RISK AND CONTINGENCY MANAGEMENT PLAN

Draft Report

April 2010

Columbia River CROSSING

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1. Overview

The Risk and Contingency Management Plan (RCMP) is a sub-plan of the Project Management Plan (PMP) for the Columbia River Crossing (CRC) project dated, September 2009; its successful implementation depends upon a fully updated and active PMP. The purpose of the RCMP is to highlight specific areas of management focus as identified through the risk review process, which should be implemented along with normal project operations as described elsewhere within the PMP. Further, the purpose of the RCMP is to provide a means for monitoring project progress as it moves forward to Entry into Final Design.

This RCMP contains two distinct sections, a plan and work plan (or appendix). The plan details effort in defining and managing the steps, actions, and risks to guide the CRC Project within the cost and schedule requirements, while maintaining target (cost & schedule) contingency levels through each project phase. This portion of the document is expected to be updated only as needed, or as requested by the FTA PMOC, i.e. entrance into a new phase and/or a change in FTA guidance.

Each component of the plan provides guidance for the successful management of the CRC project including, but not limited to, the following topic areas:

- Primary Mitigation – an iterative process and the result of developing planned activities to mitigate CRC Project risks during the earliest possible project phase. The primary mitigation baseline consists of individual risk mitigation plans developed for risk elements that requires managerial, administrative, and/or technical action,
- Insurance – includes a summarized discussion of major insurances provided by the CRC Project owners in response to the multitude of risk vulnerabilities that may be endured,
- Contingency Management – discusses plans for managing the CRC cost and schedule contingencies to cover residual risk and uncertainties in the case of unsuccessful primary mitigations,
- Secondary Mitigation – comprises actions required if the primary mitigations, and the phase contingency values of time and money, are inadequate to avoid cost overruns and/or schedule delays, and
- Risk Management & Mitigation – references the formally adopted risk management process to continuously identify, assess, and mitigate CRC Project risk

The work plan, or appendices, will be more dynamic as they contains the vast majority of the data to be updated periodically. The appendices serve as the tracking tool to assess the CRC Project for its ability to mitigate risk, close PMOC SPOT Report action items, and dispense contingency, as forecasted:

- Appendix A – includes a robust primary mitigation plan for each Preliminary Engineering (PE) Phase risk with an impact; including risk owners, handling steps, step deliverables, and residual risk scores.
- Appendix B - consists of a list of recommended actions with required completion dates and assigned responsibilities.

The Project risk baseline was initially developed for the submittal to FTA New Starts during the risk workshop held April 14th and 15th 2009 lead by Gannett-Fleming Inc., serving as the FTA PMOC. As a result of the April 2009 workshop, the PMOC drafted the project SPOT Report detailing CRC's technical capacity and capability, risk assessment, and associated reviews.

2. Goals and Objectives

Adherence to the goals and objectives encompassed in this RCMP is paramount to successfully guiding the CRC Project through all of the FTA New Starts project phases.

RCMP goals include:

- Serve as a project work plan to aid in managing the CRC Project within the cost and schedule requirements including the managing of risk by developing and tracking primary and secondary mitigation measures and recommended actions,
- Establish the CRC insurance strategy,
- Establish and maintain target cost and schedule contingency levels for each project phase, and
- Outline PE Phase goals

PE Phase goals include:

- Adoption of project delivery strategy and finalization of contract packaging,
- Development of plans and specification of project elements to a level that would support a PE level cost estimate and project schedule,
- Fulfillment of the National Environmental Policy Act (NEPA) requirements,
- Identification of handling strategies for all identified project engineering risks, including detailed plans to substantially reduce the risk's impact by the earliest possible milestone using avoidance, acceptance, mitigation and/or transference,
- Development of cost and schedule risk mitigation capacity as needed, including targets achieved during the PE Phase and forecasted cost and schedule risk management capacity for subsequent phases,

2.1 Risk Review Process

Risk analysis is treated separately from the base cost estimates. This enables a more rigorous and objective approach to this important component of the project, and includes anticipated variances in the base cost (for example, in unit costs and quantities) and impact of risk events. FTA and FHWA guidance both have similar components that risk management plans should provide.

The following components to a risk management plan provide a review of the planning steps:

- Identification
- Evaluation
- Analyses of treatment alternative, i.e., avoidance, prevention, mitigation/cost control, and insurance

- Assignment of Risk
- Selection of Risk Treatment
- Monitoring and Evaluation of treatment performance

Risk management identifies and evaluates options to reduce risks to acceptable levels within project constraints. The initial effort will address those uncertainties identified as having the greatest impact. Treatments may include, but are not limited to the following:

- Additional investigations/designs where such expenditures are cost-effective compared with potential impacts
- Construction contract language that apportions risk to the parties most able to control that risk
- Effective change management procedures

Where project proponents have little or no control over the uncertainty, treatment may involve little additional action beyond gaining a greater understanding of causal factors.

The Risk Management Plan and mitigation strategies will be expanded as project details are developed. The overall risk analysis will be reviewed on a periodic basis for validity and effectiveness. Where needed, the project team will perform additional measures to mitigate risks.

These will include:

- Choosing an alternative response strategy
- Implementing a contingency plan
- Taking corrective actions
- Re-planning portions of the project

Active risk management plans will be maintained by each Task Manager and reported monthly to Senior Management Staff via Project Development Team (PDT) meetings. The task manager assigned to each risk will assess the effectiveness of the current strategy of the specific risk, any unanticipated effects, and any mid-course correction that the PDT must take to mitigate the risk.

Risk tracking will occur utilizing a basic spreadsheet developed by the WSDOT Cost Risk and Estimate Management (CREM) office and modified as necessary for transit elements based on TriMet procedures. This spreadsheet offers a straightforward method for tracking risks and a preliminary understanding of how to avoid or mitigate for risks if they occur. An example of this risk tracking spreadsheet can be found in Appendix E, Risk Tracking Matrix. Proper tracking and maintenance of risks enables internal and external communication of risks among partners, stakeholders, PDT managers, and staff. PDT identification and maintenance of risks will also

enable effective communication of identified risks to independent teams during the required risk assessment workshops described below.

3. Insurance

Risk Management is the sum of conscious actions taken by CRC project staff, Agency employees and/or legal counsel to avoid or mitigate losses, which might impair the operational capability or financial status of the CRC project. All CRC project staff shall be responsible for utilizing safe work practices, employing adopted standards and procedures regarding public safety, and for providing a cooperative working environment for all fellow employees and staff. Prompt reporting of unsafe conditions, discriminating or harassing behavior, and/or accidents is required to their immediate supervisor and/or the applicable safety office or Office of Equal Opportunity (OEO) representative, dependent upon who they are employed by.

Risk Management Rules for WSDOT who is currently the primary agency at risk for the project, because they hold the contracts and also intend on being the grantee for transit, the Risk Management Office (RMO) has responsibility for directing and coordinating all risk functions, it shall be directly responsible for:

- Tort Claims Adjusting
- Property Damage Recoveries
- Risk Analysis
- Tort Self-Insurance Management
- Attorney General Tort Defense Cost Management
- Tort Claim Reporting

The RMO will coordinate information and act in an advisory capacity with regard to litigating torts, purchasing insurance, obtaining certificates of insurance for requesters, reporting tort claim information, and analyzing risk aspects of contracts, leases, agreements, or other legal documents. Within the CRC Project, the Regional Administrator or Project Director shall be responsible for conducting operations in accordance with departmental standards and statutory requirements. They will determine the degree of indemnification and/or insurance protection necessary in consultation with the Office of Attorney General/WSDOT Division or the WSDOT Risk Manager, and will report losses or claims in accordance with requirements in Chapters 5 and 8 of the WSDOT Risk Management Manual. When appropriate, these functions will be coordinated through C-TRAN and/or TriMet's Program Management. CRC management will coordinate with the C-TRAN and/or TriMet Insurance Administrator who is responsible for identifying those areas of exposure that place project agencies at risk and for taking the necessary actions to protect against that risk in a fiscally responsible manner. For TriMet, the Insurance Administrator reports to the Director of Program Management and TriMet's Executive Director of Finance and Administration, ensuring the seamless integration of the program

Washington State policy, as expressed in Chapter 43.19, RCW, is to assume risks to the maximum extent possible, but to purchase commercial insurance when, among other reasons: the size and nature of potential loss make it in the State's best interest; coverage is cost effective; or it's required by a fiduciary arrangement. WSDOT's risk exposures are financed by various combinations of self-assumption, self-insurance, and commercial insurance. CRC Executive Management, along with WSDOT Headquarters, will determine the form of the Project's insurance program during the preliminary engineering phase.

4. Primary Mitigation

Primary Mitigation is a continuous process occurring throughout each project phase resulting in planned actions or strategies to lessen the probability and/or severity of each risk's impact. These strategies are to be identified and completed during the earliest possible project phase. A specific mitigation plan has been developed for each project risk identified.

4.1 Technical Capacity

The PMOC found that CRC possesses adequate technical capacity and capability for entry into Preliminary Engineering (PE) with the implementation of improved Quality Management and Project Control processes. In the PMOC's opinion, the CRC Project has adequate resources to deploy in order to accomplish the project objectives.

The PMOC's Technical Capacity and Capability review found that CRC's organizational approach was necessarily complex. The Project Management Plan (PMP) showed a formal organization structure that is a counterpart "siloed" owner/consultant structure with separate reporting lines of authority for the agency staff and the David Evans & Associates (DEA) consulting managers. However, the PMOC observed that in practice the project office is functioning largely as an integrated project management office.

The PMOC found that the PMP and subsidiary documents are adequate for entry into Preliminary Engineering (PE). As expected these documents will need to be revised as the project proceeds through the PE phase in order to be ready for Final Design (FD).

At this time there are no PE Phase related risks that require primary mitigation activities under the Technical Capacity Primary Mitigation category for the CRC project.

4.2 Project Scoping and Design

Project scoping and design risks relate to all activities associated with the earliest design concepts through the final design activities. This group is subdivided into requirements risks, which generally encompasses all activities from earliest concept through the Alternatives Analysis and design risks, which encompass all activities after the Alternatives Analysis through the beginning of construction.

Requirements Risks

Risks related to requirements commonly arise from unstable specifications as the project moves towards final design. Specifically the majority of the project's requirements risk centers around one project group's requirements impacting another group within the project. Mitigation strategies for these risks focus on defining exact needs and conditions of each affected project team, signed agreements between all relevant stakeholders communicating and documenting these agreements and improving regular dialogues between these groups.

A list of PE phase related requirementsrisks requiring primary mitigation activities are listed below:

SCC	Risk Title
10.02.01	Rail Crossing approvals could lead to a requirement for special signaling
10.04.01	Selecting the three bridge option has the potential to lead to higher costs and rework on BA and schedule
10.04.03	More restrictive constraints on IWWW than in estimate would lead o higher costs TS&L, and longer schedules
40.03.03	Potential change in environmental regulations could lead to new protected species and/or environmental requirements.

Design Risks

Design risks for the project are largely tied to the stakeholder's requirements and the time consuming approvals process pushing key decisions toward the end of the design phase. If the cities and/or other federal, state and local regulatory and permitting agencies and property owners require design changes late in the CRC design schedule this will result in changes to a mature design. Mitigation activities related to these risks involve early coordination and agreements with key stakeholders to identify and adjudicate concerns driving multiple design options and previously undefined requirements and prevent drawn out coordination/approval from stakeholders.

A list of PE phase related design risks requiring primary mitigation activities are listed below:

SCC	Risk Title
10.01.01	East/West Alignment shift to 16th or 17th Avenue could lead to heavier utility relocation costs
10.01.02	Shift to 16th and tunnel could increase costs
10.04.04	Selecting a signature bridge with additional aesthetic elements could lead to higher TS&L and longer schedules
20.01.01	Provision to add a fifth station to the East/West alignment would lead to track change and additional right of way acquisition
20.01.03	Added aesthetic station features would create added costs
20.01.04	Interchange moves South and impacts existing Expo station
20.06.03	Parking reconfiguration of SR 14 and Mill Station would require additional right of way acquisition

40.02.01	Undergrounding of overhead utilities on McLoughlin would increase costs
40.03.05	Community objections could have impacts on transit schedule

4.3 Delivery Methods and Contracting

Delivery methods and contracting risks are largely tied to issues surrounding contracting strategy and the CRC leadership having the necessary experience to carry out the required oversight of contractors.

At this early stage in the project development, the procurement methodology has not been determined. Influential factors guiding the final strategy will include (1) funding availability and cash flow considerations, (2) environmental compliance and mitigation requirements during construction, and (3) risk allocation.

CRC intends to assemble a joint committee including WSDOT, ODOT, TriMet and C-TRAN staff to study delivery strategies and provide recommendations regarding procurement methodology. The process will be complicated by virtue of two states having different governing laws and perspectives regarding use of alternative contracting, e.g. “non-low bid.” The committee is expected to begin work during the Preliminary Engineering phase with the goal of completing a Project Procurement Plan.

Not unlike other multi-year mega-projects, the timeline of funding allocations will play a major role in procurement method selection. If the cash flow stream cannot be kept commensurate with methods that inherently operate under accelerated schedules (design/build for example), then traditional design-bid-build contracting becomes preferable. For any alternative contracting method, it will be crucial to ensure that the contract documents and special provisions require strict adherence to environmental controls in order to maintain commitments made during the Environmental Impact Statement (EIS) approval process.

Contract packaging has likewise not been developed at this point. Preliminary ideas have been explored to combine work at Hayden Island, SR 14, and the river crossing into one package, with each of the remaining interchanges being independent stand-alone packages. By schedule, transit construction will occur later in the project and will also contain several stand-alone contracts. Many issues will influence how the contract limits and scopes-of-work are established including:

Size of the packages.

Coordination of critical path schedule elements.

Anticipated contractor means and methods.

Construction operations.

Establishing the contract limits and associated work scopes is a critical component, and a precursor to setting overall construction sequencing and MOT design. Plans for the procurement

process and construction management will be developed by the CRC team as a part of the Preliminary Engineering process.

4.4 Construction Process:

The project has a high level of construction complexity. Depending on the contracting option selecting many of these risks may be transferred to the contractor. A majority of these risks originate from the tight working conditions within downtown and the necessary sequencing of activities to complete the CRC project within the tight project and budget constraints.

A list of PE phase related risks requiring primary mitigation activities are listed below.

SCC	Risk Title
10.03.02	Conflicts and interfaces with other major construction projects could lead to contractor conflicts (e.g. unrelated utility/street work)
10.04.06	Concerns about contractor compliance with permitting requirements for in water work
10.04.07	Construction work window in downtown Vancouver could increase schedule and cost
10.04.08	River traffic accidents could lead to schedule delay and associated costs
10.08.01	Unforeseen site conditions in the guideway
20.06.02	Unfavorable geotechnical conditions for the piles
40.02.02	Lack of utility responsiveness to relocate
40.03.01	Unforeseen site conditions could impact cost and schedule
40.03.02	Utility relocation will be difficult in congested downtown area and rely heavily on as-built drawings
40.03.07	Archeological discoveries could lead to stop work during construction

5. Project Tracking

Project tracking risks relate to the tracking and forecasting of cost and schedule outcomes for the project. This group is subdivided into Cost estimating & forecasting, financing and financial management risks and project schedule management risks.

5.1 Cost estimating & Forecasting, Financing and Financial Management

These risks relate to the ability of the project team to adequately forecast necessary budgets and costs associated with contractors, materials, insurances, etc. Mitigation activities include early documentation of requirements, analyses of projected financial impacts, specific contract language, and regular contractor oversight.

A list of PE phase related cost estimating & forecasting financial and financial management risks requiring primary mitigation activities are listed below.

SCC	Risk Title
10.03.01	Cost of complete street rebuild along transit corridor could lead to more time per block and higher cost.
10.04.02	Cost allocation agreement for SHTB is necessary to avoid shifts in cost allocation
10.09.01	Market price track: Direct fixation exceeds escalation
10.10.01	Market price track: Embedded – exceeds escalation
10.12.01	Market price track: Special (switches, turnout) exceeds escalation
10.12.02	Track: Special (switches, turnout) – exceeds escalation
20.01.02	Replacement of eliminated parking could lead to added ROW cost
20.06.01	City requires ground floor retail/architectural features could lead to added cost
30.02.01	Milwaukie project does not go forward would lead to no cost sharing
30.02.02	Cost sharing agreement differs from estimate, would lead to added cost

6. Project Schedule Management

These risks relate to the ability of the project team to adequately forecast proper schedules to sequence events to coincide with the tight deadlines associated with real estate acquisition, city, and environmental permitting processes.

Common mitigation activities for these risks include development of project team plans, aligning activities to the critical path and regular monitoring of the critical path items

A list of PE phase related project schedule management risks requiring primary mitigation activities are listed below.

SCC	Risk Title
10.04.05	Packaging a historical impact, SR 14 in with bridge crossing. Risk that this package will impact transit schedule.
40.03.04	Limited in water barge time
40.03.06	Extended consultation with NMFS could lead to delayed receipt of BO and delay of FEIS
40.03.08	Lack of Tribal agreement could lead to delay in 106 process and BO

7. Contingency Management Program

CRC has developed a risk management process that identifies risks, assigns management oversight responsibility, and assigns order-of-magnitude cost and schedule impacts. This process will be utilized to help develop this Risk and Contingency Management Plan (RCMP), whereby changes to the project cost and schedule can be measured against contingency levels. In this manner, risks and contingency levels can be monitored for viability throughout the project life cycle. CRC plans to have the Contingency Management Program fully developed before a FFGA is completed.

It should be noted that the current project estimate provides for allocated and unallocated contingency that equates to approximately 30% of the base year project cost. This contingency level is "typical" for this stage in project development, but Requirements Risk and other risks are higher than typical for the CRC Project.

The YOE project budget is $945.7 million (SCC 10-100). Allocated contingency as a percentage of YOE dollars is approximately 21.3%, or $155.3 million. Unallocated contingency as a percentage of YOE dollars is approximately 8.3%, or $60.3 million. Combined, contingency reflects approximately 29.5% of the YOE dollars, or $215.6 million.

7.1 Risk Analysis Approach

Risk analysis consists of assessment of the uncertainties in the base factors of cost, schedule, scope, and escalation. Risks and opportunities are identified as potential events that could result in changes to the Project costs and schedule. The risk factors include the likelihood of each event occurring during each phase of the Project and the cost and schedule impacts if the event occurs. A probabilistic cost and schedule model is determined to establish appropriate contingencies to provide a target level of uncertainty of the total project cost and the Revenue Service date. From this analysis follows risk mitigation strategies and contingency management plans. The contingency management is described in the following sections.

As a part of the contingency review, each SCC was assessed in terms of risk and CRC's perception of these risks as represented through assignment of allocated contingency to each SCC.

Figure 1. Contingency Distribution to Each SCC

Estimate Item		YOE $	Percentage of Total
SCC 10 Elements	Guideway and Track	$72.7M	33.7%
SCC 20	Stations, Stops, Terminals	$14.6M	6.8%

SCC 30	Support Facilities	$ 2.5M	1.2%
SCC 40 Conditions	Sitework and Special	$17.1M	7.9%
SCC 50	Systems	$ 9.8M	4.5%
SCC 60	Right of Way	$ 5.1M	2.4%
SCC 70	Vehicles	$12.4M	5.7%
SCC 80	Professional Services	$21.1M	9.8%
SCC 90	Unallocated Contingency	$60.3M	28.0%
SCC 100 Financing		$ 0.0M	0.0%
Total		$215.6M	100.0%

The Transportation Research Board's Managing Capital Costs of Major Federally Funded Public Transportation is a document that is used industry-wide to provide guidelines on the amount of contingency typically required for each stage of project development, and is also referenced in appropriate FTA Guidance. These amounts, expressed as a percentage of the total project cost (excluding contingency) are shown in Figure 7-2 on the following page.

The CRC Project's stated level of contingency has been evaluated from multiple and distinct perspectives:

(1) Based on risk elements that are unique to this project and relative to information contained above. An initial risk assessment was completed by Gannett Fleming, Inc. in April of 2009, which addressed the full CRC project including LRT's, five stations, three park & ride sites, and LRT extension into Vancouver. The size of the CRC project and the coordination of the number of agencies involved make the identification of schedule delay costs difficult.

(2) WSDOTs own Cost Estimation Validation Process (CEVP) which deals with identifiable and quantifiable project-type risks – i.e. those events that can occur in planning, design, bidding, construction, and changed conditions. The CEVP process will be conducted internally roughly once per year or in accordance with any major project changes.

(3) Internall the CRC Project is monitoring risk through the Risk Identification Team which will convene monthly through the Task Mangers meetings which occurs weekly. Additionally the Task Lead meetings held weekly will be analyzing risk identified by task managers and working to mitigate them. This process is discussed in further detail under the Risk Assessment. The RIT will begin meeting in September of 2010 and continue to coordinate through project delivery.

(4) Additionally contingency is based on minimum requirements necessary to advance the project into the Preliminary Engineering Phase as per FTA Guidelines and relative to information contained below.

Figure 2. Typical Contingency Levels

Project Phase	Minimum Contingency Recommended
Entry to Preliminary Engineering (PE)	30%
Mid Preliminary Engineering	25%
Entry to Final Design (FD)	20%
FFGA	15%
100% Bid	10%
50% Construction	8%
75% Construction	6%
90% Construction	4%
Revenue Operating Date (ROD)	3%

Essentially FTA guidelines identify a 30% contingency level as reasonable for most projects entering the Preliminary Engineering Phase. At 29.5%, CRC's stated contingency is within this guideline

To the extent that this project represents higher-than-typical project risks due to the complexity of the bridge construction, scope uncertainty that remains to be defined relative to the LPA, IWWW that might not be achievable, contingency for this project should be greater than "typical." This opinion is corroborated by the Risk Assessment output, which shows that the estimate will fall out of acceptable probabilistic parameters prior to entry into Final Design unless the predominant share of the Requirements Risks have been mitigated.

It should be noted, however, that many of the risks on the project are due to the fact that the transit elements are being advanced into the PE Phase somewhat earlier than typical in terms of alignment, scope and schedule definition. Some of these Requirements Risks will no doubt be mitigated during the PE Phase. The contingency is minimally adequate for this stage based on stated guidelines, but will remain adequate for continued progression of the project only if some or all of the major Requirements Risks are mitigated during the PE Phase. Without mitigating the Requirements Risks during the PE Phase, contingency levels and the corresponding overall project cost would need to increase significantly.

7.2 Contingency Management

Contingencies, both cost and schedule, are established to cover residual risks and uncertainties after the application of appropriate risk management. The contingencies are the difference between the ultimate cost or schedule at the target cumulative probability percentile and the baseline cost or schedule of the project.

Cost contingency is a portion of the project budget identified to cover project risk uncertainty, including the effect of schedule risk and uncertainty on cost risks. Cost risks can include variations in project elements such as scope/quantity, labor productivity levels, labor availability and costs, material availability and pricing, equipment costs and availability, bidder competition, as well as impacts of schedule risks.

Contingency is expressed in the CRC estimate as allocated, equating to $155.3 million (YOE), and unallocated, equating to $60.3 million (YOE). The YOE project budget is $945.7 million, with combined contingency at $215.6 million representing approximately 29.5% of the YOE dollars.

7.3 Project Milestones

The risks and associated contingencies will be re-evaluated at a minimum at each risk milestone, as defined in Table 3-1. Additional evaluations may occur as required based on new information, trigger events, or changing Project conditions identified by changes in the total project cost estimate or schedule variance.

Figure 7-3 Project Risk Milestones

Stage	Phase	Milestone Date
Entry into PE	1	2010 1st Quarter
Entry into Final Design	2	2011 2nd Quarter
FFGA Awarded	3	2012 4th Quarter
40% Bid Complete	4	?
20% Construction	5	?
50% Construction	6	?
75% Construction	7	?
90% Construction	8	?

7.4 Cost Contingency Management

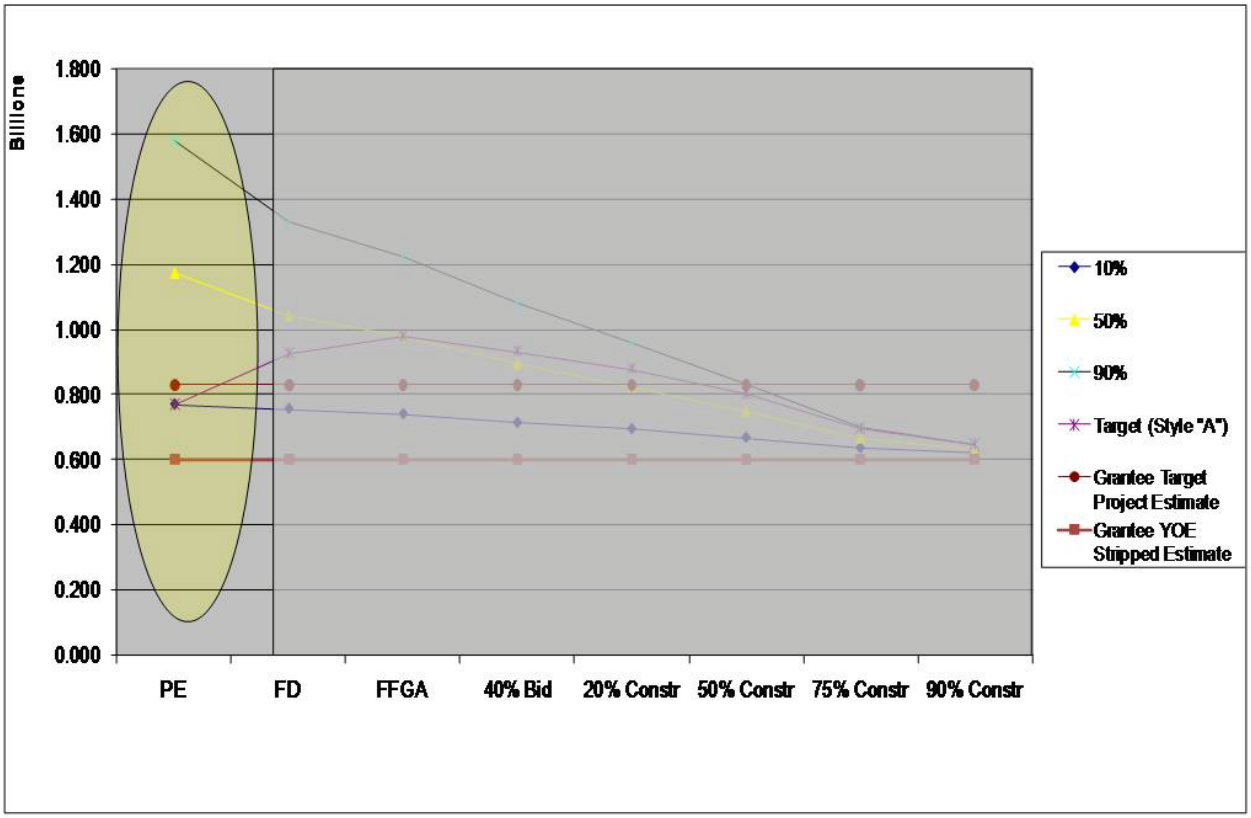
Experience consistently demonstrates that the defined or assumed conditions seldom occur precisely as predicted for complex projects like the CRC. Deviations from the defined set of conditions, which cannot be specifically identified or predicted, are uncertainties whose effects can be mitigated through the use of appropriate cost contingency. The amount of contingency is directly related to the probability of these uncertainties occurring and the consequences of those events. During the development of the Risk Assessment the project team used a multi-agency approach including WSDOT/ODOT, C-TRAN and TriMet. Staff developed the estimate in concert with highway and transit estimators having access to extensive databases for both bridge/highway and transit projects. Additionally to develop the percentage contingency to address estimating uncertainties finance charges and inflation were added to the CRC estimate to arrive at the total CRC transit cost. A cost contingency of $ 215.6 million was included in the estimate and includes the finance charges from base year (BY) to YOE calculated at 4% annually for inflation.

As mentioned above, with the passage of time and achievement of risk milestones, the level of remaining contingency required to cover the remaining portion of the project may vary, but will generally decrease over time with the declining number of expected risk events.

Unused contingency from each phase is planned to be released and allocated to the Project's contingency reserve for uses such as supplementing remaining phase contingency or secondary risk mitigation actions. Figure 7-4 below depicts an expected utilization profile over the project life. Currently the CRC team is reviewing processes internally to identify areas of coordination for the project deliverables within the PMP. This document will coordinate processes within each respective agency as to not waste resources. There will be a process developed for mitigating cost contingency with consistency regardless of the agency affected. It will be important for all agencies to agree on this process for PMP solidification.

The appointment of a Project Manager to oversee the identified risk will be done on a case by case basis the PM will coordinate with his Task Leads to mitigate risks. Since PMs are the main Risk Managers for each agency they will be useful in the development of this process. As the Risk Manager each individual PM will be responsible for monitoring the cost contingency.

Figure 7-4



7.5 Schedule Contingency Management Plan

The Schedule Contingency, like the cost contingency, will be allocated to the various project phases, continuously managed in accordance with this plan, and re-evaluated at each contingency milestone. As each risk milestone is completed an evaluation will be performed of schedule contingency utilized to-date and remaining schedule contingency.

The CRC Project schedule includes perspectives on the entire CRC Project including bridge, highway and transit components. Essentially, the bridge structure and all items precedent to its implementation are driving the critical path for transit.

A transit sub-schedule will be taken from the overall project schedule and will continually be used to update the FTA throughout the Road Map and Final Design process. The transit portions of the main CRC project schedule will be coded in a way that will allow for the CRC team to request only transit aspects of the schedule be highlighted and printed for review or email to FTA, PMOC or other interested stakeholders. The interface between transit system changes and the effects on the highway and bridge portions of the CRC Project will be a focal point of the schedule. This will allow grouping deliverables for transit, for example; the Road Map.

Currently the project will maintain a joint highway/transit timeline and schedule, within the schedule transit deliverables are easily identifiable for they have their own FTA/Transit category. Additionally transit activities can be monitored through the FTA Road Map to Final Design. This is being completed and updated in conjunction with the project schedule. The Road Map

highlights all deliverables the CRC project will need to complete for entry into FD in April of 2011. The interfaces being implemented for transit identification with the main project schedule will be vital in monitoring the transit schedule and keeping track of delays, which will be reported to the FTA on a quarterly basis.

It is important to note that the overall transit schedule appears achievable because of considerable contingency built into the pre-construction durations (as detailed through the combined bridge/transit components), but this is contingent on receipt of approval from regulatory agencies to work in the Columbia River year-round.

7.6 Documenting and Reporting

The transit team will continue to conduct the Risk Assessments and participate in the CEVP process as well as identifying and monitoring risks through the Risk Identification Team. Progress and updates will be provided in the FTA Monthly Report and/or as needed including updates on the RIT. As the PMP develops and newer Risk Assessments and CEVPs are completed, the RIT will identify whether or not the risks identified will be alleviated through completion of the project schedule. If a risk requires additional analysis the RIT will appoint the appropriate project manager and identify agencies that may need to be involved in the analysis. The PM will discuss with the RIT and Task Lead the most appropriate way to mitigate the identified risk. The general process to be followed by PMs with the support of the RIT is discussed in further detail under the Risk Management and Risk Mitigation section.

8. Secondary Mitigation

Secondary mitigation as defined by the FTA are actions triggered if the primary mitigation, and the phase assigned contingency values of time and money, are inadequate to avoid cost overruns and/or schedule delays. These secondary mitigation/recovery plans are to provide a value equal to a percentage of the total project budget and, if applicable, an appropriate amount of schedule duration reduction, depending on the stage of the project.

In Section 9 of the risk assessment it was noted that the current project cost estimate is higher than the risk assessment target for Entry into Preliminary Engineering. Therefore there is not the need at this time for secondary mitigation measures to be developed. However, below is a list of common examples found in large transportation projects:

- Defer non-critical project elements (i.e. delayed procurement of vehicles)
- Defer/re-phase parking and/or structure construction
- Change project scope and/or lengthen project schedule
- Request contractor to develop recovery schedule(s)
- Direct contractor to accelerate work
- Add additional resources (i.e. multiple contractors, overtime, workdays)

9. Risk Management and Risk Mitigation

The status of the Risk Management Framework is at a preliminary level. The current risk mitigation deliverable actions formulated for the material transit component project risks and their respective due dates for their accomplishment are set. The risk mitigation deliverable actions and dates are set out in Appendix A.

The current project cost estimate is higher than the risk assessment target for Entry into Preliminary Engineering. Therefore there is not the need at this time for secondary mitigation measures to be developed. However, the risk model for the immediately following milestones, such as Entry into Final Design, indicates a forecast that the grantee's current project estimate is below the projected FTA target for that milestone, thereby predicting that secondary mitigation measures may be required during Final Design phase. The Project will continue to develop a full Risk Mitigation Framework.

Risk management, as an integral part of project management, occurs on a daily basis as an aspect of each Project Managers position on the CRC. With pro-active risk management we look at projects in a comprehensive manner and assess and document risks and uncertainty. The steps for risk management are provided below.

Below is the Risk Management steps from the WSDOT Project Management Online Guide (PMOG), slight modifications have been made because of the multi-modal nature of the CRC:

1. Risk Management Planning - Risk Management Planning is the systematic process of deciding how to approach, plan, and execute risk management activities throughout the life of a project. It is intended to maximize the beneficial outcome of the opportunities and minimize or eliminate the consequences of adverse risk events. (WSDOT PMOG).

2. Identify Risk Events - Risk identification involves determining which risks might affect the project and documenting their characteristics. It may be a simple risk assessment organized by the project team, an outcome of the CEVP®/CRA workshop process, or FTA required Risk Assessment.

3. Qualitative Risk Analysis - Qualitative risk analysis assesses the impact and likelihood of the identified risks and develops prioritized lists of these risks for further analysis or direct mitigation. The team assesses each identified risk for its probability of occurrence and its impact on project objectives. Project teams may elicit assistance from subject matter experts or functional units to assess the risks in their respective fields.

4. Quantitative Risk Analysis - Quantitative risk analysis is a way of numerically estimating the probability that a project will meet its cost and time objectives. Quantitative analysis is based on a simultaneous evaluation of the impacts of all identified and quantified risks.

5. Risk Response Planning - Risk response strategy is the process of developing options and determining actions to enhance opportunities and reduce threats to the project's

objectives. It identifies and assigns parties to take responsibility for each risk response. This process ensures that each risk requiring a response has a PM. The Project Manager and the RIT identify which strategy is best for each risk, and then selects specific actions to implement that strategy. This will include working with the Task Team Leaders to include the New or Identified Risks on the projects critical issues list to be monitored and mitigated.

6. Risk Monitoring & Control – Risk Monitoring and Control tracks identified risks, monitors residual risks, and identifies new risks—ensuring the execution of risk plans, and evaluating their effectiveness in reducing risk. Risk Monitoring and Control is an ongoing process for the life of the project that is a responsibility of each Project Manager within their respective Divisions. The RIT will be required for PMs to discuss risk monitoring and controls while continuing to develop the formal process for mitigation.