

Benefit Cost Analysis (BCA) and TOPS-BC

**Evaluating Freight and Other Transportation Systems
Management and Operations (TSMO) Strategies**

September 19, 2018

Talking Freight

Presented by

The U.S. Department of Transportation
Federal Highway Administration



Opening Remarks

Jim Hunt

Transportation Specialist

Federal Highways (FHWA) Office of
Operations



Webinar Objectives

- Introduce Benefit Cost Analysis (BCA) concepts and tools
- Discuss the applications of BCA to Transportation Systems Management and Operations (TSMO) investments analysis including Freight related projects
- Provide examples of truck parking systems and analyses
- Introduce FHWA's Tool for Operations Benefit Cost Analysis (TOPS-BC) V3.0 with Freight Projects



Agenda

Title	Presenter
Opening Remarks	Jim Hunt, FHWA
Benefit Cost Analysis (BCA) for TSMO	Jim Hunt, FHWA
Florida Statewide Truck Parking Availability System	Marie Tucker, Florida DOT
Midwest Truck Parking Program	Davonna Moore, Kansas DOT
Benefit Cost Analysis for TSMO Strategies and Introduction to TOPS-BC	Michael Lawrence, JFA, FHWA subcontractor to Leidos
Questions and Responses	



The Team

FHWA and Contractor Team Members

- Jim Hunt, FHWA Office of Travel Management*
- Ralph Volpe, FHWA Resource Center, Operations TST*
- Tom Kearney, FHWA Resource Center, Freight and Transportation Performance Management TST
- Jeff Purdy, FHWA Office of Freight Management and Operations*
- Roemer Alfelor, FHWA Office of Transportation Operations (Road Weather)
- Mike Lawrence, JFA*
- Mathies Wahner, JFA
- Jon Skolnik, JFA
- Jocelyn Bauer, Leidos
- Mae Fromm, Leidos



Benefit Cost Analysis (BCA) for TSMO

Jim Hunt

Transportation Specialist

Federal Highways Office of Operations



What is Transportation Systems Management & Operations (TSMO)?

TSMO consists of “integrated strategies to optimize the performance of existing infrastructure...”

- Implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects...
- Coordination of regional transportation investments ...requiring agreements, integration, and interoperability to achieve targeted system performance reliability, safety, and customer service levels.

Moving Ahead for Progress in the 21st Century (MAP-21)

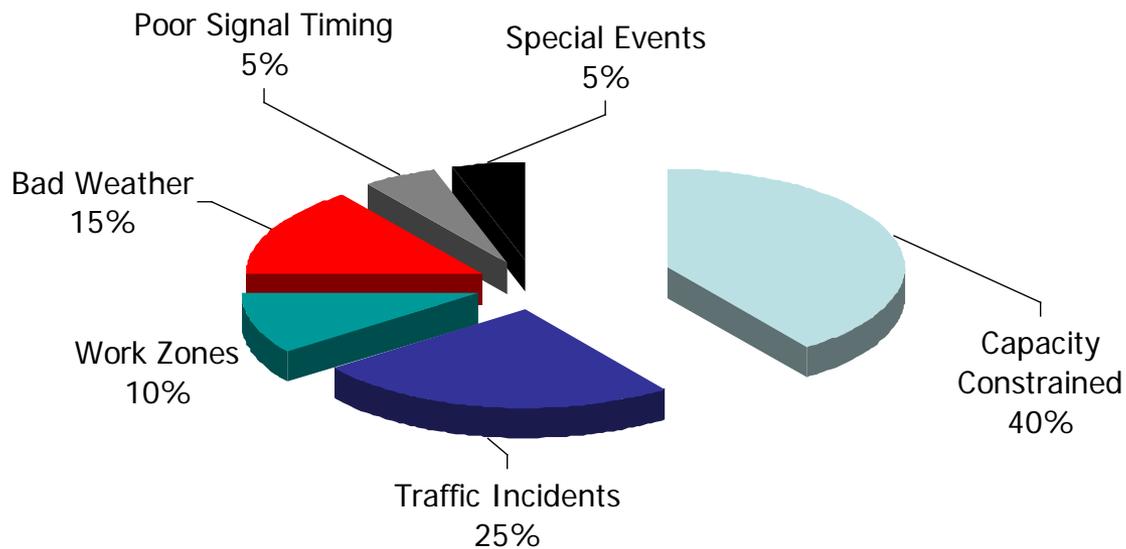


TSMO Strategies

- Influence auto and truck travel demand (how much, when, where)
- Effectively manage resulting traffic
- Anticipate and respond to planned and unplanned events (traffic incidents, work zones, bad weather, special events)
- Provide agencies, carriers & travelers with high quality traffic and road condition information
- Ensure that the unique needs of the freight community are considered and included in all of the above



Congestion Sources



Source: FHWA

TSMO strategies address multiple sources of congestion, not just limitations in capacity.



TSMO Strategies Include...

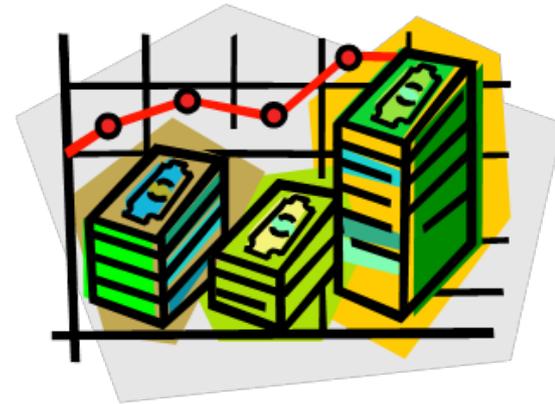
- Integrated corridor management
- Active traffic management
- Traffic incident management
- Traffic signal coordination
- Transit signal priority
- **Freight management**
- Work zone management
- Special event management
- Road Weather Management
- Congestion pricing
- Managed lanes
- Ridesharing programs
- Parking management
- Electronic toll collection
- Traveler information
- Coordination of highway, rail, transit, bike, pedestrian operations

As stand-alone projects or part of larger infrastructure projects, most TSMO strategies can impact truck operations.



What is a BCA?

A weighing of the net present value of direct benefits with the net present value of lifecycle costs of a project.



Why is a BCA Important for TSMO?

- BC Analysis provides the ability to:
 - **Prioritize** operations projects based on expected efficiency of investment
 - **Compare** operations with non-operations projects on an even playing field
 - **Justify** operations projects and strategies for consideration
- BCA supports pre- and post- deployment evaluations

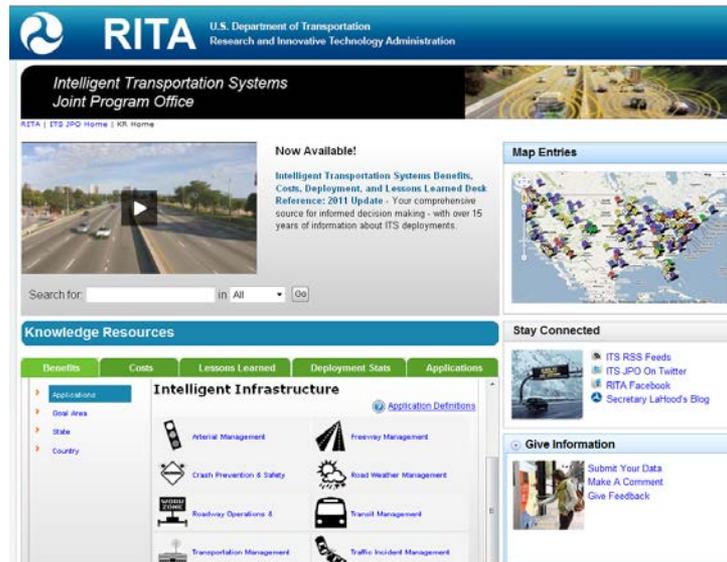


BCA Can Be a Component of Performance Management

- Condition/performance of the National Highway System
- Asset management plan
- Progress in achieving performance targets
- How the State is addressing congestion at freight bottlenecks
- Effectiveness of the investment



USDOT Intelligent Transportation Systems (ITS) Benefit-Cost Database (TSMO)



Intelligent Transportation Systems Benefits, Costs, and Lessons Learned

2018 Update Report

www.its.dot.gov/index.htm

Final Report – March 2018

Publication Number: FHWA-JPO-18-641



<https://www.itskrs.its.dot.gov/its/itsbcllwebpage.nsf/KRHomePage>



U.S. Department of Transportation



FHWA Resources to Support TSMO and RWM BCA



[FHWA Planning for Operations / BCA](#)



TSMO BCA TOOLS

- Federal Highway Administration (FHWA) developed TOPS-BC to support operators and others in conducting evaluations of planned and implemented TSMO strategies.
- TOPS-BC has undergone extensive updating and revision over the past two years **including the addition of four freight strategies.**
- The following presentations will review truck parking initiatives in Florida and in the Midwest and will bring you up to speed on what TOPS-BC is, how it was expanded, and how it can support your TSMO freight programs.

