

# Active Transportation and Demand Management

## ATDM Program Brief: An Introduction to Active Transportation and Demand Management

### What is Active Transportation and Demand Management (ATDM)?

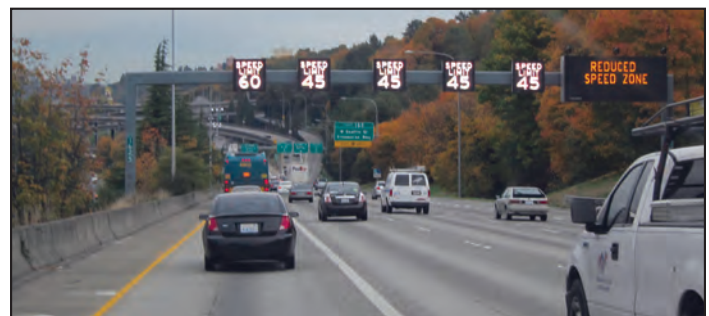
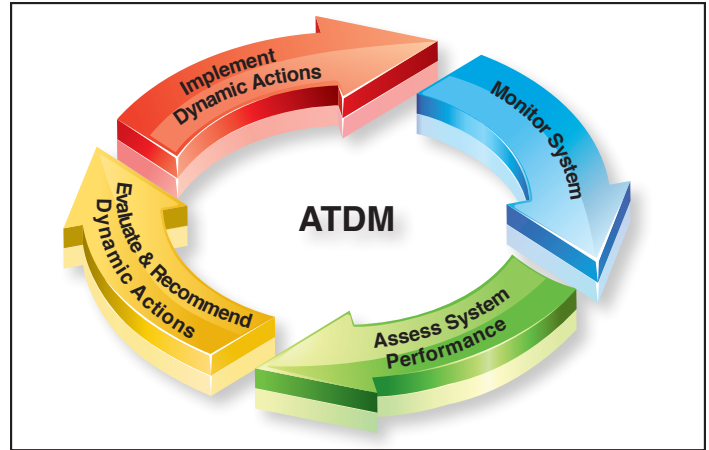
ATDM is the dynamic management, control, and influence of travel demand, traffic demand, and traffic flow of transportation facilities. Through the use of available tools and assets, traffic flow is managed and traveler behavior is influenced in real-time to achieve operational objectives, such as preventing or delaying breakdown conditions, improving safety, promoting sustainable travel modes, reducing emissions, or maximizing system efficiency.

Under an ATDM approach the transportation system is continuously monitored. Using archived data and/or predictive methods, actions are performed in real-time to achieve or maintain system performance.

### What are some examples of ATDM Approaches?

Active management of transportation and demand can include multiple approaches spanning demand management, traffic management, parking management, and efficient utilization of other transportation modes and assets.

An agency can deploy a single ATDM approach in order to capitalize on a specific benefit or can deploy multiple active strategies to gain additional benefits across the entire transportation system. Some example approaches include:



Seattle I-5 Northbound Active Traffic Management –  
Source: Texas Transportation Institute

Active Demand Management	Active Traffic Management	Active Parking Management
Dynamic Ridesharing	Dynamic Lane Use Control	Dynamically Priced Parking
On-Demand Transit	Dynamic Speed Limits	Dynamic Parking Reservation
Dynamic Pricing	Queue Warning	Dynamic Way-Finding
Predictive Traveler Information	Adaptive Ramp Metering	Dynamic Parking Capacity

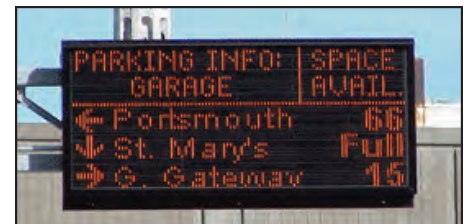
### Why ATDM?

Simply put, more can be done with technology and existing assets and programs by making a strategic commitment to actively manage the transportation system. Active management is a tactical approach to operating systems, programs, and technologies differently; focusing on applying more “hands on” and dynamic approaches through real-time and predictive analyses. ATDM creates an environment where the occurrence and effects of problems can be reduced.

ATDM builds upon existing capabilities, assets, and programs and enables agencies to leverage existing investments — creating a more efficient and effective

system and extending the service life of existing capital investments. All agencies and entities operating transportation systems can advance towards a more active management philosophy.

While active management can be applied to any part of our transportation system (such as implementing dynamic pricing on a facility to manage congestion, or informing travelers of specific or compatible transit operations for their trip), it is most beneficial when the relationships and synergies to other parts of the system are considered. For example, an agency could apply adaptive ramp metering to improve freeway traffic flow. However, if



SF Park Parking Information Sign –  
Source: SF.Streets Blog

the effect of ramp metering on connecting arterials is not considered or if dynamic actions to manage overall demand are not implemented, some of the system-wide performance gains from the ramp metering system may be compromised.

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## What are some ongoing activities in this program?

The U.S. Department of Transportation (U.S.DOT) is advancing the development of guidance, planning, case studies, and research in the application and design of active transportation and demand management approaches. In addition, the ATDM program will provide lessons learned, standards, and best practices on key underlying ATDM planning, evaluation, analysis techniques and design elements that serve as a foundation for ATDM implementation.

## Where are ATDM approaches being implemented?

ATDM approaches are being considered and implemented all over the nation. In fact, several states and cities are making great progress. Example urban deployments include the following: Washington State Department of Transportation (WSDOT) has implemented dynamic ridesharing, dynamic lane use control, and dynamic speed limits; the San Francisco Municipal Transportation Authority (SFMTA) has implemented dynamic parking management in the downtown area; and Minnesota Department

of Transportation (Mn/DOT) has implemented dynamic lane use control, dynamic speed limits, and priced dynamic shoulder use lanes.

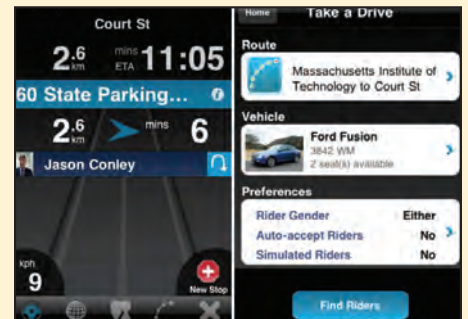
A rural application of variable speed limits has also been deployed by Wyoming Department of Transportation to address operations during weather events. Several other states have implemented projects or have projects or concepts in various stages of development which advance active management.



Minnesota DOT Dynamically Priced High Occupancy Toll (HOT) Lanes – Source: U.S. DOT



Wyoming DOT Variable Speed Limits (VSL) – Source: Wyoming DOT



Dynamic Ridesharing Application (in use on Seattle SR520) – Source: iTunes Application Store

## How do I get involved in the program?

The ATDM program is intended to support agencies and regions considering moving towards an active management approach. Through customized workshops, tools, guidance documents, resources, and peer exchanges, the program can assist with technical support to implement ATDM strategies.

Importantly, ATDM is not an exclusive program restricted to specific agencies. Every agency that is considering moving towards active and dynamic capabilities can benefit from the ATDM program's efforts.

## ATDM Project Informational Briefs

This informational brief is one of the ATDM briefs in the **Program** category of the FHWA ATDM Brief Series. ATDM briefs are or will be available in the categories of:

- ATDM Program
- ATDM Planning
- ATDM Analysis
- ATDM Design
- ATDM Operations

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