TRANSPORTATION DEMAND MANAGEMENT (TDM) PLANS FOR DEVELOPMENT

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INTRODUCTION AND PURPOSE

Some Transportation Demand Management (TDM) measures require large-scale system changes (e.g., high occupancy vehicle lanes), while others can be implemented on a local or site-by-site basis. When TDM is implemented on a site-by-site basis through land use and zoning, the focus is typically on creating supportive infrastructure. In many communities, some form of TDM is already required by the development code. Because the land use process usually involves a one-time decision, it lends itself more easily to reviewing these types of built improvements. More challenging to implement through land use review are those programmatic TDM measures that require ongoing monitoring. This guide is intended to help local jurisdictions who are considering expanding their TDM efforts to incorporate programmatic TDM measures into the land use permit process.

Examples of Development-Related TDM Measures

TDM-Supportive Infrastructure	Programmatic TDM
♦ Requirements for pedestrian or transit oriented design	♦ Subsidized transit passes for employees
♦ Parking maximums	♦ Parking cash-out programs
♦ Minimum bicycle parking standards	♦ Provide bicycle safety education classes
♦ Requirements for transit amenities	♦ Transportation Management Associations

Incorporating programmatic TDM measures in the land use permit process is the focus of this guide

More specifically, this guide outlines one mechanism to incorporate programmatic TDM strategies in the land use review process: requiring applicants to prepare a **TDM Plan** that details how the applicant (and subsequent owners and/or tenants) will accomplish measures to reduce transportation impacts from the development over time.

This guide contains background information about TDM, a step-by-step approach for local governments interested in implementing a TDM Plan program, and model code language compatible with the Model Development Code for Small Cities.

WHY MANAGE TRANSPORTATION DEMAND?

Our personal, economic, and environmental health are all heavily influenced by how we travel. Driving less or choosing alternatives to single-occupancy vehicle (SOV) travel can contribute to environmental and public health. Reducing SOV trips also helps the state, regional, and local economies by freeing scarce roadway capacity for freight and transit use; retains money in the economy that would otherwise be exported to pay for fuel; and reduces the need to build expensive roadway, highway, and parking infrastructure.

Transportation Demand Management (TDM) can be a cost-effective way to reduce SOV trips. TDM entails a host of relatively low-cost strategies aimed at reducing the demand for transportation infrastructure and/or improving the efficiency of transportation systems. Benefits of TDM include efficient use of transportation resources, enhanced livability, and improved environmental quality and public health, among others. The State of Oregon has been helping local communities achieve these benefits through such programs as the Transportation and Growth Management (TGM) Program, ODOT's Transportation Options Program, and the state's first statewide Transportation Options Plan under development in 2013 – 2014.

Oregon's Transportation and Growth Management Program supports community efforts to expand transportation choices for people. By linking land use and transportation planning, TGM works in partnership with local governments to create vibrant, livable places in which people can walk, bike, take transit, or drive where they want to go.

TDM is more than individual solutions to individual problems, such as road pricing to reduce congestion or transit improvements to reduce pollution. TDM is most effective if implemented as an integrated program that includes improved transportation options and incentives to use the most efficient option for each trip.

What is a TDM Plan?

A "TDM Plan" (as the term is used in this guide) is a written document that outlines targets, strategies, and evaluation measures to reduce vehicle miles traveled (VMT) and reduce single-occupancy vehicle (SOV) mode share to and from a specific site.

TDM PLANS FOR DEVELOPMENT

The purpose of a TDM Plan is to monitor and mitigate the transportation impacts of a specific site over time. A TDM Plan details the process through which a developer and subsequent tenants commit to measures that decrease SOV travel to the facility over time. This process provides a menu-based approach for

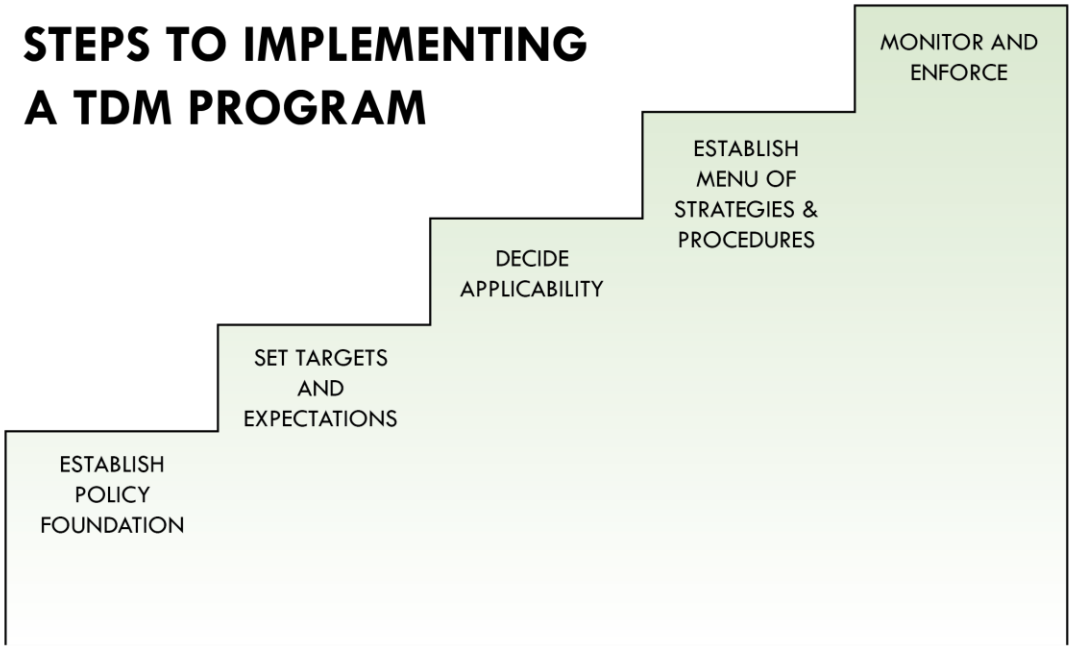
developers and tenants to implement supportive programs that encourage and educate employees and residents about travel options. A TDM Plan includes targets (e.g., mode split, emissions, or reduced vehicle miles traveled), a description of TDM strategies used to meet those targets, and evaluation measures to assess progress towards those targets.

Things to keep in mind

Local jurisdictions should consider the following questions:

- Do adopted plans provide an adequate policy basis for requiring TDM Plans?
- What are appropriate targets for TDM Plans? How might these targets be applied over time and support identified policy goals?
- When and where might TDM strategies be required? What are appropriate geographic locations (e.g., downtown) and thresholds (e.g., building square footage or number of employees)?
- Which types of TDM strategies typically work best for which types of projects?
- What types of regulations and procedures are needed to ensure successful TDM Plans?

The following sections of the guide provide a step-by-step approach for local governments interested in implementing a TDM Plan program.



ESTABLISHING A POLICY FOUNDATION

Expanding application submittal requirements and approval criteria for development review can be controversial. The first step is to determine whether existing plans provide an adequate policy basis for additional TDM requirements or if new policies need to be adopted.

Local policy documents, including the Comprehensive Plan, Transportation System Plan (TSP), and Climate Change Action Plan (if available), should be reviewed. These plans may already provide sufficient support for an expanded local TDM program. If not, they may need to be amended.

Examples of TDM supportive policies:

Portland Plan (2012): By 2035, Portland residents have reduced the number of miles they travel by car to 11 miles per day on average and 70 percent of commuters walk, bike, take transit, carpool or telecommute to work. Portland's transportation-related carbon emissions are 50 percent below 1990 levels, and effective strategies to adapt to climate change are in place and being implemented.

Tualatin's TSP (2013)

- TDM Policy 1: Support demand reduction strategies, such as ride sharing, preferential parking, and flextime programs
- TDM Policy 2: Partner with the Chamber of Commerce, the Westside Transportation Alliance, major employers, and business groups to implement TDM programs
- TDM Policy 3: Explore the use of new TDM strategies to realize more efficient use of the City's transportation system

In some cases there may not be local policy support for requiring TDM Plans. However, requiring TDM Plans in conjunction with an incentive or bonus, such as increased Floor Area Ratio (FAR) or reduced parking requirements, may be an alternative.

Additionally, Oregon's Transportation Planning Rule recognizes TDM as an option for reducing traffic projections from a proposed zoning amendment.

Transportation Planning Rule OAR 660-012-0060(1)(c) "…As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management…."

While this guide is focused on establishing requirements for TDM Plans for development, much of the information is also applicable to developing an incentive-based TDM program or TDM requirements triggered by a zone change.

SETTING TARGETS AND EXPECTATIONS

Setting targets and expectations for any TDM effort – and relating those targets back to local or regional goals – is essential. By connecting targets to vehicle miles traveled, emissions, and/or mode share goals, a jurisdiction can strengthen its case for requiring the implementation of a TDM Plan because it aligns with the community's broader goals.

Case study research illustrates the effectiveness of TDM in reducing drive alone trips and vehicle miles traveled (VMT). Washington State achieved a 2.8% reduction in drive alone rate and 2.6% VMT reduction at Commute Trip Reduction worksites from 2007-2009 (as well as a 1% reduction in drive alone rate and 9.3% reduction in VMT for those within Growth and Transportation Efficiency Centers).

In Portland and the surrounding areas, employers with 100+ employees are subject to Oregon Department of Environmental Quality (DEQ) Employee Commute Options (ECO) program. This rule requires employers to submit a TDM Plan to reduce the number of trips to the worksite and to survey their employees. ECO survey data shows a 6.5% decrease in SOV mode-split. This equates to an average reduction of 273 annual VMT per employee (among all covered employees). NOTE: Jurisdictions that are subject to the ECO Rule should ensure that TDM Plan requirements match Eco Rule requirements to avoid overburdening employers.

Community TDM Targets

Communities require TDM strategies as part of the development process to help meet a range of goals, including reducing the number of vehicle miles traveled, vehicle-related emissions, and SOV travel:

- **Vehicle Miles Traveled (VMT):** VMT is a calculation of the number of miles traveled from an origin to a destination. In this context, the calculation of VMT would be measured by surveying the number of vehicle miles traveled for employees or users at the specific development site. Communities often have a total or per capita regional or local VMT target. A VMT-based target emphasizes the need to reduce the length of trips, in addition to reducing the number of single occupancy vehicle trips in general. An example of a target might be to "reduce the number of vehicle miles traveled to 1990 levels by 2020."
- **Emissions:** Related to vehicle miles traveled, a transportation-related emissions target sets a goal to reduce the amount of transportation-

related emissions in a specific timeframe. A sample target might be to "reduce transportation-related emissions to 1990 levels by 2020."

- **Mode share:** Mode share is the percentage of trips by type (i.e., biking, walking, transit, SOV, etc.). Communities often have mode share targets, especially for downtown areas. A sample mode share target might be to "achieve 50% non-single-occupancy vehicle travel by 2035."

Having measurable targets that relate to local and/or regional policy goals adds validity and purpose to the TDM Plan process.

Identifying TDM Targets

Once the community's overall vehicle miles traveled, emissions, or mode share goals have been defined, the next step is to identify goals or targets specifically for a TDM Plan that support the broader community goals. The metrics by which the TDM Plan will be evaluated have a direct impact on how TDM is approached.

As a first step, the applicant will need to establish a baseline estimate of the VMT, emissions, or mode share for the development. In most cases, employees or tenants will not be occupying the building at the time the TDM Plan is being prepared; therefore, the applicant will have to rely on recent comparable data. Comparable data may either be from a similar nearby development that has established a TDM Plan or, in the case of mode share, the applicant may use the community-wide mode share determined by the American Community Survey or another local source.

Once the baseline data is documented, phased targets will be set showing how the program will work toward meeting the community targets. As noted above, VMT, mode share, and emissions targets are often long-term community goals set over two or three decades. To be effective, the TDM Plan process must set realistic annual or two year targets that will achieve the long term goals over time. For example, if the community has a mode share goal to reach 50% SOV mode share by 2020, the TDM Plan will detail interim targets to meet those goals based on the.

As noted in the Monitoring and Enforcement section below, the applicant (or property owner) will be required to survey employees every year or every two years to report on progress toward the mode share goal. For example, as shown below, if the baseline mode share is 75% in 2013 and the 2020 target is 50%, the 2015 target would be 69%, the 2017 target would be 63%, and so on until the 2020 target is met.

Example Interim Mode Share Targets

Year	Interim Mode Share Target
2013 baseline	75% SOV
2015 target	69% SOV
2017 target	63% SOV
Etc…..	Etc…..
2020 target	50% SOV

APPLICABILITY – WHEN AND WHERE SHOULD TDM PLANS BE REQUIRED?

One of the first steps is to determine when and where TDM Plans should be required. Not all locations and development projects are equally well suited to TDM. Creating and monitoring TDM Plans is not without cost, both for the developer and the jurisdiction, so requirements should focus on areas where real benefits can be achieved.

TDM Plans could be required citywide, within regional or town centers, in employment centers, or in Multimodal Mixed Use Areas.[1] TDM Plans can also be required based on the type of use, the projected number of trips to the site, the number of parking spaces, the number of employees, or the square footage of the development (or redevelopment). In some cases, the type of land use approval is also a factor (e.g., TDM Plans are required for master plan or conditional use approval).

Ideally, requirements reflect both appropriate geography and size or magnitude of the development. Defining the requirement solely based on the type of use, for example, may mean that commercial buildings in outlying industrial sites have the same TDM requirements as a commercial building in downtown where there are bicycle facilities, transit service, and high pedestrian connectivity. Similarly, a trigger that relies solely on geographic location may overburden very small buildings that will likely have very little impact on the transportation system. Therefore, selecting multiple triggers from the list below is recommended, depending on the community's goals and land use context. Determining which triggers initiate the requirement of a TDM Plan will be an important policy decision for each community.

[1] The Multimodal Mixed Use Area (MMA) designation is applied by local governments to downtowns, town centers, main streets, or other areas where the local government determines that there is: (1) high-quality connectivity to and within the area by modes of transportation other than the automobile, (2) a denser level of development of a variety of commercial and residential uses than in surrounding areas, (3) a desire to encourage these characteristics through development standards, and (4) an understanding that increased automobile congestion within and around the MMA is accepted as a potential trade-off.

Types of Triggers or Thresholds for a TDM Plan

Type of Trigger	Example Triggers
Geographic	Citywide, regional/town centers, employment centers, corridors, multimodal mixed use areas
Type of Use	Office, institutional, multi-family residential
# of Trips	Based on a traffic impact study, those developments estimated to generate 100+ peak daily trips
# of Employees	Developments expected to house 100+ employees
# of Residential Units	Developments with 50+ residential units
Square Footage	Developments that exceed 50,000 square feet
Parking	Developments that will add more than 20 non-residential parking spaces
Land Use Approval	Master plan approval, conditional use permits

Once it is determined **where** TDM Plans will be required, it must be determined **how** they will be required. The approach outlined in this guide suggests that TDM Plans be handled in a manner similar to Transportation Impact Analyses and other technical reports. Where required, an applicant would submit a TDM Plan prepared in accordance with the jurisdiction's requirements as part of a complete development application.

WHICH TDM STRATEGIES SHOULD BE INCLUDED IN A TDM PLAN?

This section provides an overview of TDM strategies that can be used to reduce the transportation impacts of new development (or major redevelopment) and allow the applicant to meet the targets set in the section above.

TDM strategies can be infrastructure-based (e.g., bicycle parking and shower facilities) or programmatic (e.g., Guaranteed Ride Home program, subsidized transit passes, or rideshare program sponsorship). While infrastructure-based TDM measures can be implemented at the time of construction, a TDM Plan focuses on the programmatic elements that will be implemented by the building manager or employer throughout the lifetime of the building (see the section "TDM Plans Last for the Life of the Development" for guidance on how to ensure that TDM Plans are implemented and monitored throughout the lifetime of the development).

The table below provides a menu of TDM strategies. TDM strategies listed below are not all created equal; the effectiveness of the strategies depends on the land use context and existing infrastructure and programs. The TDM strategies listed

do not represent an exhaustive list, but rather a sampling of strategies. Jurisdictions should tailor the list of applicable TDM strategies based on the local context. However, it is important to provide a menu of options for developers to choose from given that the land use context, type of development, and location will vary greatly. In all cases, city staff will need to work with the developer through the TDM Plan process to ensure that the TDM strategies selected will help achieve the identified goals and targets.

Example Menu of TDM Plan Strategies

Category	TDM Strategy	Program Description
Parking	Market-priced parking	Charging the market price for parking instead of subsidizing employee parking encourages employees to use alternative modes. Under the right conditions (i.e., in parking-constrained areas), priced parking can be a highly effective strategy.
	Preferential parking for rideshare vehicles	Priority and designated parking for carpools, vanpools, and bike share stations can help encourage the use of rideshare, particularly in areas that are not well served by transit or biking and walking facilities.
	Parking cash-out program	Parking cash-out is a program by which employers who offer free or reduced-price parking to their employees are required to offer an equal transportation fringe benefit to employees who use modes other than driving alone to get to work.
Transit	Universal transit pass	Universal transit pass systems typically require a partnership between the city, the transit provider, and potentially a local university. Universal passes typically allow unlimited rides on local or regional transit for a low monthly fee, which are often absorbed entirely by the employer, school, or developer. The universal transit pass system typically requires that the participating agency purchase passes at a discounted rate for all employees, students, or residents. Universal transit pass programs can benefit developers if implemented along with reduced parking requirements, which consequently lowers construction costs.

Category	TDM Strategy	Program Description
	Transit pass pre-tax purchase	The Internal Revenue Service allows up to $245 of a transit pass to be deducted from an employee paycheck pretax. This benefit reduces the amount of federal taxable income for the employee and reduces the amount of payroll taxes for the employer. (There are also permitted deductions for bicycle commuting and carpooling.)
	Transit pass subsidy	Employers, building managers, or developers can provide a subsidized transit pass to employees or residents. In this case, the employee or resident purchases a transit pass from the employer or building manager at a discounted price.
Rideshare	Sponsored rideshare programs	Rideshare programs include both carpooling and vanpooling. Rideshare programs work particularly well in areas that are not well-served by transit, bicycling, or walking facilities. Rideshare – particularly vanpools – are also best supported in employment areas where employees are traveling more than 10 miles each way to work. Employer sponsorship of a vanpool program in the form of coordination, ridematching, and/or monetary subsidy significantly increases the success of the program.
	Vanpool pre-tax deduction	The Internal Revenue Service allows up to $245 to be deducted from an employee paycheck pretax for vanpool costs.
	Shuttle service	Employment sites that are not close to transit service can benefit from an employer-sponsored shuttle service. Shuttle programs are typically sponsored by the employer and provide transportation between the employment site and major transit stops.
	Guaranteed Ride Home program	A Guaranteed Ride Home program provides a set number of subsidized rides to commuters who use alternative modes to work. Rides are typically provided by a local taxi company.
Telecommute	Telecommute program	Telecommute programs allow employees to work from home for a certain number of hours per week or shift the time of day when employees travel to work to shift peak-hour travel.

Category	TDM Strategy	Program Description
Information	Information kiosk	An on-site information kiosk provides information on transit routes, schedules, and fares; carshare and vanpool ridematching services; bicycle maps and resources; and other ways to help people travel by using alternative modes.
	Transportation Coordinator	A Transportation Coordinator is a trained, designated employee on-site who is responsible for providing transportation options information to employees and facilitate employee surveying.
	Individualized marketing	Individualized marketing campaigns typically target a neighborhood, corridor, or employment site. These campaigns provide individualized marketing travel options materials in a designated area to encourage people to use alternative modes.
Other	TMA membership	A Transportation Management Association (TMA) is a member-supported organization that provides transportation services to employers in a specific area. A TMA membership typically provides hands-on support from the TMA to help the employer survey the commute patterns of its employees and provide transportation information.
	Bicycle commuter tax reimbursement	Participating employers may provide up to $20 per month reimbursement to commuters for qualified bicycle commuting expenses. See more information here.
Promotion	Sponsor events to promote alternative modes	Promotional events and competitions help to promote alternative modes of travel. These events include competitions such as Bike to Work Week, during which employees compete with themselves or other companies to ride the most number of miles in a week.
Shared Mobility	Bikeshare	Bikeshare programs provide a fleet of bicycles typically available to the public through a membership program. Bikeshare bikes help residents and employees take more trips by bike.

Category	TDM Strategy	Program Description
	Carshare	Carshare programs allow carshare members to reserve a car for a short period of time – typically a number of hours or a day. Carshare vehicles reduce the need for people to need to own their own vehicle, and therefore can reduce the need to build parking.

The types of TDM strategies selected for the TDM Plan will vary based on the proposed use. For example, residential developers should select TDM strategies that support all types of trips, such as bikeshare and carshare memberships, subsidized transit passes, and an information kiosk onsite. Commercial developers will select strategies that are geared towards employees, such as a TMA membership, telecommute programs, and parking cash-out programs. The target audience and types of trips must also be considered when selecting the TDM strategies. For example, TDM strategies for a large institution, such as a hospital, will focus on the travel patterns of both the employees and the visitors.

WHAT TYPES OF REGULATIONS ARE NEEDED TO ENSURE SUCCESSFUL TDM PLANS?

A TDM Plan is the document submitted by a developer as part of the development review process to demonstrate compliance with TDM targets. Similar to a transportation impact analysis or other technical report, in order to ensure quality submittals and a fair process, submittal and procedural requirements for TDM Plans should be specified. The minimum specifications for TDM Plans can be included in the jurisdiction's development code or engineering standards or other administrative rules; however, the regulations establishing when and where TDM Plans are required should be included in the development code.

This section provides an overview of TDM Plan requirements. These concepts are further illustrated by the attached model code which outlines one approach to establishing TDM Plan requirements.

Seattle Children's Hospital – A case study in TDM Implementation

The Seattle Children's Hospital has a renowned TDM Plan that focuses on changing the travel patterns for employees and visitors through the following strategies:

- Paid employee parking: employees have to pay $50/month to park; employees are also paid $50/month if they choose not to park
- Robust shuttle-to-transit system linking Children's to regional transit hubs
- Innovative bicycle programs including Flexbike (shared bicycle program) and Company Bikes which offers free bicycles to employees committed to cycling at least two days per week
- Financial rewards for employees who commute without driving alone
- Guaranteed Ride Home program
- Subsidized bicycle tune-ups
- Onsite showers and lockers
- Secure bike parking
- Cover 100% of vanpool fares and provide incentives to vanpool drivers

The Seattle Children's Hospital has also made investments in Supportive Infrastructure:

- Campus design and near-site improvements to encourage alternative transportation
- Intelligent Transportation Systems (ITS) for NE 45th Street / Montlake Boulevard / Sand Point Way NE to optimize the performance of key intersections and reduce vehicle delay and travel time (for more information about ITS see http://www.its.dot.gov/)
- Contributions to capital projects that will improve the northeast Seattle transportation network
- Investments in walkable and bikeable northeast Seattle

The Seattle Children's Hospital TDM program has seen marked success. Between 1995 and 2010, the drive-alone rate of employees has decreased considerably from 73% to 38%.

Submittal Requirements

As outlined in this guide, TDM Plans would be implemented as part of the land use review process. At minimum, TDM Plans should include the following:

- Project description
- Trip forecasts: volumes, times of day, modes, origins/destinations (if known), methodologies
- Performance targets that conform to those set by the jurisdiction
- TDM strategies proposed for implementation
- Performance Monitoring & Adaptive Management Plan

- Copies of documentation to ensure deed notification of mandatory participation in the final TDM program to all subsequent purchasers and owners of the project

Review Process

If the TDM Plan will be submitted and reviewed concurrently with the land use application, a timeline for the internal review of the process should also be included. Under this approach, the implementation of the final TDM Plan can be made a condition of a project's approval.

TDM Plans Last for the Life of the Development

The TDM Plan will be submitted at the time of the development review process, and in many cases, the developer will not be occupying the building post-development. For this reason, the regulations should specify how the requirements in the TDM Plan will be passed on to the tenants for the lifetime of the building.

Monitoring and Enforcement

As noted above, setting targets in the TDM Plan that relate to community mode split, VMT, or emissions goals is preferred to enhance the validity of the process and ensure progress is being made towards the identified targets over time.

The developer – and subsequently the employer or building manager – will be required to implement the strategies agreed upon in the TDM Plan and survey the employees and/or residents in the building annually to document progress towards the identified targets. For example, if the target is to reach a 50% SOV mode split by 2020, the employer or building manager will survey employees or residents in year one to document a baseline mode split. Employees or residents

Case study research reveals that monitoring and enforcement are among the biggest challenges of implementing a TDM Plan program. Surveying employees or tenants to monitor the progress made toward the identified mode share goals can be time consuming and expensive. Implementation of a TDM Plan over time requires coordination between the jurisdiction, the developer, the landowner, and ultimately the tenant. The cost of monitoring for compliance should be taken into consideration when establishing the applicability of the TDM Plan requirements.

In Portland, Oregon, the Lloyd District Transportation Management Association (TMA) helps employers meet the requirements of the state-mandated Employer Commute Options (ECO) rule which requires employers with more than 100 employees to track mode split every two years. The Lloyd TMA assists over seventy-five employers and 9,000 employees adhere to ECO requirements.

will then be surveyed again in years three, five, etc. to document progress towards the identified goal. Monitoring every other year is recommended.

If targets are not being met, it will be up to the local jurisdiction to determine an enforcement or "adaptive management" strategy to ensure TDM strategies are appropriately matched to reach the identified target. An "adaptive management" strategy is recommended over stringent enforcement in order to avoid deterring development. Affecting travel behavior takes time, and TDM strategies may need to be adjusted based on the initial surveys of the employees, residents, or visitors. Ultimately, a jurisdiction may need to consider enforcement in those cases where there is a lack of significant progress towards identified goals and a good faith effort is not being made. If the TDM Plan was approved as part of a land use decision, the zoning enforcement provisions of the code could be applied.

REFERENCES AND RESOURCES

The following resources are also available:

- Victoria Transportation Policy Institute Online TDM Encyclopedia: www.vtpi.org
- University of South Florida TDM Effectiveness Research: www3.cutr.usf.edu/tdm/
- Shoup, Donald C. (2005) *Planning Advisory Service 532: Parking Cash Out*. American Planning Association Advisory Service: www.planning.org/apastore/Search/Default.aspx?p=2439
- STARS Strategies Effectiveness Rating Guide: http://www.transportationcouncil.org/about-stars
- Tumlin, Jeffrey. (2012) *Sustainable Transportation Planning: Tools for Creating Vibrant, Healthy, and Resilient Communities*. John Wiley and Sons, Hoboken, NJ.

TDM PLANS FOR DEVELOPMENT - MODEL CODE LANGUAGE

This section outlines the minimum specifications for TDM Plans. The language below has been formatted as an additional module for inclusion in the TGM program's **Model Development Code for Small Cities, 3rd Edition** as a new subsection "Q." within Section 3.6.020 (Transportation Standards). However, these specifications could be included with a jurisdiction's engineering standards or other administrative rules.

3.6.020 Transportation Standards

Q. Transportation Demand Management Plans

1. Purpose.

Transportation Demand Management (TDM) Plans are intended to help achieve State, [regional,] and City policies to: improve health and safety, reduce travel delay by reducing discretionary drive-alone trips, strengthen the economy by reducing money exported for fuel, reduce greenhouse gas emissions, and improve community livability by reducing vehicle trips and providing attractive options to driving alone.

Effective TDM requires collaboration between transportation system users, employers, developers, builders, building managers, residents, and the City government. This subsection outlines the process to prepare an effective TDM plan.

2. Applicability.

These standards apply to all new [non-residential] development [and redevelopment] within [designated multimodal mixed use areas (MMAs) and mixed use corridors] as shown on Map 3.6.020.Q.1.

3. Exemptions.

Projects projected to generate fewer than [100 trips] on a peak day are exempted from the TDM Plan requirement.

NOTE: The requirement to provide a TDM Plan (Applicability) and any exemptions should be included in the development code even if the other specifications are maintained in a separate Administrative Rule.

4. TDM Plan Requirements.

At a minimum, TDM Plans shall include the following:

- Project description
- Trip forecasts: volumes, times of day, modes, origins/destinations (if known), methodologies
- Performance targets (per section 3.6.020.Q.5 below)
- TDM program strategies proposed for implementation (per section 3.6.020.Q.6 below)
- Performance Monitoring & Adaptive Management Plan (per section 3.6.020.Q.7 below)
- Copies of documentation to ensure that notice of the deed restrictions requiring mandatory participation in the final TDM program is provided to all subsequent purchasers and owners of the project (see Section 3.6.020.Q.9 below)

5. Performance Targets.

Long term modal performance targets are established in the City Transportation System Plan (TSP). Targets vary based on Design Type.

The applicant will propose a baseline (opening year) mode share using recent and accurate data for the location and types of trips to and from the proposed development.

The applicant will propose a [2040] modal target consistent with at least the mid-point of the modal targets in Table 3.6.020.Q.1. The applicant will also propose interim targets for three, six, and nine years from project opening.

Table 3.6.020.Q.1: 2040 Non-SOV Modal Target by Design Type

Design Type	Non-SOV Modal Target
Multimodal Mixed Use Area (MMA)	60 percent
Mixed Use Corridors	45 percent

6. TDM Program Strategies.

Applicants shall identify strategies to achieve the [2040] and interim modal targets. The effectiveness of each TDM strategy varies based on land use, scale of

development, and the range of travel options currently, and projected to be, available. Parking pricing and financial incentives are often the most effective strategies.

The TDM Program Strategies Menu in Table 3.6.020.Q.2 below provides potential TDM strategies for applicants to consider and evaluate.

Applicants shall identify when strategies are proposed to be implemented and provide evidence of the combined effectiveness and likelihood of achieving the modal targets consistent with the location and availability of travel options.

The menu in Table 3.6.020.Q.2 provides suggested strategies or guidance; it does not represent a comprehensive list of TDM strategies.

Table 3.6.020.Q.2 TDM Program Strategies Menu

Category	TDM Strategy	Program Description
Parking	Market-priced parking	Charging the market price for parking instead of subsidizing employee parking encourages employees to use alternative modes. Under the right conditions (i.e., in parking-constrained areas), priced parking can be a highly effective strategy.
	Preferential parking for rideshare vehicles	Priority and designated parking for carpools, vanpools, and bike share stations can help encourage the use of rideshare, particularly in areas that are not well served by transit or biking and walking facilities.
	Parking cash-out program	Parking cash-out is a program by which employers who offer free or reduced-price parking to their employees are required to offer an equal transportation fringe benefit to employees who use modes other than driving alone to get to work.

Category	TDM Strategy	Program Description
Transit	Universal transit pass	Universal transit pass systems typically require a partnership between the city, the transit provider, and potentially a local university. Universal passes typically allow unlimited rides on local or regional transit for a low monthly fee, which are often absorbed entirely by the employer, school, or developer. The universal transit pass system typically requires that the participating agency purchase passes at a discounted rate for all employees, students, or residents. Universal transit pass programs can benefit developers if implemented along with reduced parking requirements, which consequently lowers construction costs.
	Transit pass pre-tax purchase	The Internal Revenue Service allows up to $245 of a transit pass to be deducted from an employee paycheck pretax. This benefit reduces the amount of federal taxable income for the employee and reduces the amount of payroll taxes for the employer. (There are also permitted deductions for bicycle commuting and carpooling.)
	Transit pass subsidy	Employers, building managers, or developers can provide a subsidized transit pass to employees or residents. In this case, the employee or resident purchases a transit pass from the employer or building manager at a discounted price.

Category	TDM Strategy	Program Description
Rideshare	Sponsored rideshare programs	Rideshare programs include both carpooling and vanpooling. Rideshare programs work particularly well in areas that are not well-served by transit, bicycling, or walking facilities. Rideshare – particularly vanpools – are also best supported in employment areas where employees are traveling more than 10 miles each way to work. Employer sponsorship of a vanpool program in the form of coordination, ridematching, and/or monetary subsidy significantly increases the success of the program.
	Vanpool pre-tax deduction	The Internal Revenue Service allows up to $245 to be deducted from an employee paycheck pretax for vanpool costs.
	Shuttle service	Employment sites that are not close to transit service can benefit from an employer-sponsored shuttle service. Shuttle programs are typically sponsored by the employer and provide transportation between the employment site and major transit stops.
	Guaranteed Ride Home program	A Guaranteed Ride Home program provides a set number of subsidized rides to commuters who use alternative modes to work. Rides are typically provided by a local taxi company.
Telecommute	Telecommute program	Telecommute programs allow employees to work from home for a certain number of hours per week or shift the time of day when employees travel to work to shift peak-hour travel.

Category	TDM Strategy	Program Description
Information	Information kiosk	An on-site information kiosk provides information on transit routes, schedules, and fares; carshare and vanpool ridematching services; bicycle maps and resources; and other ways to help people travel by using alternative modes.
	Transportation Coordinator	A Transportation Coordinator is a trained, designated employee on-site who is responsible for providing transportation options information to employees and facilitate employee surveying.
	Individualized marketing	Individualized marketing campaigns typically target a neighborhood, corridor, or employment site. These campaigns provide individualized marketing travel options materials in a designated area to encourage people to use alternative modes.
Other	TMA membership	A Transportation Management Association (TMA) is a member-supported organization that provides transportation services to employers in a specific area. A TMA membership typically provides hands-on support from the TMA to help the employer survey the commute patterns of its employees and provide transportation information.
	Bicycle commuter tax reimbursement	Participating employers may provide up to $20 per month reimbursement to commuters for qualified bicycle commuting expenses. See more information here.
Promotion	Sponsor events to promote alternative modes	Promotional events and competitions help to promote alternative modes of travel. These events include competitions such as Bike to Work Week, during which employees compete with themselves or other companies to ride the most number of miles in a week.

Category	TDM Strategy	Program Description
Shared Mobility	Bikeshare	Bikeshare programs provide a fleet of bicycles typically available to the public through a membership program. Bikeshare bikes help residents and employees take more trips by bike.
	Carshare	Carshare programs allow carshare members to reserve a car for a short period of time – typically a number of hours or a day. Carshare vehicles reduce the need for people to need to own their own vehicle, and therefore can reduce the need to build parking.

7. TDM Performance Monitoring & Adaptive Management Plan.

a. Annual Performance Monitoring. The applicant will propose a plan for annual performance monitoring; including when and how travelers to and from the site will be surveyed; who will provide the Annual TDM Performance Report to the City (per section 3.6.020.Q.9); an annual due date for submitting the data; and how the survey response threshold, consistent with the Oregon Employee Commute Options requirements, will be met.

b. Adaptive Management Plan. The applicant will propose additional TDM actions, likely to achieve performance thresholds, to be evaluated and implemented if interim mode share targets are not achieved.

8. Review Process.

TDM Plans will be reviewed concurrently with the land use application. The design and implementation of the final TDM Plan shall be a condition of a project's approval.

The [Planning Official] will provide applicants with information on the TDM requirements at a pre-application conference.

NOTE: Internal review of TDM Plans should follow the same general process that is used for the review of Transportation Impact Analyses and similar technical reports. However, if the requirements for TDM Plans are adopted into Administrative Rules, language specifying how the review will be conducted may need to be included. See example below.

[Following receipt of an application, including a draft TDM Plan, the [Planning Official] will provide the draft plan to the [City Engineering Department] within five days. The [City Engineering Department] will respond with comments and recommendations to the [Planning Official] within five days. If additional changes are needed, the [City Engineering Department] will provide comments and recommendations to the [Planning Official] within five days of receiving the changes.]

9. Monitoring & Enforcement.

a. Annual Transportation Demand Management Performance Report. The property owner shall submit an annual "TDM Performance Report" to the [Planning Official] beginning one year from initial occupancy and at one year intervals thereafter. If the site is not meeting modal performance targets, the property owner will propose additional TDM actions as outlined in the Adaptive Management Plan and document why they are likely to achieve the modal targets within the next year.

   Consistent with the Oregon Employee Commute Options (ECO) Survey, questions at a minimum shall cover the type and frequency of modes of transportation used in a typical week (e.g., walk, cycle, drive alone, carpool, vanpool, use public transit, etc.), reasons for driving alone (e.g., availability of free parking, needing privacy, flexibility to assist family members, etc.), strategies that would lead drive alone respondents to use alternative modes (e.g., a guaranteed ride home program, subsidized transit passes, parking pricing, etc.), and whether or not respondents participate in telecommuting and/or flex work hour arrangements.

   The [Planning Official] may provide the property owner with written notification indicating whether the TDM Performance Report and Adaptive Management Plan are deemed acceptable within 60 days of their receipt. The [Planning Official] may request auditable documentation to determine compliance.

b. Commitment to Maintain Transportation Demand Management for the Life of a Project. Applicants are required to incorporate the TDM Plan modal performance targets and performance monitoring reporting into deed restrictions, such as Covenants, Conditions & Restrictions (CC&Rs), to ensure that the TDM Plan runs with the land. Wording of the deed restrictions must ensure that the property, as well as every owner and

occupant, shall be subject to, abide with, and satisfy all of the provisions and obligations contained in the TDM Plan. This includes any obligation to provide funding and resources to implement the TDM Plan, and all requirements of associated conditions of approval imposed by the City. It is important to clarify that the TDM Plan requirements apply equitably to all portions of the property. They also apply to all owners and tenants, as well as their successors, in case the property is transferred, sold, or leased.