Freeway Management/Managed Lanes - New Publications/Resources:

**Freeway Management and Operations Handbook** – An update to the existing Handbook has been essentially completed.

The update to the Handbook focused on producing an electronic reference document that will incorporate as much current content as possible. The expectation is that this will help keep the document up to date as individual chapters of the handbook are updated over time.

The documents will be posted on the FHWA Operations website Spring 2018 at: [www.ops.fhwa.ops.gov](http://www.ops.fhwa.ops.gov)

Until such time the documents are posted on the FHWA site, the final draft chapters can be found at the TRB Freeway Operations Committee website at: [https://sites.google.com/site/trbfreewayops/document_sharing](https://sites.google.com/site/trbfreewayops/document_sharing)

**HOV/Managed Use Lane Pool Fund Study:** 10 states currently provide funding for the pooled fund research studies (CA, GA, WA, FL, VA, TN, NY, MN, and OH) plus 2 MPO’s (Dallas and San Francisco). This is a great opportunity to get priority research needs addressed. The opportunity is open for other States, MPOs, and tolling authorities to join on and be a member of this pooled fund research effort.

**PFS Research Efforts currently underway:**

**Best Practices for Signing on a Multi-Segment Facility** – This effort is to identify managed lane corridors that have long multi-zone corridors or would involve the junction of multiple managed lane corridors. The study gathered best practice efforts on providing motorists with information on toll rates within individual zones and throughout the length of the facility. A final report has been developed and should be finalized in the next few months.

**Tolling Practices for Multi-Segment Facilities** - Regional policies for tolling of managed lanes that have multiple zones or multiple interconnected facilities – This effort will look into the development of regional pricing policies that will cover these types of facilities that could be operating with multiple pricing needs, and if they operating independently or inter-connected. This research is currently underway and a final report should be completed later this year.
New research topic areas for 2018:

Marketing aspects of Managed Lanes
How to use Demand Management to maintain High Occupancy rates
Using Managed lane facilities as a targeted test bed for connected vehicles

Grant Programs:

**Advanced Transportation and Congestion Management Technologies Deployment (Section 6004)**

- Section 6004 adds a new Section (4) to 23 USC 503(c) to establish the Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) initiative. ATCMTD will solicit applications annually from eligible entities to provide grants to eligible entities to develop model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. No later than October 1, 2016, and each year thereafter, ATCMTD grants will be awarded to 5-10 eligible entities. Also, NLT 3 years after the 1st ATCMTD grant and each year thereafter, a report that describes the effectiveness of grant recipients in meeting their projects deployment plans will be posted on a public web site.

- **Contact:** David Harris, Email: david.harris@dot.gov
- **Status:**
  - The U.S. Department of Transportation's Federal Highway Administration announced nearly $54 million in grants for this program.
  - URL: [https://www.fhwa.dot.gov/pressroom/fhwa1717.cfm](https://www.fhwa.dot.gov/pressroom/fhwa1717.cfm)

**Surface Transportation System Funding Alternatives (Section 6020)**

- Section 6020 establishes a program to provide grants to States to demonstrate user-based alternative revenue mechanisms that utilize a user fee structure to maintain the long-term solvency of the Highway Trust Fund. Establish grant program for up to 5 States or groups of States to demonstrate user-based alternative revenue mechanisms to maintain the long term solvency of the Highway Trust Fund. Also, NLT than October 1, 2017, and biennially thereafter, a report describing the progress of the alternative revenue demonstration activities will be posted on a public website.

- **Contact:** Angela Jacobs, Email: Angela.Jacobs@dot.gov
- **Status:**
  - The U.S. Department of Transportation's Federal Highway Administration announced $14.2 million in grants for states under a program designed to explore alternative revenue mechanisms to help sustain the long-term solvency of the Highway Trust Fund. The Surface Transportation System Funding Alternatives (STSFA) grant program will fund projects to test the design, implementation and acceptance of user-based alternative revenue mechanisms.
  - URL: [https://www.fhwa.dot.gov/pressroom/fhwa1718.cfm](https://www.fhwa.dot.gov/pressroom/fhwa1718.cfm)
Interstate System Reconstruction and Rehabilitation Pilot Program (ISRRPP)

- Established in 1998, the program allows a State to collect tolls on a facility on the Interstate System in order to reconstruct or rehabilitate an Interstate highway corridor that could not otherwise be adequately maintained or functionally improved without the collection of tolls.
- There are three program slots for projects in three different States.
- This program does not offer any Federal funds for these projects.
- Any State receiving a provisional approval has 3 years from the date of the approval to fully satisfy the program criteria, complete environmental review and permitting, and execute a toll agreement with FHWA. A one year extension is allowed if the State demonstrates material progress toward implementation of its pilot project.
- Any State receiving a provisional approval must execute an agreement with FHWA specifying that toll revenues be used only for used for the purposes set forth in Section 1216(b)(5) of TEA-21. Additionally, the toll agreement must include a provision that the State will conduct regular (e.g., annual) audits to ensure compliance with the provisions regarding use of toll revenues.
- FHWA solicited applications for these slots on October 20, 2017, with applications due to the respective Division Office by February 20, 2018.
- Contact: Cynthia Essenmacher, Email: Cynthia.Essenmacher@dot.gov

Congestion Pricing:

- Congestion Pricing Web Site
  - [http://www.ops.fhwa.dot.gov/congestionpricing](http://www.ops.fhwa.dot.gov/congestionpricing)

- National Congestion Pricing Conference: Late Spring 2018; Washington, DC

- Impacts of Congestion Pricing on Low-Income Populations
  - This white paper documents examples of mitigation strategies implemented by agencies to analyze and measure the impacts of their pricing projects on low-income users of the transportation system.

- Peer to Peer Carsharing: Short term effects on travel behavior in Portland, OR
  - This report is a multiyear study of the peer-to-peer carsharing in Portland, Oregon relative to other models of car use.
  - [http://trec.pdx.edu/research/project/1144](http://trec.pdx.edu/research/project/1144)

- San Francisco Parking Supply and Utilization Report
  - This report analyzed a diverse range of parking pricing and rebate strategies on vehicle miles traveled (VMT) and vehicle hours of delay (VHD) and showed that some strategies would be particularly effective reducing VMT and VHD, although parking pricing, unlike cordon pricing, would not curtail pass-through trips.
• [http://www.sfcta.org/parking-supply-and-utilization-study](http://www.sfcta.org/parking-supply-and-utilization-study)


• NCHRP 08-100 “Methods to Analyze Environmental Justice Issues Related to Tolling Mechanisms”
  
  ○ FHWA will provide support in developing a toolbox for state and local transportation agencies who are interested in implementing tolling or congestion pricing. Project under way, with another year left.

**Active Transportation and Demand Management (ATDM)**

The ATDM website provides the latest resources to support the development and operations of ATDM. It is found at: [http://www.ops.fhwa.dot.gov/atdm/index.htm](http://www.ops.fhwa.dot.gov/atdm/index.htm)

**Part-time Shoulder Lane Research:**
• Use of Freeway Shoulders for Travel – The document is complete and includes: the types of safety and operations analysis recommended, pavement structure, sight distance and other geometric issues, trucking considerations (including oversize loads), use of ITS and ATM, drainage, snow storage and maintenance considerations, concepts of operations, potential environmental, air quality and noise implications, and pavement marking and signing.

The document can be found here: http://www.ops.fhwa.dot.gov/publications/fhwahop15023/

• Part-time Shoulder Lane Workshops – 8 workshops have been held through the end of 2017 for areas that are considering implementing part-time shoulder lanes as a TSMO strategy. Locations:
  o MD
  o OR
  o IN/OH,
  o Northern CA
  o WA
  o Southern CA
  o NC
  o MA

Active Traffic Management (ATM) Implementation and Operations Guidance: this guide is in the final draft stage and will be available in the coming months. The guide enables agencies to make informed and sound engineering decisions regarding implementing and operating ATM systems. The Guide highlights best practices, lessons learned, and case studies on design elements, systems engineering, construction and scheduling, stakeholder engagement, operations, maintenance, and performance monitoring of ATM systems.

A webinar was hosted by the National Operations Center of Excellence to discuss the document. A recording of the webinar can be found here: https://transportationops.org/ondemand-learning/webinar-active-traffic-management-atm-implementation-and-operations-guidance

ATM Feasibility Guidance was completed to give guidance on completing high level screening to determine the feasibility of implementing Active Traffic Management strategies within a region. The guide can be found at:

Synthesis of Variable Speed Limit Signs:

ATDM Analytical Methods for Urban Streets:
https://ops.fhwa.dot.gov/publications/fhwahop16088/ch1.htm#s11
Active Traffic Management Signage Study (Turner-Fairbank Research Center): This project was conducted to determine both the comprehension of the Active Traffic Management (ATM) signs as well as the legibility distance of these signs, and determine how motorists respond to these signs in a simulated driving environment.


Analysis, Modeling and Simulation Testbed Development & Evaluation

- Developed 6 Testbeds for evaluating the benefits of ATDM and Dynamic Mobility Applications (DMA) (Phoenix, Pasadena, Dallas, San Mateo, Chicago, and San Diego)
- Analysis Plans, Calibration Reports, Evaluation Results, datasets, open-source software coming on-line

https://ops.fhwa.dot.gov/atdm/research/index.htm#completed

Business Process Frameworks for Transportation Operations – Improving institutional capability and business process is necessary to improve implementation of TSMO strategies. The Strategic Highway Research Program 2 (SHRP2) recognized this need and created the institutional architectures for TSMO as part of the L06 project. Building on SHRP2 results, American Association of State Highways and Transportation Officials (AASHTO) has continued development of this concept and a capability maturity concept was published as part of the TSMO guidance. SHRP2 Implementation activities have successfully used the overall framework to work with State DOTs to develop action plans to improve their TSMO capabilities.

To continue the emphasis on capability maturity and to provide program-level guidance, FHWA developed additional frameworks that focus on improvement actions for specific TSMO program areas. These frameworks are designed for agencies and regions to assess the current strengths and weaknesses and to help develop a targeted action plan for the program area. Agencies can use the tools available on the website to walk through the framework.

Framework areas:

- Road Weather Management
- Planned Special Events
- Traffic Incident Management
- Traffic Management
- Traffic Signal Management
- Work Zone Management

http://www.ops.fhwa.dot.gov/tsmoframeworktool/index.htm

Shared Mobility: Current Practices and Guiding Principles: Shared mobility—the shared use of a vehicle, bicycle, or other mode—is an innovative transportation strategy that enables users to gain short-term access to transportation modes on an as-needed basis. The term shared mobility includes various forms of carsharing, bikesharing, ridesharing (carpooling and vanpooling), and on-demand ride services. It can also include alternative transit services, such as paratransit, shuttles, and private transit services (called microtransit), which can supplement fixed-route bus and rail services. With diverse options for mobility on the rise, smartphone apps that aggregate these options and optimize routes for travelers are also proliferating. In addition to these
innovative travel modes, new ways of transporting and delivering goods are also emerging. These courier network services have the potential to change the nature of the package and food delivery industry, as well as the broader transportation network. Shared mobility is having a transformative impact on many global cities by enhancing transportation accessibility, while simultaneously reducing driving and personal vehicle ownership.

This Shared Mobility Primer provides an introduction and background to shared mobility; discusses the government's role; reviews success stories; examines challenges, lessons learned, and proposed solutions; and concludes with guiding principles for public agencies. The primer aims to provide an overview of this emerging field and current understanding—as in the years to come, shared mobility will continue to evolve and develop. In light of this evolution, ongoing tracking and longitudinal analysis are recommended to support sound planning and policymaking in the future.

It is located: http://www.ops.fhwa.dot.gov/publications/fhwahop16022/index.htm

**Smartphone Applications to Influence Travel Choices: Practices and Policies:** This primer is intended to demonstrate how vital smartphones are becoming to the transportation network and provide public agencies, transportation managers, and elected officials with a perspective and understanding the role of smartphones in identifying services and choices for individuals and influencing travel behavior. The development of this primer was made possible by 13 specialists and practitioners that conducted an expert review of this primer and participated in a one-day workshop on July 1, 2015, at the US Department of Transportation Headquarters. The workshop brought together "thought leaders" from across North America to discuss smartphone apps and how to help public agencies develop supportive policies and programs.

It is located: http://www.ops.fhwa.dot.gov/publications/fhwahop16023/ch1.htm

**ATDM Knowledge & Technology Transfer Workshops** (24 workshops have been held from 2011 to present)

A list of workshop sites: http://www.ops.fhwa.dot.gov/atdm/knowledge/events/index.htm

**Informational Briefs**
- Active Traffic Management
- Active Demand Management
- Active Parking Management
- Introduction to ATDM
- International Influence on ATDM in the US
- Data Needs for ATDM
- ATDM and Work Zones
- Variable Speed Limits
- ATM Implementation and Operations Guide
Analysis Briefs

- Highway Capacity Manual (HCM) – ATDM Brief
- Methodology for Capacity and Operations Analysis of ATDM
- Example Application (HOV to HOT)
- Example Application (Ramp Metering and Demand Management)

NHI ATDM Webinar Series

- Active Demand Management
- ATM Feasibility
- Ramp Metering
- Traffic Management Capability Maturity Framework
- ATDM Research

The webinars are recorded and available:

http://www.ops.fhwa.dot.gov/atdm/knowledge/events/index.htm#webinar

ATDM Executive Video

- https://www.youtube.com/watch?v=qd8xy0ozSXJ

Accelerating Ramp Metering

- 11 workshops held from 2015 until now

Ongoing ATDM Research:

ATDM Trajectory Level Validation

- Collecting data and developing a methodology to enable simulation tools to be validated based on detailed vehicle trajectory level data

ATDM Tools for Tactical and Strategic Decision Making for Operations

- Develop a better fundamental understanding of motivations and influences on driver behaviors and decisions

ATDM Application of Tools for Decision Making

- Better understand traveler strategic and tactical decision making, including motivation(s) behind decisions, and develop approaches to overcome resistance to change.

NCHRP Project 03-114 ATM Planning and Evaluation:

- The objective of NCHRP 03-114 is to develop a guide to planning and evaluating active traffic management (ATM) for recurrent and non-recurrent conditions. The final product should become the primary reference on ATM and serve as an essential resource for those agencies considering ATM in their jurisdiction. It
should be applicable to practitioners at all levels of experience with traffic management and be used to support informed decision making.

**Integrated Corridor Management (ICM)**

Website: [https://www.its.dot.gov/research_archives/icms/index.htm](https://www.its.dot.gov/research_archives/icms/index.htm)

ICM Knowledge base

- Integrated Corridor Management, Transit, and Mobility on Demand
- Integrated Corridor Management and Freight Opportunities
- ICM Implementation and Analysis, Modeling, and Simulation (AMS) Guides and Workshop Series