

Data-Driven Solutions *for* Growing Transportation Needs

Maximize Transportation Efficiency, Save Money, and Improve Mobility with Transportation Demand Management



Why Manage Transportation Demand?

Building more and bigger roads has been proven to lead to more car trips, in turn increasing air pollution, greenhouse gas emissions, and traffic deaths ([Bloomberg](#)). This approach consumes valuable land that is in high demand for essentials in our community like housing, businesses, and green space. Rather than relying on and investing in supply-side solutions like building more roads, there is a more cost effective, sustainable alternative: **transportation demand management (TDM)**.

TDM focuses on getting more people where they need to go on the roads that already exist by helping them choose biking, walking, carpooling, and taking transit more often. By managing travel demand, we can help manage traffic, reducing traffic congestion and benefiting how our transportation system performs long-term.

BENEFITS

TDM efforts have varied and far-reaching benefits for policymakers, communities, employers, and the public, including:



Cost savings



Increased equity and accessibility



Improved environmental and personal health



Economic growth

See the [Case Studies](#) for more information!



What Is TDM?

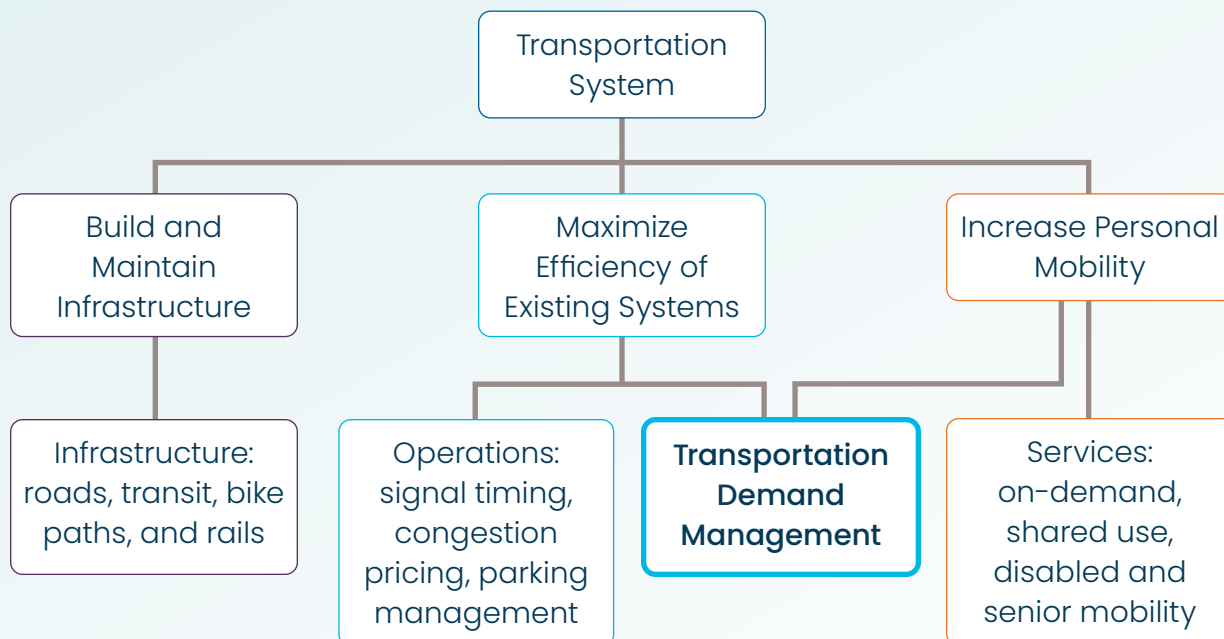
TDM programs influence people's behavior by encouraging, educating, and providing people with the tools they need to use transit, carpool, walk, bike, roll, and work remotely. At its core, TDM is a set of strategies to educate people on transportation options. TDM strategies center around three things:

- 1** Increasing the use of active and shared transportation options, like transit, carpooling, biking, walking, and working remotely
- 2** Reducing drive-alone trips and improving traffic congestion and air quality
- 3** Increasing mobility and access

TDM is an important component of transportation system management and operations, resulting in more efficient use of existing transportation systems and better mobility for people.

TDM strategies are typically designed based on available transportation options and community needs.

How Transportation Systems are Managed



Examples of TDM Strategies Include:



Educational resources

Transit how-to guides, biking workshops, maps



Financial incentives

Transit pass subsidies, parking cash-out programs



Employer- or traveler-focused services

Vanpool or carpool matching, commute planning assistance



Marketing campaigns

"Transit Month" campaigns by transit agencies in June, "Bike Month" campaigns in May



Programs

Transportation wallets, universal basic mobility initiatives, Guaranteed Ride Home programs



Infrastructure and amenities

End of trip amenities like secure bike parking and shower facilities, protected bicycle and small mobility lanes, improved crossings for people walking, biking and rolling



TDM Benefits

A core benefit of TDM is reduced demand for space on the roadway. This is often achieved by increasing active transportation and shared modes of travel, shifting travel to a different route or to a different time, or reducing trips altogether. **During rush hour, removing just 4% of cars from roadways can relieve congestion by as much as 30%** (source: [City of Austin](#)). Studies also show that building roads just to move more private vehicles would not solve traffic congestion in the long run (source: [Sanvi Consulting](#)).

Roadway Use by Mode

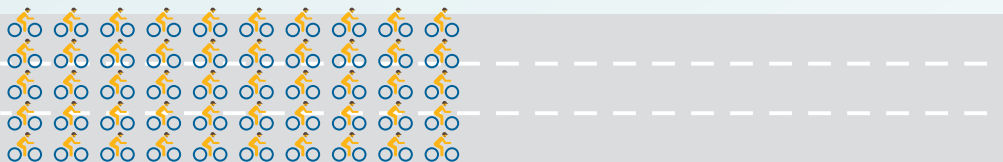
50 PEOPLE ON A BUS



50 PEDESTRIANS



50 CYCLISTS



50 PEOPLE IN 33 CARS



Read on for case studies that illustrate TDM benefits in action.

TDM Case Studies



Cost Savings



Equity & Accessibility



Environment & Health



Economic Development



Cost Savings

For policymakers

Implementing TDM strategies can result in significant financial benefits for governments and is a cost-effective way to achieve policy goals.

Example: A review of Congestion Mitigation and Air Quality (CMAQ) program projects found that while traffic flow infrastructure projects received 33% of the funds and cost \$42.70 per pound of emissions reduced, regional rideshare programs reduced the same amount of emissions for only \$10.25 per pound despite receiving only 4% of funds. TDM programs proved even more effective, reducing emissions at just \$7.66 per pound with only 3% of the budget (source: [Association for Commuter Transportation](#)).

TDM programs reduce emissions at a cost of just **\$7.66 per pound of greenhouse gas emissions saved** compared to infrastructure projects that cost \$42.70 per pound.



For employers

Offering transportation benefits can lead to cost savings for employers through lower employee turnover, a reduction in parking demand, lower payroll taxes, and more.

Replacing an employee can cost 50%–200% of their annual salary (source: [SHRM](#)). TDM can improve retention, helping employers reduce money and resources spent on recruiting, interviewing, onboarding, training, and productivity.

Affordable, reliable transportation options also raise morale, improve well-being, and expand the talent pool by reaching workers who live farther away. A single parking space in a garage can cost up to \$50,000 to build (source: [D&C Parking Lot Maintenance](#)), plus ongoing maintenance costs. Increasing access to commute options reduces the need for parking, which can cut costs for employers.

Example: *Genentech implemented a TDM plan to reduce the number of employees who drove alone to work. After two and a half years, the drive-alone rate of the company's employees dropped from 78% to 65%, and the company saved \$25 to \$50 million on the construction of parking spaces (source: [Cherriots](#)).*

For everyone

TDM also benefits peoples' economic well-being.

Transportation is the second highest household expense after housing, totaling \$13,174 annually as of 2023, and making up 17% of household budgets (source: [US Department of Transportation](#)).

Since 2019, the cost of buying new and used cars has increased by at least 30%, and gas has risen by 25% since 2023. This means that driving less is one of the most impactful ways to save money, and people can save more than \$13,000 per year by riding public transportation (source: [American Public Transportation Association](#)).

The drive-alone rate of Genentech's employees **dropped from 78% to 65%**, and the company **saved \$25 to \$50 million** on the construction of parking spaces.





Equity & Accessibility

TDM strategies enhance transportation options for all people, including those with disabilities, those without a vehicle, and those who are historically underserved or marginalized by the transportation system.

Low-income communities of color have less access to reliable and accessible transportation. This makes it hard to access employment, education, healthcare, childcare, housing, food, and social connections.

Lower-income households **spend 30% of their income on transportation**, higher than the national average of 16%.

People who have a lower income, are black or Hispanic, or are immigrants are among those most likely to use public transportation on a regular basis (source: [Pew Research Center](#)). However, homes near public transportation often cost 24% more than homes in surrounding areas (source: [Institute for Transportation & Development Policy](#)).

As a result, lower-income households spend 30% of their income on transportation (higher than the national average of 16%) due to the high cost of owning a vehicle, maintenance and a lack of transportation options (source: [US Department of Transportation](#)).





Environment & Health

TDM improves public health and environmental impact by reducing greenhouse gas emissions and air pollution and promoting physical activity.

Transportation is the largest contributor to climate change, accounting for 28% of all greenhouse gas emissions, with 57% of this coming from light-duty vehicles (source: [US Environmental Protection Agency](#)). Vehicle tailpipe emissions also release harmful pollutants that contribute to lung disease like cancer and asthma. Additionally, traffic congestion has economic and local air quality impacts of \$200 billion annually (source: [U.S. Government Accountability Office](#)). TDM can reduce these economic, environmental, and health impacts by reducing car trips and promoting more sustainable transportation options.

TDM promotes physical activity by encouraging walking, biking, and public transit use as part of daily routines. Nearly 25% of adults report that they do not engage in physical activity outside of their jobs, contributing to a sedentary lifestyle (source: [U.S. Department of Transportation](#)). By supporting active transportation and reducing reliance on single-occupancy vehicles, TDM helps communities integrate movement into their daily lives, playing an important role in maintaining mental and physical health.

Transportation is the largest contributor to climate change, accounting for **28% of all greenhouse gas emissions.**





Economic Development

By improving connectivity and reducing reliance on parking, TDM strategies help create vibrant, accessible commercial areas that attract more customers resulting in more revenue for businesses.

People who bike make more frequent trips to shopping and dining than people who drive. People who bike also spend more money per trip than people who drive (source: [Institute for Transportation & Development Policy](#)).

A study also found that 87% of public transit trips directly impact the economy—either through connecting people to retail, entertainment, or workplaces—and this impact continues to grow (source: [APTA](#)).

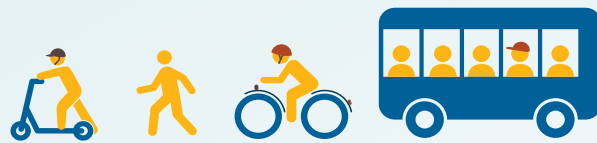
Businesses can also benefit from the reduced need for parking. A study that compared the economic activity generated by one street car parking space versus six bicycle parking spaces found that the car space generated \$700 in 14 hours, while the bike parking generated \$1,252 in only 8 hours (source: [Urbis](#)).

Car parking spaces can generate \$700 in economic activity in 14 hours, while **bike parking can generate \$1,252 in only 8 hours.**





Community members boarding The Vine.




Data-Driven Solutions *for* Growing Transportation Needs



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