

## FHWA Cost Estimate Review(CER) comparison to WSDOT CEVP/CRA/SMS process

Feature	CER	CEVP/CRA/SMS
Base cost	Yes, however may include risk elements	Yes
Estimate Validation	Yes – Project estimate validation	Yes, base cost estimate validation
Base Variability	Yes – risk is included	Yes -- small values in symmetrical distribution. This does not include risks.
Contingency	Yes; define what is included and assign variability	Yes; Minimal -- (Base Cost includes 4% construction cost contingency).
Cost Risks	Yes; Incorporated in project estimate uncertainty	Yes; Explicitly identified, quantified and analyzed. Only significant risks are modeled. Risks are subject of risk management.
Schedule Risks	Yes, only used to capture affects of inflation	Yes; Explicitly identified, quantified and analyzed. Only significant risks are modeled. Risks are subject of risk management.
Distribution of Current Year cost	Yes	Yes
Distribution of Year of Expenditure cost	yes; it escalation to a fixed point in time, unless manually adjusted	yes; the escalation is movable depending on schedule
Distribution of Preliminary engineering cost	Use distribution curve for range of costs	Yes, related cost and schedule risks are assigned to PE phase and the distribution of PE cost is computed.
Distribution of ROW cost	Use distribution curve for range of costs	Yes, related cost and schedule risks are assigned to ROW phase and the distribution of ROW cost is computed.
Distribution of Construction cost	Use distribution curves for high cost items	Yes, related cost and schedule risks are assigned to CN phase and the distribution of CN cost is computed.

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Cost Inflation	Yes; inflation factor (provided by State) with ranges applied	Yes; inflation tables for PE, RW and CN are used.
Market Conditions	Yes; partial; incorporated in “probability range.”	Yes; explicitly defined as identified events (risks -- for better or worse). Market conditions assessment considers issues such as: # of bidders, material availability, project location, labor availability, etc.
Workshop time	3-5 days;	CEVP 2-5 days with prep session a couple weeks prior to workshop and potentially advance-elicitation interviews. CRA – 1-3 days depending on size and complexity of project. Self-Modeling Spreadsheet (SMS) 2-4 hours.
Preliminary results	Immediately after the workshop	CEVP and CRA’s require results within 1 week after the workshop. Self-modeling spreadsheet (SMS) provides results immediately after risks are entered.
Risk management	Provides a list of risks affecting line items cost and recommend that States develop mitigation plans.	Workshop results provide candidates for risk response and the risk register may provide risk management strategies. Tornado diagrams of cost risks and of schedule risks assist project managers with prioritization tool. Risk management plan is part of overall project management plan which is required on all

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		projects.
Post mitigation analysis	N/A	Required after mitigation strategies are identified and used to develop risk reserve amounts.
Integration with Value Engineering	N/A	Yes, optional; CRA/VE approach often times used to develop mitigation strategies
Final report	4 weeks	4 weeks for CEVP and CRA's.