinding that authority if necessary. The common goal is to deliver the benefits of the investment programs to the people of Washington. If WSDOT continues to demonstrate both a capability to deliver and provide full and open reporting, it should be given greater latitude to continue that progress than exists today. If it fails to live up to these standards, OFM and the Legislature can institute greater controls to address shortcomings. Therefore, SPMG recommends that:

- 1) The Legislature expand the authority delegated to WSDOT under section 603 to allow for creation of budgeted programmatic management reserve assigned to WSDOT by OFM to handle minor changes that will occur within the biennium. The management reserve would draw from the budgeted amounts of the three primary program funding sources and be co-mingled for efficiency to meet on-going project changes.
- 2) This reserve is further delineated to corridor-level bundles called ***corridor or route project reserves***, or into geographic bundles called ***area project reserves***. The reserves for each ***corridor/route/area project*** would be tracked based on percent contribution of the underlying program-level funding source.
- 3) Within current constitutional limitations, WSDOT should be given authority to mix program-level contingency so as to spend it within the biennium on these projects as

the need arises without outside prior approval. WSDOT should report quarterly on the management of the reserve and the progress of each budgeted project.

- 4) Should WSDOT need further resources above this reserve amount, SPMG recommends that WSDOT request contingency held by OFM. If OFM depletes its total contingency during a biennium, then individual 603 transfers must be enacted or legislative action will be required.
- 5) SPMG recommends that the Legislature provide WSDOT added flexibility in its future budget plans that go beyond the Section 603 process. In funding future programs and projects, establish a program-level budget amount with an associated list of specific projects whose underlying cost estimates may or may not be firmly established; the aggregate total of the estimates will form the budgeted amount of the program for the particular biennium.
- 6) Include in the program a management reserve that can be used above and beyond the 603 transfer mechanism to address unusual fluctuations or changes that are external driven.
- 7) The budget should provide WSDOT a regularly funded account to use for development of selected unfunded projects that have not been progressed to a reasonable level of scope definition. Once the preferred alternative has been selected and 30% design has been complete, then WSDOT should establish a project's baseline budget and the associated schedule milestones containing reasonable contingency at the project level. This would ensure that the projects, once scope is defined, contain both individual schedule and risk premium contingencies as well a project level contingency appropriate to the degree of project development. Prior to meeting this threshold, WSDOT should carry the costs of project definition in the project development account. WSDOT should report quarterly on the use of these funds by individual project development initiatives but not against a specific project baseline budget or schedule.
- 8) SPMG recommends that WSDOT continue quarterly reporting on the active projects under development including the current estimate of expected cost at completion and the milestones established consistent with the Nickel Program's six major milestones, with one modification – change Milestone 5 from ***Met Advertisement Date*** to ***Met Award Date*** since this is the realistic start of construction activity.
- 9) SPMG does not see the need to report ***overall program financial feasibility*** on a quarterly basis as long as WSDOT reports on project progress quarterly, manages to the budgeted program-levels, and does not exceed the management reserves recommended above. Reporting program financial feasibility should be provided twice per year:
 - a) Once when WSDOT submits its budget to OFM, and
 - b) Secondly following passage of the transportation budget legislation incorporating any legislative changes made during the session.

The remainder of this report sets forth the context for managing budgetary changes using examples of other states' delegation practices and guidelines from similar capital construction programs in the application of project and program-level contingencies. The report then reviews the SPMG Strategic Plan recommendations on budgetary flexibility and provides overarching principles for, and specificity about, the nine recommendations summarized above using a series of typical project change scenarios that compare the SPMG recommendations with the current Section 603 triggers.

Context

Delivering a large, long-term program of transportation projects that vary widely in size, complexity, and contextual factors entails, with virtual certainty, that there will be significant variations in cost and schedule resulting from factors that may be difficult to foresee and mitigate for individually, but become both more predictable and manageable when addressed in the aggregate on a programmatic basis. Similar to the concept of group insurance, managing the risks associated with project changes individually would require a prohibitive level of contingency and associated cost. Contingency is defined as an allowance in a program or project budget for potential costs or time extensions that will probably be incurred but are difficult to quantify at the time the estimate is made because of the lack of certainty regarding existing conditions, level of scope definition or external influences such as third party reviews, changes in regulations or cost escalation. But with the assignment of risks spread among the group as a whole, the cost and management of those risks becomes manageable.

Application of Contingency Allowances

Typically, contingency allowances vary by degree of project definition and categories of risk or uncertainty. The conventional titles of the estimates of cost or time for each phase of project development are generally descriptive of the level of accuracy contained therein, typically categorized as follows:

1. Planning or Evaluation Phase Estimates – Conceptual or Order of Magnitude;
2. Basic or Preliminary Design Estimates – Comparative or Preliminary;
3. Detailed Engineering or Final Design – Definitive, Budgetary or Engineer's Bid Estimate; and
4. Construction Phase – Contractor's Low Bid, Engineer's Estimate at Completion.

Only at completion when the job is closed out and all costs paid do we achieve full recognition of the final cost; prior to this milestone, we only have estimates at completion.

As a project moves through the development process, its scope and schedule becomes increasingly refined in terms of the level of detail. To reflect this, engineers use different risk categories to address the variability in the definition of a project's scope, schedule and budget. WSDOT has pioneered the state of the art in cost and risk assessment contingency estimating through the use of its CVEP[®] process. The application of a contingency at every stage of the design and construction is recommended. The

contingency is decreased as additional data are provided, unknowns become known, decisions are made concerning the design configuration and perceived risks are reduced.

For instance, on underground projects, Sperry⁷ suggests that there are six areas to assess and apply separate contingency factors. These are:

1. **The Estimate** - add between 5% and 10%;
2. **The Specification** - add between 0% and 10%, depending on the manner in which risk is allocated;
3. **The Design** - in early stages, add between 3% and 10%, dropping this to 0% at the conclusion of the final design;
4. **Construction Management** - add between 0% and 10%, depending on the reputation of the Owner in acting promptly and resolving disputes or claims;
5. **Geotechnical** – “This is usually the largest addition to the estimate, providing for the cost of handling unanticipated geotechnical problems discovered in the design phase and also during construction. This contingency could be 50%, or even 100%, when the proposed tunnel is located in materials of unknown strength, where it is in low strength materials under high cover, when the tunnel is much larger than usual, when there are faults of unknown severity, and when high inflows of groundwater or gas could be encountered. It would be low, say 5%, if you know about the material to be excavated, as when a tunnel of similar size was recently excavated nearby in the same material and at the same elevation. As subsurface investigation and design proceeds, the estimate is revised to reflect the cost of the design solution for the disclosed geotechnical problems. The contingency is reduced, but seldom to zero - all the geotechnical costs are never known until tunnel construction is complete”⁷ ; and
6. **Competition** - add between a minus 5% and plus 5% for the availability of contractors and the demand for the services of the contractors.

Example of Contingency Guidelines

Louisiana Department of Transportation and Development (LADOTD) currently has the \$4.5 billion Transportation Improvement, Mobility and Economic Development (TIMED) highway improvement program underway. The Program Manager (PM) responsible for the delivery of this major capital construction initiative has established guidance for the use of contingency. Table 1 outlines the guidelines for contingency percentages on the TIMED Program.

Table 1 – Example of LA TIMED Contingency Guidelines

Stage	Cost Contingency	Schedule Contingency
Planning/Environmental	30%	20%
Preliminary Design	15%	15%
Final Design	10%	10%
Construction	5% - 0%	0%

Source: SPMG

The standard practice used in the TIMED program is to have cost estimates generated for each discipline (design, utilities, right-of-way, construction, etc.) at various steps in each stage of project development. The amount of cost contingency added to the

estimates depends upon which stage the project is in. Only the remaining unspent money has contingency applied to it. During construction, the contingency starts at 5%. It drops to 0% once a contractor's bid is approved. An additional 5% is still held as a change order allowance, but this is separate from the contingency (so it really stays at 5%).

The scheduling contingency is only applied to the construction duration estimate. It is assumed that the preconstruction durations are fairly accurate. Also, all TIMED projects are out of the planning stage (with a few exceptions) so the PM did not have an opportunity to apply a design schedule contingency. During construction, the contingency drops to 0% once a contractor's baseline is approved. The PM has the option to use the contingency if needed.

Converging Accountability Objectives

Given the program and project delivery challenges that lie ahead, there is no apparent disagreement between WSDOT and its key stakeholders regarding the normalcy of change. The importance of controlling project scopes as well as tracking budgets and schedules is also generally well understood and accepted. WSDOT has also received support to embark upon an initiative that will vastly improve its ability to monitor, report and provide the necessary information department-wide to make project and program management decisions on the basis of factual, timely and consistent information. The most difficult issue is not whether change will occur, but rather the prudent allocation of responsibilities for dealing with change - for managing the array of projects and programs by making the myriad adjustments and decisions necessary to sustain financial and schedule feasibility.

National Perspectives on Delegated Authority

There is no industry norm regarding the degree of delegated authority and responsibility that should be afforded a lead agency tasked with managing project delivery. Within the community of state DOTs the range is quite significant - with states such as Kansas, Maryland and California enjoying a fairly high degree of flexibility earned through a combination of past performance, transparency and accountability.

The reporting relationship between DOTs and legislatures tends to be based on the degree to which the lines between management and oversight responsibilities have been clearly drawn and understood. In Maryland, for example, the entire capital budget for the State Highway Administration is a single line item in the state's budget, affording considerable flexibility to the Department to adjust scopes, budgets, and schedules within and among projects and programs, as well as moving funding regardless of sources, subject only to federal eligibility criteria. One of the keys to Maryland DOT's (MDOT) ability to retain this degree of flexibility over a period of decades is the Department's annual update to its capital programs and how it is communicated to and reflects the input of elected officials. Every year state legislators, local elected officials, and principal staff members meet with MDOT's leadership in a series of 24 well-attended County and Baltimore City meetings. During this time, the overall fiscal outlook is discussed and project scopes, costs, and schedule status are reviewed for all individual projects, large and small, that are located within or might affect that area. The discipline of preparing for these annual meetings, along with distant memories of when

project delivery performance was poor, have provided strong incentives within the Department to set realistic expectations and to deliver on well over 90% of those annually in terms of projects put out for bid within the year as promised.

In Kansas, known for its long-term funding and program commitments (eight years or more), KDOT plays a considerable role in developing and managing their long-term programs. While the legislature provides oversight, KDOT enjoys a significant degree of autonomy in how it selects and delivers projects. This has remained the case over a series of successive long-term programs, largely as a result of the confidence vested in KDOT over the years.

In California, the responsibility for delivery of transportation improvements is clearly vested with the Department of Transportation. The Legislature sets annual funding and staffing levels, but does not typically engage in project-specific involvement through the legislative process. It relies on the California Transportation Commission (CTC) for ongoing oversight and reporting of the Department's progress in meeting goals. Additionally, the ability to adjust project funding and schedule is held between the Commission and the Department, with a significant amount of delegation of authority provided by the Commission to the Department.

In all cases, the Legislature retains the ability to address general or specific issues through hearings and other means. The accountability of DOTs to the Legislatures for their performance is unquestioned. In some cases, growth in programs has led to a reexamination of roles and responsibilities, as is happening in Washington. For example, when California had a massive increase in its programs in 2000, there were explicit discussions among the Governor's office, Legislature, CTC, and Department regarding the challenges of delivering improvements to expectations. It was jointly agreed that the best opportunity to meet performance goals was to delegate more operational authority to the Department, with a strong reporting/oversight system put in place through the CTC. At any time, the delegations could be withdrawn due to misuse or poor performance.

WSDOT's Oversight and Reporting Conundrum

When it comes to size and duration of the programs and projects it is charged to deliver, and the degree of transparency, accountability, and detailed reporting about all aspects of its activities that is ingrained in its culture, WSDOT is truly in a class by itself. It is also in a class by itself in terms of the number of oversight entities in the executive and legislative branches who audit, evaluate, and report upon its activities, and in the lack of discretionary authority or flexibility in its ability to manage changes.

In enacting the nickel per gallon increase (Nickel Program) and the 9.5 cents per gallon Transportation Partnership Account (TPA), the Legislature simultaneously expanded WSDOT's responsibilities yet reduced its authority to manage these programs. Looking back to the Pre-Existing Funds (PEF) that supported the Department's prior programs, the Department had the kind of flexibility it needed to manage the biennial spending in an orderly manner within the legal framework of the different programs and budget cycles. Upon enacting the Nickel Program of 110 new projects, the Legislature removed this flexibility. Then, just as the Department was gaining greater credibility with the

public and with elected officials in delivering the Nickel Program, the state enacted (and then sustained through a referendum challenge), the country's largest single fuel tax increase in recent years. The 2005 Transportation Partnership Account added 274 new projects that compounded the line-item, project-level degree of control complexity.

In 2006, Section 603 was amended to give OFM the authority to approve budget transfers for projects within the TPA and Nickel Programs for the current biennium budgeted appropriations. This adds some flexibility to WSDOT's delivery mechanics but does not provide for an overly efficient method of change control normal to other DOT practices.

After reviewing the numerous conditions and multiple partners with explicit decision-making authority, SPMG has serious reservations about WSDOT's ability to meet delivery goals under existing restrictions. There are too many decision-makers, too many instances of blurred lines of authority and accountability, and too many ways that project delays and cost overruns can be compounded by process delays. As noted later in this report, we recommend a series of changes that will clarify accountability for management, delivery and oversight of the program. Absent such changes, it is difficult to foresee the program delivered as intended.

OFM 603 Transfer Conditions and Protocols

OFM, in coordination with WSDOT, has outlined the following conditions and processes that could trigger Section 603 transfers:

OFM's Project Management and Fund Balance Definitions and Constraints

The Section 603 process is part of a larger project control and management discussion. Each project that is contained in the LEAP list is essentially a line-item appropriation. The outer year project costs are allocations. Although these are not legally binding, they do reflect legislative intent and should be treated as a baseline. A "transfer" only applies to an adjustment of a line item appropriation in the current biennium. Scope refers to a general solution of a problem, not to a particular prescribed solution.

OFM suggests that, until WSDOT completes the implementation of the SPMG Strategic Plan systems reporting tools, there remains a need to impose a regularly scheduled intensive project review and financial plan update process. This will enable OFM to answer: "Are we going to be able to deliver on our commitments?" OFM suggests that this discipline should apply equally to WSDOT and other state transportation boards.

Section 603 Process

In general, the OFM process as currently drafted includes the following:

- Systematically keeping project updates and 16-year financial plans linked;
- Reconciling legislative versions of the 16-year financial plan and TEIS fund balance within 30 days of end of session;
- Updating and revising project assumptions four times a year: (a) 60 days after end of session, and following the Quarterly Project Review meetings (QPR's) at which WSDOT examines potential changes to its projects; (b) in

- August/September; (c) mid-November; and (d) in February/March. Each version should be entered into TEIS and compared to the last legislative session;
- Notifying OFM, legislators, and legislative staff when a project is at risk. At risk is currently defined by OFM as: (a) a projected change in cost of more than \$5 million or 20% of total project cost as last defined by the Legislature; and/or (b) a projected change in schedule that would result in a missed construction season; and
 - Updating and revising revenues quarterly with each revenue forecast, including private, local, federal, and bonding sources. (Also include "transfer" updates if appropriate).
 - Requesting "transfer authority" per section 603 as described below:
 - Providing project information on-line, through the Gray Notebook, and other established reporting mechanisms; and
 - Providing a summary of project changes and fiscal impacts four times per year to OFM, the chairs of the transportation committees, and other interested parties.

Agency submits: (a) a cover letter or e-mail to OFM explaining the need for the project change including an explanation of why this revision cannot wait until the Legislature is back in session; (b) a summary of revised project costs over the 16-year plan and how this compares to the last legislatively adopted plan; (c) an analysis of the fund sources being used and the impact of the proposed changes on ending fund balances.

The Director of OFM will sign a letter or send an e-mail either approving or disapproving the Section 603 request within five days of receipt. A copy of this communication will be made to LEAP, the House and Senate Transportation chairs, and House and Senate Staff Coordinators.

OFM and WSDOT have identified 11 typical scenarios that illustrate the criteria under which projects may or may not be eligible for a Section 603 transfer request. Before we address these scenarios, SPMG will restate the general recommendations taken from the Phase 1 Strategic Plan and then present a set of guiding principles that evolves into a conceptual framework that will be used to drive the SPMG budget and reporting recommendations associated with the current processes of budgetary oversight and approvals.

SPMG Strategic Plan Budget Flexibility and Reporting Recommendations

Objectives

The recently published Strategic Delivery Plan for the WSDOT's Capital Construction Program, June 30, 2006 provided the following objectives as guidance on capital budgeting and reporting options:

1. ***Develop efficient processes for managing changes in a project's scope, cost, or schedule that balance accountability and achievement of the public's trust while avoiding unnecessary delay or indecision.*** Such delay or

indecision could actually increase cost and schedule of the project as a result of inefficient processing of warranted project changes. Ironically, the unwieldy and time-consuming nature of the current process requiring external approvals of relatively modest changes in schedule, cost and scope are virtual guarantees that significant schedule slippage will occur in delivering many, if not most, projects since changes in some aspect of a project's scope, schedule or budget are the rule and not the exception. If WSDOT is to have a fair chance at delivering the program on time, within budget and within a scope that is tailored to the purpose and need of the project, substantial simplification and delegation of approval authority in the change process is essential. Although reporting and accountability for such changes can remain detailed and undiminished, slowing or stopping the project development process to accommodate such a cumbersome process will have the unintended consequence of necessitating additional budget and schedule changes that account for the lost time and wasted effort.

2. ***Provide greater flexibility to the Department to act on an opportunity or option regardless of when the Legislature is in session.*** Since the Legislature is only in session for part of the year, the Department may miss opportunities for some beneficial changes or limit the options available to control a change. There should be no difference in the Department's ability to react to events due to the time of year. (Here the Legislature does not relinquish its ability to conduct oversight.)
3. ***Provide greater flexibility to the Department to reallocate funds to or from projects with minor justified scope changes.*** Encourage minor scope changes that keep projects on schedule and allow Departmental processing of minor scope changes with only a review by the Legislature rather than approval.
4. ***Provide greater flexibility to the Department to move spending of programmed funds to different phases of a project or to different projects in an overall corridor improvement group of projects.*** While appropriations have been made to fund specific phases of projects from different program accounts, the total budget of a project should be blended to allow WSDOT to move funds between phases regardless of program source. Likewise, where projects have been funded in a corridor (such as the I-405 HOV program) from different sources, the individual project fund sources should be aggregated into a corridor-level budget to provide the Department flexibility to spend funds when and where needed regardless of programmatic source as long as full reporting of total spending by source of funds remains intact.

Budgeting and Reporting Recommendations

The Strategic Delivery Plan addressed the Section 603 budget transfer process, presented above. This is the manifestation of the "micro" level of operational ground rules that tend to undermine WSDOT's ability to manage and deliver the program. To achieve the objectives stated above, SPMG offered a series of recommendations on a general level that would provide WSDOT with much-needed flexibility, as follows:

1. Establish reviews and decision-making authority at high enough levels to discourage unwarranted change and encourage innovative ways to keep

projects on track while delegating authority to the lowest level appropriate for dealing with the consequences of the decision.

2. Place more accountability on the regions and Project Managers for early identification, mitigation and to the extent feasible, relatively “painless” accommodation of potential changes.
3. Provide documentation in advance of the Quarterly Project Review (QPR) meetings that provides an evaluation of proposed changes in terms of content and specific action items presented at the QPRs.
4. Delegate authority to the Department – and establish thresholds similar to those for PEF Projects – for approval of routine changes. Document and report modest changes to OFM of those actions taken at QPRs for consent approval.
5. Revise upward the “dollar” thresholds established for cost and scope changes to recognize the dynamics of the marketplace in terms of escalation of capital costs. Index the thresholds, or at least revisit them annually.
6. Increase the use of contracting mechanisms that encourage control of scope, cost and schedule, such as lump sum, “design to cost,” and schedule-based incentives and disincentives.
7. Instead of assessing and reporting program feasibility at each Section 603 transfer decision, establish contingency allotments for internal change management flexibility and institute a semi-annual Program Financial Feasibility Plan Update that accounts for all known changes that have noticeable impact on scope, schedule and cost of all known projects (including use of all contingencies, minor project changes, statewide revenue estimates and projections, changes in interest rates, national cost trends) in a report to the Legislature that assesses the cumulative impact on the financial and schedule feasibility of the program and identifies project, program and financing alternatives for accommodating significant adverse changes.

Work is being done for the Legislature’s Joint Transportation Committees (JTC) by Cambridge Systematics, Inc. (CSI) on budget methodologies². When CSI addressed this issue, they reached much the same conclusions on the need for added flexibility. The Strategic Plan provided an assessment of the Budget Methodologies recommendations as well.

Proposed Budgeting Framework

The following framework refines the objectives and enhances the SPMG recommendations. It is essential to understand the following principles that underlie these proposals for greater WSDOT program management flexibility (and accountability):

Principles

- Expanded flexibility for WSDOT accompanied by 100% transparency and accountability for how this flexibility is used and what beneficial or adverse effects have resulted. Complete open book.

- Program or project changes that could be expected to adversely affect the viability of programs or major projects (such as substantial increases in cost or substantial delays) along with proposed corrective actions should be reviewed with OFM and with appropriate legislative bodies in advance of taking actions or making decisions.
- Program or project changes that are relatively minor in nature (have little or no impact on overall programs or on major projects) will be largely delegated to WSDOT with full disclosure reporting responsibilities that explain the need for, and the effects of, the changes.
- WSDOT is committed to the successful completion of the Nickel and TPA programs, in parallel with projects funded under PEF. Facing external factors such as rising costs and potential internal factors such as unanticipated environmental impacts are likely to affect budgets and schedules, and may cause some cost increases and delays. However, through a combination of measures, such as value engineering, staging, phasing, and alternative financing, projects whose merits continue to justify the investment will be carried out one way or another rather than be summarily dropped.

Program and Sub-program Funding Levels and Feasibility

- WSDOT should recommend funding levels for major programs and sub-programs and these should be approved by the Legislature and the Governor, and not subject to significant changes without their prior approval.
- Legislative appropriations should revert to the previously established practice of occurring at the program rather than the project level.
- At least annually, but not more often than semi-annually, the Department will analyze and report on program delivery feasibility in terms of achieving schedules at costs that are within the capacity of expected revenue. If feasibility of achieving the latest legislatively approved program and sub-programs is in significant jeopardy, the Department should study and share with OFM and the Legislature a range of options for addressing the feasibility issue.

Funding Sources

- WSDOT must have latitude in drawing upon and exercising fund transfer options with respect to all combinations of funding sources at the state and federal levels, within current statutory and regulatory provisions, in order to carry out projects in the most financially efficient and beneficial way possible. WSDOT will report on its use of this flexibility without the need for prior approvals except as it may jeopardize significant aspects of WSDOT programs, sub-programs, and major projects.
- The firewalls that exist on projects funded from multiple programs are detrimental to effective delivery. A project doesn't succeed because there are limitations on funding source; it succeeds because the contributions from different sources are used effectively. A project has a budget that is an aggregation of multiple funding sources. Minor shifting of these sources should be allowed but reported transparently.

- Proposed actions to shift funding sources that can have a significant impact on a program or sub-program or on a major project, should be shared with stakeholders in advance and approved in advance by OFM.

Reporting on Project Scope, Schedule and Budget

- WSDOT will report quarterly on the status of projects at a level of detail commensurate with the current detailed Gray Notebook and Beige Pages. Significant changes in status of scope, schedule or cost of major projects will be highlighted and brought to the attention of OFM, stakeholders, and the Legislature in advance.
- WSDOT will report twice per year on overall Financial Plan feasibility, once when it submits its budget and then after baselining the most recent legislative budget.
- Proposed changes in project scope on a major project that could significantly affect the schedule and value of that project should be shared with stakeholders in advance and approved in advance by OFM.
- WSDOT must have latitude in adjusting project scopes, schedules and budgets for minor changes in order to more cost-effectively address needs.
- The definition of “Major Project” is critical since under this proposed framework, it defines the group of projects where threats to the scope, schedule and budget is the primary vehicle for determining whether prior approvals of changes beyond WSDOT are necessary. “Major” can have a financial dimension - such as any project in excess of \$50 or \$100 million, or it can have a community-based or politically based dimension in which it might be a small project but with a profound affect on the natural, human and built environments.
- Definition of “AT RISK” is also important. There are drawbacks and dangers of using fixed dollar limits or thresholds. Though there is considerable appeal in using dollar limits to allocate levels of authority for approval of changes, there are also obvious pitfalls. Consider the impact of 20% that a \$20 million change would have on a \$100 million project as compared with that same amount on a \$1 billion project - a 2% change. This is why the dollar threshold approach is not as ideal as the project impact threshold in which a risk analysis is used to determine whether the impacts are such that a strategically significant project is at risk.

Funding Contingencies and Budget Transferability

- Projects in the early stages of planning should have substantial contingencies built in to address risks and issues that have not yet even surfaced (in excess of 30% for major projects still in the National Environmental Policy Act (NEPA) phase is not excessive.)
- Contingencies may be systematically reduced as projects advance toward construction, but a 10% contingency at final design just prior to construction is not unreasonable. It is also reasonable to segregate the contingency such that decision-making authority is held at different levels.

- Using a risk management approach for cost estimating, for which WSDOT has become a national pioneer among state DOTs in implementing such a process, can mitigate the magnitude of required contingencies, as can the ability to consider and report on project costs on a corridor basis. From the public's perception, projects are defined in a manner similar to NEPA - with long stretches of independent value and utility. The fact that for purposes of design and construction activities, project limits are shortened for more manageable procurement and contracting should not result in using such reduced limits in monitoring and interceding in WSDOT project-level activities or decision making.
- Geographic area (Regional) and program/sub-program contingencies should also be considered as a way to reduce the size and mitigate the impacts of project-level contingencies and the changes that necessitate drawing upon them.

Recommended Modifications to Budgeting and Reporting Provisions

Section 603 Modifications

Working within the context of the current budget legislation, SPMG recommends that WSDOT, OFM and the Legislature employ the Section 603 transfer criteria to encompass a greater degree of latitude than currently allowed, using these guiding principles. This is to be accomplished as follows:

1. At the beginning of each biennium, OFM enacts a Section 603 transfer of an amount recommended by WSDOT (e.g., 10%) of the biennium budget of each capital construction project into a blended multi-program management reserve or contingency fund. The three separate program contingency reserves would be co-mingled for expenditure in a biennium as long as WSDOT reports quarterly on the use of this reserve and on the progress of each project from which the reserve was drawn.
2. This reserve is further delineated to corridor level bundles called *corridor or route projects* or into geographic bundles called *area projects*. The reserves for each *corridor/route/area project* would be tracked based on percent contribution of the underlying program-level funding source. For instance the I-405 corridor has a total of 16 separate projects, four funded by the Nickel Program and 12 by the TPA account. Its total budget is \$1,457 million overall with 2/3rds coming from TPA funds over the life of the corridor construction program and the remainder coming from the Nickel Program. The current biennium is budgeted at \$224 million with 55% coming from the Nickel funding. A 10% contingency reserve would be established at \$22.4 million.
3. OFM delegates to WSDOT management 50% of the programmatic reserve for biennial cost escalation (5% of the program-level budget.) Using the I-405 corridor project example, this would give WSDOT discretionary authority of \$11.2 million to adjust costs between projects in the corridor during the biennium.

4. WSDOT is given authority to mix program-level contingency so as to spend it within the biennium on these projects as the need arises without outside prior approval.
5. WSDOT reports quarterly on the management of the reserve and the progress of each budgeted project, including its earned value, cost-to-complete estimate and cost and schedule performance. These earned value metrics can also be used to screen projects for aggregate reporting or individual WATCH LIST reporting in the Gray Notebook.
6. Should WSDOT need further resources above this reserve amount, it must request contingency from OFM.
7. If OFM spends its total contingency during a biennium, then individual Section 603 transfers must be enacted or legislative action will be required.

Added Delegated Authority

Advancement of authority beyond the current Section 603 provisions, SPMG recommends that the Legislature provide WSDOT added flexibility in its future budget plans. Recognizing the realities of the time constraints of project delivery, more authority to make changes should be made administrative, rather than legislative. OFM can hold the authority, acting on the Legislature's behalf, and administratively adjust to changing conditions, delegating additional operational authority to the Department as appropriate, and rescinding that authority if necessary. The common goal is to deliver the benefits of the investment programs to the people of Washington. If WSDOT continues to demonstrate both a capability to deliver and provide full and open reporting, it should be given greater latitude to continue that progress. If it fails to live up to standards, OFM and the Legislature can institute greater controls to address shortcomings. Thus, SPMG recommends the following:

1. In funding future programs and projects, establish a program-level budget amount with an associated list of specific projects whose underlying cost estimates may or may not be firmly established; the aggregate total of the estimates will form the budgeted amount of the program for the particular biennium.
2. Require OFM and WSDOT to report quarterly on the projects contained in the program, the current estimate of expected cost at completion and the milestones established consistent with the TPA/Nickel reporting practices.
3. Include in the program a management reserve that can be used above and beyond the 603 transfer mechanism to address unusual fluctuations or changes that are external driven.
4. Ensure that the projects, once scope is defined, contain both individual schedule and risk premium contingencies as well a project-level contingency appropriate to the degree of project development.
5. The budget should provide WSDOT a regularly funded account to use for development of unfunded projects that have not been progressed to 30% engineering development. Once the preferred alternative has been selected and 30% design has been complete, then WSDOT should establish a project's

baseline budget and the associated schedule milestones. Prior to meeting this threshold, WSDOT should carry the costs of project definition in the project development account. WSDOT should report quarterly on the use of these funds by individual project development initiatives but not against a specific project baseline budget or schedule.

6. SPMG recommends that WSDOT continue quarterly reporting using the Nickel Program's six major milestones with one modification – change milestone 5 from ***met advertisement date*** to ***met award date*** since this is the real start of construction activity.
7. SPMG does not see the need to report overall program financial feasibility on a quarterly basis as long as WSDOT manages to the budgeted program-levels and does not exceed the management reserves recommended above. Reporting program financial feasibility should be done, as a minimum, twice per year - once when WSDOT submits its budget to OFM and secondly following passage of the transportation budget legislation incorporating legislative changes made during session.

Comparison of Authority to Approve Budget Changes

Table 2 on the next page summarizes 11 situations or scenarios that are typically encountered in today's program/project delivery environment and identifies those conditions that currently lead to a Section 603 transfer against those that require legislative action on TPA or Nickel projects. In the far right column, SPMG presents alternative methods for streamlining the process.

Table 2 - Section 603 Transfer Scenarios and Recommended Budget Actions

Possible Project Condition	Triggers 603?	Alternative SPMG Recommendation
1. Pre-bid engineer’s estimate or bid comes in over budget, but at or under biennial line-item project appropriation - presumably total project cost will increase.	No. 16-year plan will need revision.	<ul style="list-style-type: none"> ○ Report project changes quarterly. WSDOT and OFM will need to establish a reporting format of these new estimates/costs for “no surprises” reporting. ○ Update and report Financial Plan feasibility semi-annually.
2. Pre-bid engineer’s estimate or bid comes in over budget and exceeds biennial cash-flow project line-item appropriation-presumably total cost will also increase (e.g., SR 17).	Yes, and 16-year plan needs revision.	<ul style="list-style-type: none"> ○ No, for minor projects that are at risk or for not-at-risk major projects as long as WSDOT’s 50% biennium programmatic-level contingency is available or there are savings from other projects which maintains the baseline financial plan feasibility. Report all actions quarterly. ○ Yes if a major project is at risk without any action and there is insufficient WSDOT controlled biennium contingency remaining in that corridor or area project. ○ WSDOT reports quarterly on the management of the reserve. WSDOT can award the project as long as the total Financial Plan remains feasible and it has available to it the necessary contingency for minor changes. ○ OFM retains authority on the remaining 50% of the management reserve.
3. Delay in current biennium – shift from current biennium to outer biennium (e.g., SR4/Svensen’s Curve Realignment).	Yes, and 16-year plan needs revision.	<ul style="list-style-type: none"> ○ Concur for major projects, ○ No for minor projects. Report minor project schedule shifts quarterly.

Possible Project Condition	Triggers 603?	Alternative SPMG Recommendation
4. WSDOT wants to accelerate pre-bid project work planned and programmed for outer biennia into the current biennium - such as environmental design, right-of-way, etc. that, in turn increases expenditure for the biennium (e.g., I-405/SR 515 Interchange Improvements).	Yes, and 16-year plan needs revision.	<ul style="list-style-type: none"> o No, for minor projects that are at risk or for not-at-risk major projects as long as WSDOT's 50% biennium programmatic-level contingency is available or there are savings from other projects that maintains the baseline financial plan feasibility. Report all actions quarterly. o Yes if a major project is at risk without any action and there is insufficient WSDOT controlled biennium contingency remaining in that corridor or area project.
5. Project partners want to advance a project— there are sufficient funds for the project, but they are in outer biennia (e.g., King Street Station).	Yes, and 16-year plan needs revision.	<ul style="list-style-type: none"> o No, for any project as long as WSDOT's 50% biennium programmatic-level contingency is available or there are savings from other projects that maintains the baseline financial plan feasibility. Report all actions quarterly.
6. Project partners advance or loan their contribution to a project in order to get things moving because there is insufficient state funding in the current biennium.	No action needed.	<ul style="list-style-type: none"> o Concur - report quarterly all actions.
7. Project stays within budget only because of actions taken by WSDOT to revise design, or change schedule - there is no significant impact on the project's effectiveness and it still meets legislative intent.	Not, but keep parties informed and revise 16 year plan if necessary – report that schedule has been advanced.	<ul style="list-style-type: none"> o Agree and reported in Gray Notebook.
8. Project stays within budget only because WSDOT reduces the scope and/or cost of a project, and the overall benefit will not meet legislative intent (e.g., proposed ramps will not be built at an interchange).	Not allowed. Requires legislative action	<ul style="list-style-type: none"> o Agree – all scope reductions would be vetted through the Legislature.

Possible Project Condition	Triggers 603?	Alternative SPMG Recommendation
9. WSDOT wants to eliminate a project altogether (e.g., Mukilteo Sounder Station).	Not allowed. Requires legislative action.	<ul style="list-style-type: none"> ○ Agree – all scope reductions would be vetted through the Legislature.
10. Construction/fuel costs are escalating and all projects are costing more than expected.	Best to let Legislature address, but 603 may be triggered if various line item project appropriation revisions are required in order to meet advertisement and award milestones.	<ul style="list-style-type: none"> ○ No, for any project as long as WSDOT's 50% biennium total combined programmatic level contingency is not depleted or there are savings from other projects which maintains the baseline financial plan feasibility. Report all actions quarterly. ○ Yes, use 603 transfer provisions if OFM contingency is needed for major at risk projects. OFM reports quarterly on these actions. ○ Legislature must act if macro-level external forces drive Financial Plan feasibility to failure.
11. Contract is bid during session and its award would exceed line-item appropriation.	Yes, and 16-year plan needs revision.	<ul style="list-style-type: none"> ○ No, for any project other than a mega-project as long as WSDOT's 50% biennium programmatic level contingency is available or there are savings from other projects which maintains the baseline financial plan feasibility. Report all actions quarterly. ○ Yes, use 603 transfer provisions if OFM contingency is needed for major or mega at risk projects. OFM reports immediately during session on these actions. ○ Legislature would act on any mega project if action would drive the individual project's Financial Plan to failure or the single action would fail the test of overall Program Financial Plan feasibility.

References

1. Sperry, P.E. "Cost Contingencies", Civil Engineering Magazine. Vol. 58, no. 4, pp. 68-69. April 1988.
2. *Budget Methodologies Study*, Cambridge Systematics, Inc., July, 2006.