FHWA Major Projects Program

Cost Estimate Review
(CER) Effectiveness

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FHWA is the source for all images in this presentation.
Major Projects Background

- 2002 Flyvbjerg Study
  - Project increased by 23.6% in North America
- Major Projects prior to 2000
  - 5 Projects
  - Total Cost is 111% over the Initial Cost Estimate
- TEA-21 Section 1305 in 1998
  - Initiated Major Project requirements
    - Financial Plans for Projects over $1 Billion
- SAFETEA-LU Section 1904 in 2005
  - Added Project Management Plans
  - Reduced threshold to $500 Million
What is a Major Project?

- Projects requiring Federal assistance that are over $500 million in cost
- Project scope is determined by the National Environmental Policy Act (NEPA) decision document

What are the requirements for Major Projects?
Major Project Requirements

23 USC 106(h)

(h) Major Projects.—

(1) In general.—Notwithstanding any other provision of this section, a recipient of Federal financial assistance for a project under this title with an estimated total cost of $500,000,000 or more, and recipients for such other projects as may be identified by the Secretary, shall submit to the Secretary for each project—

(A) a project management plan; and

(B) an annual financial plan, including a phasing plan when applicable.
Active Major Projects

106

Number of Active Major Projects in FY 20
(96 Active Major Projects last year)

As of 7/19/2019
3-Year Forecast of Major Projects

137  Number of Active Major Projects + Future Major Projects to be active in 1-3 years

As of 7/19/2019
Major Project Identification

- "Project" means the entire scope of NEPA document.
- "Cost > $500 M" means entire project cost including
  - Previous expenditures
  - Preliminary Engineering (PE)
  - Environmental Decision
  - Right of Way
  - Construction
  - Escalation
So Why Are We Doing This?

- How effective has the program been?
- Does anyone remember the Central Artery Tunnel Project?
Major Project Metrics

Long Term Cost

- Final Cost vs IFP Estimate
  - 21 Projects prior to CER
    - Total Cost 53.7% over budget
  - 21 Projects 2006 - 2009
    - Average 4.7% under budget
  - 14 Projects 2010 - 2014
    - Average 1.0% over budget
Completed Projects

Final Cost vs IFP Cost by Year

ACTUAL COST VS IFP ESTIMATE

YEAR

Office of Infrastructure
# Major Project Metrics

## Effectiveness in Dollars

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Number of Projects Completed</th>
<th>IFP Initial Cost Projection (Billions)</th>
<th>Final Dollar Amount (Billions)</th>
<th>Amount Over/Under Initial Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 &amp; Before</td>
<td>21</td>
<td>$30.15</td>
<td>$46.36</td>
<td>$16.21 Billion Over</td>
</tr>
<tr>
<td>2005 thru 2009</td>
<td>21</td>
<td>$24.14</td>
<td>$23.00</td>
<td>$1.14 Billion Under</td>
</tr>
<tr>
<td>2010 and Later</td>
<td>14</td>
<td>$18.22</td>
<td>$18.56</td>
<td>$0.34 Billion Over</td>
</tr>
</tbody>
</table>
Reasons for Cost Increases

2019 FY 4th Quarter

- **Scope Change**: 5
- **Claim**: 4
- **Price vs Estimate**: 3
- **Inflation**: 3
- **Right of Way**: 1
- **Utilities**: 1
- **Design Change**: 1

Legend:
- Scope Change
- Claim
- Price vs Estimate
- Inflation
- Right of Way
- Utilities
- Design Change
Major Project Metrics

Long Term Measurement: Schedule

- Final Project Duration vs Planned Project Duration
  - Pre-CER
    - 33.1% over Schedule
  - 2006 to 2009
    - 16.2% over Schedule
  - 2010 to 2014
    - 5.5% over Schedule
Reasons for Schedule Increase

2019 FY 4th Quarter

- Funding Issues: 7
- Scope Change: 4
- Scheduling: 3
- Contractor Delay: 2
- Punch List: 2
- Right of Way: 2
- Weather Delay: 1
- Procurement Delay: 1
- Utilities: 1
- Claim Settlement: 1
Thank You!!!

Questions?