

Implementing Risk-Based Project Management

Regardless of whether a program or project is in the planning, design, or execution phase tackling risks early on is both more time-effective and cost-effective than responding to problems. During the planning stage, technical and management challenges are easily underestimated. From inception, major infrastructure projects often carry more risk than anticipated. As a project unfolds, new risks arise, and they become problems if not identified and acted on immediately. Project risks may stem from decision making, technical challenges, regulatory and environmental constraints, resource allocation, misalignment of deliverables between teams, and many other factors. Often, by the time a project is under way, managers are forced into a reactive stance, responding to each threat as it emerges. This reactive stance results in perpetual firefighting with little chance of regaining control.

To be effective, project managers and their teams must identify, evaluate, communicate, and prioritize risks on the basis of likelihood and severity of effect on the project. A risk-based approach relies on teams understanding their missions and a relentless focus on preventing problems. The risk management plan needs to continuously adapt as reality unfolds. Preventing problems wherever possible reduces the odds of mounting delays or setbacks. Prevention requires identification, evaluation, documentation, and communication of risks, potential solutions, and timely decisions. Risk-based project management makes it possible to gain control and confidence even when the process is starting from apparent chaos. Once a project or program is in control, it must be kept on course by continuing to actively manage risk, ultimately increasing confidence levels in executing the required infrastructure program on time and within budget.

Joe O'Carroll is a Senior Tunneling Engineer from Parsons Brinckerhoff and their National Practice Leader for Project Risk Management.

Joe will be talking about the fundamentals and benefits of risk based project management providing examples from major tunneling, wastewater, transit and power generation projects. Joe will include in the presentation examples of tools that Parsons Brinckerhoff use to support cost and schedule risk analysis including a demonstration of a state-of-the-art web based risk management systems developed by PB for managing risk on Utah Transportation Authority's Light Rail Program and Eskom's Medupi Power Station Project, the largest new power station currently under construction in the world.

Bio- Joe has extensive experience in design, construction, project management and risk management for transit, metro, water, and waste water projects. Highlights include design-build and construction management experience on the Royal Docks Drainage Phase 2 Tunnel Project, UK; Channel Tunnel Project, UK; The Deep Tunnel Sewer System and North East Line Mass Rapid Transit in Singapore; Central Subway in San Francisco; and London Underground's Jubilee Line. Most recent highlights in Joe's career include risk assessments and developing Risk Management Programs for Sound Transit's ST2 Light Rail Program in Seattle; Utah Transit Authority's 2015 Transit Program; the Port of Miami Tunnel, in Florida; California High Speed Train Project; and large diameter Combined Sewer Outfall storage tunnels in Boston, Portland and Detroit. All this experience has culminated in Joe providing Eskom, Southern Africa's primary power provider, with a state-of-the-art risk management system being used for the design, construction and delivery of a new 48,000 Megawatt Power Station.

Agencies and Authorities in the United States are taking a keen interest in how similar risk management systems can assist them in managing risk on major infrastructure programs currently either in the planning or execution phases.