

TRANSPORTATION PLANNING FOR OPERATIONS:

Quick Guide to Practitioner Resources

"How do we
develop objectives
and performance
measures for transportation
system reliability and
efficiency?"

"How are **other**
regions incorporating
operations in their
planning
process?"

"How do I
analyze the
potential effects
of operations
improvements?"

**Good
Questions.**

READ ON TO FIND RESOURCES WITH ANSWERS TO
THESE QUESTIONS AND MORE...



Transportation professionals like you have important questions about the complex transportation challenges of planning for operations. The Federal Highway Administration (FHWA) has developed a number of knowledge resources to help provide answers to planners, operators, public safety professionals, and transportation decisionmakers.

This brochure lists the resources available including guidebooks, case studies, and workshops. They were created with the input of transportation professionals across the country to help improve planning for the management and operation of transportation facilities.

All publications are available from the U.S. Department of Transportation's Planning for Operations website at: <http://www.plan4operations.dot.gov>.

READ ON TO FIND THE RIGHT RESOURCES FOR YOUR QUESTIONS.



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WHAT IS TRANSPORTATION PLANNING FOR OPERATIONS?

Planning for operations is a joint effort between planners and operators to integrate management and operations (M&O) strategies into the planning process for the purpose of improving regional transportation system efficiency, reliability, and travel options. M&O strategies aim to maximize the performance of existing and planning infrastructure through multi-modal, multiagency, and inter-modal systems, services, and projects.

METROPOLITAN PLANNING FOR OPERATIONS

Resources, tools, and case studies to help integrate M&O strategies into metropolitan transportation planning

“What is the FHWA-recommended approach for incorporating M&O into the metropolitan transportation planning process?”

Advancing Metropolitan Planning for Operations: An Objectives-Driven, Performance-Based Approach – A Guidebook

Presents an objectives-driven, performance-based approach for integrating M&O strategies into the metropolitan transportation plan (MTP) to maximize performance, fulfill Federal planning requirements, and meet customer needs.

<http://www.ops.fhwa.dot.gov/publications/fhwahop10026/index.htm>

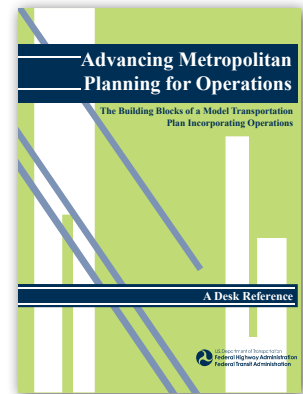


“Where can I find sample objectives, performance measures, and a model plan for integrating operations into a transportation plan?”

Advancing Metropolitan Planning for Operations: The Building Blocks of a Model Transportation Plan Incorporating Operations – A Desk Reference

Offers MPOs and their State and local partners a menu of options for incorporating operations into their plans. Provides an organized collection of sample operations objectives, performance measures, and excerpts of a metropolitan transportation plan incorporating operations.

<http://www.ops.fhwa.dot.gov/publications/fhwahop10027/index.htm>

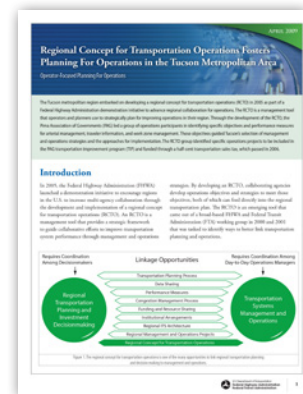


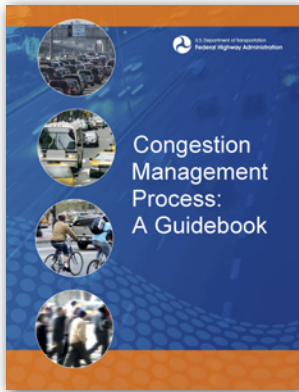
“How are other regions finding success in planning for operations?”

The How: Case Studies for Advancing Planning for Operations

Presents six case studies of regions around the country where agencies are applying elements of an objectives-driven, performance-based approach to planning for operations.

<http://www.ops.fhwa.dot.gov/publications/publications.htm#pfo>





Congestion Management Process: A Guidebook

Describes a flexible framework of eight congestion management actions as part of an objectives-driven, performance-based approach. Also highlights the role of the congestion management process (CMP) in supporting livability, multimodal transportation, environmental review, collaboration, demand management and operations strategies, documentation, and visualization.

http://www.fhwa.dot.gov/planning/congestion_management_process/cmp_guidebook/

“How can we implement an effective congestion management process?”



Showcasing Visualization Tools in Congestion Management

Provides examples of visualizations that can be used as part of the CMP. Identifies different types of visuals, including maps, 3-D images, and charts, as well as techniques such as use of video, and describes data needs.

http://www.fhwa.dot.gov/planning/congestion_management_process/cmp_visualization_tools/

“How can we better communicate congestion issues to decisionmakers, the public, and other stakeholders using visualization tools?”



The Role of Transportation Systems Management & Operations in Supporting Livability and Sustainability: A Primer

This primer describes nine key elements for managing and operating transportation systems that support advancing livability and sustainability. It provides a vision of how the regional transportation system could look in the future if M&O strategies were comprehensively implemented to advance livability and sustainability goals.

<http://www.ops.fhwa.dot.gov/publications/fhwahop12004/index.htm>

“How can we increase livability and sustainability with M&O strategies?”

STATEWIDE PLANNING FOR OPERATIONS

Resources that speak to the particular challenges and opportunities in planning for operations at the state level

“How can State DOTs integrate operations, safety, and planning?”

Statewide Opportunities for Integrating Operations, Safety, and Multimodal Planning: A Reference Manual

Provides “how-to” information to assist State DOTs in integrating these functional areas to produce better investment decisions. Identifies and describes opportunities at various levels of decisionmaking – statewide, regional, corridor, and project – and the benefits of these approaches. Describes the benefits, challenges, stakeholders, and implementation actions for each opportunity. Also includes toolkits, case study examples, and self-assessment checklists at each level of decisionmaking.

<http://www.fhwa.dot.gov/planning/statewide/manual/index.cfm>

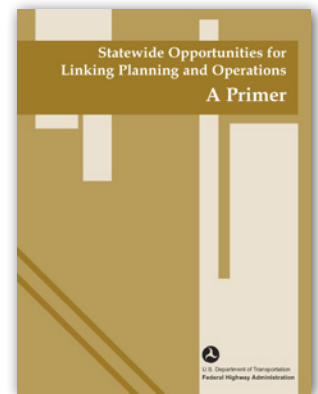


“What are the best practices for integrating operations into planning at the state level?”

Statewide Opportunities for Linking Planning and Operations: A Primer

Highlights the benefits of linking planning for operations at the state level. Identifies and describes five major types of opportunities and provides case studies of successful practices. Also includes a self-assessment questionnaire to help State DOT planning and operational staff understand how well they are currently linking planning and operations.

<http://ops.fhwa.dot.gov/publications/fhwahop08028/index.htm>



REGIONAL COORDINATION AND COLLABORATION

Resources to help transportation agencies work together to improve transportation operations

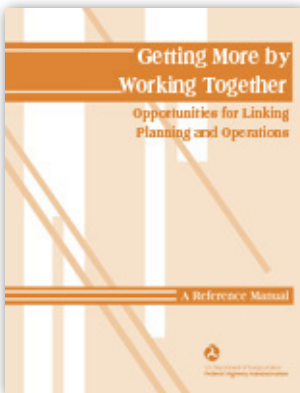


The Collaborative Advantage: Realizing the Tangible Benefits of Regional Transportation Operations Collaboration

Examines collaborative strategies to improve transportation system performance and a process to assess the benefits of collaboration. Nine case studies of collaborative efforts demonstrate tangible benefits.

http://ops.fhwa.dot.gov/publications/benefits_guide/index.htm

“What are the benefits of regional collaboration for my agency?”

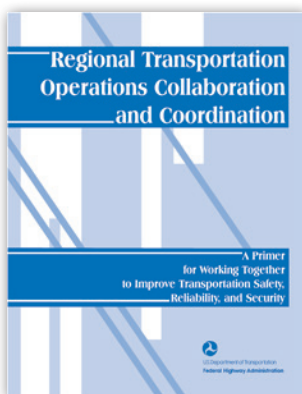


Getting More by Working Together — Opportunities for Linking Planning and Operations: A Reference Manual

Helps transportation planning and operations managers understand the value of working together and the benefits of pursuing regional M&O strategies. Identifies 10 opportunities – such as data sharing, funding and resource sharing, and performance measures – to strengthen the connections between planning and operations functions. A self-assessment guide helps agencies gauge current process in linking planning and operations.

http://ops.fhwa.dot.gov/publications/lpo_ref_guide/index.htm

“What are important opportunities for planners and operators to collaborate for mutual benefit?”



Regional Transportation Operations Collaboration and Coordination: A Primer for Working Together to Improve Transportation Safety, Reliability, and Security

Directed at transportation professionals and public safety officials responsible for day-to-day management and operations within a metropolitan region, as well as agencies already involved in regional collaborative efforts. Includes a collaboration self-assessment and examples of successful case studies.

http://ntl.bts.gov/lib/jpodocs/repts_te/13686.html

“How do we understand and build the fundamental components of regional collaboration?”

COLLABORATIVE TOOLS TO INTEGRATE OPERATIONS INTO PLANNING

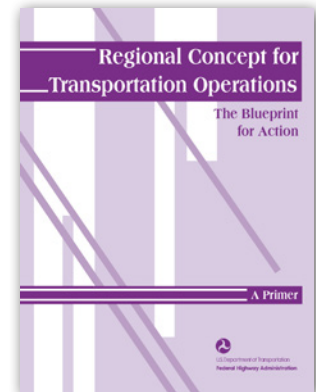
Resources that support the development and use of collaborative management tools that promote effective planning for operations

“How do we build a strategic plan to guide collaborative transportation efforts?”

Regional Concept for Transportation Operations: The Blueprint for Action – A Primer

Introduces the Regional Concept for Transportation Operations, a management tool to help agencies think through, plan, and implement management and operations (M&O) strategies in a collaborative and sustained manner.

<http://www.ops.fhwa.dot.gov/publications/rctoprimer/index.htm>



“What valuable lessons can we learn from other regions that have used an RCTO?”

The Regional Concept for Transportation Operations: A Practitioner’s Guide

This practitioner’s guide is a collection of the observed successes and lessons learned from four metropolitan regions as they developed Regional Concepts for Transportation Operations (RCTOs). RCTOs are a management tool used by planners and operations practitioners to define a strategic direction for implementing effective regional transportation management and operations in a collaborative manner.

<http://www.ops.fhwa.dot.gov/publications/fhwahop11032/index.htm>

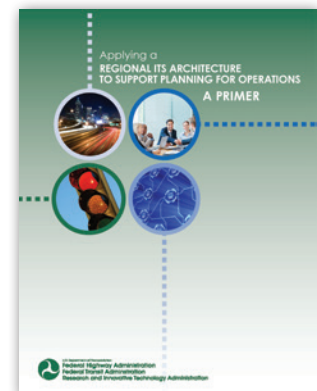


“How can we leverage our regional ITS architecture in planning for operations?”

Applying a Regional ITS Architecture to Support Planning for Operations: A Primer

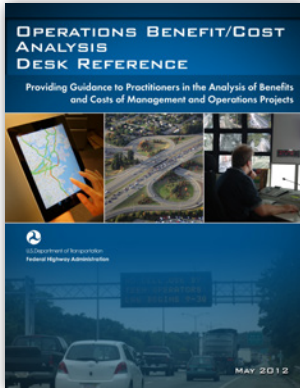
This primer offers transportation planners and operations managers a menu of opportunities for applying the regional ITS architecture to enhance planning for operations. It provides specific entry points for leveraging the regional ITS architecture in integrating operations into the planning process.

<http://www.ops.fhwa.dot.gov/publications/fhwahop12001/index.htm>



ANALYSIS OF MANAGEMENT AND OPERATIONS

Resources to support the quantitative analysis of management and operations strategies

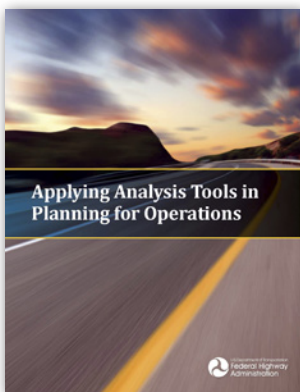


Operations Benefit/Cost Analysis Desk Reference

Provides practitioners with guidance on how to effectively and reliably estimate the benefits and costs of operations strategies. It includes background information on benefit/cost analysis including basic terminology and concepts. It is intended to support the needs of practitioners just getting started with B/C analysis and unfamiliar with the general process. It also describes some of the more complex analytical concepts and latest research in order to support more advanced analysts. This Desk Reference is supported by an Operations B/C decision support spreadsheet tool, called the Tool for Operations Benefit/Cost (TOPS-BC).

<http://www.ops.fhwa.dot.gov/publications/fhwahop12028/index.htm>

“How do I effectively and reliably estimate the benefits and costs of operations strategies?”



Applying Analysis Tools in Planning for Operations

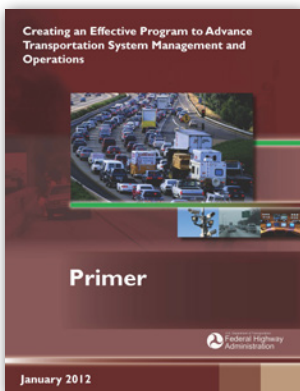
Examines the use of software and analytical tools as well as basic analysis methods to support planning for operations. Tools and methods include traffic signal optimization tools, simulation tools, sketch planning tools, and archived operations data. Accompanying case studies help planners and operations professionals better use existing analysis tools and methods to analyze, evaluate, and report the benefits of investments in M&O strategies.

<http://www.ops.fhwa.dot.gov/publications/fhwahop10001/index.htm>

“How do we analyze and evaluate the expected impacts of management and operations investments?”

ORGANIZING FOR OPERATIONS

A resource to prepare organizations to effectively plan and implement management and operations



Creating an Effective Program to Advance Transportation System Management and Operations Primer

Offers high-level guidance on key program, process, and organizational capabilities that are essential to effective transportation system management and operations within agencies. It is aimed at program and activity-level managers responsible for M&O related activities in State, regional, and local transportation agencies. The “capability maturity” approach presented here identifies the key areas that impact program effectiveness: business processes, systems and technology, performance measurement, culture, organization and workforce, and collaboration.

<http://www.ops.fhwa.dot.gov/publications/fhwahop12003/index.htm>

“What capabilities does my agency need for a strong management and operations program?”

Integrating Planning for Operations into Metropolitan Transportation Plans and Programs – A Workshop

Beginner - Intermediate

1/2 – 2 Days

This workshop aims to assist metropolitan planning agencies and their planning partners adopt and begin to utilize and integrate key elements of planning for operations into their metropolitan transportation plans and programs. The session consists of an introduction to planning for operations and then one or more modules, focusing on specialized topics. Modules are selected to respond to the specific interests of the region(s) represented at the workshop. Module options include:

- Applying Analysis Tools in Planning for Operations
- Benefit-Cost Analysis of Operational Strategies
- Integrating Travel Demand Management into the Transportation Planning Process
- Developing a Regional Concept for Transportation Operations (RCTO)
- Supporting Livability and Sustainability with Operations
- Applying the Regional ITS Architecture to Support Planning
- Organizing for Operations
- Advancing Traffic Incident Management (TIM) in Regional Planning
- Marketing Operations to Decisionmakers

Contact: wayne.berman@dot.gov

Advancing Planning for Operations in Metropolitan Areas (NHI 133111)

Beginner

1 1/2 – 2 Days

This course provides a foundational understanding of planning for operations. It focuses on the use of specific, measurable objectives and performance measures to advance operations in the metropolitan planning process. It encourages enhanced regional collaboration and coordination between planners and operators in advancing M&O and integrating the congestion management process in transportation planning. The course includes an optional half-day workshop tailored for the region.

More information available at: http://www.nhi.fhwa.dot.gov/training/course_search.aspx.

Applying Analysis Tools in Planning for Operations

All Levels

1 Day

This workshop provides planners and operators with insights into the range of best practice models, analysis methods, and analytical approaches currently used for decisionmaking. Some of the tools that are discussed include: sketch planning, travel demand models, simulation models, application-specific models, and the use of archived data for performance monitoring and reporting.

Contact: douglas.laird@dot.gov

Benefit Cost Analysis of Operational Strategies

All Levels

1 Day

The Office of Operations is conducting workshops for interested stakeholders to explain and validate the Benefit-Cost (B/C) for Operations Desk Reference and Decision Support Tool. The B/C guidance and tool will assist planners and operations practitioners in assessing the economic value of management and operations (M&O) strategies. The tool will perform sketch planning B/C analysis, provide guidance on sophisticated B/C models based on user needs, and will provide estimates of life cycle costs for M&O strategies.

Contact: jim.hunt@dot.gov

Implementing an Effective Congestion Management Process as Part of Performance-Based Planning

Beginner

1 Day

This workshop is intended to be a refresher on the development of the congestion management process (CMP). It features best practice examples from CMPs developed by other transportation management areas, and also aims to cover changes from previous guidebooks, explore Federal requirements, and provide an overview of the components of an effective CMP.

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