

Transportation demand management

Transportation demand management helps people use existing transportation infrastructure in ways that enhance system efficiency and mobility. It uses techniques such as education, incentives, and disincentives to reduce the need for vehicle trips (e.g., telework, compressed workweeks, walking, bicycling); the distance of trips (e.g., shop close to home, home delivery); and to shift to higher occupancy modes like transit and other forms of ridesharing.

Examples of transportation demand management include:

- Commute trip reduction
- Providing transit passes to students or workers
- Charging for parking
- High-occupancy toll lanes
- High-occupancy vehicle lanes
- Changing land use zoning to support transit-oriented development
- Providing showers and bicycle repair and storage at work sites
- Promotions (e.g., Wheel Options, Bicycle Month)
- Outreach to employers to increase the use of telework
- Senior shuttles to healthcare facilities
- Vanpools

Integrating transportation demand management into plans and projects can enhance mobility while eliminating, reducing, or delaying the need for capital construction projects; reducing greenhouse gas emissions; and improving public health.

WSDOT's Design Manual includes practical-design standards that support managing demand before increasing roadway capacity. Transportation demand management can be paired with traffic- and transit-operations improvements, an approach known as transportation system management and operations.

WSDOT policy and guidance

- [Design Manual](#) (divisions 14 and 15)
- [Transportation Demand Management Strategic Plan 2019-2023](#)
- [Transportation Systems Management and Operations](#)
- [Commute trip reduction](#) laws, rules and policies
- National Association of City Transportation Officials standards for [Urban Street Design Guide](#) and [Urban Bikeway Design Guide](#) (WSDOT-endorsed)
- [Practical Solutions Performance Framework](#)
- [Development Services Manual](#)

If the project proposes something not discussed in the Design Manual, contact your assistant state design engineer to discuss appropriate documentation.

Additional resources

- [Transportation Demand Management Publications and Reference Materials](#), Federal Highway Administration
- [Traveler Response to Transportation System Changes Handbook](#), Transportation Research Board
- [Demand Management Resources](#), State Smart Transportation Initiative
- [Research on the Impacts of Transportation and Land Use-Related Policies](#), California Air Resources Board
- [What is transportation demand management, actually?](#), Mobility Lab

User tips

Transportation demand management can address peak traffic conditions and/or mobility needs. These are often characterized by time of day (e.g., morning peak, Sunday evening peak), location (e.g., downtown Bellevue, I-5 through Olympia), or need (e.g., access to healthcare, overcrowded park and ride lot). WSDOT's Travel Data, Geographic Information System and Analysis Branch can provide travel-time profiles to illustrate peak-period trips on particular roadway segments. This can support analysis to assess transportation demand management's potential.

Transportation demand management typically takes advantage of existing roadway, parking, and transit infrastructure and services. They improve the use of these facilities and services through behavioral economics. Techniques include incentives (e.g., free parking for carpools, employer-subsidized transit passes) and disincentives (e.g., higher rates for peak-hour tolls and parking).

While typically used in urban areas, transportation demand management can also be effective in suburban and rural areas. However, rural areas may lack the resources to implement transportation demand management on a large scale.

Establish a multimodal purpose and need

Planners should include transportation-demand-management goals and objectives in all planning and design projects. They should also work with stakeholders to develop a purpose-and-need statement that considers the needs of all modes and travel markets, including historically disadvantaged populations.

In addition to single-occupancy-vehicle travel delay and safety, consider needs such as:

- Freight
- Accessibility
- Job access for people with low incomes
- Mode shift
- Greenhouse gas emission reduction
- Pedestrian and bicycle safety
- Transit speed and reliability
- Future land use and access to human services

Use resources including:

- [Context and modal accommodation report](#)
- Trip origins and destinations ([OnTheMap](#))
- [WSDOT's Statewide Public Transportation Plan](#)
- Regional transportation plans
- Local plans

Establish trip reduction and mode shift targets

Planners and engineers can set trip-reduction and mode-shift targets to determine the number of single-occupant trips that must be reduced or shifted to other modes or times of day. These targets can then be used to assess the effects of trip reduction on future demand and traffic flow, prioritize construction projects, and design transportation demand management projects.

[Mode shift potential](#) on particular roadways can be evaluated using [Sugar Access](#), a Geographic Information System plug-in available through WSDOT's Statewide Multimodal Planning Office.

Work with locals to identify projects

Work with employers, transit agencies, nonprofits, regional and metropolitan planning organizations, cities, counties, and other local organizations to identify a package of short-, mid-, and long-term demand-management solutions that will meet trip-reduction or mode-shift targets. Engage [commute trip reduction city and county contacts](#).

Reduce risk by establishing multiple project elements

Transportation demand management often includes multiple elements. This reduces risk to transportation system performance by ensuring that the project meets its overall trip reduction target even if one element underperforms.

For example, if the telework element does not achieve its trip reduction target, the transit pass element exceeds its target and ensures that the overall trip reduction target is achieved.

Address connectivity

Addressing gaps in the bicycle, pedestrian and transit networks, and providing safe and comfortable places to transfer between modes can open up new transportation demand management markets and increase mode shift and person throughput.

For connectivity performance metrics and case study examples, see the Practical Solutions Performance Framework guidance on [bicycle facility availability and connectivity](#), [pedestrian facility availability and connectivity](#) and [transit availability and connectivity](#).

Where to get help

Contact your transportation demand management and commute trip reduction practitioners for more information. WSDOT's [Public Transportation Division community liaisons](#) can also help.

Your input helps to make these planning and design tips a relevant resource!
For more information, contact Kate Severson, seversk@wsdot.wa.gov or (360) 709-8003.

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