

Transportation Demand Management (TDM) Fundamentals

What is TDM?

ACT, the Association for Commuter Transportation, defines TDM as "the use of strategies to inform and encourage travelers to maximize the efficiency of our transportation systems, leading to improved mobility, reduced congestion, and lower vehicle emissions." Common types of TDM work include:

Transportation
Network
Construction

Traffic
Management and
Operations

Creation of Local and Regional Policies
supporting TDM goals

What is Transportation Planning?

Transportation planning designs networks and infrastructure to move people and goods efficiently. Key considerations include:

- Parking Availability & Cost: Affects driving decisions (e.g., insights from <u>Donald Shoup</u> and <u>FHWA</u> on parking prices and driving rates)
- Land Use: Suburban single-family zoning creates low-density areas with limited services, making driving essential. Mixed-use zoning (e.g., high-density apartments with ground-floor shops) near business districts promotes walking, biking, and transit use.
- Transit-Oriented Development: High-density, pedestrian-friendly areas near transit hubs provide access to essential services and public transportation for longer journeys.

What are TDM Programs?

Programs aimed at creating behavior change to reduce drive-alone trips or increase non-drive-alone trips for specific groups. For example, a Guaranteed Ride Home program provides a reliable transportation option in emergencies to employees who don't rely on a personal vehicle For more information, see <u>Developing TDM Plans</u>.

Where Should a New TDM Professional Start?

New TDM professionals should focus on building their network of peers and resources. There is a thriving community with expertise in every area of TDM. Tapping into that knowledge base can be extremely beneficial.

What is Transportation Engineering?

Transportation engineering is a branch of civil engineering focused on designing and managing transportation infrastructure. In the context of TDM, transportation engineering focuses on how to design streets to promote multimodal use. NACTO provides an excellent **Urban Street Design Guide** that demonstrates many of these principles. From bus-only lanes to protected bike and pedestrian infrastructure to chicanes (curves in streets to slow traffic) to pedestrian safety islands (to help break up the crossing of wide roads), TDM greatly benefits from having the right infrastructure in place.

What is Transportation System Management and Operations (TSMO)?

TSMO uses various tactics to maximize network efficiency, safety, and travel experience, including:

Single-Occupancy Vehicle Strategies:

- Variable Message Signs: Display travel times for different routes
- Ramp Meters: Control the flow of traffic onto highways
- Reversible Lanes: Change direction based on traffic flow

<u>Multimodal Travel Support:</u>

- Hard-Shoulder Running: Allows buses to drive on the shoulder when traffic is stopped
- Bus Rapid Transit Lanes: Dedicated lanes for faster and more reliable transit

<u>Urban Strategies:</u>

- Queue Jump Lanes: Short transit-only lanes with signal prioritization for buses
- Wayfinding: Helps travelers navigate efficiently
- Connected Vehicles: Enhance communication between vehicles and infrastructure
- Dynamic Parking Prices: Adjust parking costs based on demand
- Transit Arrival Information: Reader boards provide real-time transit updates

What are Some Other Considerations?

These topics only scratch the surface of TDM work. Other important subjects include:

- Travel Options
- Policies
- Data Evaluation
- Transportation issues and trends
- Sustainability