

AASHTO Subcommittee on Safety Management
Seattle, Washington
September 1, 2016

**AASHTO Subcommittee on Transportation
Systems Management & Operations
(STSMO)**



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Discussion Topics

1. **Overview of the Subcommittee on Transportation System Management and Operations (STSMO)**
2. **Briefing on the development of Operations Guide, NHRP 20-07 (392)**
3. **Connected and Automated Vehicle Updates**
4. **Traffic Incident Management Technical Advisory Group**

2015-2018 STSMO Strategic Plan

Vision:

Transform the national transportation community to a TSM&O culture that focuses on effectively managing and operating the surface transportation system.

Mission:

Reduce crashes, injuries, fatalities and improve network efficiency and system mobility by engaging state DOT's, other AASHTO committees and partner organizations in support of increasing agency capability and utilization of TSM&O strategies.

Four Principles:

1. Boldness
2. Practicality
3. Visibility
4. Connectedness



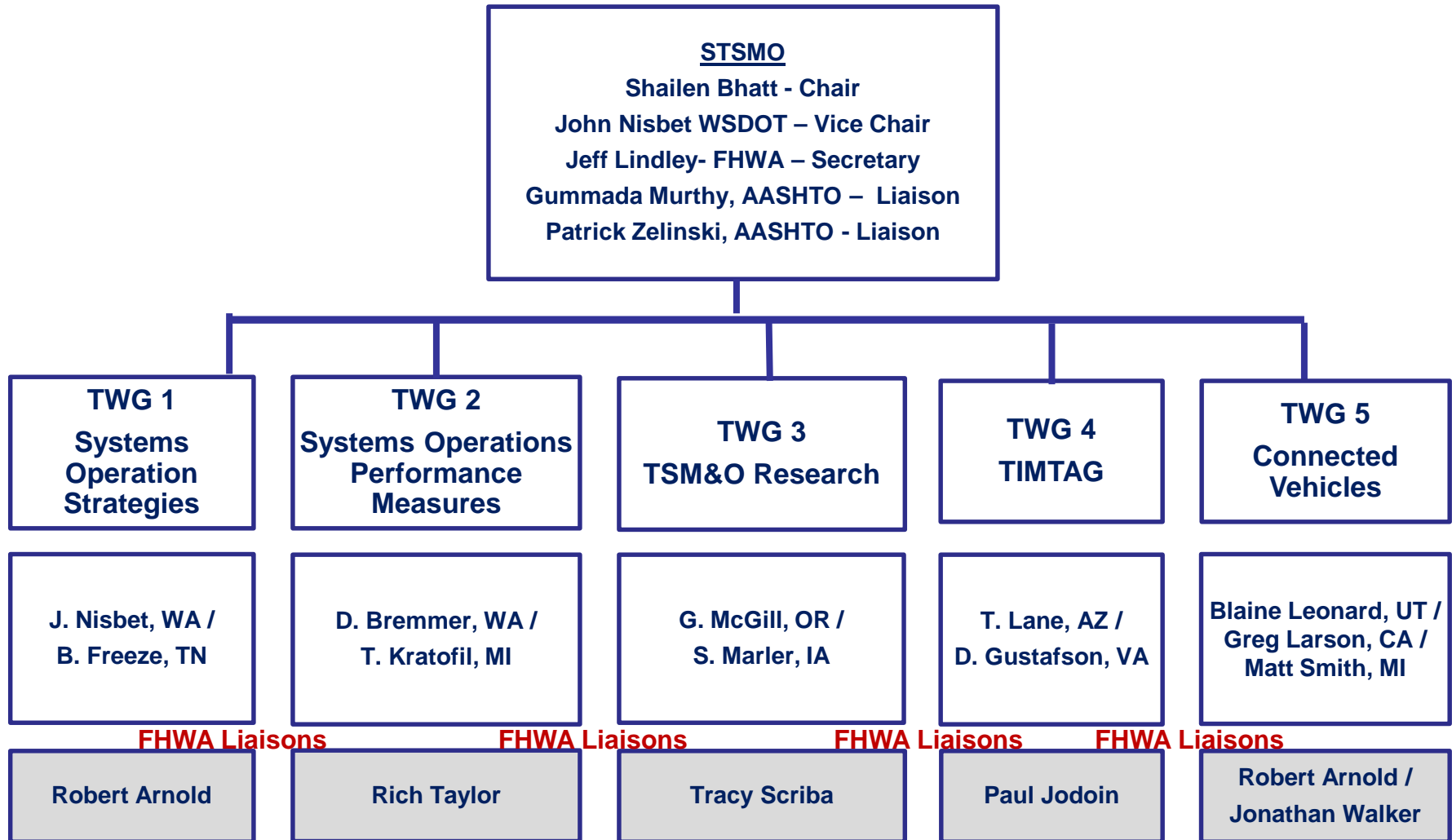
STSMO Strategic Plan (cont.)

Eight Strategic Goals

1. Encourage adoption of proven TSM&O concepts and strategies
2. Support DOTs in implementation of system performance measurement and management to tie in with TSM&O
3. Develop and evolve a workforce that is fully capable of accommodating and expanding TSM&O through development of needed skillsets and training.
4. Continue to make the business case for TSM&O.
5. Strengthen relationships and processes among the AASHTO groups and external organizations involved in TSM&O.
6. Guide and support the programs and services of the National Operations Center of Excellence, in collaboration with ITE and ITS America.
7. Build on and expand the use of the capability maturity model to improve agency TSM&O capability and expertise.
8. Encourage and facilitate the development and deployment of connected vehicle infrastructure and applications, including elements that support automated vehicle features.



2015 STSMO Leadership Team



STSMO Recent Accomplishments

- Continued support and leadership with the NOCoE (*In Collaboration with FHWA, ITE, ITSA*)
- Participated in the TSMO Workforce Development Summit
- Developed NCHRP 20-7 Project for initial scoping of a TSMO guidebook and standards similar to the AASHTO Green Book
- Developed a webinar to share best practices for TIM towing and emergency relocation practices
- Participated in the review and response to FHWA NPRM for System Performance
- Co-sponsored Pre-TRB and Post TRB webinars on current TSMO research
- Connected/Automated Vehicle Outreach, Education & Development:
 - Survey on V2I Applications, Pilot Site Presentations, Patent Infringement Issues Discussion, Benefit / Cost Tools Exchange of Information, Initiated the SPaT Challenge



NCHRP 20-07 (392) AASHTO Operations Guide



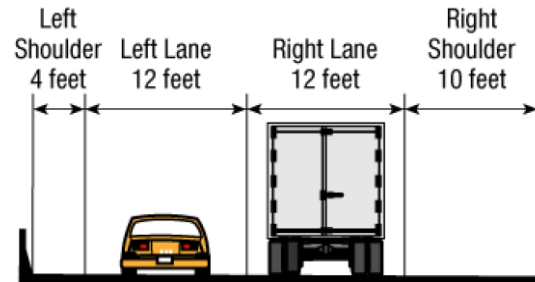
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Project Background and Purpose

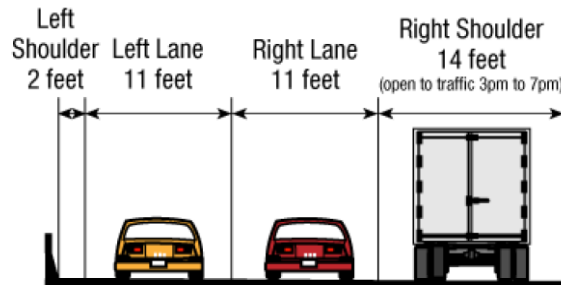
- Need sprang out of focus on TSM&O within State DOTs
 - Need for guidance on operations related activities
 - Guidance on operations related project development
 - Recognition of the connections between operational strategies and geometric features/elements
 - Operational strategies that should be “standard features”
- Near Term Objectives
 - Investigate focus and topics for Operations Guide
 - Develop a roadmap for activities leading the Guide



WSDOT US 2 Shoulder Lane Geometrics



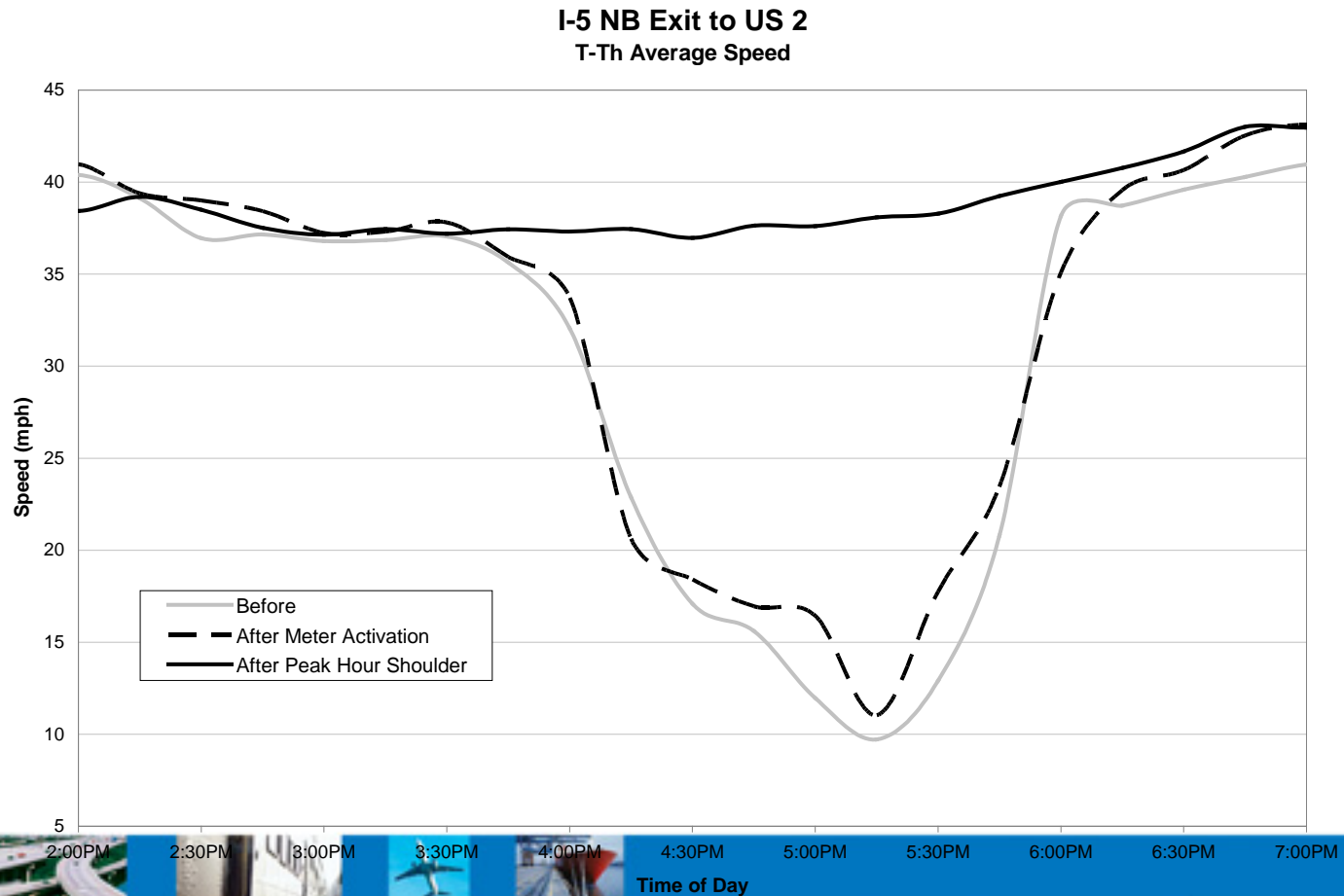
US 2 - Existing eastbound lanes
Typical cross-section for milepost 0.65 to milepost 2.00



US 2 - Proposed eastbound lanes
Proposed cross-section for milepost 0.65 to milepost 2.20



Before and After Travel Speeds



Los Angeles Junction Control

- NB SR 101 to NB I-5 connector
- High collision experience
- Congestion
- High ramp demand



Re-stripe connector to two-lanes



Extinguishable Message Signs



Ramp Metering

- “Form two lines when metered”
 - Improves ramp capacity when metered
 - Retains shoulders when not metered
- Improves safety at short merge locations
 - Breaks up platoons for safer merging



NCHRP Context

- Scoping effort approved in Fall 2015 and began in June 2016 [NCHRP 20-07(392)]
- Development project tentatively approved in March 2016 for \$500,000 [NCHRP 03-126]
 - AASHTO Standing Committee on Research requested more details at their December 2016 meeting
 - Additional funds can be requested in future years

Project Scope

- Comprehensive literature review
 - Identify existing guidelines, standards, and recommendations
- Operations practitioner workshop
 - Needs to be covered and identify policies
 - Topics included and likely challenges faced
 - Existing resources and gaps in knowledge
 - Actions needed and priorities
- Telephone interviews
 - Additional input on above topics
- Webinar
 - Input on outline for the Guide
 - Additional input on content



Products

- Prospectus for NCHRP 03-126
- Annotated outline for the Guide
- Roadmap for development of the Guide



Workshop at STSMO Annual Meeting

- Half-day session in Denver on August 2
- Asked for input:
 - What needs should be addressed?
 - What topics should be included?
 - What barriers or challenges will be faced?
 - What gaps in knowledge do we have
 - How should we fill those gaps?



Workshop Results

- Broad set of needs identified
- Structured to evolve over time
 - Incremental development
- Emphasis on new technologies
- Safety is an important topic
- Branding is important



Next Steps

- Schedule and conduct interviews
 - Include asking about additional existing resources
- Draft NCHRP 03-126 Prospectus
- Draft annotated outline for the Guide
- Conduct webinar
 - Summarize input
- Finalize annotated outline
- Develop roadmap (draft and final)

Discussion

- What needs should be addressed in the Operations Guide from a safety management perspective?
- What topics should be included in an Operations Guide?
- What barriers or challenges will be faced in effectively utilizing this resource?
- What gaps in knowledge do we have?
- What actions are needed to fill those gaps?