



STRATEGIC HIGHWAY RESEARCH PROGRAM

*Accelerating solutions for highway safety, renewal, reliability, and capacity*

North Central Texas

***Regional Multimodal Transportation  
Operations Management Summit***

# NCT Summit Agenda Day 2

|                 |   |
|-----------------|---|
| 8:30 – 8:45am   | DFW Regional Mobility Roadmap                         |
| 8:45 – 9:45am   | Peer Agency Panel – Multimodal TSMO Planning          |
| 9:45 – 10:30am  | Facilitated Group Discussion – TSMO in the DFW Region |
| 10:45 – 11:00pm | Break   |
| 11:00 – 12:30pm | Integrated Regional Operations                        |
| 12:30 – 1:30pm  | Lunch   |
| 1:30 – 3:00pm   | Integrated Regional Operations (Continued)            |
| 3:00 – 3:15pm   | Break   |
| 3:15 – 4:00pm   | Performance Management Based Operations               |

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# DFW REGION REGIONAL MOBILITY ROADMAP

# PLACEHOLDER FOR DFW REGIONAL MOBILITY ROADMAP SLIDES

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# MULTIMODAL TSMO PLANNING PEER AGENCY PANEL

# PEER AGENCY PANEL FACILITATED Q&A

# Peer Agency Q&A

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# MULTIMODAL TSMO PLANNING TSMO IN THE DFW REGION



# Business Processes

- Formal scoping, planning, programming and budgeting
  - Strengths
  - Weaknesses

# Systems and Technology

- Use of systems engineering, systems architecture standards, interoperability, and standardization
  - Strengths
  - Weaknesses

# Performance Measurement

- Measures definition, data acquisition, and data utilization
  - Strengths
  - Weaknesses

# Culture

- Technical understanding, leadership, outreach, and program legal authority
  - Strengths
  - Weaknesses

# Organization and Workforce

- Programmatic status, organizational structure, staff development, and recruitment and retention.
  - Strengths
  - Weaknesses

# Collaboration

- Relationships among public safety agencies, local governments, MPO, and the private sector.
  - Strengths
  - Weaknesses

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# INTEGRATED REGIONAL OPERATIONS

**INTEGRATED REGIONAL  
OPERATIONS  
INTEGRATED REGIONAL  
OPERATIONS IN THE DFW REGION**



# PLACEHOLDER FOR INTEGRATED REGIONAL OPERATIONS SLIDES

# INTEGRATED REGIONAL OPERATIONS REGIONAL GAPS AND OPPORTUNITIES

# Integrated Regional Operations

- Strengths
- Weaknesses
- Gaps
- Opportunities
- Ideal Integrated Regional Operations Program in DFW Region
- Next Steps/Action Items

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# PERFORMANCE MANAGEMENT BASED OPERATIONS

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## OVERVIEW OF PERFORMANCE MANAGEMENT BASED OPERATIONS

# Four Guiding Questions

1. What are conditions like out there?
2. Where do we, our stakeholders, and our customers want to be?
3. Are things better or worse (trends)?
4. Did my program have anything to do with it (investments)?

***We cannot answer these fundamental questions without performance measurement.***

# Why Performance Measures?

**“What gets measured gets managed!”**

# Why Do Performance Measurement?

- We were forced to by...
  - Legislative mandate or agency initiative
  - Funding increase proposal
- Accountability and transparency
  - Decision makers, the public, our bosses
  - What did we produce with their money?
- Proactive public relations for the agency
  - Maintain visibility of transportation
  - Data + Analysis + Communication = Credibility



# Why Do Performance Measurement? (Internal Story)

- How will we get better? How do we compare?
- Who gets paid to reduce congestion and crashes?
  - Anyone?
- Allows operations to compete in idea marketplace
- Similar to other data intensive programs
- Tell a good story for budget justification
  - % of pavements in good or better
  - # of structurally deficient bridges
  - # of *operating dynamic message signs*

# Performance Measurement Today

## (What is going on out there?)

- Lots of data to support performance measurement
  - Quality, completeness, and coverage
  - Many data sources for the same measurement (e.g., travel time)
  - Collection/acquisition/preparation cost
- Measures
  - Are we measuring the right things?
  - Targets and benchmarks
- Interpretation
  - Understanding “outside of our control” factors
  - Allocation of funding based on performance

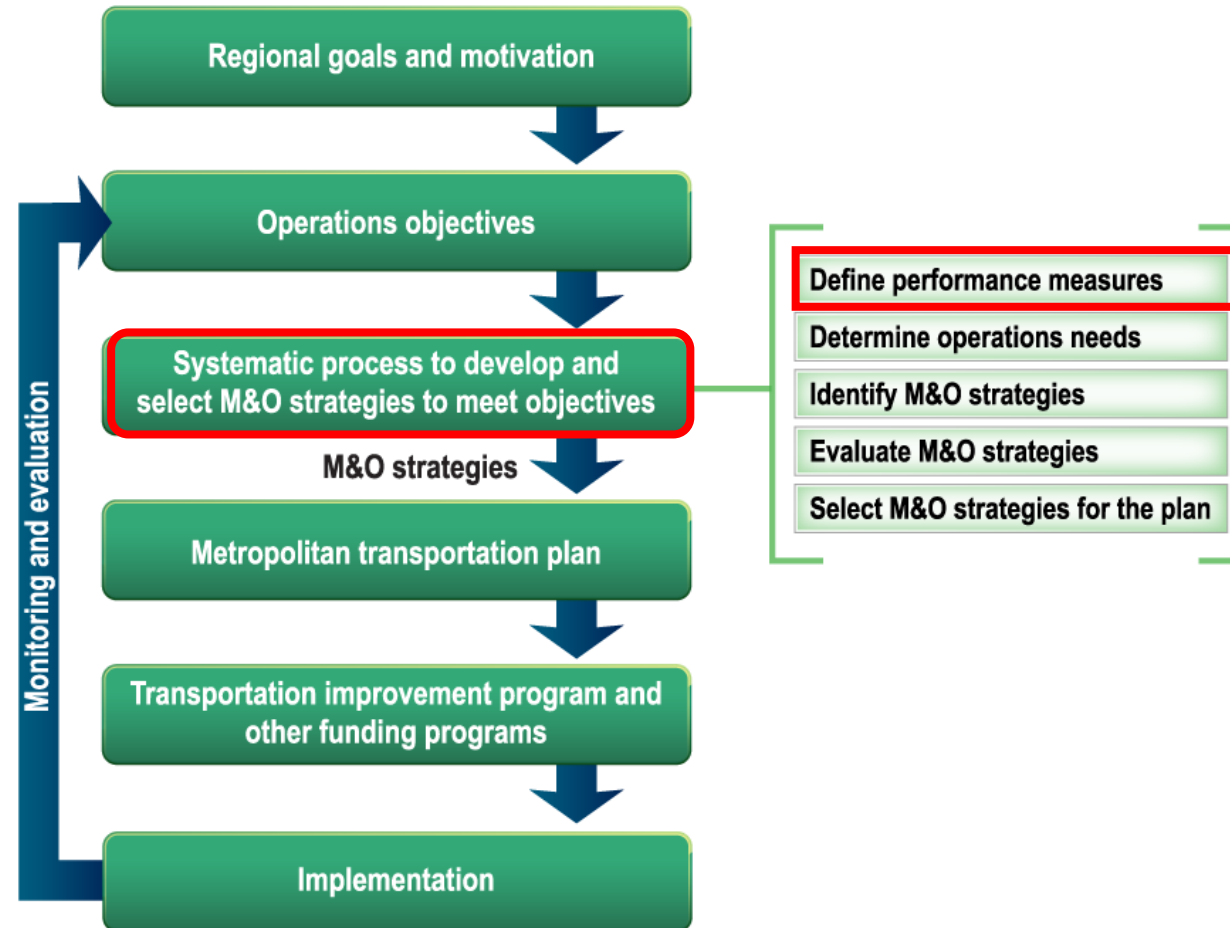
# Strategic Planning: Foundation for Performance Based Management

- What do we want to achieve with operations?  
What are our goals?
  - State and regional goals
  - DOT goals in strategic plan
  - LRTP
- Performance measures are a vital part of the strategic planning process
  - Where we are vs. where we want to be
  - Used to track progress toward meeting goals and objectives

## Performance Measures: Key Considerations

- Clear link to agency goals
- Relevant to policy-makers and the public
- Intuitive **or** easy to understand
- Outcome influenced by agency program and policy decisions
- Communicate the core mission of the organization
- Reliable data must be available
- Manageable number of measures
- Must be capable of showing a trend

# Performance Measures and the Planning Process

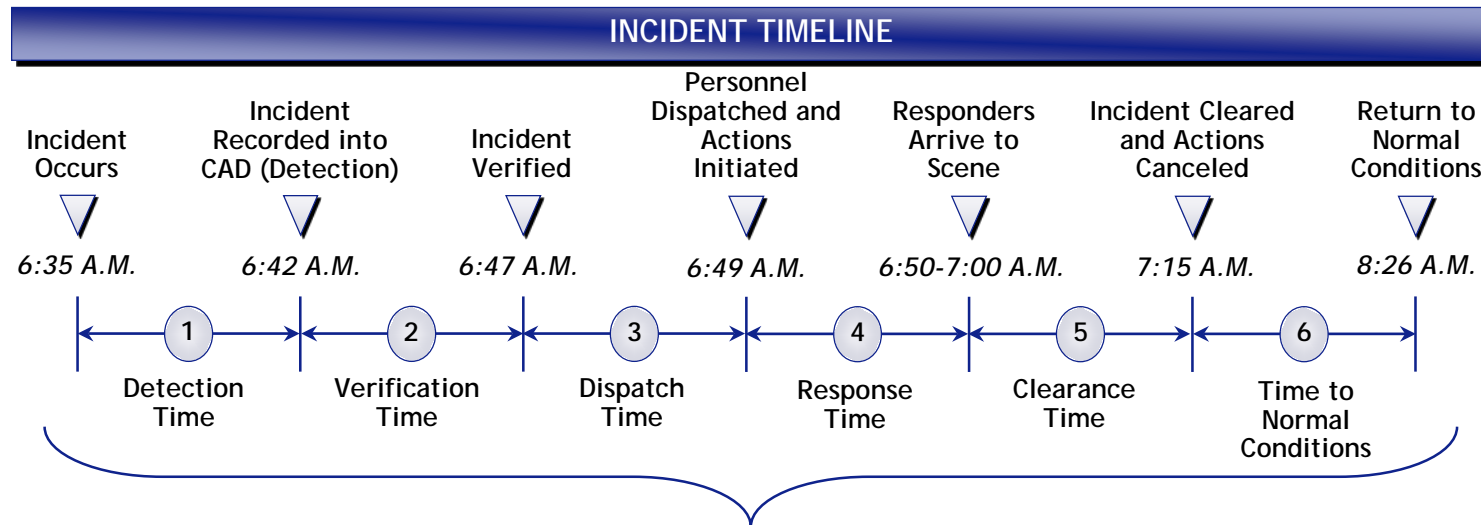
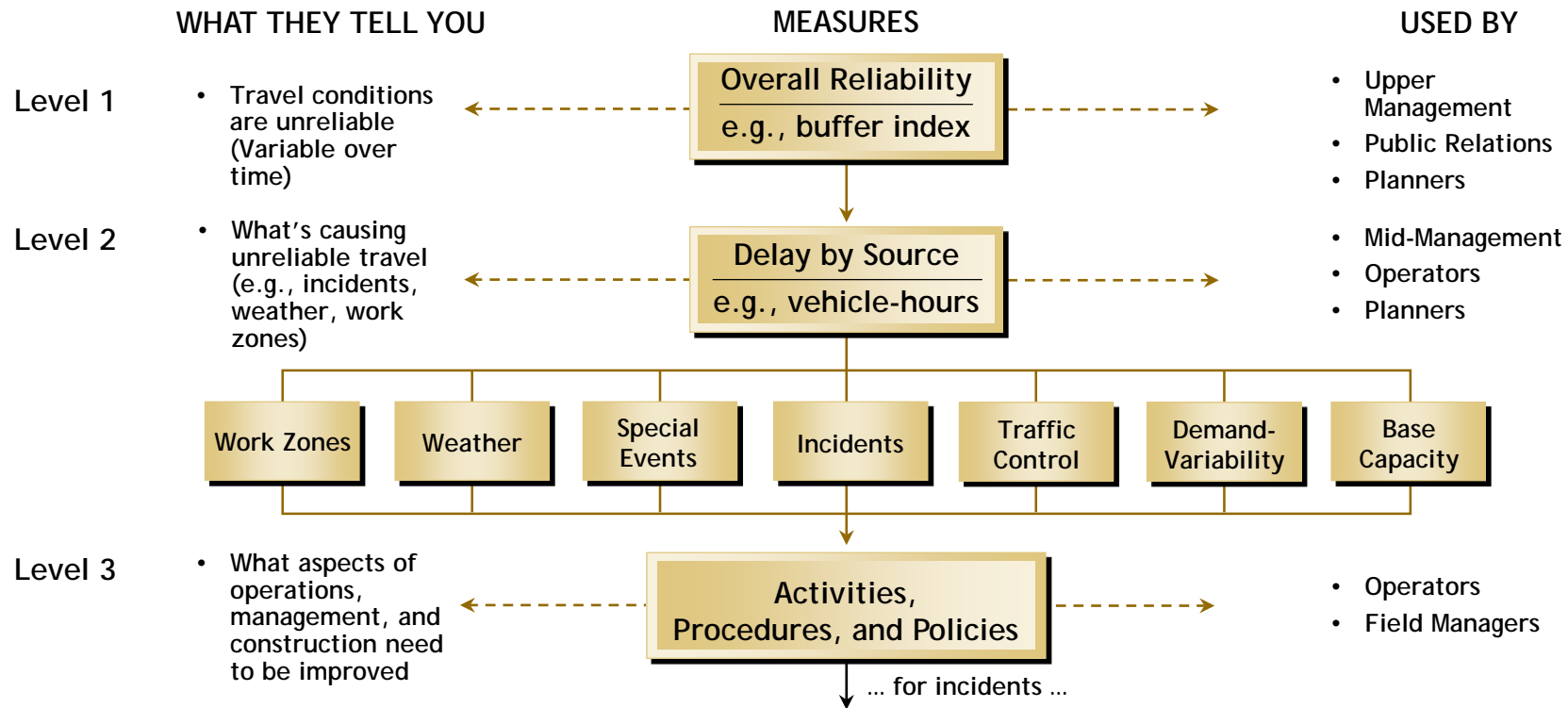


# Examples of Transportation System Performance Measures

|                           |  |
|---------------------------|--|
| Travel time               | Average travel times; Average travel speeds  |
| Congestion extent         | Lane miles of congested conditions<br>Average hours of congestion per day                  |
| Delay                     | Vehicle-hours of recurring delay<br>Non-recurring delay                                    |
| Incident occurrence/delay | Median minutes from time of incident to clearance  |
| Travel time reliability   | Buffer time; Buffer time index   |
| Transit performance       | On-time performance<br>Transit travel times in comparison to personal vehicle travel times |
| Customer satisfaction     | Percent reporting being satisfied  |
| Person throughput         | Peak hour persons moved per lane   |

## Performance Measures: Key Considerations

- ***When?*** Peak, Off-peak, Weekend
- ***Where?*** Corridors, sub-regions, metro areas, state
- ***What?*** Need both vehicle and person-based performance measures
- ***Why?*** ... did it happen? Requires long period of inter-agency & intra-agency cooperation
- ***How?*** Examine 3 dimensions of congestion:
  - How bad? Where bad? When bad?
- ***Another How?*** Linking - Have a few measures that connect across applications and time frames





# Setting Performance Targets: Options

- Look at peer performance
- Avoid “level” targets at first – use “change” instead
  - “Are things better or worse?”
  - Easiest, least controversial way to get started
- Set “hard” targets or “% change” targets that are considered to be achievable in the short term
  - Examine & extend recent trends in the performance measure
- Normalize targets to allow desirable outcomes
  - Congestion change tied to jobs or population

# Reporting, Accountability, Decision Making

- You have goals, you have data, you have measures – what is next?
- Hint – You're already behind; have a story first!
- Develop measures and meanings
- Report the results!!
  - To the public & decision makers
  - To system operators and planners
- Use them!! -- Funding decisions, operational strategies, new designs, before/after, new data

# Real-Time Applications

- Tailored to local issues, tastes, public understanding and terms – **Whatever works!**
  - Developing “generic” guidelines -- difficult
  - Lots of examples are available
- Use the historical real-time information
  - Relatively new, but detailed data sets
- Peak period usually; off-peak important for just-in-time manufacturing
- Color coding very useful

# Reporting

- The big difference between audiences is not what you **SAY**, but **HOW** you say it and **WHAT** measures you highlight
- Use examples and summaries to illustrate the key points
- Use chart title to tell story
- Use captions to note key points
- **What is the “ask”?** (“what they do after they hear you”)

# Lessons for Plan Development: Getting Started

- Get the key people involved from the start and keep them “in the loop”
  - Includes senior-level people involved in transportation planning and programming
- Allocate plenty of time for developing consensus goals
  - Write a memo – spend 2 years implementing
  - ...or, spend 6 months gaining consensus, implement along the way

# Performance Measure System Design

- How do the performance measures get reported?  
How often?
- How are performance measures used by:
  - Those who have required them?
  - Staff level?
- What have been the costs of:
  - Data collection?
  - Analysis and reporting?
- Where are the overlaps? How can they be better coordinated? More efficient?

# Key Considerations

- What are the most important stories?
  - What do the audiences need to know?
- How do the measures connect with the likely decisions and investment options?
- What are the most important measures?  
(Recognizing there will be many measures)
- Where does the data come from?
- What is the “ask”? (“what they do after they hear you”)

# Operations

## Performance Measurement Plan

- Fewer measures are better
  - “Measure like you mean it”
- Choose measures that are understandable to intended audience
  - Internal staff and bosses
  - General public & decision makers
- Get started now, use current data and I.T.
- Focus on known and big problems; estimate the rest



# Summary

- Start slow, but start now! Perfect data and analysis rarely occurs.
- There is no perfect set of measures.
  - Data, analysis, audiences evolve
- Use existing data assets; ensure quality control.
- Data + Analysis + Communication = Credibility  
(Need all 3)
- Data-facilitated decisions improve all factors in the process.
- If you don't tell your story with your data and measures – someone else will.

# Operations Performance Measures: Resources

- FHWA Operations Performance Measures Website
  - [http://www.ops.fhwa.dot.gov/perf\\_measurement/example\\_programs.htm](http://www.ops.fhwa.dot.gov/perf_measurement/example_programs.htm)
- Other Sources
  - AASHTO Standing Committee on Performance Measures
  - TRB Performance Measurement Committee
  - I-95 Corridor Coalition Probe Vehicle Data Project/Performance Measures Project

**PERFORMANCE MANAGEMENT  
BASED OPERATIONS CONT.  
PERFORMANCE MANAGEMENT  
BASED OPERATIONS IN THE DFW  
REGION**

**PLACEHOLDER FOR OVERVIEW  
OF PERFORMANCE  
MANAGEMENT BASED  
OPERATIONS IN DFW REGION**