Efficiencies at MnDOT

Deanna Belden
26th Annual Transportation Research Conference
May 20, 2015
“The commissioner of transportation shall include in the report under Minnesota Statutes, section 174.56, due by December 15, 2015, information on efficiencies implemented in fiscal year 2015 in planning and project management and delivery, along with an explanation of the efficiencies employed to achieve the savings and the methodology used in the calculations. The level of savings achieved must equal, in comparison with the total state road construction budget for that year, a minimum of five percent in fiscal year 2015. The report must identify the projects that have been advanced or completed due to the implementation of efficiency measures.”

Fiscal Year 2015 Goal = $60,250,000
(5% of the FY 15 state road construction budget of $1.2B)
Categories of cost savings

EFFICIENCIES
- An efficiency is a result of a deliberate decision or improved process that provides cost savings or higher quality outcomes.

RISK MITIGATION and OTHER COST SAVINGS
- The releasing of funds realized through effective project development and the elimination of risks that were initially identified in project scoping.

MARKET DRIVEN COST SAVINGS
- Savings that are realized through market forces resulting in lower bids and/or lower costs of consumable materials than amount budgeted.
Distinction between internal efficiencies and external impacts

- Internal efficiencies – result from a deliberate decision or improved process that provides cost savings or higher quality outcomes
- External impacts – outcomes to the public that improve access, mobility, and safety for all users of the transportation system
- Dollar values were calculated for the internal efficiency category
Internal Efficiencies are separated into three categories:

To date:
State Road Construction Efficiency Cost Savings $45,932,000
Maintenance & Operations Efficiency Cost Savings $ 4,683,000
Administrative Efficiency Cost Savings $ 522,000
TOTAL $51,137,000
State Road Construction Methodology

- Projects let/programmed in FY ’15
- Baseline is when a project enters the STIP
- Identify project level efficiencies through interviews with PMs/district staff
- Looking at meeting FY’15 goals for legislation as it is currently written, and for longer term implementation
1. Alternative Technical Concepts (ATCs)
2. Balanced Letting
3. Detailed Scoping
4. Exempt From Cultural Resources Unit Review
5. Funds Swap
6. Innovative Delivery Methods – IDIQ, CMGC, Design/Build
7. Major Projects Review
8. Performance-Based Design
9. Project Tying
10. Reduced Pay Items by Using Lump Sum
11. Selection of Procurement
12. Traffic Control Plan
13. Use of Technology to Drive Efficiencies
14. Value Engineering
15. Value Engineering Change Proposals (VECPs)
## SRC Efficiencies Identified

<table>
<thead>
<tr>
<th>Cost Saving Activities</th>
<th>Amount Identified in Project Analyses</th>
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</thead>
<tbody>
<tr>
<td>Value Engineering</td>
<td>$ 9,598,000</td>
</tr>
<tr>
<td>Alternative Technical Concepts</td>
<td>$ 3,710,500</td>
</tr>
<tr>
<td>Design Optimization</td>
<td>$ 15,782,000</td>
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<tr>
<td>Contract Design Flexibility</td>
<td>$ 10,387,500</td>
</tr>
<tr>
<td>Innovative Delivery Methods</td>
<td>$ 3,710,000</td>
</tr>
<tr>
<td>Traffic Control Plans</td>
<td>$ 2,441,000</td>
</tr>
<tr>
<td>Value Engineering Change Proposals</td>
<td>$ 303,000</td>
</tr>
<tr>
<td>Total</td>
<td>$ 45,932,000</td>
</tr>
</tbody>
</table>
Maintenance & Operations

- Baseline – efficiencies implemented since 2008
- Efficiency cost savings calculated as annual average savings
- Analysis includes a B/C calculation and a scope of implementation
Tow Plow

- existing operational gap of snow plow trucks needed to deliver snow and ice removal services.
- Unmanned tow plows allow the agency to clear the equivalent of two plows
- Cannot fully replace the use of a fully outfitted plow and not appropriate in all situations
- The lifecycle annualized cost savings is ~$490,000
Maintenance & Operations

Tow Plow

$22 per lane mile
Standard plow

$3 per lane mile
tow plow

$19 per lane mile
Savings

$19 per Lane mile

2,000 Lane Miles

$38,000 Per year for each tow plow

$38,000

13 Tow Plows (in use)

$490,000 Lifecycle annualized cost savings
Other M&O examples:

Automatic Flagger Assistance Devices (AFADs)
Maintenance Decision Support System
Dynamic Message Sign heaters (elimination/deactivation)
Portable Signal Systems
LED Ramp meter bulbs
Snow Poles
Next Steps

- For FY’16 – will likely continue a similar process as this year
  - Work toward a less labor intensive way to document efficiencies
- Implement best practices
- Look forward
  - Project Management efforts – balanced letting
  - Asset Management efforts – pavement life cycle costs
Questions?

Deanna Belden
MnDOT Office of Transportation System Management
deanna.belden@state.mn.us
651–366–3734