



Risk Management

Life Cycle of a Project



RISK MANAGEMENT ZONE



Risk Management Life Cycle of a Project



Session Overview

- Risk Management
 - Scene 1: Talking with the new PM
 - Scene 2: Day of Risk Workshop
 - Scene 3: Progress Meeting / Work Program Update

Prologue

The Project is Assigned

Scene 1

Talking Risk with the New PM

Risk Based Graded Approach Worksheet

- PM Handbook – Chapter 19
- Initial risk assessment (15 minutes)
- Supports consultant selection decision

Risk Based Graded Approach Worksheet

ITEM	RISK ELEMENT	RISK ASSESSMENT	PRIORITY	TOTAL
1	Utility Involvement	1	3	3
2	Project Schedule	5	5	25
3	Interfaces	3	1	3
4	Experience/Capability	3	3	9
5	Right-of-Way Involvement	5	5	25
6	Environmental Impacts/Contamination	1	1	1
7	Regulatory Involvement	3	3	9
8	Contractor Issues	5	3	15
9	Resource and Material Availability	3	3	9
10	Project Funding	1	1	1
11	Political Visibility	3	5	15
12	Public Involvement	3	3	9
13	Safety	3	3	9
14	Construction Complexity	1	1	1
15	Weather Sensitivity	3	1	3
Risk Score				137
		Low Risk	0 - 90	
		Medium Risk	90 - 150	
		High Risk	>150	

Risk Based Graded Approach Worksheet

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Risk Score

137

Low Risk	0 - 90
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High Risk	>150

Risk Management & Analysis Tools

- PM Handbook (CH. 19)
- Standard Scope of Services Staff Hour Guidelines
- Self Modeling Worksheet
- Risk Workshops
- Program Management Sharepoint

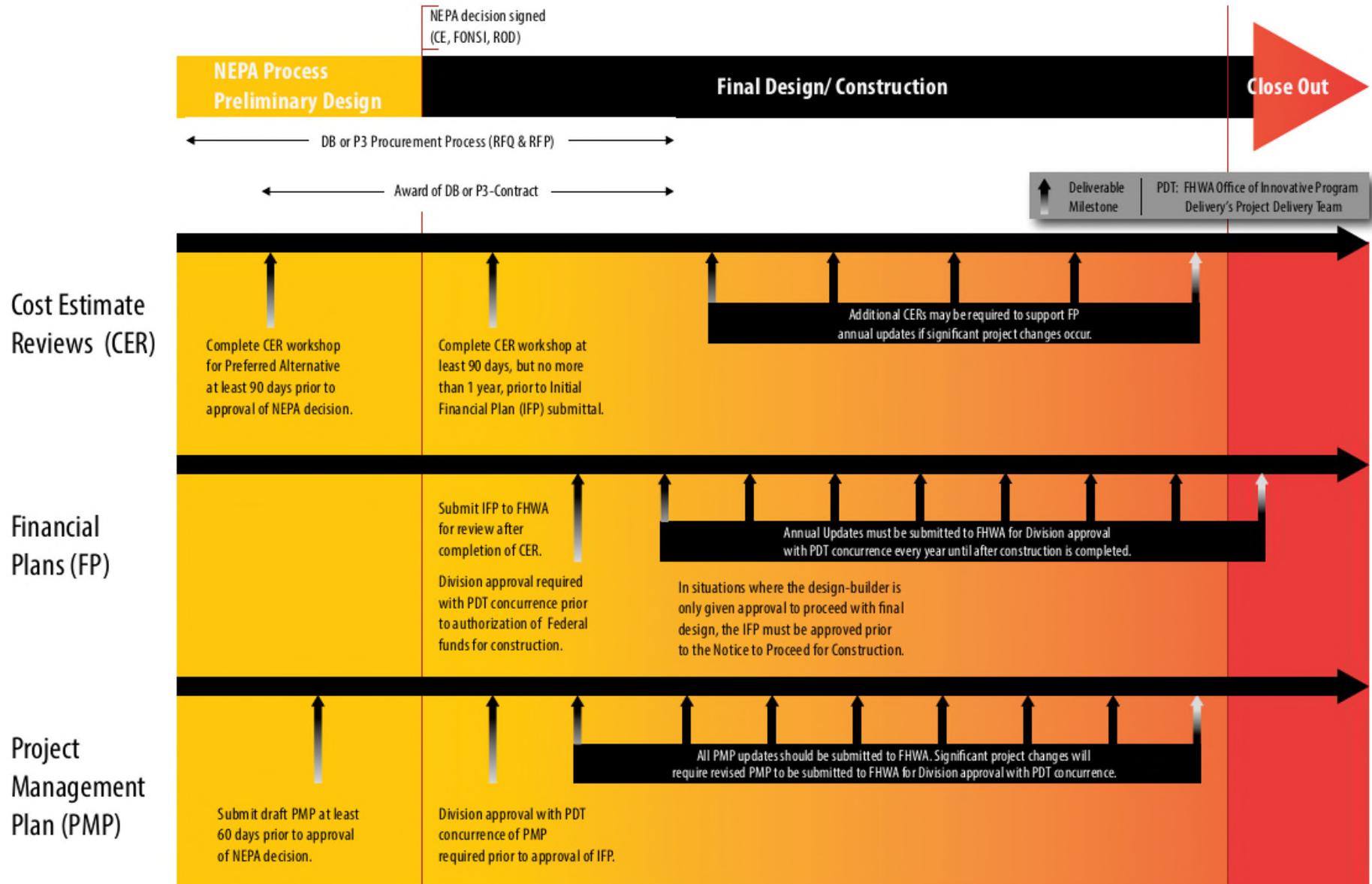
Risk Teams and Sharepoint

- District Risk Team
- Risk Regional Teams
- State Risk Management Team
- Sharepoint
 - http://cosharepoint.dot.state.fl.us/Sites/stateengineer/ProgMgmt/cra_regional_teams/

Major Projects Deliverable Timeline

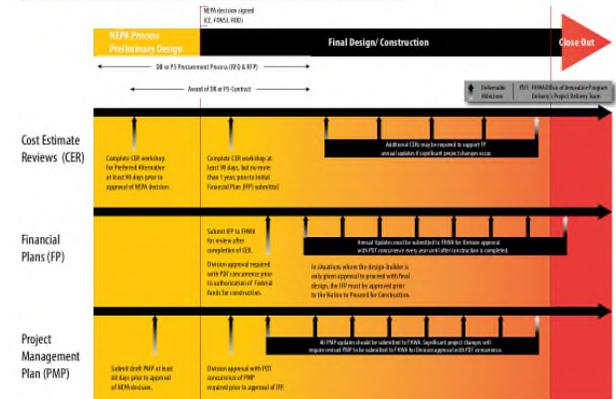
for

Design-Build (DB) or Public-Private Partnership (P3) Projects



Major Project Timeline

Major Projects Deliverable Timeline
for
Design-Build (DB) or Public-Private Partnership (P3) Projects



- Major Projects (FHWA)
 - Project Delivery Timetable
 - Programming requirements
 - 70% confidence level
- FHWA requires Cost Estimate Review
 - Need before NEPA approval
 - Need before Federal Authorization

Scene 1 Summary

- PM Handbook (CH. 19)
- Standard Scope of Services
- Staff Hour Guidelines

- Sharepoint

http://cosharepoint.dot.state.fl.us/Sites/stateengineer/ProgMgmt/cra_regional_teams/

- Self Modeling Worksheet

Scene 1 Summary (Continued)

- District Risk Team
- Risk Regional Teams
- State Risk Management Team
- Major Project Requirements
- Risk Workshops

Briefing the Director

Getting Ready for the Workshop

- Present the Risk Management Process to Project Team
- Present the Project Scope, Base cost & Base schedule
- Discuss Logistics for workshop:
 - Schedule sessions (number of days)
 - Reserve room(s)
 - Set up Video/GoTo Meetings (if necessary)
 - Coordinate project info with Risk and Schedule leads

Scene 2

- The Day of the Workshop

Workshop Rules of Engagement

- Workshop Inputs
- Threats & Opportunities
- Probability Assessment
- Cost and/or Schedule Impacts

Project Scenario

- Base cost estimate:
 - Interstate to Interstate connection
 - 5 miles Major reconstruction
 - 10 miles of 22' noise wall
 - 14 Bridges (3 over water)
 - Managed lanes
 - Reworking 6 interchanges
- Recent developments identify half of project industrial area – Land Use Change
- Risk – based on recent developments, need less wall

Workshop

- Requires 2-3 days
- Recommended for projects >\$100 million
- Required for FHWA major projects (>\$500 million or complex projects)

Risk Register

Risk Register for I-4						Initial Risk Quantification												
Risk Information						Cost Risk Information (Millions \$)						Schedule Risk Information (Months)						
Item #	RIS ID	Risk Agenda Category	Activity Impacted	Risk Name	Description	Initial Probability of Occurrence (%)	Initial Low Cost	Initial Most Likely Cost	Initial High Cost	Initial P(L) Cost	Initial P(M) Cost	Initial P(H) Cost	Initial Low Schedule	Initial Most Likely Schedule	Initial High Schedule	Initial P(L) Schedule	Initial P(M) Schedule	Initial P(H) Schedule
1	DES 01	Design, Structures, and Geotech Risks	11B	Add South Street Modification	Need road to make plan work. Additional construction cost. Related ROW is being purchased separately. From USG estimate, \$93.4M plus ROW (which is already captured in the base ROW number). Exclude related utility risk (FOOT is paying, so unlikely to significantly affect schedule).	100%	\$93.40	\$93.40	\$93.40				0	0	0			

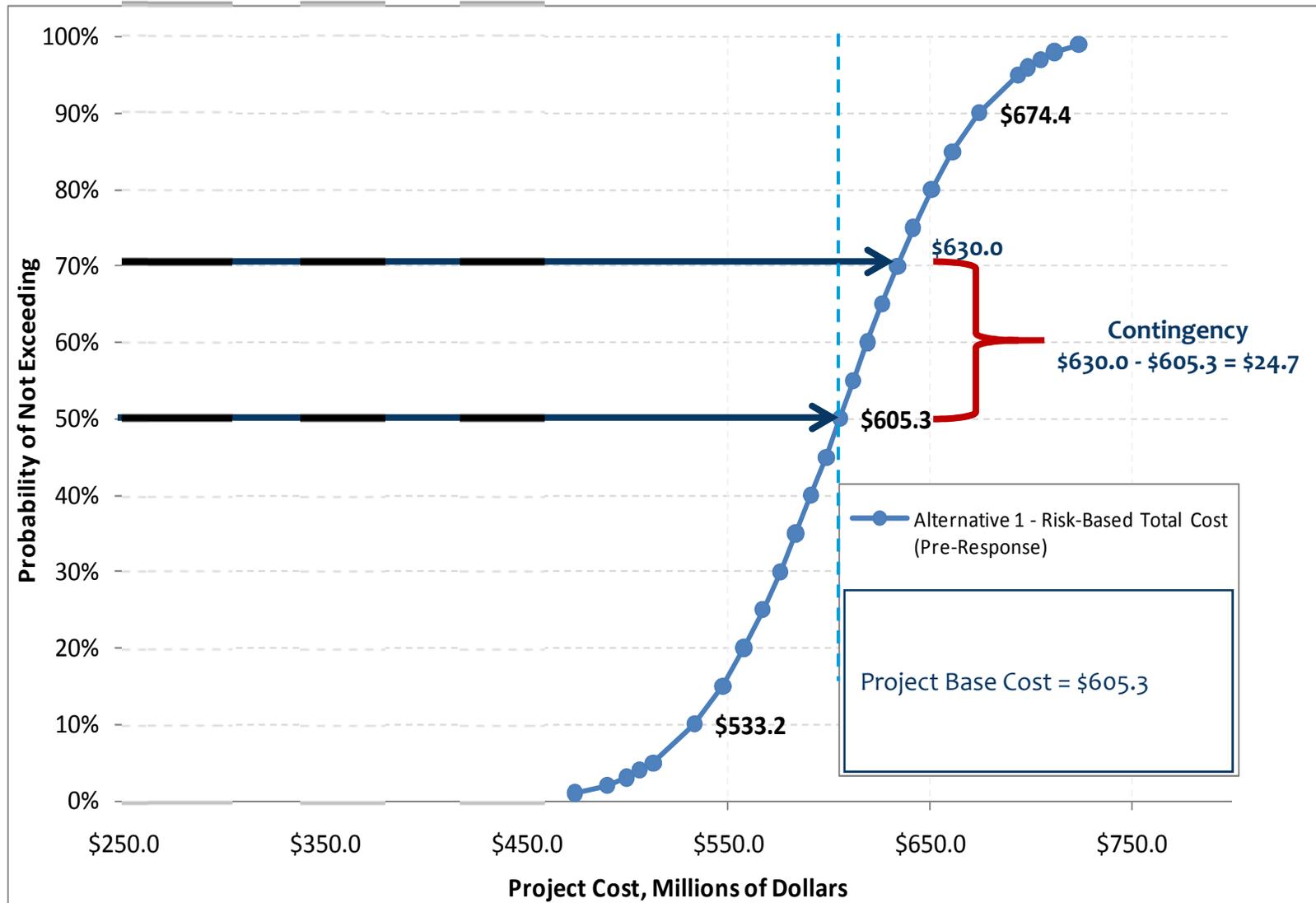
Initial Risk Quantification												
Initial Probability of Occurrence (%)	Cost Risk Information (Millions \$)						Schedule Risk Information (Months)					
	Initial Low Cost	Initial Most Likely Cost	Initial High Cost	Initial P(L) Cost	Initial P(M) Cost	Initial P(H) Cost	Initial Low Schedule	Initial Most Likely Schedule	Initial High Schedule	Initial P(L) Schedule	Initial P(M) Schedule	Initial P(H) Schedule
29	30	31	32	34	35	36	38	39	40	42	43	44
100%	\$93.40	\$93.40	\$93.40				0	0	0			

12	PS-A	Design, Structures, and Geotech Risks	115, 116, 117, 118, 119 (Cost), 104 (Schedule)	Delay in obtaining agreements with local governments [A]	For example, agreement re: aesthetics and maintenance agreements / fire protection on bridges (excluding streets near new areas, Grand National overpass, South 29/Indians, which are captured separately). Delay in procurement to achieve agreement, and/or save costs if no agreement (down to 1% of construction costs). Potential (mutually exclusive) scenarios: A, as planned B, no agreement (save costs) and no delay C, delay in agreement D, delay and then no agreement (save costs)	85%	\$0.00	\$0.00	\$0.00				0	0	0			
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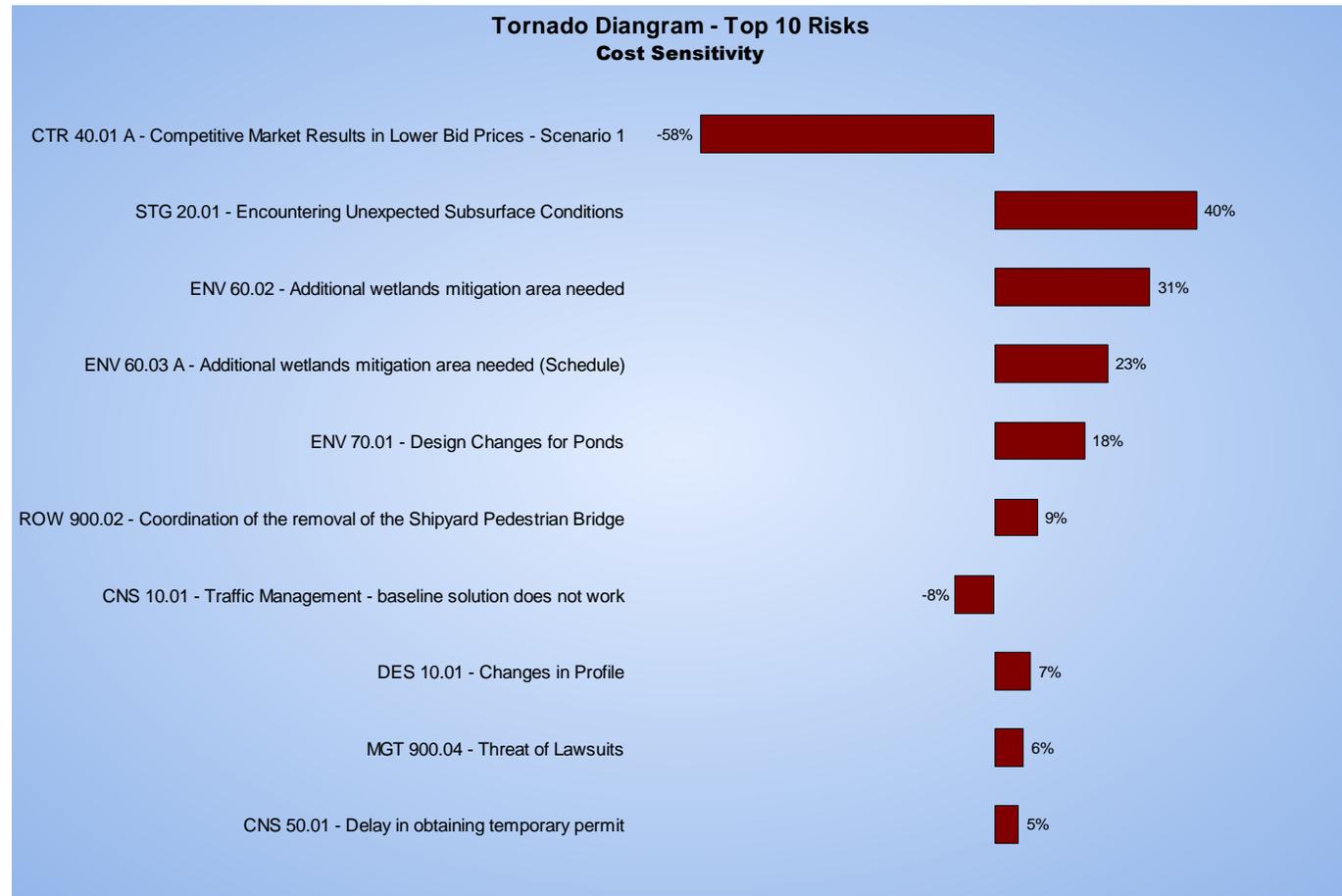
Scene 2 Summary

- Prep Session
- Workshop (2 – 3 days)
- Risk Register
- Cost & Schedule Graphs
- Tornado Diagrams
- Risk Management Plan

Risk Analysis – Pre-Mitigated Results



Tornado Diagram

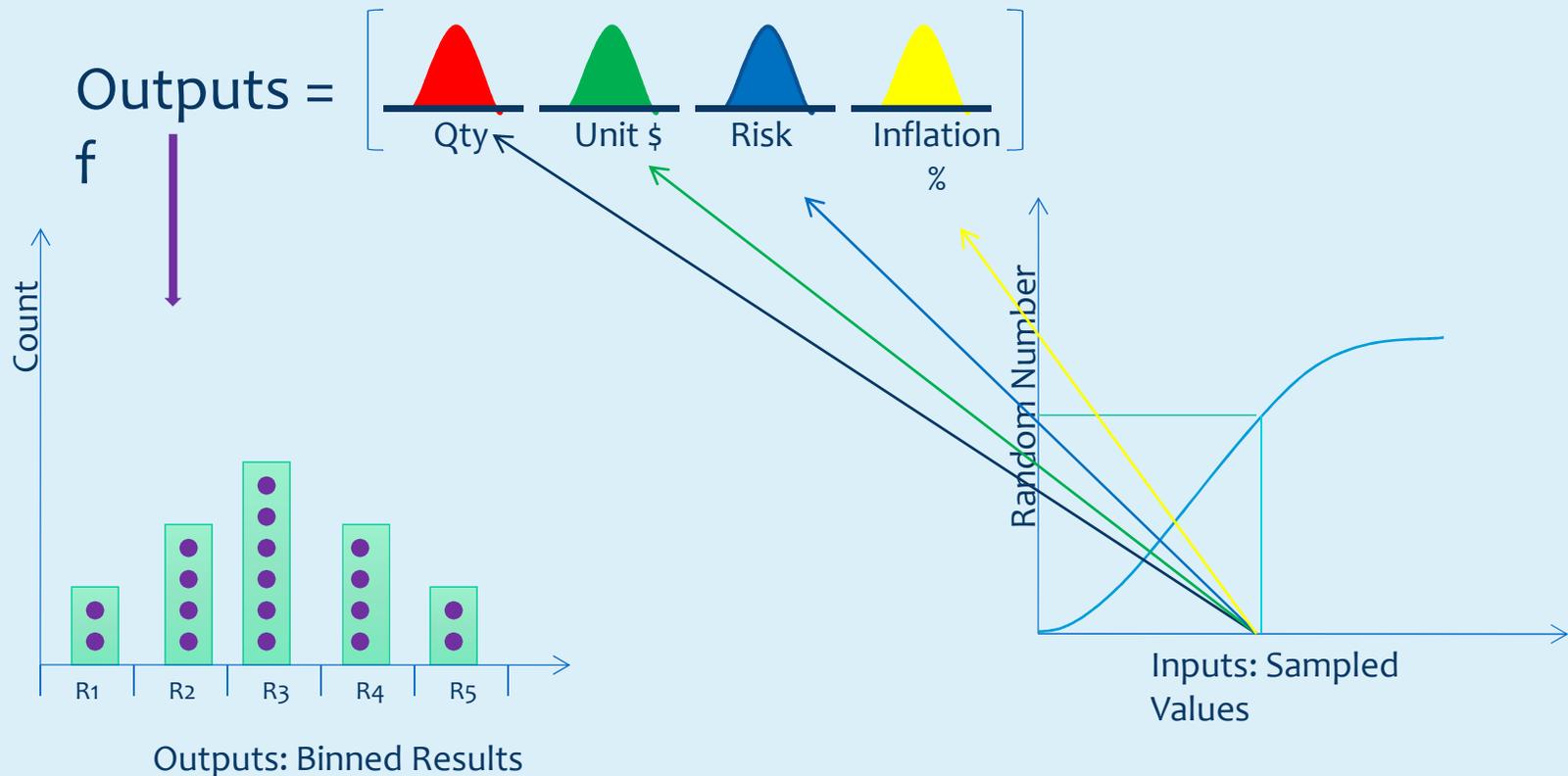


Scene 3

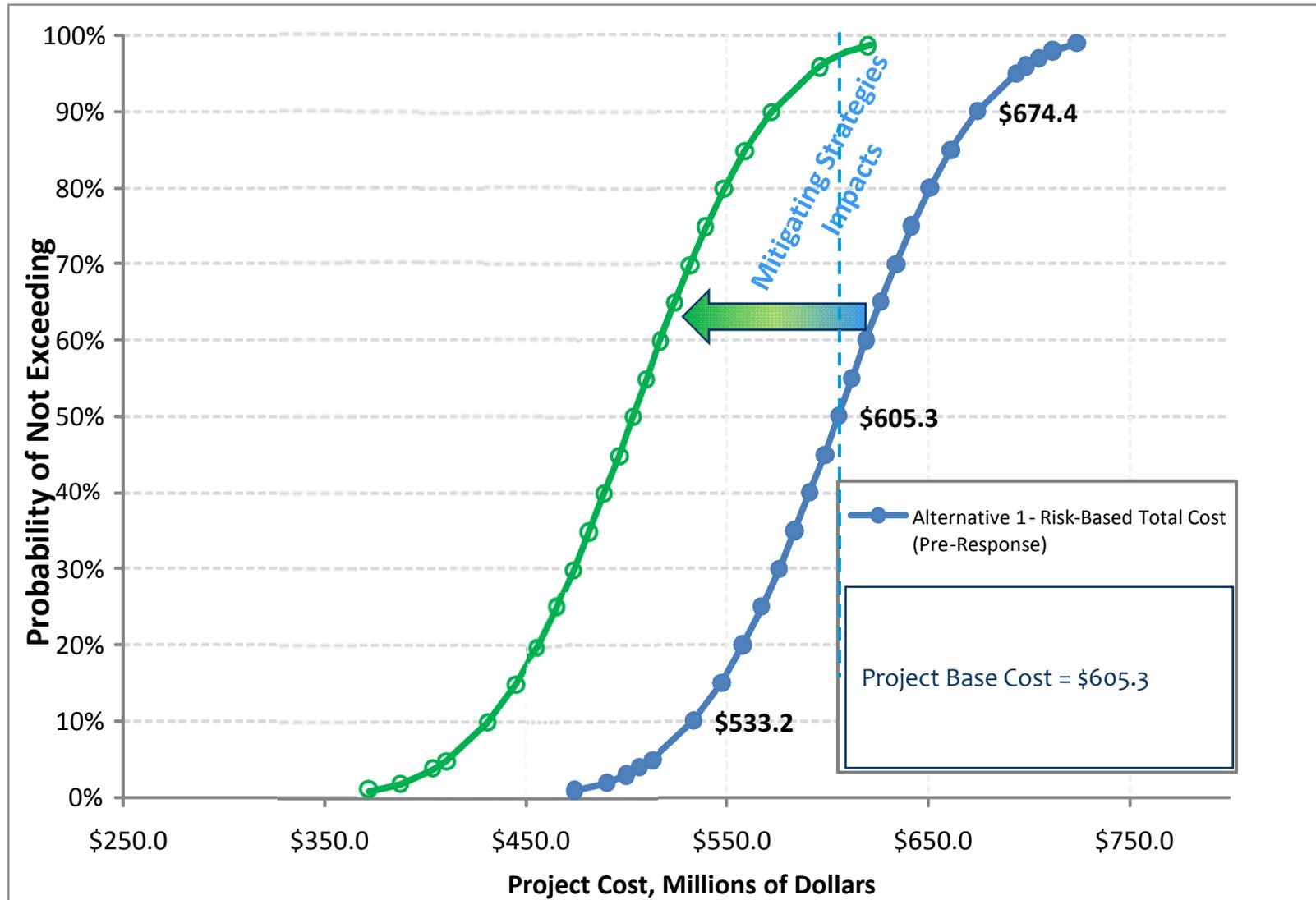
- Progress Meeting / Work Program Update

Risk Management Process - Analysis Monte-Carlo Simulation

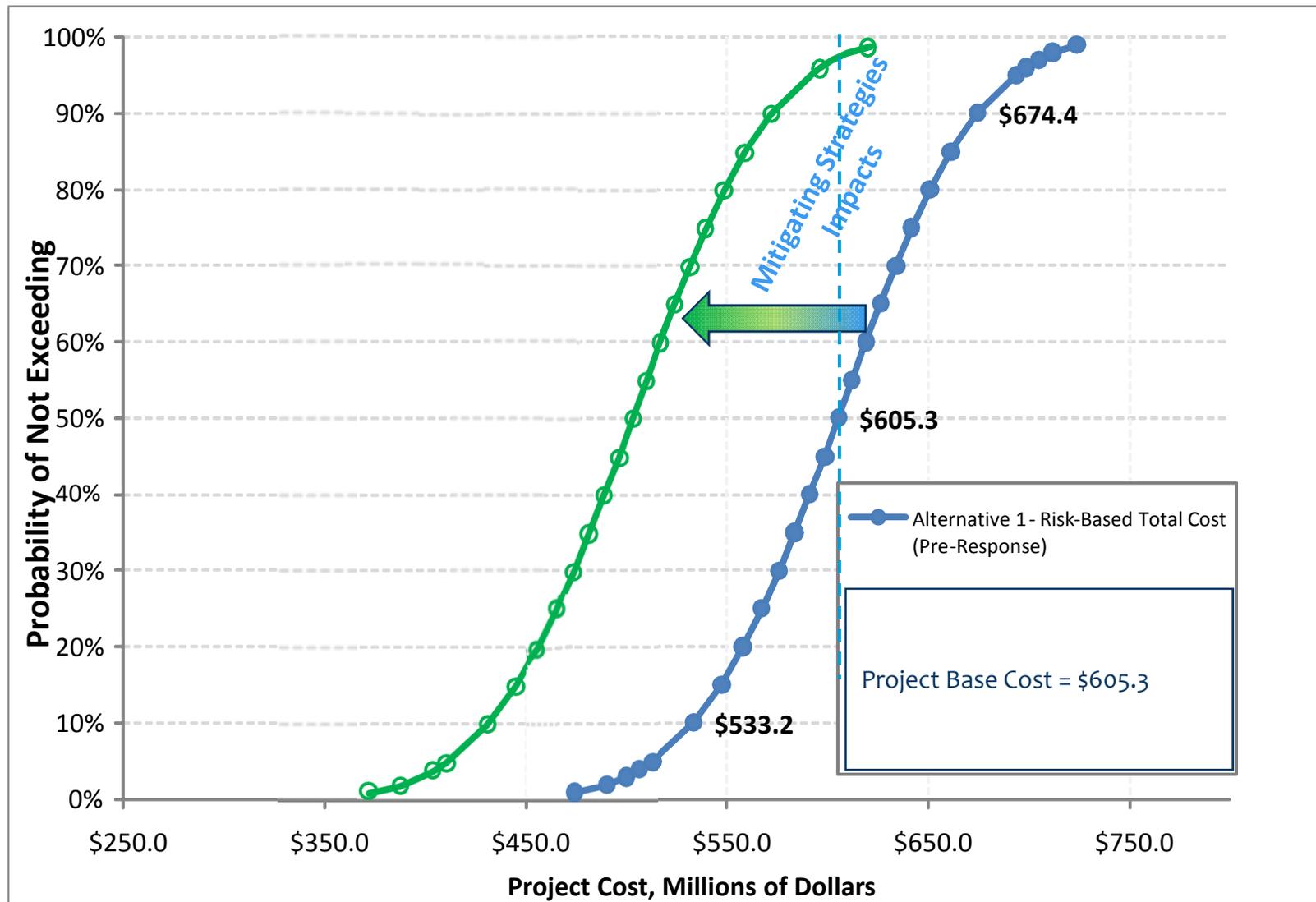
$y = f(x)$ or “y” is a function of “x”



Risk Analysis – Post-Mitigated Results



One final briefing...



Scene 3 Summary

- Use of the Risk Register
- Progress Meetings
 - Regular contact with Team / Risk Owners
 - Monitor & Control Risks
 - Develop Risk Response Strategies
 - Modify Risk Register
 - Update Cost & Schedule Curves
- Provide for Work Program Update Cycle

Questions?

State Risk Team:

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Tim Brock
Kurt Lieblong
Rob Quigley
Frank Chupka