Arizona Operations Academy
May 11 - 12, 2010

Meeting Overview

On May 13, 2010, FHWA, ADOT, MCDOT, MAG partnered to host the "first of its kind" Arizona Operations Academy. In 2009, FHWA identified Arizona as one of ten "Opportunity States"[1]. In order to meet this challenge, the AZTech Operations Committee, with support from FHWA, developed an Operations Action Plan. One of the priorities identified by the cross-functional, multi-jurisdictional group was to garner needed support from vital stakeholders.

The workshop was dedicated to having senior management and operations, construction, planning and maintenance leaders in the Phoenix Metro area gain understanding and awareness of the potential for the system, the current gaps, and to have them feel like champions of an Operations Culture when they left the meeting.

The meeting was attended by over 70 representatives from diverse public agencies.

Day 1 – May 11, 2010

Introductions - Purpose, Goals

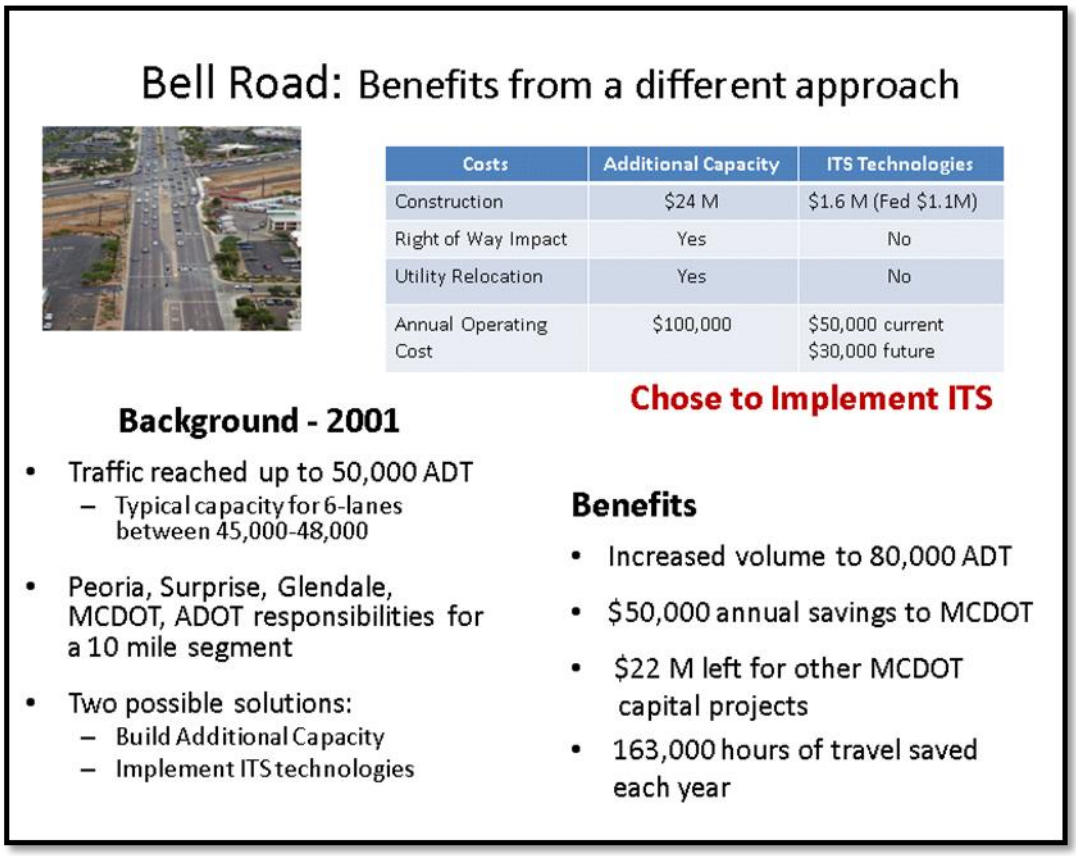
Welcome and Overview

The meeting was opened by remarks from the following leaders…

- **Eric Anderson,** *Transportation Director, Maricopa Association of Governments*
- **John Hauskins,** *Director, MCDOT and Co-Chair of the AZTech™ Executive Committee*
- **John McGee,** *Executive Director for Planning and Policy, Arizona Department of Transportation (ADOT)*
- **Robert Hollis,** *Arizona Division Administrator, Federal Highway Administration*

One example that was shared as a best practice was the multi-jurisdictional project on Bell Road that implemented ITS technologies in lieu of a capital improvement project.

[1]Opportunity State
In an ongoing effort to improve the efficiency of the transportation system in the US, the FHWA Office of Operations selected 10 opportunity states as a priority for operations investment. The goal of this program is to help states who are close to becoming overall transportation leaders in the country. FHWA's philosophy is not negative, but rather it is an effort to make these 10 states into national examples of transportation operations and management.



The participants introduced themselves at their tables and discussed their current challenges. When the group came back together, the tables offered their thoughts on challenges for the group to consider.

Keynote Address – Transportation Operations

Robert "Bob" Arnold, Office of Transportation Management, Federal Highway Administration

The FHWA Director of the Office of Transportation Management presented some insight into the new authorization bill.

Context of the Discussions

- Past Futures vs. Reality - A common failure about predictions is their incapacity at anticipating the **paradigm shifts** brought by new technologies as well as economic and social conditions. Example: The George Jetson vision of a car in a briefcase vs. telecommuting in which a briefcase essentially removes the need for transportation
- Livability - improving mobility and accessibility, and better connecting transportation policies with energy and environmental goals, especially in large metropolitan areas.
- Congestion Pricing

Reauthorization or Authorization

- Believes the bill will be transitional in nature (rather than revolutionary)
- Will most likely contain…
    - Performance management / measures
    - Livability and Sustainability
    - Public Private Partnerships
    - Congestion pricing
    - Tolling interoperability
    - Multi-State corridor perspective
    - Experiments, Pilots, and Trials
    - Funding mechanisms
    - Stewardship & Oversight

Vision for Transportation Mobility and Safety

Phillip J. Tarnoff, Consultant

The former president and founder of Farradyne Systems, Inc. and Director of the Center for Integrated Transportation System Management at the University of Maryland presented the group with the issues and potential ITS remedies for transportation.

What is mobility?

- From 1980-1998, Vehicle travel is up **72%,** while Road Miles increased only **1%.**
- Poor mobility can occur as a result of bottlenecks, traffic incidents, and other non-recurring issues.

ITS components, such as lane and speed control, electronic payments, signal timing for transit and autos, and other freeway management devices have various impacts on mobility.

A supply-demand analysis provides a holistic view of operations.

- Demand for transportation systems has drastically increased, while the supply of the system hasn't met this demand.
- In order to account for this schism, combinations of operational strategies need to be considered.
- This is a very valuable type of analysis, because it can account for various parameters.

Travel time and travel time reliability both lead to ***economic vitality, livability,*** and ***accessibility.***

Risk Management and Systems Engineering are important tools in the development of operational projects. Their use in combination with performance measures allow agencies to:

- Manage expectations and risk
- Ensure projects are completed on-time, within budget, and are functionally complete

However, in order to succeed, there needs to be careful planning and extensive control throughout the implementation.

Alternatives analysis can evaluate transportation operations using benefits & costs.

- The challenge – find the best solution to a problem when multiple options exist.
- Compare operational alternatives in a resource-constrained environment.
- Benefit/Cost (B/C) Ratios are typically higher for operations than new construction
    - An arterial widening project has a typical B/C ratio of **4:1** while the application of operational strategies to the same arterial has a higher return on investment with a B/C ratio of **22:1**.

Customer Service is an important, but often neglected, part of the transportation system.

- Operations is the interface between infrastructure and the customer.
- 3C's of Customer Service **- C**ommunications, **C**ollaboration, **C**ommitment

Where are we going?

- DOT construction/engineering cultures do not necessarily encourage customer service.
- The world of operations ***demands good customer service.***
- Think like a traveler and not like an engineer.

What is the **future of operations?**

- Operational strategies will be more prevalent, because they offer benefits over conventional construction practices in the following:
    - Higher returns on lower cost investments,
    - Faster implementation, and
    - Improved interactions with the customer
- Congestion Pricing will be considered as an option.
- Telecommuting will be recognized as a transportation function.
- The use of sophisticated vehicle electronics will increase.
- Performance measurement will become common place.

Luncheon Featured Speaker Presenting Capability Maturity (CMM) Results

Stephen C. Lockwood, Sr. Vice President, Parsons Brinkerhoff

The Senior Vice President of Parsons Brinkerhoff conducted a CMM Assessment on Monday, May 10th with over 25 people from the transportation community in the Valley. He compiled the results and presented them to the group. The CMM provides a benchmark for the Phoenix Metropolitan area regarding the infrastructure and relationships available to operate as a system.

The objective of this model was to institutionalize continuous improvement for Operations. It is a self evaluation to determine where AZTech is in this process by assessing the following parameters:

- Planning/Programming/Resources – Level 3 Integrated
- Systems and Technology – Level 2 Managed
- Performance Measurement – Level 1 Performed
- Culture/Outreach – Between Level 1 and 2
- Organization/ Staffing – Between Level 1 and 2
- Resource Allocation to SO&M – Between Level 1 and 2
- Collaboration – Between Level 2 and 3

One of the key points was that a region is only as strong as the weakest link. Therefore, the lowest levels need (Performance Measures, Culture, and Staffing/Organization) to be addressed first.

Performance Measures as an Operational Tool

Rich Margiotta, Principal, Cambridge Systematics

The FHWA is interested in engaging regions and states to develop performance measures to track output, outcomes and customer satisfaction. The Principal of Cambridge Systematics provided a workshop for the region in mid-April and followed with this audience. His presentation covered how to develop and implement performance measures using examples from other regions.

Reasons for Undertaking Overview of Performance Measurement range from "They made me do it"…to…"Evens the playing field for operations in promoting a data-driven program (pavement management as an example)". But most importantly, performance measurement promotes sound business practice by keeping agencies accountable.

We measure performance because it helps us get better at what we do!!!

A plan is the **key** to selecting Operations Performances Measures.

- Measure types
  - Limit the number of measures, and provide details on how they will be measured and used.
  - Use measures that help set "hard," "percent change," and "stretch" targets.
- Measures are understandable to intended audience
- Reflect customers' views when appropriate
- Get started now, using current data and IT capabilities using the CMP as a reference.

Operations Performance Measures can be classified by type.

- Input - Amount of resources devoted to a process or activity
  - i.e., staff-hours, number of service patrol vehicles
- Output (a.k.a., activity-based) - Physical quantities of items; levels of effort expended, scale or scope of activities
  - i.e., number of service patrol vehicle **assists**
- Outcome (a.k.a, quality of service) - Relate to how well the agency is meeting its mission and stated goals (The Bottom Line) or How the transportation system is performing from the user's (customer) perspective
  - i.e., vehicle delay
- Efficiency - What you get for what you spend
  - i.e., Minutes of incident duration reduced per dollar spent

The National Transportation Operations Coalition (NTOC) provides examples.

- Customer Satisfaction, Extent of Congestion (Spatial & Temporal), Incident Duration, Recurring Delay, Speed, Throughput (Person & Vehicle), Travel Time (Facility & Trip), and Travel Time Reliability

The Basics of Data and Methods for Developing Operations Performance Measures…

- Gather/compile existing data
- Understand the data sources
- Develop/automate data manipulation procedures
- Collect supplemental data

Presentation of Operations Performance Measures can ensure success. The key isn't always WHAT you say but HOW you say it.

- Know your audience - affecting decisions is the goal of performance measurement
- Text and graphics equally important
- Use larger analytical efforts to understand system performance
- Use examples and summaries to illustrate the key points

Day 2 – May 12, 2010

Advancing Planning for Operations

Richard Backlund, Program Manager, Planning for Operations Initiative, Office of Operations, Federal Highway Administration

Mr. Backland provided the audience with a practical explanation of integrating planning and operations.

An objectives-driven, performance-based approach to planning for operations should be the goal. This is achieved through:

- Enhanced collaboration & coordination between planners & operators
- Effective integration of Congestion Management Process (CMP) and Management & Operation (M&O) strategies in the Metropolitan Transportation Plan

The Result: Increased Performance of Our Existing Transportation System

Traditional capacity projects will not sustain the system alone. A more forward look is needed because:

- Limited funding is available for large-scale capacity projects.
- These larger projects take a long-time to plan, assess, and build new infrastructure.
- Potentially have adverse impacts on communities, land use, air quality, etc.
- Need to provide a sustainable system

Awareness of what the transportation customers want

- Safe, seamless, and reliable travel across modes and jurisdictions
- Information about current travel conditions
- Timely information to make mode & route choices
- Efficient and reliable goods movement
- ***Consistency across modes & jurisdictional boundaries***

Understanding **M**anagement and **O**perations (M&O)

- M&O is: "A **regionally integrated program** to **optimize the performance of existing infrastructure**
    - Through multimodal and intermodal, cross-jurisdictional systems, services, & projects
    - Includes regional operations collaboration and coordination activities between transportation and public safety agencies."

How can M&O help the current infrastructure?

- **Quick implementation**
    - Minimizes ROW takings
    - Requires less environmental review time typically
    - Decreases the time it takes for projects to be started
- Provide short & long term **system benefits**
    - Reduces congestion & enhance safety
- **Environmental benefits**
    - Reduces air pollutant emissions
    - Promotes transit & ride sharing usage
- **Commercial benefits**
    - Enhance freight & goods-movement reliability

The Congestion Management Process (CMP) is an approach applied in a metropolitan region to:

- Monitor & evaluate transportation system performance
- Identify causes of congestion
- Identify & evaluating alternative strategies
- Evaluate the effectiveness of implemented strategies

An Objectives-Driven, Performance-Based Approach

John Mason, Division and Operations Manager, SAIC (Former Mayor of Fairfax, Virginia)

The former six-term mayor offered his insight as a fellow elected official, reiterating to the group that **M**anagement and **O**perations (**M&O**) is a wise investment.

Transportation Mobility and Safety

- Consider all facilities and conditions
    - Arterials and freeways
    - Recurring and non-recurring congestion
- Benefits of operations exceed those of new construction; just not as visible
- Performance measurement is essential
    - What doesn't get measured, doesn't get done
    - How can mobility and safety be improved if we don't understand the needs?
- Customer service is an important part of operations

Performance Measurement

- Why measure performance?
    - Provides accountability and takes a proactive role public relations for agency
    - Levels the playing field for operations
    - Sound business practice (how can the agency improve?)
- Questions for considering improvement
    - What are the conditions like out there?
    - How does this compare to my peers?
    - Are things better or worse (trends)?
    - Did my program have anything to do with it (investments)?

Rationale for including Operations in the Planning Process

- Taking a more objective (rather than subjective) approach to addressing operations
- Focusing on transportation investment prioritization
- Improving resources allocation
- Increasing accountability and measurement of performance
- Engaging in the operations community in a more substantive way

Takeaway's so far…

- Importance of performance measures as a sales tool
- Maintenance/management and Operations being the future
- Importance of collaboration for common good
- Budgeting for the lifecycle
- Importance of **S.M.A.R.T.** objectives:
    - **S**pecific, **M**easureable, **A**greed, **R**ealistic, and **T**ime-bound

Reality exacerbates the challenges

- ***Funding shortfall worsening!***
- Reauthorization delayed, and Federal priorities are already shifting (although not likely to change M&O and performance measurement priorities)
- Environmental and energy pressures are increasing.
- Urbanization and congestion is increasing.

Sometimes agencies work together

- Emergency response, natural disasters, special events, mega projects, air quality, and ITS projects are all examples multi-jurisdictional cooperation.
- ***This should be the basis for collaboration.***

How to influence Decision Makers

- Communications a real challenge – technical versus "plain speak"
- Understand the context within which decision makers operate
- ***K.I.S.S.!***

Outreach Principles to Consider

- Technical staff needs to understand/appreciate the environment in which elected and senior appointed officials operate.
    - Appreciate that decision makers are heavily influenced by peers.
    - Also, staff needs to express issues and recommendations in a manner that will be relevant and understood by decision maker.
    - Design a path that includes officials' staff; they influence both substance and process.
- Identify and pursue key leaders and champions relevant to the issue.
- Consider how funds can be leveraged for operational strategies.
- Don't wait until an issue is critical to establish a relationship.
- Be realistic and forthright with proposed projects.
- Technical staff must appreciate the need for short-term products or deliverables.

But most importantly, listen to them!

Final Suggestions

- Create advocacy within the planning process (e.g., an M&O Committee within MPO)
- Create annual report (short and meaningful; not a puff piece)
- Understand that planning world is different (!); figure out how to collaborate
- Don't make issues (e.g., performance measures) more difficult and expensive than need be ("perfect is the enemy of the good")
- Stick to it; it will take time!

Next Steps

Phil Tarnoff, and Claudia Murphy, Consultants

The group finished the meeting by brainstorming next steps and what input they wanted to give the elected and appointed officials the following day.