Using SHRP2 Innovations to Improve Operations

Michael Flynn
Assistant Director for Field Operations
Ohio Department of Transportation

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Presentation Overview

- SHRP2 Update
- Why "Operations"?
- ODOT's Journey to a
  Model Operations Program

It feels good to be lost in the *right* direction.

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SHRP2 Implementation

- **SHRP2 Solutions** – 63 products bundled into 40 implementation efforts

- **Solution Development** – processes, software, testing procedures, and specifications

- **Field Testing** – refined in the field

- **Implementation** – 275+ transportation projects; adopt as standard practice

- **SHRP2 Education Connection** – connecting next-generation professionals with next-generation innovations

51
States + DC

275+

projects

Some Successes to Date

- 9 out of 13 new **bridges built** using *Innovative Bridge Designs for Rapid Renewal* (R04)
- New **websites** for major capacity and reliability products:
  - *PlanWorks* (C01) at https://fhwaapps.fhwa.dot.gov/planworks
  - *EconWorks/TravelWorks* (C03/11, C16) at www.planningtools.transportation.org
  - National Operations Center of Excellence (L17) at www.transportationops.org
- **120,000+ incident responders trained** through *National Traffic Incident Management Responder Program* (L12)

What Is "Operations"?

Demands to get more out of our transportation system:

- Customer expectations
- Technology Advances
- Performance measures
- Increasing financial constraints
- Maximizing Use of Infrastructure

Solution?

Improving Traffic Systems Management and Operations

Traditional Approach to Managing Transportation

- Predict future (long-range) traffic volumes
- Fund major capital projects to provide additional capacity

This only addresses 40% of the congestion problem.

- Also becoming more and more difficult to provide new capacity
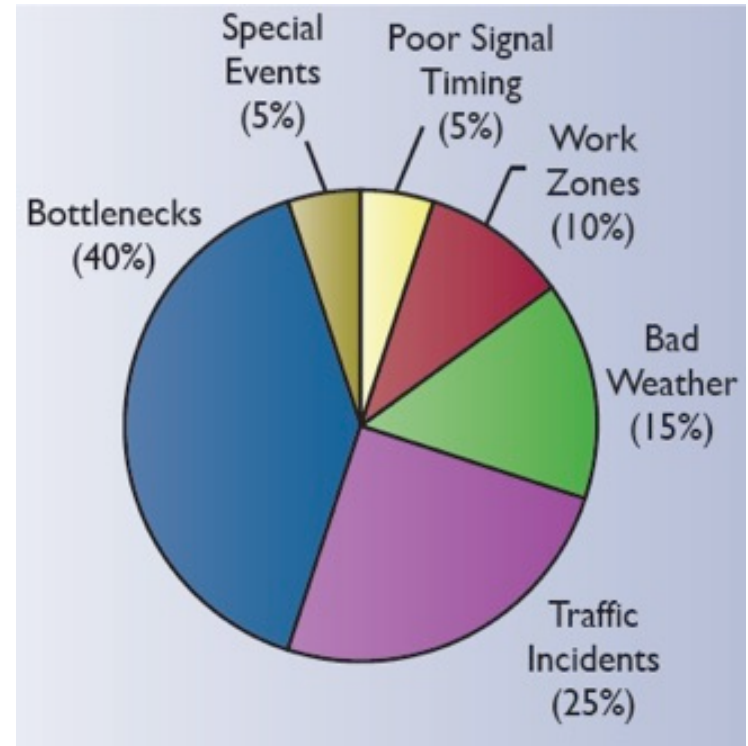
Causes of Congestion
(Source: FHWA, 2005)

Operations Can Help Address These Challenges

Leverage Technology

- Preserve and maximize existing capacity
- Enhance safety
- Promote mobility and customer outreach
- Improve reliability for commuters and freight
- Manage bottlenecks
- Monitor performance
- Implement quickly at relatively low cost

Using the SHRP2 Solution

Organizing for Reliability Tools

- **Case studies** and **guidance** on best practices
- **Self-assessment,** either online for in-person
- **Customizable presentation** for mid- to senior-level management on key elements and how to get there

It Begins with Self-Assessment

Self-Evaluation Date: 8/22/2013

- **Business processes**
- **Systems and Technology**
- **Performance Management**
- **Culture**
- **Organization and workforce**
- **Collaboration**

ODOT's Goal

Goal:　　　　To Create a Model Operations
　　　　　　　Program

Objective:　Create and Implement an Action Plan
　　　　　　　to Take Us There

Strategies:

- Developing an Implementation Plan

- Making the Case for ODOT Operations

- Improving Systems and Technology

- Identify Organization and Staffing Needs

It Isn't So Simple

Success — what people think it looks like
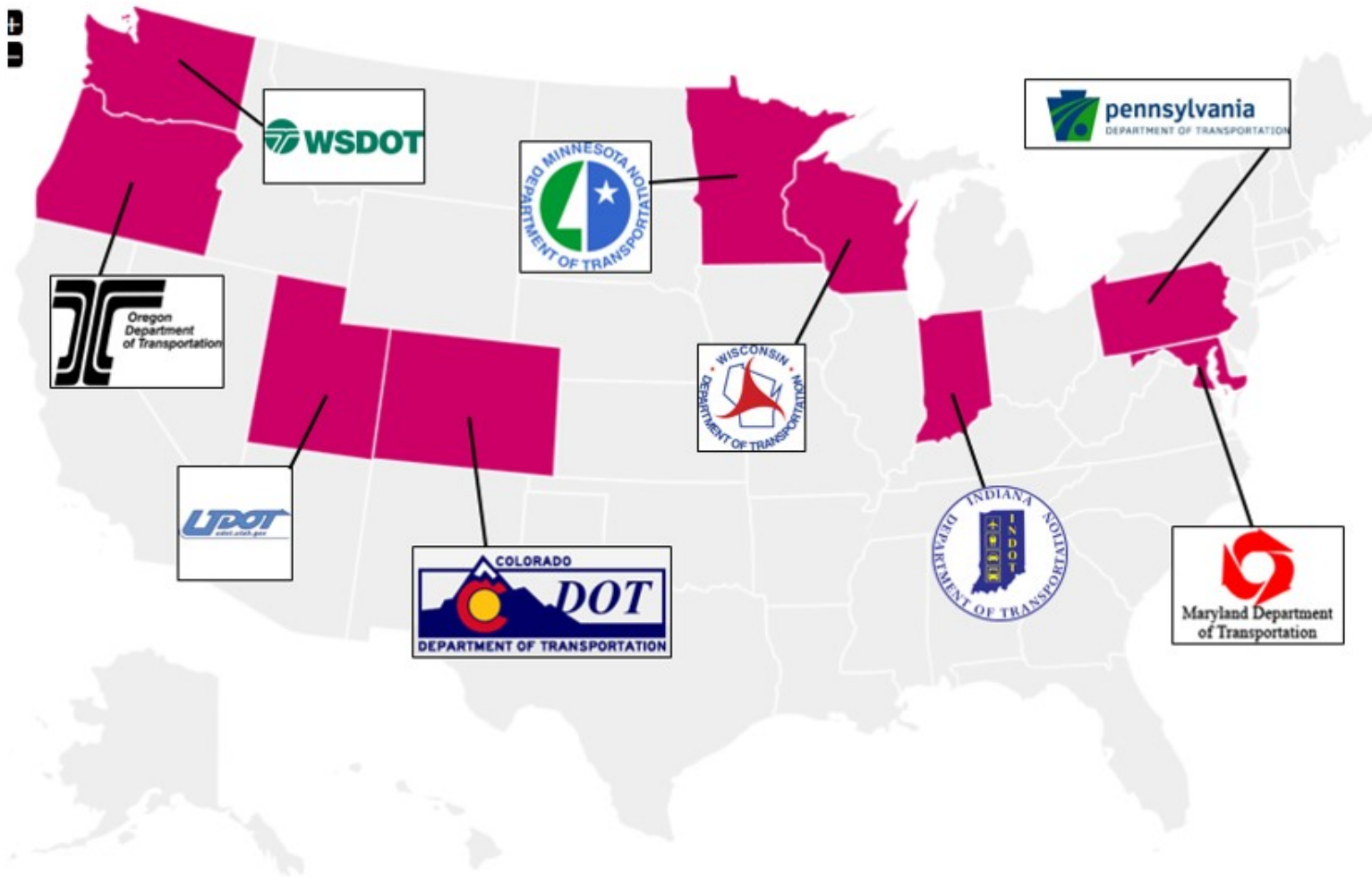
Success — what it really looks like
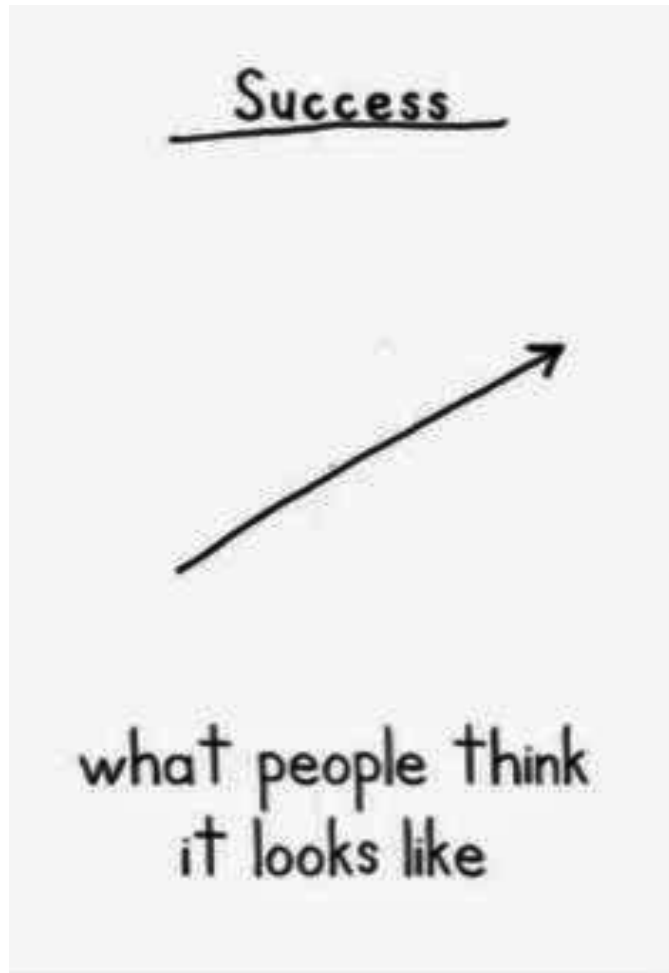
Benchmarking High-Performance Operations Programs

Visits to **eight high-performing states**:

- *Indiana (Trial Run)*
- Washington
- Oregon
- Maryland
- Pennsylvania
- Utah
- Colorado
- Wisconsin
- Minnesota

Attention!

What We Found Out

- **Constant CEO** focus is needed

  (ODOT – 4 different CEOs over the last 16 years)

- **DOT and MPO alignment** important for TSMO
- "Operations" is part of most states **Planning Culture**
- **Branding** is important – Old: ARTIMIS to New: OHGO

What We Found Out

- Catalysts are "**Big Events**" (Ohio – RNC 2016)
- Traffic Operation Centers absorb revenues

Old – 1 region   New – 6 regions @ 1 - TMC

- **Dedicated funding** key to success
- Knowledge can be lost **with overbalance of consultants**
- Purdue Method favored over adaptive measures

Short-Term ODOT Needs

- Include Traffic Systems Management and Operations (TSMO) into the **culture of ODOT's planning process**
- Devote specific $ funding resources to TSMO/ITS/TOC
- Define **ownership** and resources for Information Technology Support
- Develop a **consistent reliable $ funding source** for traffic signals similar to roads and bridges
- Focus on **traffic signal personnel qualifications** and **training**
- Assign a person to participate in the national dialogue regarding **connected vehicles**
- Embrace **technology solutions**

Long-Term Needs

- Perform a **staffing and organizational analysis** to ensure performance excellence
- Establish **partnership agreements** with outside agencies to address multi-jurisdictional traffic signal corridor operations
- **Invest resources** to optimize and balance congestion on the interstates and arterials
- **Dedicate funding** for ODOT and Locals **for traffic signal improvements**
- Obtain defined **ownership and resources for Active Traffic Demand Management (ATDM)**
- Establish impactful performance measures

Be Strategic with Funding

- Freeway Operations and Management Systems
- Arterial/Signalized Operations
- Planning for Operations
- Incident/Emergency Management
- Operations dedicated IT support
- Asset Management
- Performance Metrics

Main Goals Going Forward

- Develop a **long-range TSMO plan**
- Focus on **making the business case** for TSMO
- Share **successes**

WashDOT's Gray Report, **MoDOT's** Safe and Sound, **Various** states P3s and Design Builds, **FDOT's** Out sourcing and tolling, **GDOT's** Towing and Recovery Incentive Program, **Utah's** Signal Program, **Michigan** MPO Asset Management Communication Approach, **INDOT's** Major Moves, **MDOT's** E-Construction, **PennDOT's** AVL/GPS, **Arizona** DPS Secondary Accident Reporting, **Florida/Massachusetts/Wisconsin and Virginia** DOT's Civil Rights Benchmarking **Tennessee/Iowa/Utah/ Massachusetts** Message Boards etc.

Main Goals Going Forward

- ## Use Adversity To Innovate!

August/September 2014 **Traffic Technology International** 053
www.TrafficTechnologyToday.com

When big data expert Jorgen Pedersen heard that the Ohio Department of Transportation (ODOT) had built a state traffic management center for US$75,000, he assumed it was "rubbish". But when he observed it close up, he was flabbergasted by its efficiency.

"Then I went there and I was blown away," he says." It's one of the best operating solutions I've seen. Ohio has a limited budget and can't afford to pay systems integrators. It has forced them to innovate. Fortunately, they have the right caliber of staff and are making good use of big data."

Next Steps

- Develop a one-page document for ODOT **executive management to obtain buy in** – 8/15
- Bring Iowa/Tennessee/Missouri to Ohio for discussion involving **MPO coordination** - 9/15
- Update Operations Strategic Plan - Fall of 2015
- Incorporate elements as complementary assets for Fiscal Year 2017 (Starting July 1st, 2016)
- Don't be a   or a

Looking Ahead

Questions?

- **Mike Flynn,** Assistant Director for Field Operations, Ohio Department of Transportation Mike.Flynn@dot.ohio.gov, 614- 466-8991

- **Gummada Murthy**, Associate Program Director, Operations, AASHTO, gmurthy@aashto.org, 202-624-8913

- **Stephen Clinger**, Operations Deployment Team Leader, Office of Operations, FHWA, Stephen.Clinger@dot.gov, 202-366-2168

- **GoSHRP2 website**

  www.fhwa.dot.gov/goSHRP2
  - Product details
  - Information about SHRP2 implementation phases

- **SHRP2 @AASHTO http://SHRP2.transportation.org**
  - Implementation Information for AASHTO members