Welcome to
The Planning Exchange
Performance-Based Planning and Programming

Transportation Planning Information Exchange Webinar
March 21, 2013

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Deanna Belden, Director of Performance Measures & Analysis, MnDOT
Patricia Hendren, Director of the Office of Performance, WMATA
John Thomas, Director of Planning, UDOT
Agenda

- Recent Activities
- Moving Ahead for Progress in the 21st Century Act (MAP-21)
- Performance-based Planning and Programming
- Case Study Examples
- Q and A
- What’s Next
Performance Based Planning Activities

- National Conference on Performance Based Planning and Programming - Dallas, TX - September 13-15, 2010
- National Workshop on Performance Based Planning and Programming, Chicago, IL - September 21-22, 2011
- Regional Workshop on Performance-based Planning and Programming, Atlanta, Georgia - March 29, 2012
- Regional Workshop on Performance-based Planning and Programming, Providence, RI - June 19, 2012
- Regional Workshop on Performance-based Planning and Programming, Denver, CO - September 18, 2012
Moving Ahead for Progress in the 21st Century Act

- Performance management
  - MAP-21 identifies national goal areas
  - USDOT establishes measures, with input
  - States set targets
  - State & metro plans describe how organizations will use program and project selection to help achieve targets
  - States report to USDOT on progress toward targets (within 4 yrs of enactment, biennially thereafter)
  - Reports typically lead to corrective actions (not sanctions)
  - Consequences if conditions of NHS falls below thresholds
Moving Ahead for Progress in the 21st Century Act

• National Goal Areas:
  – Safety
  – Infrastructure condition
  – Congestion reduction
  – System reliability
  – Freight movement and economic vitality
  – Environmental sustainability
  – Reduced project delivery delays
Moving Ahead for Progress in the 21st Century Act

- Act specifies some topics measures must address
  - Safety: serious injuries & fatalities (# and per VMT)
  - Pavement & bridge condition: Interstate and remainder of NHS
  - Performance: Interstate and remainder of NHS
  - CMAQ: traffic congestion and on-road mobile source emissions
  - Freight: Interstate freight movement
  - Transit state of good repair standards
  - Transit Safety

- In addition to measures, USDOT must establish minimum thresholds for NHS pavement and bridge condition
Moving Ahead for Progress in the 21st Century Act

• Metropolitan planning
  – Population threshold for MPOs and TMAs unchanged
  – MPOs to establish performance targets
  – Long range plan incorporates other performance plans
  – TIP to be updated at least every 4 yrs
  – MPO serving a TMA selects all projects except those on NHS, which are selected by State with MPO cooperation

• Statewide & nonmetropolitan planning
  – Transition to performance-based outcome-driven planning process, with State setting performance targets
  – Long range plan includes report on conditions & performance of system relative to established performance measures

Long range plan incorporates other performance plans
Moving Ahead for Progress in the 21st Century Act

• Metropolitan and statewide transportation planning processes are continued and enhanced to incorporate performance goals, measures, and targets – along with reporting on the overall effectiveness of performance-based planning

• Public involvement remains a hallmark of the planning process
# Performance-Based Planning and Programming Elements

<table>
<thead>
<tr>
<th>Strategic Direction</th>
<th>Long-Range Planning</th>
<th>Programming</th>
<th>Implementation and Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Where do we want to go?)</em></td>
<td><em>(How are we going to get there?)</em></td>
<td><em>(What will it take?)</em></td>
<td><em>(How did we do?)</em></td>
</tr>
<tr>
<td>- Goals and objectives</td>
<td>- Identify Targets and Trends</td>
<td>- Investment Plan</td>
<td>- Reporting and Monitoring</td>
</tr>
<tr>
<td>- Performance measure</td>
<td>- Identify Strategies</td>
<td>- Resources Constrained Targets and Trends</td>
<td>- Evaluation</td>
</tr>
<tr>
<td>- Strategy Evaluation</td>
<td>- Program of Projects</td>
<td>- Program of Projects</td>
<td>- Evaluation</td>
</tr>
</tbody>
</table>
Vision, Goals, and Objectives
Alternate Improvement Strategies
Operations       Capital
Evaluation & Prioritization of Strategies
Transportation Plan (LRP)
Transportation Improvement Programs (S/TIP, capital prog.)
Project Development and Delivery
System Operations (Implementation)
Monitor and Report System Performance

PERFORMANCE-BASED PLANNING FRAMEWORK

FEDERALLY REQUIRED PLANNING PROCESS STEPS

SUPPORTING ELEMENTS

TRANSPORTATION SYSTEM PERFORMANCE MEASURES
UNCONSTRAINED TARGETS AND TRENDS
SCENARIO ANALYSIS
RESOURCE CONSTRAINED TARGETS AND TRENDS
RESOURCE ALLOCATION

DATA AND TOOLS

Ongoing Collaboration with Stakeholders and the Public
Integrating Performance-Based Plans into the Planning Process

- Strategic Highway Safety Plans
- Transportation Asset Management Plans - Highway
- Congestion Management Process
- Transit Asset Management Plans
- Transit Safety Plans
- Other Performance-Based Plans
Asset Management Plan - Highway

• Risk-based asset management plan
• States encouraged to include all infrastructure assets within the right-of-way
• Plan Contents
  – pavement and bridge inventory and conditions on the NHS,
  – objectives and measures,
  – performance gap identification,
  – lifecycle cost and risk management analysis,
  – a financial plan, and
  – investment strategies
Strategic Highway Safety Plans

• SHSP is a major part of the core Highway Safety Improvement Program

• SHSP is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads

• SHSP strategically establishes statewide goals, objectives, and key emphasis areas developed in consultation with Federal, State, local, and private sector safety stakeholders
Congestion Management Process

- The CMP is intended to serve as an integrated element of the planning process.
- The CMP can be an important source of information, particularly for project selection, in both the long-range plan and the Transportation Improvement Program.
National Transit Asset Management System

• DOT will establish a National TAM system
• Define State of Good Repair (SGR), establishes standards within 1 year by rulemaking process
• Require recipients to collaboratively develop local TAM plans
• DOT will provide an analytical process or decision support tool and technical assistance
Recipients’ Asset Management Plans

• DOT will direct recipients in drafting TAM Plans that includes:

  • Estimate capital needs
  • Capital asset inventories & condition assessments (equipment, rolling stock, infrastructure, facilities)
  • Decision support tools
  • Asset investment priorities
National Transit Safety Plan

- Safety performance criteria for all modes of public transportation
- Will rely on TAM System definition (SGR)
- Performance standards for vehicles used in revenue operations:
  - Do not apply to rolling stock otherwise regulated
  - Should consider National Transportation Safety Board recommendations and industry best practice
- Public transportation safety certification training program
Public Transportation Agency Safety Plans

• Each designated recipient of Federal transit funds or States must establish a comprehensive, board-approved agency safety plan
• Includes methods for identifying and evaluating safety risk
• Annual review and update
• Strategies to minimize exposure
• Performance targets
• Training
• Plan required within 1 year after effective date of a final rule to carry out the Public Transportation Safety Program
Case Study Examples
Using Performance Measures
to
Make Goals Real

Tom Gerend
Assistant Director of Transportation
Mid-America Regional Council
PLAN OVERVIEW

- Developed over a 2-year period
  - Adopted June 2010
- Extensive Public Input/Committee Feedback
- Segmented Approval Process
  - Policy Framework
  - Financial Assumptions and Evaluation Framework
  - Projects & Measures
POLICY FRAMEWORK

- Policy Framework Components
  - Regional Vision Statement
  - Regional Policy Goals

- Served as structure/foundation for
  - Plan’s Content Development
  - Project Evaluation and Prioritization
  - Identification of Performance Measures
  - Project selection/priorities
GOALS

- System Performance
- System Condition
- Safety and Security
- Accessibility
- Economic Vitality

- Place making*
- Public Health*
- Climate Change/ Energy Use*
- Environment*

*New Goals for Transportation Outlook 2040
SYSTEM PERFORMANCE

Manage the system to achieve reliable and efficient performance.
SYSTEM CONDITION

Ensure transportation system is maintained in good condition.
SAFETY AND SECURITY

Improve safety and security for all transportation users.
ACCESSIBILITY

Maximize mobility and access to opportunities for all area residents.
ECONOMIC VITALITY

Support an innovative, competitive 21st century economy.
PLACE MAKING

Coordinate transportation and land-use planning as a means to create quality places in existing and developing areas, and to strengthen the quality of the region.
PUBLIC HEALTH

Facilitate healthy, active living
CLIMATE CHANGE/ENERGY USE

Decrease the use of fossil fuels through reduced travel demand, technology advancements, and a transition to renewable energy sources.
ENVIRONMENT

Protect and restore our region’s natural resources (land, water, and air) through proactive environmental stewardship.
APPROACH

- Used policy goals in developing measures
  - Less is more
- Used available data (annual updates)
  - Reliable sources
  - Updated on an annual basis
- Consistent geographies
- Desired trends
PERFORMANCE MEASURES

Progress Report Summary | June 2011

The Mid-America Regional Council (MARC) leads the transportation planning process. Transportation Outlook 2040 outlines a vision for the Kansas City region that is socially, environmentally, and economically sustainable. The transportation performance measures that will promote and track progress toward the region’s vision are listed below.

The performance report tracks progress toward the goals that MARC’s transportation plan sets. The performance report also shows the performance of indicators related to the goals.

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>MEASURE</th>
<th>DESIRED TREND</th>
<th>ACTUAL TREND</th>
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<tbody>
<tr>
<td>Accessibility</td>
<td>Population within 0.8 miles of transit</td>
<td>Increase in number of persons within 0.8 miles of transit</td>
<td>5.7% increase from 2000</td>
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<tr>
<td></td>
<td>Ridership</td>
<td>Increase in number of riders served</td>
<td>5.0% increase from 2000</td>
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<td>Environmental stress</td>
<td>Transportation performance of transportation modes</td>
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<td>Economic Vitality</td>
<td>MEASURE</td>
<td>DESIRED TREND</td>
<td>ACTUAL TREND</td>
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<tr>
<td>Climate Change / Energy Use</td>
<td>MEASURE</td>
<td>DESIRED TREND</td>
<td>ACTUAL TREND</td>
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<tr>
<td>Environment</td>
<td>MEASURE</td>
<td>DESIRED TREND</td>
<td>ACTUAL TREND</td>
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<tr>
<td>Place Making</td>
<td>MEASURE</td>
<td>DESIRED TREND</td>
<td>ACTUAL TREND</td>
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Safety and Security: Crash Fatalities and Disabling Injuries

Sources: Missouri Department of Transportation (MoDOT) – Traffic Databases
Kansas Department of Transportation (KDOT) – Traffic Databases
System Performance: Travel Speeds

Average Travel Speeds (MARC Region)

Source: Mid-America Regional Council (MARC) – Travel Time Study Reports
Accessibility:
Bicycle/Pedestrian Accessibility

MARC TIP Annual Listing of Obligated Projects

Source: Mid-America Regional Council (MARC) – Transportation Improvement Program (TIP) Annual Listing of Obligated Projects
Place Making: Land Use/Redevelopment

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<th>2000</th>
<th>2010</th>
<th>Change</th>
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<tr>
<td>Urbanized Area</td>
<td>1,144,295</td>
<td>1,126,110</td>
<td>-18,185</td>
</tr>
<tr>
<td>Region</td>
<td>1,672,362</td>
<td>1,862,753</td>
<td>190,391</td>
</tr>
</tbody>
</table>

Percent change within urbanized area

-9.6%

Source: U.S. Census Bureau
Public Health: Ozone Pollution

Ozone Season Averages (Kansas City Region)

Source: Mid-America Regional Council (MARC) Air Quality Reports – Ozone Season Summaries
2012 PROGRESS RECAP

Annual snapshot provides meaningful information to make progress towards reaching the region’s transportation goals.
LESSON LEARNED/NEXT STEPS

- New territory for us initially
- Encountered data gaps
  - Had to adjust measures/create new ones
- Measures reflective of the region vs. measures reflective of corridors/places
- Targets versus no targets?
  - Currently don’t have set targets established
  - MAP-21 will require us to do so
THANK YOU

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Vision to Projects: Evolution of Performance-based Planning & Programming at MnDOT

Deanna Belden
Minnesota Department of Transportation

FHWA Webinar
March 21, 2013
MnDOT policy direction
Family of Plans

Minnesota GO 50–year Vision
8 Guiding Principles

Statewide Multimodal Transportation Plan
Objectives & Strategies in 6 Policy Areas

MnSHIP
Capital Investment Priorities

Supporting Plans
Minnesota GO 50-year Vision

Minnesota’s multimodal transportation system maximizes the health of people, the environment and our economy. The system:

• Connects Minnesota’s primary assets – the people, natural resources and businesses

• Provides safe, convenient, efficient and effective movement of people and goods

• Is flexible and nimble enough to adapt to changes in society, technology, the environment and the economy
Statewide Multimodal Transportation Plan

Where are we going?
(Vision & Guiding Principles)

Where are we now?
(Transportation System, QOL, Environment, Economy)

How did we get here?
(Planning Initiatives in last 20 years)

How will we guide ourselves?
(Policy Objectives & Action Strategies)

What comes next?
(Family of Plans & Performance Measures)
MnSHIP background

- 20-year State Highway Investment Plan
- Establishes priorities for capital expenditures on 12,000 state highway system
- Part of MnDOT’s Family of Plans
- Required by state law every four years
How does MnSHIP affect planning & programming?

MnSHIP establishes investment priorities

Districts create 10-year plan of projects & programs

Projects implemented annually through programming schedule

Annual performance management cycle ensures consistency with MnSHIP investment priorities

Consistent?
Supports Minnesota GO 50-year vision. Establishes objectives & strategies to guide investment.

Integrates performance planning & risk assessment to establish priorities for projected funding. Measures impact of investments on performance targets.

Regular review of performance in each policy area.
MnSHIP development process

1. Gather information
2. Develop scenarios
3. Analyze scenarios
4. Set investment priorities
5. Develop investment programs
6. Implement plan strategies
Gather information

- Current investment direction
- MnDOT Policy
- Federal & state laws
- Revenue projections
- System condition projections
- Risk identification
National Highway System in Minnesota

- 45% of state highways
- MnDOT owns 99%+ of NHS
State highway revenue sources

State Programs
- State Fuel Tax 31%
- Vehicle Sales Tax 8%
- Vehicle Registration Tax - 21%

Federal Aid Highway Program
- Federal Fuel Tax 31%

State Trunk Hwy Bonds 9%

State Trunk Highway Fund

Capital revenue 2013 – 2032 = $18 billion
Changes in inflation impacts buying power

2012 dollars (in millions) under 5% inflation assumption

Capital Revenue for State Road Construction (millions)

State Fiscal Year

Projected Revenue in Year of Construction
Develop scenarios

- Internal technical work groups
- Internal steering committee

- For each (of ten) investment categories:
  - Identified a minimum “performance level”
  - Identified risks associated with minimum level
  - Established successive levels that manage risks
10 investment categories

**Asset Management**
1. Pavement Condition
2. Bridge Condition
3. Roadside Infrastructure Condition

**Traveler Safety**
4. Traveler Safety

**Critical Connections**
5. Interregional Corridor Mobility
6. Twin Cities Mobility
7. Bicycle Infrastructure
8. Accessible Pedestrian Infrastructure

**Regional + Community Improvement Priorities**
9. Regional + Community Improvement Priorities

**Project Support**
10. Project Support
Performance level concept

Investment Category
- Investment Level
- Investment Description
- Outcomes
- Risks

Performance Level 0
- Greater Cost
- Greater Risk

Performance Level 1
- Current investment Level

Performance Level 2
- Greater Cost
MnDOT’s capital investment needs?

- $30 billion in investment needs to meet performance targets and key objectives
  - Asset Management: $17.6 billion
  - Traveler Safety: $1.3 billion
  - Critical Connections: $5.7 billion
  - Regional + Community Improvement Priorities: $1.7 billion
  - Project Support: $2.9 billion
- Likely many additional local and regional concerns and opportunities beyond $30 billion
Analyze scenarios

- Present work: group performance levels across each of the 10 investment categories
- Public phase did not directly address risk
- MnDOT phase incorporated risk
Evaluating investment approaches

Approach A
- Asset Management
- Traveler Safety
- Critical Connections
- Regional + Community Improvement Priorities
- Project Support

Approach B (Current)

Approach C

<table>
<thead>
<tr>
<th>Investment Approaches Comparison Matrix</th>
<th>Approach A</th>
<th>Approach B (Current Investment Allocation)</th>
<th>Approach C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Summary</td>
<td>Focus on maintaining existing infrastructure (roads, bridges, rail) to support economic development and mobility, non-essential transportation options, and local priorities</td>
<td>Focus on bridges and safety, maintain current investment levels, non-essential transportation options, and local priorities. Accept significant decline in performance condition on low-volume roads.</td>
<td>Focus on meeting infrastructure needs in interstates only, increase investment in mobility, local priorities, and non-essential transportation options, accept significant deterioration in the condition of infrastructure on non-interstate highways.</td>
</tr>
<tr>
<td>Biggest Strengths</td>
<td>Pavement, bridge, rail, and infrastructure condition approaches a state of good repair; the vast majority of roadways are smooth and bridge condition meets national performance targets.</td>
<td>Ability to address highest priority needs across all investment categories.</td>
<td>Improved safety, promotes mode choice, and adds capacity to priority locations.</td>
</tr>
<tr>
<td>Biggest Drawback</td>
<td>Limited ability to respond to growing infrastructure needs and evolving needs.</td>
<td>Limited ability to respond to growing infrastructure needs and evolving needs.</td>
<td>Significant decline in the condition of most roadways, increased travel times over more than half of the highway system.</td>
</tr>
<tr>
<td>Pavement (PA) % in Poor Condition</td>
<td>2% principal arterial interstate, 4% non-principal arterials</td>
<td>2% principal arterial interstate, 4% other principal arterials, 40% non-principal arterials</td>
<td>2% principal arterial interstate, 36% other principal arterials, 98% non-principal arterials</td>
</tr>
<tr>
<td>Bridges (BR) % in Poor Condition</td>
<td>8% principal arterials, 9% non-principal arterials</td>
<td>6% principal arterials, 9% non-principal arterials</td>
<td>12% principal arterials, 14% non-principal arterials</td>
</tr>
<tr>
<td>Roadside Infrastructure (RI)</td>
<td>Needs addressed throughout the system, asset condition improves</td>
<td>Address strategically, manage decline</td>
<td>Address strategically, manage decline</td>
</tr>
<tr>
<td>Safety (TS)</td>
<td>Decline in fatalities likely to continue</td>
<td></td>
<td>Decline in fatalities likely to continue</td>
</tr>
<tr>
<td>Interregional Corridor Mobility (IR)</td>
<td>Minimal mobility investment</td>
<td>Minimal mobility investment</td>
<td>Added capacity improves flow on regional connections w/ greatest practical benefits</td>
</tr>
<tr>
<td>Twin Cities Mobility (TC)</td>
<td>Address 5-year mobility issues per year, one or more MHPAS lanes</td>
<td>Address 5-year mobility issues per year, two or more MHPAS lanes</td>
<td>Address 5-year mobility issues per year, construct 2-3 interchanges, 4 new MHPAS lanes</td>
</tr>
<tr>
<td>Bicycle Infrastructure (BI)</td>
<td>Full maintenance of existing bike lanes, no additional facilities</td>
<td>Full maintenance of existing bike lanes, no additional facilities</td>
<td>Targeted expansion of the state’s bicycle network</td>
</tr>
<tr>
<td>Accessible Pedestrian (AP)</td>
<td>Most pedestrian improvements are ADA-related</td>
<td>Most pedestrian improvements are ADA-related</td>
<td>Targeted expansion of pedestrian network, both ADA and non-ADA improvements</td>
</tr>
<tr>
<td>Regional + Community Priorities (RC)</td>
<td>Local concerns primarily addressed through grants and loans of bridge and pavement projects</td>
<td>Local concerns addressed through partnerships, design add-ons, and a few projects per year addressing quality of life and economic competitiveness</td>
<td>Local concerns addressed through partnerships, design add-ons, and several projects per year addressing quality of life and economic competitiveness</td>
</tr>
</tbody>
</table>
Day 1: near-parallel to public input
  - Broad, 20-year outcomes

Day 2: Focus on years 1–10, with eye towards years 11–20
  - Specific outcomes
  - Risk evaluation
Set investment priorities

- Manage key capital investment risks
- Identify performance targets
- Assess progress towards key objectives

- Present work: build upon cross cutting risks from previous work
  - Years 1–10: balance management of key risks
  - Years 11–20: focus on financial and asset risks
## Management of key capital risks

<table>
<thead>
<tr>
<th>Key capital investment risk statements</th>
<th>Managed risk by 2023 (of 3 ✓)</th>
<th>Managed risk by 2033 (of 3 ✓)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GASB–34</strong>: poor pavement &amp; bridge condition could influence state bond rating</td>
<td>✓✓✓</td>
<td>✓✓</td>
</tr>
<tr>
<td><strong>Federal policy</strong>: failure to achieve MAP–21 targets on NHS results in lose of funding flexibility</td>
<td>✓✓✓</td>
<td>✓✓</td>
</tr>
<tr>
<td><strong>MnDOT policy</strong>: misalignment with 50–year Vision &amp; Multimodal Policy Plan results in loss of public trust</td>
<td>✓✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Bridges</strong>: deferring bridge investments viewed as an unwise/unsafe strategy</td>
<td>✓✓✓</td>
<td>✓✓</td>
</tr>
<tr>
<td><strong>Responsiveness</strong>: less flexible investment limits responsiveness to local econ. dvpt./quality of life opportunities</td>
<td>✓✓</td>
<td>–</td>
</tr>
<tr>
<td><strong>Maintenance budget</strong>: untimely or reduced capital investment leads to unsustainable maintenance costs</td>
<td>✓✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Public input</strong>: investment inconsistent with MnSHIP public outreach results in loss of public trust</td>
<td>✓✓</td>
<td>–</td>
</tr>
</tbody>
</table>
Develop investment programs

- Statewide performance program
- District risk management program
- Project Support

Present work
- Years 1–4
- Years 5–10
- Years 11–20
Investment Programs: Years 4 & 5–10

Project support: expenditures to deliver; varies depending on the project mix

District risk management program: manages risk associated most closely with regional travel

Statewide performance program: achieves performance that manages risk associated with statewide travel
Statewide performance program

- ≈45% of revenue focused on NHS system
- Performance driven
- Investments in pavement, bridge, safety, roadside infrastructure and metro reliability
- Programmed collaboratively between central, district and specialty offices
Statewide performance program

- Outcomes
  - Less 10% of NHS bridges structurally deficient
  - Less 2% of interstate pavements in poor condition
  - ≈ 4% of non–interstate NHS pavement in poor condition
  - Implement HSIP funds strategically
  - Investments in the Twin Cities that improve performance
District Risk Management Program

- \(\approx 44\%\) of revenue focused on non-NHS system
- Performance based; some corporate minimums based on risk assessment
- Flexibility across districts to meet minimums
- Investments span existing assets, mobility, safety, and regional + community improvement priorities on non-NHS system
- District programming; central and specialty support
District Risk Management Program

- Expenditures (DRAFT)
  - Asset management: 66%
    - ≈ 13% of non-NHS pavement in poor condition
    - Gradual decline in non-NHS bridge condition
  - Traveler Safety: 8%
  - Mobility: 13%
  - Regional + Community Improvement Priorities: 13%
Timeline & Next Steps

Spring 2013:
- Public involvement on draft plan in May/June
- Adopt in August

Beyond spring 2013
- Manage key capital investment risks through annual 10-year Work Plan update
- Annual performance management cycle ensures consistency with MnSHIP investment priorities
Thank you!

Deanna Belden
deanna.belden@state.mn.us

MnSHIP website – follow & participate
Google: MnDOT MnSHIP
http://www.dot.state.mn.us/planning/statehighwayinvestmentplan/index.html
Lessons from WMATA’s Performance Journey

Presented:
Performance-Based Planning and Programming Webinar
March 21, 2013

Patricia Hendren, Ph.D.
Director, Office of Performance
phendren@wmata.com
Performance-Based Planning and Programming: 3 Takeaways

- The Five Components Matter
- This Works
- Just Do It
Performance-Based Planning and Programming: 5 Components

1. Goals/Objectives
2. Performance Measures
3. Target Setting: Evaluate Programs, Projects & Strategies
4. Allocate Resources: Budget and Staff
5. Measure, Evaluate, and Report Results: Actual Performance Achieved

Source: NCHRP 8-36 (Task 104): Integrating Performance Measures into a PBPP Process
Goals: Board Adopted Strategic Framework (10/25/2012)

**Vision**

Metro moves the region forward by connecting communities and improving mobility for our customers.

**Mission**

Metro provides safe, equitable, reliable and cost-effective public transit.

**Goals**

- **Build and maintain a premier safety culture and system**
- **Meet or exceed customer expectations by consistently delivering quality service**
- **Improve regional mobility and connect communities**
- **Ensure financial stability and invest in our people and assets**
## Performance Measures: GM/CEO Business Plan

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<thead>
<tr>
<th>Strategic Goal</th>
<th>GM/CEO Performance Measure</th>
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<tbody>
<tr>
<td>Safety</td>
<td>• Employee Injury Rate</td>
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<tr>
<td></td>
<td>• Customer Injury Rate</td>
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<td></td>
<td>• Crime Rate</td>
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<td>Quality Service</td>
<td>• Bus On-Time Performance</td>
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<td>• Rail On-Time Performance</td>
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<td>• Access On-Time Performance</td>
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<td></td>
<td>• Escalator Availability</td>
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<td></td>
<td>• Customer Commendation Rate</td>
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<td></td>
<td>• Customer Complaint Rate</td>
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<tr>
<td>Invest in People &amp; Assets</td>
<td>• Operating Expenses on Budget</td>
</tr>
<tr>
<td></td>
<td>• Capital Funds Expended</td>
</tr>
<tr>
<td></td>
<td>• Number of Positions Filled</td>
</tr>
<tr>
<td>Connect Communities</td>
<td>• TBD</td>
</tr>
</tbody>
</table>
3 Target Setting: The Steps

1) Audience
- External
- Internal

Believable
Motivational

2) Purpose
- Stretch
- Easy to Attain
- Manage Expectations

3) Inputs
- Data trends
- Actions
- Resources
- Externalities
- Peers

4) Type of Target
- % Change
- Number
- Return to Base Year
- Directional

5) Timeframe
- Weekly, Monthly, etc.

Data is your best defense
What will resonate?

Selection based on audience

Selection based on audience

Different than reporting frequency

Board and public

Selection based on audience

Selection based on audience

Selection based on audience
Target Setting Example: Escalator Availability

<table>
<thead>
<tr>
<th></th>
<th>CY11 Data</th>
<th>CY12 Data</th>
<th>CY13 Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Escalator Availability</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Less Availability due to:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unscheduled maintenance</td>
<td>10.0%</td>
<td>6.5%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Scheduled replacements and rehabilitation</td>
<td>2.7%</td>
<td>3.2%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Other scheduled maintenance</td>
<td>1.8%</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Average Availability</td>
<td>85.5%</td>
<td>89.3%</td>
<td>89%</td>
</tr>
<tr>
<td><strong>TARGET</strong></td>
<td><strong>89%</strong></td>
<td><strong>89%</strong></td>
<td><strong>89%</strong></td>
</tr>
</tbody>
</table>

- Trend data is key
- Actions, constraints and externalities ALL impact results
- Provides opportunity to argue for resources
### Allocating Resources: Department Business Plans

<table>
<thead>
<tr>
<th>What you Do</th>
<th>Strategic Goals</th>
<th>Business Plans</th>
<th>Benefits to You</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build and maintain a premier safety culture and system</td>
<td>Meet or exceed customer expectations by consistently delivering quality service</td>
<td>Actions</td>
<td>IMPROVE performance</td>
</tr>
<tr>
<td>Ensure financial stability and invest in our people and assets</td>
<td>Improve regional mobility and connect communities</td>
<td>Who</td>
<td>SHOW what you do</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance Measures</td>
<td>ARGUE for support/resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Data Source</td>
<td>MOVE from reactive to strategic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Targets</td>
<td>FOSTER unity around goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FOCUS staff and resources</td>
</tr>
</tbody>
</table>
### What’s In a Business Plan?
#### Linking Day-to-Day Work to Goals

**Goal:** Meet or exceed customer expectations by consistently delivering quality service.

**Performance Measure:** Mean Distance Between Failure

<table>
<thead>
<tr>
<th>Goal</th>
<th>Performance Measure</th>
<th>Target</th>
<th>Key Actions</th>
<th>Time Frame</th>
<th>Action Owner</th>
<th>Dependencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet or exceed customer expectations by consistently delivering quality service</td>
<td>Mean Distance Between Failure</td>
<td>7,700</td>
<td>Inspect all buses coming out of mid-life overhaul</td>
<td>5/1/12</td>
<td>Larry Skelton</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Continue with centralized management and reporting of fleetwatch and AVM systems for all service lanes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Routinely review division out of service reports, road call data, repair actions, and AVM reporting; verify engine failures, assist in diagnosis and repair as needed</td>
<td>5/1/12</td>
<td>Larry Skelton</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provide engineering support for reliability-based maintenance program (mini-overhaul and mid-life), improve responsiveness &amp; product output, passenger appeal</td>
<td></td>
<td>Bob Golden</td>
<td></td>
</tr>
</tbody>
</table>

**Sets end point or direction for measure / defines success**

**Sets expectation for action completion**

**Key steps necessary to move towards achieving goals**

**Point person for implementing action**

**Who is critical to action implementation**
5 Monitoring Progress:
Reports Customized for Audience

10 out of 12 MEASURES IMPROVED

GM/CEO MEASURE VS. 2011

- Rail On-Time Performance
- Access On-Time Performance
- Bus Fleet Reliability
- Escalator Availability
- Customer Injury Rate
- Employee Injury Rate
- Customer Commendation Rate
- Bus On-Time Performance
- Rail Fleet Reliability
- Elevator Availability
- Crime Rate
- Complaint Rate

KPI: Rail On-Time Performance (Jan 2013)
Goal: Meet or exceed customer expectations by consistently delivering quality service

Reason to Track: On-time performance measures the adherence to weekday headways, the time between trains. Factors that can affect on-time performance include: infrastructure conditions, speed restrictions, single-tracking around scheduled track work, ralcar delays (e.g., doors), or delays caused by sick passengers. For this measure, higher is better.

Why Did Performance Change?
- Rail OTP was 3% better than January 2012 as Metro balanced OTP with the need for track work and maintained even train spacing due to fewer delays and more ralcars in service.
- This January, weekend track work was limited to the evenings on the Red, Blue and Orange Lines, reducing OTP at a time when the fewest customers are in the system (6% of weekday station stops are in evenings). Last January, track work also occurred during mid-days, impacting more customers (23% of station stops are in mid-day) and significantly reducing OTP.
- Fewer ralcar and public delays and better ralcar availability (improved 7% compared to January 2012) enabled Metro to maintain even train spacing.
- On Inauguration Day, Metrorail achieved 93% on-time performance over the course of 17 hours of peak service, moving 765,000 riders to their destinations.

Actions to Improve Performance
- Expand evening track work to all Lines in order to accelerate improvements to Metro’s rail system infrastructure.
- Following January’s Green Line arcing insulator incident, improve communication with customers during service disruptions.
- Remove speed restrictions following the completion of track repairs and monitor impact on OTP.
- Develop tool to better manage afternoon car availability so that gap trains are positioned strategically to respond to delay incidents.

Conclusion: Rail OTP improved 3% this January as fewer delays and more ralcars in service enabled Metro to maintain even train spacing. In addition, weekday track work was limited to evenings, minimizing the impact to weekday OTP (occurred in mid-day and evening last January).
PBPP Works: Balances Conflicting Goals

- Agency goals can conflict:
  - Deliver Quality Service
  - Invest in Our Assets

Rail On-Time Performance

- On-time performance
- Track work
### PBPP Works:
Balances Conflicting Goals

#### Before 2009
<table>
<thead>
<tr>
<th>Weekday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rush</td>
<td>Holidays only</td>
</tr>
<tr>
<td>Mid-Day</td>
<td></td>
</tr>
<tr>
<td>Early Evening</td>
<td>Track work</td>
</tr>
<tr>
<td>Late Night</td>
<td>Track work</td>
</tr>
<tr>
<td>System closed</td>
<td>Track work</td>
</tr>
</tbody>
</table>

#### Late 2011/Early 2012
<table>
<thead>
<tr>
<th>Weekday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track work</td>
<td>Regular Shutdowns at Multiple Locations</td>
</tr>
</tbody>
</table>

#### 2013
<table>
<thead>
<tr>
<th>Weekday</th>
<th>Weekend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track work</td>
<td>Regular Shutdowns at Multiple Locations</td>
</tr>
</tbody>
</table>

- Limited window for track work
- Aggressively scheduling track work
- Expanded “track free time” to mid-day
- Rush, Mid-Day, Early Evening, Late Night, System closed
- Track work

PBPP Works: Balances Conflicting Goals
PBPP Works: Provides explanations using “sub-measures”

- Why buried in sub-measures
  - Mean Time to Repair
  - Mean Time Between Failure
  - Preventive Maintenance Compliance
PBPP Works: Provides explanations using “sub-measures”

Preventive Maintenance Compliance

44% in 2010

64% in 2011

89% in 2012
PBPP Works: Data Analysis Identifies Actions People Can Take

- Bus collisions #2 cause of customer injuries
- Dive down to a level of detail where individuals can act
- Prioritize and customize actions to improve results
**Actions**

- Jersey wall repositioned
- Trees trimmed
- Training customized
- Results posted on Bus News Network
** Leadership support is key to success
Takeaways: Just Do It
Q AND A
What’s Next
The PBPP Guidebook Series

- The PBPP Guidebook Series includes:
  - Performance Based Planning and Programming (PBPP) Guidebook, and
  - Model Long-Range Transportation Plans: A Guide for Incorporating Performance Based Planning (LRTP)
  - Performance Based Electronic STIP (E-STIP)
Performance-Based Planning and Programming

Performance-based planning and programming website presents the information that FHWA, FTA and our partners have developed to date featuring:

- Case Studies
- PBPP White Paper
- Recurring Newsletter
- Workshop Reports

www.fhwa.dot.gov/planning/pbp/
OUTREACH

• Next Steps: Workshops
  – Regional
  – State Specific
  – Peer Exchanges

www.fhwa.dot.gov/MAP21
FTA Resources to learn more, get involved

MAP-21
- www.fta.dot.gov/map21

National Online Dialogues

Transit Provider Representation on MPO Boards, through March 25
- Open until March 25
- http://transitmpo.ideascale.com/

Transit Asset Management
- Closed now to new ideas, but great FAQ and info to browse
- http://tam.ideascale.com/

State of Good Repair
- http://www.fta.dot.gov/about/13248.html
- Info on workshops, TERM-Lite tool, TAM Pilots
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