

# RISK BREAKDOWN STRUCTURE

Major Project Risks											
Level 1	Environmental <b>ENV</b>	Structures & Geotechnical <b>STG</b>	Design / PS&E Roadway, Hydraulics, etc. <b>DES</b>	Right-of-Way Acquisition & Access <b>ROW</b>	Utilities <b>UTL</b>	Railroad <b>RR</b>	Partnerships & Stakeholders <b>PSP</b>	Management / Funding <b>MGT</b>	Contracting & Procurement <b>CTR</b>	Construction <b>CNS</b>	Premiums <b>PRM</b>
<b>Level 2</b>	ENV 10 NEPA/SEPA – documentation completion, Section 4f/6f, challenges	STG 10 Structure Design Change – bridge superstructure, retaining walls	DES 10 Roadway Design Change – vertical / horizontal alignment, earthwork, pavement	ROW 10 Plan Development Issues – easements: temporary construction/subterranean, FHWA approval	UTL 10 Plan Development Issues – design coordination, agreements	RR 10 Plan Development Issues – design coordination, agreements, right-of-entry	PSP 10 Tribal Issues	MGT 10 Project Management Issues – change in managers / other key leadership	CTR 10 Project Delivery Method – changes or issues	CNS 10 Traffic Control & Staging – MOT / WZTC, multimodal traffic management	PRM 10 Unidentified Risks – unknown-unknowns, aligned to level of development
	ENV 20 ESA Issues – consultation, Biologic Assessments / Biological Opinions, Fish Passage	STG 20 Geotechnical Design Change – foundations, ground improvements, unsuitable materials	DES 20 Roadway Design Criteria Change – Design Manual, design analysis approval, practical design considerations	ROW 20 Project ROW Cost Change – change in land use/zoning, urbanization, market conditions	UTL 20 Practical Issues (in the field) – relocation, conflicts, discoveries	RR 20 Construction Coordination Issues – flagging, work restrictions / windows, right-of-entry requirements	PSP 20 Public Involvement Issues	MGT 20 Delay – indecision, submittal review	CTR 20 Contract Language Issues – contract packaging, warranties, liquidated damages, DBE, insurance/bonding	CNS 20 Construction Permitting – work restrictions	PRM 20 Location Premium – urban & access under traffic, remote rural location, other
	ENV 30 Environmental Permitting – delays, appeals, unanticipated conditions	STG 30 Structural Design Criteria Change – seismic, hydraulic, geometric, building codes	DES 30 Aesthetic Design Changes – Architectural, CSS, Landscaping	ROW 30 Limited Access Issues – Access Revision Report (ARR), access hearing, permanent construction easement		RR 30 Property Rights Issues – challenges in acquiring from RR, considerations for delivery method (DB vs DBB)	PSP 30 Scope / Design Changes – artwork, shared-use pathways, arterial/intersection improvements	MGT 30 Funding – availability, cash flow restrictions	CTR 30 Contract Procurement Process Issues – addenda / extensions, protests	CNS 30 Work Window Coordination – weather, in/over-water	PRM 30 Labor – labor disruption (i.e., strike) by key trade during construction
	ENV 40 Discoveries – cultural resources (Section 106), historic property impacts & mitigation	STG 40 Geotechnical Design Criteria Change – soil stabilization, hydraulic, codes	DES 40 Hydraulic Design Changes – flow control, water quality, criteria changes	ROW 40 Managed Access Issues – appeal hearing			PSP 40 Interagency Issues (Sound Transit, USFS, cities, counties, etc.) – design coordination, agreements	MGT 40 Political / Policy Changes	CTR 40 Market Conditions – non-competitive bidding environment, lack of qualified bidders, bids exceed upset price or budget	CNS 40 Schedule Uncertainty (general)	PRM 40 Supply Chain – delays and cost increases due to supply chain disruption
	ENV 50 Hazardous Materials – soil/groundwater contamination, building/structure abatement, lead paint		DES 50 Traffic Design Changes – ITS, Illumination, Signals, intersections	ROW 50 Acquisition Issues – appraisals, condemnation, relocations, demolitions			PSP 50 Multimodal Considerations – design coordination, agreements, bicycle, pedestrians, transit	MGT 50 State Workforce Limitations	CTR 50 Procurement Delays & Premiums – specialty materials / equipment, "Buy America"	CNS 50 Marine / Over-Water	PRM 50 Subcontractor – cost due to added outreach, training, lack of qualified firms, busy local market
	ENV 60 Habitat Mitigation Issues – wetlands / stream / floodplain		DES 60 WSDOT Initiated Changes – maintenance request, change to purpose and need					MGT 60 Project Phasing / Packaging Changes	CTR 60 Contractor Performance Issues – productivity, quality	CNS 60 Constructability (non-geotech or marine) – site access, staging / material handling, differing site conditions, etc.	PRM 60 DB Risk Premium – perceived risk w/ high profile projects: local agencies, public outreach, MOT, schedule uncertainty
	ENV 70 Environmental Justice (disadvantaged communities) – traffic mgmt, access, temp construction impacts		DES 70 Tolling Design Changes – infrastructure requirements, toll collection, back-office					MGT 70 Inadequate Quality Verification – VECP, ATC, review error	CTR 70 Labor Issues – availability of specialty labor, labor / productivity disruptions	CNS 70 Material Handling / Earthwork Issues – re-use, haul, disposal; hazardous mats, lead paint	PRM 70 DB Additional Design Development (cost included in bid)
	ENV 80 Construction Impacts – water quality, TESC		DES 80 External Initiated Changes (contractor or other party) – innovation, ATC						CTR 80 Schedule Uncertainty – timing of award	CNS 80 Adjacent Projects – coordination among contractors, limited staging, sequencing	PRM 80 DB Procurement Delays (procedural) – coordination among subs
	ENV 90 Noise (permanent mitigation)		DES 90 ADA – curb ramp modifications require R/W, MEF approval							CNS 90 Site Security – vandalism, encampments, damage	PRM 90 DB Procurement Delays (cost) – single bidder
	ENV 900 Other ENV Issues	STG 900 Other STG Issues	DES 900 Other DES Issues	ROW 900 Other ROW Issues	UTL 900 Other UTL Issues	RR 900 Other RR Issues	PSP 900 Other PSP Issues	MGT 900 Other MGT Issues	CTR 900 Other CTR Issues	CNS 900 Other CNS Issues – change orders, disputes, claims	PRM 900 Other PRM Issues

[Using the Risk Breakdown Structure \(RBS\)](#)  
 Each project is unique and has a specific project risk profile. Examples provided are an aid to identify risk types and are not to be considered complete or exclusive. Develop project risk registers by identifying and assessing risks for the project under review. The RBS provides several functions and benefits, including:

- 1) Consistent risk organization, approach and taxonomy (wording).
- 2) Common standard categories.
- 3) Allows for identification of trends (risk event categories, types and characteristics).
- 4) Offers a basis for initiating risk identification and elicitation.
- 5) Eases the ability to conduct risk surveys for those unable to attend workshops

For more information regarding the RBS, see the [Project Risk Management Guide](#).  
*Note: decision-makers may have other enterprise level considerations that are difficult to quantify, such as: trust, credibility, safety, and reputation of the organization.*

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| <p><i>ATC</i> Alternative Technical Concept<br/> <i>CSS</i> Context Sensitive Solution<br/> <i>DB</i> Design - Build<br/> <i>DBB</i> Design - Bid - Build<br/> <i>DBE</i> Disadvantaged Business Enterprise<br/> <i>ESA</i> Endangered Species Act<br/> <i>ITS</i> Intelligent Transportation System</p> | <p><i>MEF</i> Maximum Extent Feasible<br/> <i>MOT</i> Maintenance of Traffic<br/> <i>NEPA</i> National Environmental Policy Act<br/> <i>SEPA</i> State Environmental Policy Act<br/> <i>TESC</i> Temporary Erosion &amp; Sediment Control<br/> <i>VECP</i> Value Engineering Change Proposal<br/> <i>WZTC</i> Work Zone Traffic Control</p> |
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