MAP-21 / FAST Act

2019 Complete Streets and Tech Conference

APWA Southern California Chapter
American Public Works Association
Carson, CA

April 10, 2019
The BIG Funding Picture

- Federal Trust Fund
- Federal Gas Tax
  - Vehicle Registration
  - County
    - City
- State
- Local

Source: NCE
Federal Funding

• Highway Trust Fund
  – Funds highway, intermodal programs, and mass transit
  – Primary source is Federal fuel taxes
    • $0.184/gallon gas
    • $0.184/gallon gasohol
    • $0.244/gallon diesel
  – ~25% of spending on highway infrastructure and transit projects

85.5% – Highways
14% – Mass transit
0.5% – Storage Tank
Authorization Bills

- MAP-21:
  - Moving A head for Progress in the 21st Century (FY 2013-2014)

- FAST Act:
  - Fixing America’s Surface Transportation Act (FY 2016-2020)
What it Impacts

- National Highway System (NHS)
  - Interstate
  - Other principal arterials
  - Strategic highway network
  - Major strategic network
  - Intermodal collectors
MAP-21 Details (just a few)

- $105B (FY 2013-14)
- No significant funding increase, but a few reforms
  - Speed-up environmental review process
  - Bike/Ped funding reduced (split equally between MPOs and DOTs)
  - National freight policy
  - Ease tolling on federal highways
MAP-21 Details (continued)

- National Highway Performance Program
  - Asset management plan
  - Performance measures
    - Pavement and bridge condition – “state of good repair”
    - Fatalities and serious injuries
    - Traffic congestion
    - On-road mobile source emissions
    - Interstate freight movement
FAST Act

- Extends MAP-21
  - Performance-based
  - Improve safety
  - Infrastructure condition
  - Reduce congestion
  - Improve freight movement
  - Protect the environment
  - Reduce project delivery delays

<table>
<thead>
<tr>
<th>Program</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway</td>
<td>$226.3B</td>
</tr>
<tr>
<td>Transit</td>
<td>$ 60.1B</td>
</tr>
<tr>
<td>Railroad</td>
<td>$ 10.3B</td>
</tr>
<tr>
<td>Traffic Safety</td>
<td>$  4.7B</td>
</tr>
<tr>
<td>Motor Carrier</td>
<td>$  3.2B</td>
</tr>
<tr>
<td>Haz. Materials</td>
<td>$ 0.4B</td>
</tr>
</tbody>
</table>

$305.0B
...I’ll focus on infrastructure condition, specifically, **pavements**
Pavement Condition

• In accordance with –
**IRI**

- Main parameter used by traveling public to assess pavement condition
- Applicable for all pavement types
Pavement Distress

- Asphalt Pavements
  - Percent wheel path cracking
  - Rutting
Pavement Distress

- Jointed plain concrete (JPCP)
  - Percent slabs with transverse cracking
  - Faulting
- Continuously reinforced concrete (CRCP)
  - # punchouts
  - Percent cracking
Present Serviceability Rating

- Non-Interstate NHS < 40 mph
- In lieu of IRI, cracking, rutting, and faulting
- FHWA approval to correlate with other methods

![Rating Scale Diagram]

Acceptable?

- Yes
- No
- Undecided

Section Identification _________ Rating
Rater _____ Date _____ Time _____ Vehicle

NCE
## State of Good Repair

### Asphalt Pavements

<table>
<thead>
<tr>
<th>Measure</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRI (in/mi)</td>
<td>&lt; 95</td>
<td>95 – 170</td>
<td>&gt; 170</td>
</tr>
<tr>
<td>Rutting (in)</td>
<td>&lt; 0.20</td>
<td>0.20 – 0.40</td>
<td>&gt; 0.40</td>
</tr>
<tr>
<td>Cracking (%)</td>
<td>&lt; 5</td>
<td>5 – 20</td>
<td>&gt; 20</td>
</tr>
<tr>
<td>PSR</td>
<td>≥ 4.0</td>
<td>2.0 – 4.0</td>
<td>≤ 2.0</td>
</tr>
</tbody>
</table>
Concrete Pavements

<table>
<thead>
<tr>
<th>Measure</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRI (in/mi)</td>
<td>&lt; 95</td>
<td>95 – 170</td>
<td>&gt; 170</td>
</tr>
<tr>
<td>Faulting (in)</td>
<td>&lt; 0.10</td>
<td>0.10 – 0.15</td>
<td>&gt; 0.15</td>
</tr>
<tr>
<td>JPCP crack (%)</td>
<td>&lt; 5</td>
<td>5 – 15</td>
<td>&gt; 15</td>
</tr>
<tr>
<td>CRCP crack (%)</td>
<td>&lt; 5</td>
<td>5 – 10</td>
<td>&gt; 10</td>
</tr>
<tr>
<td>PSR</td>
<td>≥ 4.0</td>
<td>2.0 – 4.0</td>
<td>≤ 2.0</td>
</tr>
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</table>
## Overall Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>Asphalt</th>
<th>JPCP</th>
<th>CRCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Good all 3 conditions; PSR ≥ 4.0</td>
<td>Good for both conditions; PSR ≥ 4.0</td>
<td>Good for both conditions; PSR ≥ 4.0</td>
</tr>
<tr>
<td>Fair</td>
<td>Not good or poor condition; &gt; 2.0 PSR &lt; 4.0</td>
<td>Not good or poor condition; &gt; 2.0 PSR &lt; 4.0</td>
<td>Not good or poor condition; &gt; 2.0 PSR &lt; 4.0</td>
</tr>
<tr>
<td>Poor</td>
<td>Two or more ratings are in poor condition; PSR ≤ 2.0</td>
<td>Poor ratings for both conditions; PSR ≤ 2.0</td>
<td>Poor ratings for both conditions; PSR ≤ 2.0</td>
</tr>
</tbody>
</table>
Data Collection in California

- Caltrans
  - Will collect pavement condition on ALL NHS routes, indefinitely
Establishing Targets

• DOTs and MPOs shall establish performance targets for all measures
• DOTs shall coordinate with MPOs to ensure consistency (as practicable)
• The MPOs shall establish 4-year targets
Minimum Target Levels

• Interstate
  – < 5 percent lane miles in poor condition

• Non-Interstate NHS
  – As established by each DOT
...and if targets are not met?

- States must document the actions they will take to achieve the targets
- Interstate pavement condition
  - If condition falls below minimum value
  - State must devote specified resources to improve condition
  - and each year thereafter until above minimum target level
Another Requirement

- Data quality management plan
  - Equipment calibration & certification
  - Certification process for persons performing manual data collection
  - Quality control measures
  - Sample, review & check processes
  - Error resolution procedures
  - Data acceptance criteria
For More Information

• FAST Act
  - https://www.fhwa.dot.gov/fastact/

• National Highway Performance Measures
  - https://www.fhwa.dot.gov/specialfunding/nhpp/

• HPMS Field Manual
  - https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/
Questions?

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