Increasing Your Value Through Prioritization and Project Selection that Yields Performance

12th National Conference on Transportation Asset Management
San Diego, CA. July 16, 2018

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Best Practices for Prioritization and Project Selection Using Multi-Objective Decision Analysis (MODA)

- Aligns project selection to Department’s LRTP or Strategic Plan Goals
- Leadership and commitment: a critical success factor
- Develop process, methods, tools to measure value
- Cross-Department collaboration
- Analytical rigor
- Clear communication
Cross-Asset Allocation to Improve DOT Return on Investment

MODA Project Prioritization and Selection

Develop a ranking for a set of projects based on DOT value for $ spent

Performance-Based Programming

Test system performance with different levels of program funding

Long-Range Planning

Plan and schedule projects to meet multi-year budget constraints

Project Right-Sizing

Conduct business case evaluation of project concepts to maximize value for $ spent

Validate Project
Multi-Objective Decision Analysis (MODA) Prioritization & Selection Approach

Select Projects that Provide the Most Value for the Dollars Spent

Goals
- Safety
- Maintain the System
- Mobility
- Economic Vitality
- Other Considerations

1. Establish Criteria
   - Reduce Fatalities
   - Reduce Injuries

3. Develop Performance Measures

4. Weighting
   \( W_{\text{Fatalities}} \)
   \( W_{\text{Injuries}} \)

5. Normalize, Calculate Value Scores, Prioritize using Value/Cost
   - Overall measure of performance
   - Optimize

2. Develop Projects
   - Project 1
   - Project 2
   - Project 3
Jacobs PRIORITIZE Tool

**LOW COST** Use existing software, available to the DOT, with a no-cost license. There is no need for costly ongoing licenses or “black box” hosting.

**TEST DRIVE** Allows the DOT to “test drive” a tool, then specify exactly what is desired in a more comprehensive application, rather than limiting business practice improvements to what can be supported by a commercial “off the shelf” solution.

**DATA CONTROL DOT** will control all data and see all calculations and formulas.

**DOT DESIGNED** Based on a tool that is tailored to DOT prioritization, and is simple yet powerful.

**QUICK MODIFICATIONS** Excel or VBA can be quickly modified to meet specific DOT requirements.

**EASY TO LEARN DOT** staff can quickly learn what is needed to use the CH2M tool for prioritization analysis.
MODA works for many state DOTs – Different approaches and stages

- Developed a set of “Common Criteria” to use as starting point, and a criteria library to reflect most of CDOT prioritization needs
- Designed to fit CDOT investment decisions -- Tailored and easy to use
- Applied for multiple project selection activities within Asset Management, Development Program, NHFP
- Support from Transportation Commission for new data driven approach
- Maximizing value for dollar across goal areas
• Multiple workshops and trainings with staff from multiple departments to develop new approach
• Developed and formalized criteria aligned to agency goals
• Pilot tested on HSIP and on subset of projects in STIP
  – Project Timing
  – “Color of Money”
• Seeking insight NOT black box solutions
• Got staff talking and created more collaboration
What State DOTs say about MODA ..... 

- Data driven
- Creates collaboration
- Tracks performance and investments
- Matches with outputs from internal management systems
- Allows for comparison of differing projects
- Evaluation of trade-offs
- Accountability and transparency – no “black box”
THANK YOU!

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