

Transportation Systems Management & Operations, or TSMO, focuses on cost-effective strategies that prioritize the safety, access, and reliability of the multimodal transportation system.



PLANNING  
AND POLICY  
DEVELOPMENT



TRANSPORTATION  
OPERATIONS



COOPERATIVE  
AUTOMATED  
TRANSPORTATION  
& TECHNOLOGY



INTELLIGENT  
TRANSPORTATION  
SYSTEMS (ITS)



TRANSPORTATION  
DEMAND  
MANAGEMENT

**Transportation Operations** focuses on moving people and goods safely and efficiently. Proactive signal timing is a key operations strategy for corridor traffic management.

**ITS** refers to the integration of advanced communications technology into the transportation infrastructure, like proactive signal timing, that enhances mobility and safety across all modes.

## What is Proactive Signal Timing?

WSDOT uses real-time data sources and performance measures to monitor and update traffic signal timings to ensure that corridors are operating to the best of their ability. Easy-to-use interfaces allow operators to make changes to signal timing patterns and to verify the effectiveness of those changes in a cost-effective manner without using additional resources to manually count and synthesize data.

### BENEFITS:

- Delays the onset of congestion
- Reduces travel times for all vehicles
- Increases safety
- Helps more finely target maintenance activities



Camera located at the N Argonne Road intersection in Spokane, WA that provides real-time data for traffic signal timing updates.

## Case Study

### Argonne Road Spokane, Washington

WSDOT worked with the City of Spokane Valley to install and use Automated Traffic Signal Performance Measures (ATSPMs) on the Argonne Road corridor to monitor traffic conditions and real-time adjustments to signal timing to improve travel times throughout the day.



#### TRENDS:

### Overall Travel Time Savings Along the Argonne Road Corridor



↓ **20%**

REDUCTION IN NORTHBOUND TRAVEL TIMES

↓ **4%**

REDUCTION IN SOUTHBOUND TRAVEL TIMES

↓ **19%**

REDUCTION IN NORTHBOUND TRAVEL TIMES FROM THE I-90 SOUTHBOUND RAMP TO EAST MONTGOMERY AVENUE DURING THE MIDDAY LUNCH HOUR.

#### MIDDAY TRAVEL TIMES

Using ATSPMs, WSDOT noticed vehicles having to wait through multiple cycles during the midday lunch hour. WSDOT attempted several timing plan changes and monitored the performance measures to determine if the changes achieved the goal to improve throughput. After a couple of signal timing adjustments, WSDOT reduced northbound travel times from I-90 southbound ramp to East Montgomery Avenue by 19 percent through the midday lunch hour.

#### QUESTIONS? CONTACT:

Glenn Wagemann, P.E., WSDOT Eastern Region Traffic Engineering Manager  
wagemag@wsdot.wa.gov • (509) 324-6550

Jeremy Clark, PE, PTOE, Senior Traffic Engineer  
jclark@spokanevalley.org • (509) 720-5019

TO LEARN MORE ABOUT TSMO  
VISIT: <https://tsmowa.org>