

The Opportunity:

- \$ Billions in infrastructure improvements in the Stimulus Package
- Every \$1 spent in a state adds \$5 to the state's economy
- Upgrade roads, bridges and other infrastructure
- Put people back to work

The Challenge:

- Preparing "shovel-ready" projects quickly
- Moving your projects to the front of the line
- Moving through contracting rules and regulations for typical design-bid-build work
- Qualifying designers and contractors
- Maximizing value to the customer while minimizing waste

What is Lean Project Delivery?

- Views a project as a production system
 - Production systems are optimized as a whole, whereas traditional 'local optimization' of a single operation within the system can generate waste around it and actually reduce the overall system performance.
- Facilitates true collaboration among all project participants
 - True collaboration means improved communication and reliable commitments, both between different organizations and also vertically within an organization, down to the workers.
- Develops an integrated project team with contractual relationships that support collaboration and project production system concepts
 - These relationships are designed to eliminate the contractual barriers in traditional relationships.

The Promise of Lean:

- **True collaboration from design through construction**
 - **People Collaboration:**
 - Establish teams at levels of competence and skill sets
 - Educate teams in lean, pull planning and Last Planner System™
 - Empower teams and individuals to identify and address problems in real time
 - **Technology:**
 - Building Information Modeling
 - Comprehensive IT solutions, including BIM, project controls (like ProLog) and collaboration systems (like ClearSpace)
 - Accessible drawings for design, construction and maintenance
- **Impeccable coordination:**
 - **Coordinate people:** collaborative management structure and processes across agency, company, department and specialization silos
 - **Coordinate technology:** interface high-tech (eg. the lone-genius-based Primavera schedule) and low-tech (eg. people-discussion-based "sticky wall" pull schedules) with the field's "look-aheads"

- **Maximizing the whole, not the piece**
 - **Principal of horizontality:**
 - Build competence teams horizontally across the project
 - Eliminate “silo” approach
 - **Principal of simultaneity:**
 - Do several things at once, rather than in sequence in order to maximize efficiency
 - Be prepared to do your part as soon as you are asked by the portion of the project that immediately succeeds you
 - Think of work as a series of commitments; you only produce work when the person in front of you is ready for it (“pulling” the work through the system just-in-time increases productivity)
- **Moving from concept to shovel ready in less than one year:**
 - Plan and design using the whole team
 - Bring in all parties, including the contractors and major subcontractors, to design the project so that it is designed to be built as expeditiously as possible
- **Elimination of waste, maximization of customer value:**
 - Value is redefined as delivery of the project in the most cost-effective and time effective manner to the satisfaction of “The Customer”
 - “The Customer” establishes clear Conditions of Satisfaction
 - Risk is not apportioned but shared, so the Project benefits from savings and all parties are incentivized to maximize value and avoid delay, overruns and disputes – an approach proven effective time-and-again in disaster response