Performance-Based Planning & Programming
Connecting Investments to Strategic Direction

ITE Upstate NY Section Conference
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Transportation Planning & Programming Activities

Internal Operations

Strategic Direction (Long-Range) → Concept Development (Near-Term) → Investment Decisions (CIP)

Customer Engagement
Performance Management versus Performance Measurement

- More than selecting measures
- More than selecting measures and monitoring change
- More than selecting measures, monitoring change, and reporting
- Management about effecting change based on performance in key areas
  - Outcome-based measures are key to making a difference
  - Anticipated results must be incorporated and considered in long range plans, near-term plans, and capital improvement programs
Drivers for Performance-Based Planning & Programming

- Reduced revenues
- Increased availability of data
- Federal requirements
- Public demand for transparency and accountability
Keys to Performance-Based Planning & Programming

- Identify what’s important to customers
- Make measures meaningful and understandable
- Embed measures in investment decisions
- Use measures to articulate results and needs
Performance-Based Planning & Programming Measures

- Need to decide what to measure
  - Safety
  - Asset Condition
  - Mobility
  - Accessibility
  - Goods Movement
  - Environment
- Ultimately, what matters to the community
Performance-Based Planning & Programming Measures

- Select outcome-based measures
- Clearly define each measure
- Utilize real-world data instead of modeled data
- Build on existing priorities and ensure consistency with agreed-upon goals
Operationalizing Performance Measures

- Create project evaluation criteria that actually improve the measures you’ve selected
  - Directly link to strategic/long range plans
- Identify the right questions to ask
  - Include in funding requests/solicitations
- Codify the scoring of proposed projects
  - Define scores for each criterion
  - Ensure consistency among raters and across capital programs
Operationalizing Performance Measures

- Cooperation and critical thinking are key
  - Technology and data are not replacements
  - Early and continuous involvement of stakeholders
- Quantitative does not equal Objective
  - Understand what determines system performance
- Adaptive = Structure + Flexibility
  - Can’t exclude non-system performance considerations
- Reassessment is a requirement
  - Change for the sake of change is not progress... but there is always room for improvement
Federal Requirements – Background

- Multiple factors for inclusion in MAP-21 and FAST Act
  - ARRA (“Economic Stimulus” of 2009) required reporting at a greater level than was in place at time for Federal surface transportation funds
    - Activity-based
  - “Reduction” in anticipated Federal surface transportation revenues after SAFETEA-LU (i.e., less growth than in previous authorizations)
    - Greater emphasis on major highways and bridges
  - National discussion about improved transparency and accountability
    - Earmarks banned based on number and questionable merit in SAFETEA-LU
Federal Requirements – State DOTs & MPOs

- Support seven national goals by setting targets for established measures and tracking progress in critical outcomes via management.

- Coordinate target setting to the maximum extent practicable.

- MPOs set targets within 180 days of State DOT and public transportation providers setting theirs.
  - Agree to contribute to State DOT target or set separate one for metro area.

- Integrate goals, objectives, measures, and targets from essentially all other plans and processes.
Federal Requirements – National Performance Measures

- Safety
  - Number of Fatalities
  - Number of Serious Injuries
  - Rate of Fatalities per 100 million Vehicle Miles Travelled
  - Rate of Serious Injuries per 100 million Vehicle Miles Travelled
  - Number of Non-motorized Fatalities and Non-motorized Serious Injuries
Federal Requirements – National Performance Measures

- Pavements & Bridges
  - Percent of Pavements on the Interstate System in Good Condition
  - Percent of Pavements on the NHS (excluding Interstate System) in Good Condition
  - Percent of Pavements on the Interstate System in Poor Condition
  - Percent of Pavements on the NHS (excluding Interstate System) in Poor Condition
  - NHS Bridges Classified as in good condition
  - NHS Bridges Classified as in poor condition
Federal Requirements – National Performance Measures

- Performance of NHS, Freight Movement on Interstates, and CMAQ Program
  - Percent of Reliable Person-Miles Traveled on the Interstate System
  - Percent of Reliable Person-Miles Traveled on the Non-Interstate NHS
  - Percentage of Interstate System Mileage Providing Reliable Truck Travel Time
    (Truck Travel Time Reliability Index)
  - Total Emissions Reductions by Applicable Pollutants under CMAQ Program
  - Annual Hours of Peak Hour Excessive Delay Per Capita
  - Percent of Non-Single Occupancy Vehicle Travel
    (including travel avoided by telecommuting)
Federal Requirements – Freight Reliability

- Percentage of Interstate System Mileage Providing Reliable Truck Travel Time
  - Intended to consider use during all hours of the day as most intense use of system (regardless of time of day) can negatively impact goods movement
- Truck Travel Time Reliability Index
  - Five periods – 1) M-F Morning Peak, 2) M-F Midday, 3) M-F Afternoon Peak, 4) Weekend 6 a.m.-8 p.m., 5) All Days 8 p.m.-6 a.m.
  - Ratio of 95th percentile time divided by 50th percentile (normal time) for each segment
  - Each segment’s largest ratio of the five periods multiplied by its length then the sum of all length-weighted segments divided by the total length
§ 490.613 Calculating Freight Reliability Measure (Example)

TTTR Index = \( \frac{\sum \text{All segment length weighted TTTR}}{\sum \text{All segment lengths}} \)

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\[
\text{TTTR Index} = \frac{11.25}{8.000 \text{ mi}} = 1.41
\]

Measure: TTTR Index, full extent of the Interstate system
Learning Assessment

1. “Number of miles paved annually” is an example of what type of measure
   - A. Activity-Based
   - B. Outcome-Based
   - C. Neither A. nor B.
   - D. Both A. and B.
2. Which is not one of the Federal performance management measures?
   - A. Percent of Pavements on the Interstate System in Poor Condition
   - B. Number of Serious Injuries
   - C. Greenhouse Gas Emissions Per Capita
   - D. Annual Hours of Peak Hour Excessive Delay Per Capita
Learning Assessment

3. True or False: modeled data is preferable to real-world data?
   A. True
   B. False

4. Why is codifying scoring criteria for proposed projects important?
   A. Prioritizes highway expansion
   B. Overcomes deficiencies in data quality
   C. Ensures consistency among raters and capital programs
   D. Is a federal requirement for project selection
Questions

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