

# City of Madison

DEPARTMENT OF



TRANSPORTATION

# Transportation Demand Management Program

*Prepared by the State Smart Transportation Initiative, UW-Madison, & the City of Madison Department of Transportation*



*State*  
**Smart Transportation**  
*Initiative*

2025

**Preparers**

Trent Schultz	City of Madison
Philip Gritzmacher	City of Madison
Charuvi Begwani	State Smart Transportation Initiative
Saumya Jain	State Smart Transportation Initiative

**Administration**

Mayor Satya Rhodes-Conway	Deputy Mayor Katie Crawley
Deputy Mayor Christy Baumel	Deputy Mayor Reuben Sanon

**Transportation Commission**

Ann Kovich (chair)	Denise Jess
Alder Juliana Bennett	Harald Kliems
Alder MGR Govindarajan	Chris McCahill
Alder Barbara Harrington-McKinney	Nicki Vander Meulen
Alder Dina Nina Martinez-Rutherford	Darrin Wasniewski
Pepe Barros	Robbie Webber
William Bremer	

**City of Madison Staff Team**

Zia Brucaya	Sean Malloy
Stefanie Cox	Heather Stouder
Eric Halvorson	Sabrina Tolley
Tom Lynch	Matt Tucker

## Table of Contents

1. INTRODUCTION .....	1
1.1 – Planning for Transportation Demand Management in Madison .....	1
1.2 – TDM efforts in Madison.....	4
1.3 – Advantages of a citywide TDM Program and Ordinance.....	6
1.4 – National best practices .....	7
2. TDM PROCESS.....	8
2.1 – Step 1: Determine Applicability .....	8
Considerations for Mixed Use and/or Multitenant Developments .....	10
2.2 – Step 2: Determine TDM Requirements .....	10
2.3 – Step 3: Create and Submit TDM Plan .....	16
2.4 – Step 4: Implementation, Reporting and Monitoring.....	18
2.5 – Applicability of TDM Requirements to Existing Properties .....	18
2.6 – Appeals Process .....	19
APPENDIX A: TDM MENU & MEASURES.....	20
A.1 – Active Transportation.....	20
A.2 – Transit.....	21
A.3 – Parking Strategies.....	22
A.4 – Shared Mobility .....	23
A.5 – Information .....	24
A.6 – Delivery.....	24
A.7 – Land Use.....	25
A.8 – Employer Policy.....	26
A.9 – Other .....	26
APPENDIX B: HYPOTHETICAL PROJECT EXAMPLES.....	27
B.1 – Residential Use .....	27
B.2 – Employment Use .....	29
B.3 – Commercial Use.....	31
B.4 – Mixed Use.....	33
APPENDIX C: Use Categories .....	36
1. Residential Uses.....	36
2. Employment Uses.....	36
3. Commercial Uses .....	37
4. Institutional Uses.....	38
APPENDIX D: TDM PROGRAMS IN OTHER CITIES .....	39

## Table of Figures

Figure 1 - Annual Vehicle Miles Traveled in the US vs. Population Growth	1
Figure 2 - Traditional Congestion Management vs. Transportation Demand Management Model	2
Figure 3 - East Washington Avenue During Peak Rush Hours	2
Figure 4 - Relevant planning goals and strategies in Madison	3
Figure 5 - Means of transportation to work in Madison	4
Figure 6 - Purpose of TDM and community benefits	4
Figure 7 - Historic TDM references in Madison’s Zoning Code	5
Figure 8 - TDM at the University of Wisconsin – Madison	6
Figure 9 - Round Trip, Greater Madison MPO's Ridesharing Program	6
Figure 10 - Existing TDM programs reviewed	8
Figure 11 - Land Use Categories and TDM Applicability	8
Figure 12- TDM Plan Creation Tool	11
Figure 13 - TDM Requirements for Different Land Uses	12
Figure 14 - TDM Requirement Modifiers Based on Location	14
Figure 15 - Transit Service Base Points Based on Location	15
Figure 16 - TDM Measure Categories	16
Figure 17 - TDM Measures	17
Figure 18 - Active Transportation Measures	20
Figure 19 - Transit Measures	21
Figure 20 - Parking Management Measures	22
Figure 21 - Shared Mobility Measures	23
Figure 22 - Information Measures	24
Figure 23 - Delivery Measures	24
Figure 24 - Land Use Measures	25
Figure 25 - Employer Policy Measures	26
Figure 26 - Other Measures	26

## Key Abbreviations

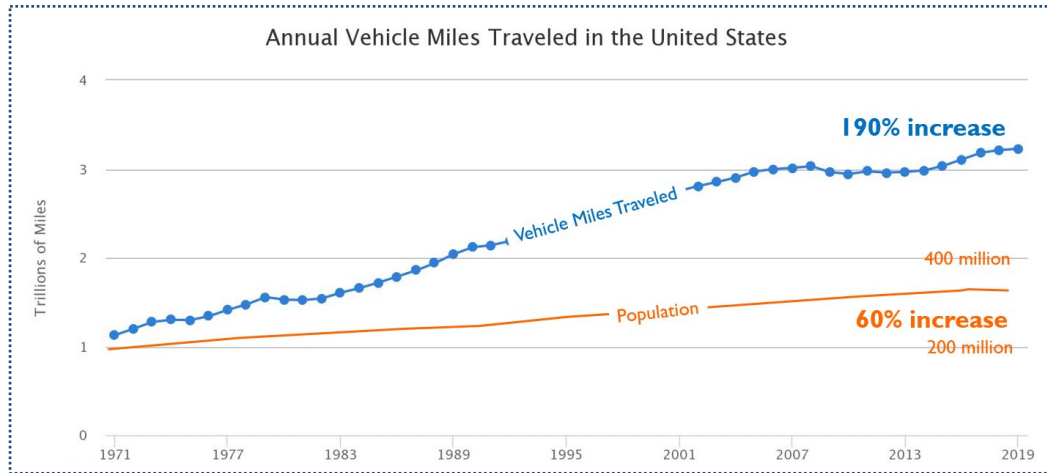
- BRT: Bus Rapid Transit
- DU: Dwelling unit
- HOV: High occupancy vehicles
- SOV: Single occupancy vehicles
- TDM: Transportation demand management
- TMA: Transportation management association
- TOD: Transit-oriented development
- VMT: Vehicle miles traveled

## 1. INTRODUCTION

### 1.1 – Planning for Transportation Demand Management in Madison

Over the past five decades, auto use, or Vehicle Miles Traveled (VMT) in the United States has grown at a rate three times greater than population. As VMT increases, so do challenges associated with increased auto use. Street networks have had to increase at a disproportional rate to satisfy the demand for travel. Similarly, motor vehicle emissions from transportation are now the greatest contributor to greenhouse gas emissions.

Figure 1 - Annual Vehicle Miles Traveled in the US vs. Population Growth<sup>1,2</sup>



Traditionally, roadway network capacity has increased as new development and/or congestion occurs along a corridor. This method of transportation system management has led to increases in VMT outpacing population growth.

Growth in transportation network capacity can “induce demand” – a phenomenon in which adding roadway capacity makes commuting via single-occupant vehicle (SOV) an attractive option due to excess capacity in the network. This, in turn, enables development in undeveloped peripheral areas in a more dispersed, sprawling, low-density development pattern – as development on the urban edge seems more viable. Sprawling, low-density development patterns increase VMT, which can lead to congestion, creating the need for more roadway capacity.

Adding roadway capacity indefinitely to address congestion concerns is not practical for a number of reasons:

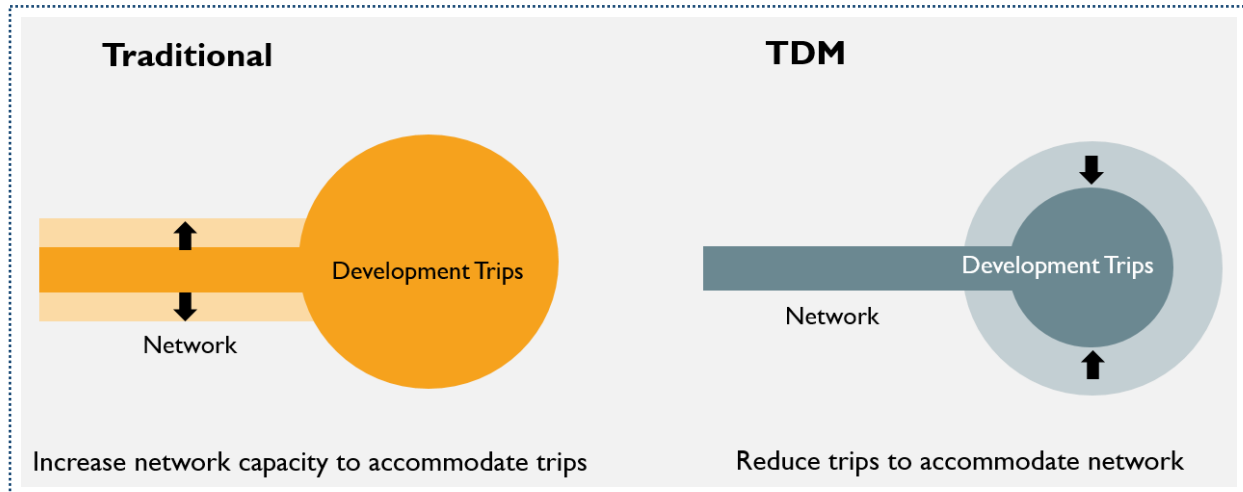
- Climate change is no longer a distant threat – it is occurring now. Additional VMT facilitates increase carbon emissions.
- Even with increasing reliance on electric vehicles, roadway capacity is a finite resource that cannot continually be enlarged.
- Financial capacity of local governments has decreased in recent years, making it more difficult to address congestion and safety concerns associated with increasing VMT.
- Space for future roadway expansion is exhausted in many places where it is most needed.
- Capacity expansions lead to wider, less safe places for users of active and public transportation and can foster less vibrant communities.

<sup>1</sup> Vehicle miles traveled. FRED. (2021, August). Retrieved August 2021, from <https://fred.stlouisfed.org/series/VMT>

<sup>2</sup> Bureau, U. S. C. (2021, August). *Historical Population Change Data (1910-2020)*. Census.gov. Retrieved August 2021, from <https://www.census.gov/data/tables/time-series/dec/popchange-data-text.html>

Transportation Demand Management (TDM) seeks to reduce the number of SOV trips new and existing developments generate to right-size utilization of the existing transportation network, rather than continually increasing the capacity to accommodate additional motor vehicle trips.

Figure 2 - Traditional Congestion Management vs. Transportation Demand Management Model



TDM is a package of information, policies, strategies and incentives designed to encourage transportation system users to reduce the number and length of SOV trips and consider more sustainable forms of transportation, such as public transportation and active transportation modes. A well-designed TDM program can optimize use of all transportation options and act as a counterbalance to the traditional incentives to drive, such as a free parking and significant roadway network subsidies.

Figure 3 - East Washington Avenue During Peak Rush Hours



The need for a TDM program has been identified in numerous City plans including the “Imagine Madison” Comprehensive Plan, the “Madison in Motion” Transportation Plan that recommends administering a TDM initiative, and the latest Climate Forward agenda that pushes for sustainable, low-carbon transportation modes. Figure 4 cites specific references to the need for a TDM program.

Figure 4 - Relevant planning goals and strategies in Madison



**CLIMATE FORWARD VISION (2021), ACTIONS:**

#3. Continue to invest in transit and other low-carbon transportation modes.

Require new **development to incorporate features** that help future workers **get around without a car**.



**COMPREHENSIVE PLAN (2018), STRATEGY 5 ACTIONS:**

c) Facilitate the creation of TMAs and implementation of **TDM strategies to serve high-intensity development** at Activity Centers and along transit corridors.

d) Transition auto-oriented commercial areas into **mixed-use activity centers**



**TRANSPORTATION PLAN (2017), PRIORITY RECOMMENDATIONS:**

11. Develop a prototype TMA in Madison, at an appropriate area of the City, as a mechanism to organize individual employers and **administer TDM initiatives**.

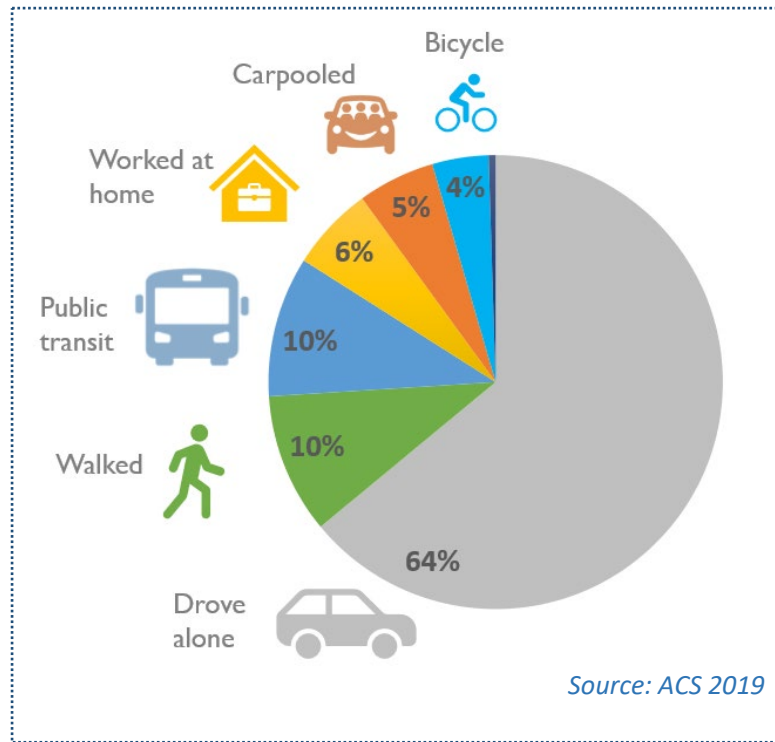
12. Evaluate employer based **TDM measures** to increase the use of **alternatives to the SOV** and to reduce the need for parking.



**SUSTAINABILITY PLAN (2011), GOALS:**

Various transportation-related goals and actions that seek to expand and encourage use of **sustainable transportation choices** to enable mobility without a car and establish evaluation methods to **track usage** and goal achievement.

Figure 5 - Means of transportation to work in Madison



Roughly two-thirds of work-related commute trips in Madison are SOV trips (Figure 5). By encouraging more sustainable ways of commuting and discouraging new car travel, TDM policies can help preserve road capacity and limit negative impacts of system-wide traffic such as air emissions, noise, and congestion. TDM can also proactively address localized issues of public health and safety, livability, and multimodal access by improving sustainable transportation choices, infrastructure, and services. Further, TDM can influence land use decisions and make the built environment more conducive to all modes of transportation.

Figure 6 - Purpose of TDM and community benefits



1.2 – TDM efforts in Madison

Through the development review process, the City of Madison requires some TDM-related measures – including bike parking and direct pedestrian access to new developments – outside of the adopted TDM Ordinance. Before the adoption of the TDM Ordinance the City required TDM measures for certain development projects, but TDM



measures were not consistently applied citywide. Under the City's land use ordinances, TDM measures have been required for conditional uses, planned developments, big box stores, and projects within master planned zoning districts. However, past TDM-related requirements and policies lacked consistent standards and predictable application. TDM plans and measures were previously required on an ad hoc basis, at the discretion of City staff and/or committees/commissions. This at times created an unequal and unpredictable environment for developers. Some developments had additional TDM requirements, while others did not. Additionally, in absence of a uniform policy, Plan Commission, Transportation Commission, and Common Council spent hours of deliberation on how many TDM measures were appropriate for a specific development. This created a difficult environment for developers, City staff, and elected officials. A consistent policy provides predictability and transparency for developers. A consistent documented policy allows elected officials to focus their attention and time on other pressing issues.

*Figure 7 – Historic TDM references in Madison's Zoning Code*

**CONDITIONAL USE**

Give consideration to TDM measures and participation in a transportation management association. (MGO 28.183)

**EMPLOYMENT CAMPUS DISTRICT**

Requirement of a master plan for any rezoning submittal which needs to have a TDM plan with measurable goals, strategies, and actions to encourage non-SOV. The TDM plan would be managed by a property owners' association or other acceptable entity, which would need to provide annual implementation reports to the Traffic Engineer. (MGO 28.087)

**MIXED USE CENTER DISTRICT**

The City Traffic Engineer may require a TIA to determine the impacts of the District. A TDM plan may be required to resolve traffic and parking concerns. (MGO 28.066)

**BIG BOX RETAIL (BY THE URBAN DESIGN COMMISSION)**

Single retail business establishments of or over 40,000 sq. ft. with 100 or more full-time employees are required to have a TDM Plan (updated every 2 years) or participate in a TMA. Provide either a full priced monthly bus pass (Madison Metro), or at least 3 of the following to all employees: ridesharing/ carpool matching; preferred parking for ride sharers; secured bicycle parking, showers and lockers; employee commuting subsidies or awards; emergency ride home program; employer-subsidized bus passes; provision of real-time transit information; or other options to discourage SOV use. (MGO 33.24)

**PLANNED DEVELOPMENT DISTRICT**

A TDM plan may be required to resolve traffic and parking concerns. The plan shall include measurable goals, strategies, and actions to encourage travelers to use alternatives to driving alone, especially at congested times of day. These could include carpools and vanpools; public and private transit; promotion of bicycling, walking and other non-motorized travel; flexible work schedules; parking management programs, etc. (MGO 28.098)

A number of TDM efforts currently occur within Madison. For instance, the University of Wisconsin-Madison Campus has adopted a state-of-the-art TDM program, and numerous employers also offer some form of TDM to their employees. Some of the larger, more prominent developments with existing TDM Plans include Madison College, UW Health, the Moxy Hotel, Archipelago Village, and Madison Yards.

Figure 8 - TDM at the University of Wisconsin – Madison

<p><b><u>BICYCLE INFORMATION</u></b> Wondering about the ins and outs of biking on campus? Look no further!</p>	<p><b><u>BIKESHARE</u></b> Did you know UW, UW Health, and UW affiliate employees and students are eligible for discounted bikeshare memberships?</p>	<p><b><u>CAMPUS BUS</u></b> All things bus! Fare-free campus buses are coordinated by Transportation Services.</p>
<p><b><u>CARPOOL</u></b> Have some friends to drive with? We administer a carpool program for faculty and staff. Benefits available for small and large groups.</p>	<p><b><u>CARSHARE</u></b> Did you know there are cars to rent on campus? Zipcars are located throughout campus.</p>	<p><b><u>CUSTOM ROUTE PLANNING</u></b> Submit this form to get a customized transportation info based on your preferences and interests.</p>
<p><b><u>EMERGENCY RIDE HOME</u></b> The Emergency Ride Home (EHR) Program supplies emergency cab vouchers for employees who don't drive to campus.</p>	<p><b><u>FLEX PARKING PROGRAM</u></b> Can you bike, bus, carpool, vanpool, or walk most of time? The Flex parking program is for those few times when driving is necessary.</p>	<p><b><u>EMPLOYEE BUS PASS</u></b> Transportation Services administers an employee bus pass program, available at a greatly subsidized cost. Students can get passes through ASM.</p>
<p><b><u>SAFEWALK</u></b> SAFEwalk is a walking companion service available to all students, faculty, staff, and UW visitors! Call/text 608-262-5000.</p>	<p><b><u>VANPOOL</u></b> Large groups (8-15 people) can rideshare in a state-owned passenger van, sharing costs.</p>	

UW-Madison is a national leader in university-based TDM and has one the most successful and comprehensive TDM programs within a university campus. It is a component of the UW-Madison Campus Master Plan, which is updated every 10 years. The Commuter Solutions unit within UW Transportation Services focuses on TDM programs, with the goal to reduce the amount of SOV coming to campus. Implemented TDM measures are found in the image above.

*Source: UW-Madison Facilities Planning*

Some TDM-related initiatives exist at the regional level as well. The Greater Madison Metropolitan Planning Organization (MPO) administers the RoundTrip program, providing commuter resources – such as carpool, vanpool, transit, and bike partner matching within Dane County. The Wisconsin Department of Transportation (WisDOT) administers the Rideshare, etc. program for commuters and employers in a 48-county area of central and southern Wisconsin and northern Illinois. Each of these programs seek to reduce congestion and pollution, while providing commuters with travel options and personal transportation cost savings.

Figure 9 - Round Trip, Greater Madison MPO's Ridesharing Program



**1.3 – Advantages of a citywide TDM Program and Ordinance**

While previous TDM-related requirements administered by various City agencies helped to limit traffic impacts from development, a codified TDM Ordinance and Program take TDM to another level in Madison. To that end, the City seeks to build upon its previous TDM practices by growing its current TDM Program and Ordinance. The current TDM

Program and Ordinance were directly influenced by best practices and successful TDM programs implemented across the country, with overarching goals to administer a program that is fair, consistent, and evenly and predictably applied citywide.

Developers submitting for site plan review are required through the TDM Ordinance to submit a TDM Plan as part of their final site plan approval, comprised of selected TDM measures to meet TDM point requirements. TDM point requirements are based on the project's land use, size, location, proposed parking capacity, and proximity to active transportation options and Metro Transit routes.

The citywide TDM Program offers advantages to prior TDM practices, specifically:

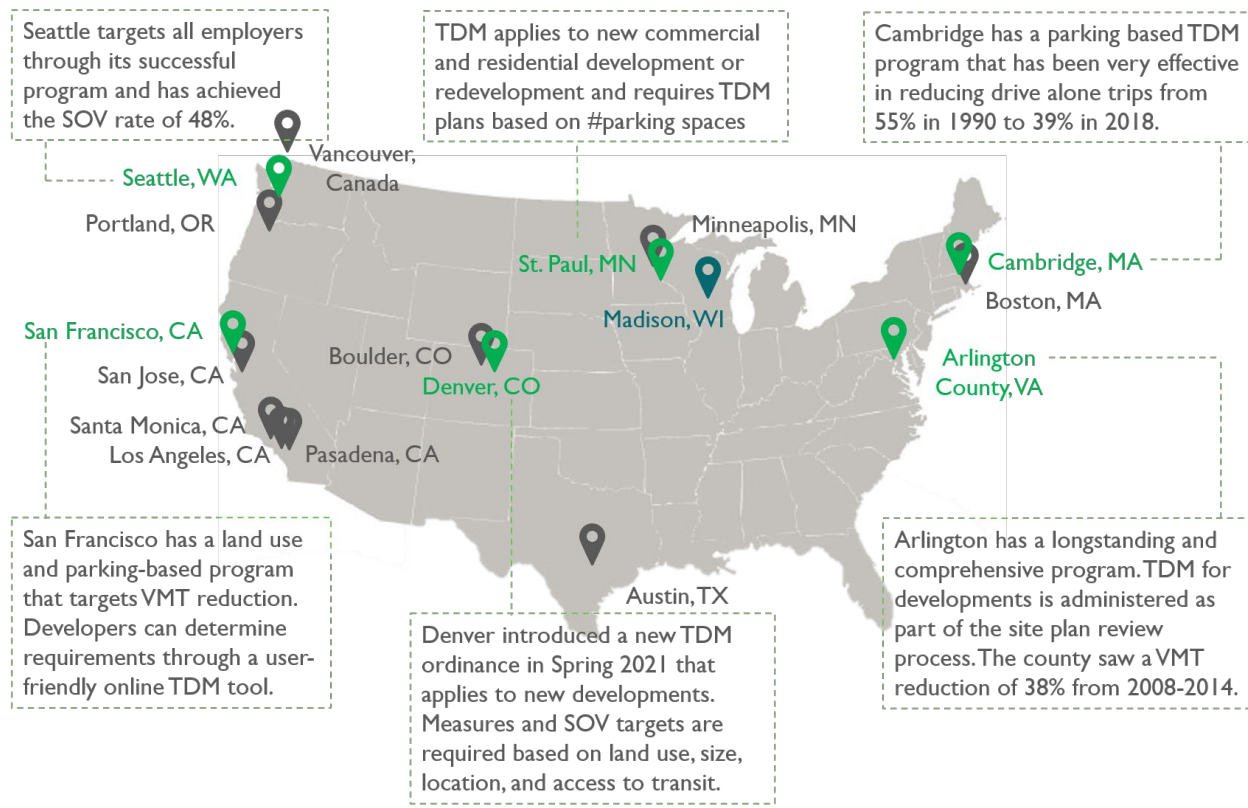
- ✓ **CONSISTENCY** – Uniform requirements across Madison with targets based on project size and proposed parking capacity.
- ✓ **CHOICE** – A menu of TDM measures, from simply installing wayfinding signs to providing a land-use mix.
- ✓ **CLARITY** – Straightforward requirements and measure options through a simple online tool.
- ✓ **CONVENIENCE** – Streamlined approval process for new or expanded buildings that minimizes the need for external assistance.
- ✓ **COMMUNICATION** – Traffic-reducing elements of a project are summarized for the public and policymakers.

#### ***1.4 – National best practices***

Throughout the United States, more communities are adopting TDM programs — choosing to address transportation needs and traffic impacts by managing travel demand instead of adding road capacity. Communities with TDM programs that informed the program development process in Madison are shown in Figure 10 (next page). Refer to [Appendix C](#) for a matrix summarizing successful TDM program structures and requirements in cities across the country.

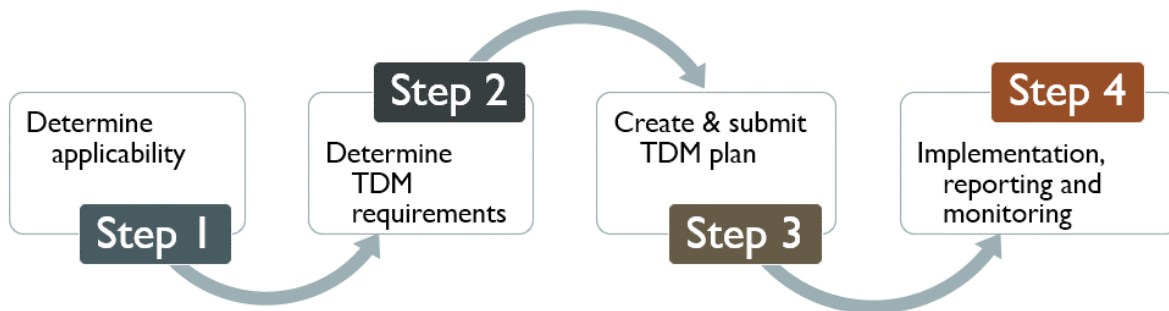
By implementing the program outlined in this document, Madison joins other leading cities to advance the state of practice in TDM, subsequently making progress toward long-term goals related to sustainability and multimodal access.

Figure 10 - Existing TDM programs reviewed



## 2. TDM PLAN REVIEW PROCESS

The TDM Plan review process can be broadly divided into four steps, explained in detail below. Refer to [Appendix B](#) for hypothetical project examples illustrating how the program would work for different uses.



### 2.1 – Step 1: Determine Applicability

The TDM Ordinance applies to new and expanding developments seeking approval of residential and/or non-residential uses (commercial, employment, institutional), or the addition a new or expanded parking facilities. Figure 11 lists out the size thresholds, exemptions, and eligible uses for each of the four broad land use categories.

Figure 11 - Land Use Categories and TDM Applicability

LAND USE CATEGORY	APPLICABILITY	ELIGIBLE USES (as defined in <a href="#">Madison's Zoning Code</a> )
<b>RESIDENTIAL</b>	<p>Applies to all proposed residential developments with 10 or more attached dwelling units, including residential components of mixed-use projects. Affordable housing projects are given some relaxation via point credits.</p> <p><b>Exemptions:</b></p> <ul style="list-style-type: none"> <li>- Uses with less than 10 DU</li> <li>- Uses with between 10-25 DU and a proposed parking ratio less than 1.0</li> </ul>	<p>Multi-family dwelling; Adult family home; Community living arrangement; Cohousing community; Housing cooperative; Lodging houses, fraternities, or sororities; Dormitories; Assisted living, congregate care, skilled nursing facility</p>
<b>EMPLOYMENT</b>	<p>Applies to all employment uses with over 10,000 sq. ft. of floor area including offices, service centers, storage and distribution centers, industrial uses, etc., as given alongside.</p> <p><b>Exemptions:</b></p> <ul style="list-style-type: none"> <li>- Uses with less than 10,000 sq. ft. of floor area</li> <li>- Uses with between 10,000 - 25,000 sq. ft. of floor area and a proposed parking ratio less than 1.0</li> </ul>	<p>Offices; Artist, photographer studio, etc.; Telecommunications center; Artisan workshop; Bottling plant; Wholesale establishment; Laboratories - research, development, and testing; Limited production, processing, and storage; Mail order house; Printing and publishing; Recycling collection center, drop-off station</p> <p><b>Industrial uses:</b> Brewery; General manufacturing; Hazardous waste collection, storage or transfer; Light manufacturing; Recycling center; Asphalt, concrete batching or ready-mix plant; Concrete, asphalt and rock crushing facility; Extraction of gravel, sand, other raw materials; Motor vehicle salvage; Lumberyard</p>
<b>COMMERCIAL</b>	<p>TDM measures would be required only with respect to employees since the focus is on reducing employee SOV trips. Visitor/patron measures are optional and would get additional credit.</p> <p><b>Exemptions:</b></p> <ul style="list-style-type: none"> <li>- Uses with less than 40,000 sq. ft. of floor area and proposed parking ratio less than 1.25</li> </ul>	<p>General retail; Animal boarding facility, kennel; Bank, financial institution; Business sales and services; Laundromat, self-service; Liquor store; Package delivery service; Payday loan business; Service business with or without showroom or workshop; Small appliance repair; Building materials; Drive-through sales and services, primary and accessory; Dry cleaning, commercial laundry; Furniture and household goods sales; Garden center; Greenhouse, nursery.</p> <p><b>Food services:</b> Food and related goods sales; Catering; Coffee shop, teahouse; Restaurant; Restaurant-tavern; Restaurant-nightclub; Tasting rooms; Taverns; Brewpubs</p> <p><b>Recreational and entertainment:</b> Health/sports club; Indoor recreation; Lodges, Private clubs, reception halls; Outdoor recreation; Theater, assembly hall, concert hall; Adult entertainment establishment, Adult entertainment tavern</p>

LAND USE CATEGORY	APPLICABILITY	ELIGIBLE USES (as defined in <a href="#">Madison’s Zoning Code</a> )
<b>INSTITUTIONAL</b>	<p>TDM measures would be required only with respect to employees since the focus is on reducing employee SOV trips. Visitor/student measures are optional and get additional credit.</p> <p><b>Exemptions:</b></p> <ul style="list-style-type: none"> <li>- Uses with less than 40,000 sq. ft. floor area and proposed parking ratio less than 1.25</li> <li>- Institutions with campus master plans</li> </ul>	<p><b>Hotel/lodging:</b> <i>Bed and breakfast establishment; Hotel, inn, motel; Lodge</i></p> <p><b>Educational:</b> <i>Public and private high schools (Grade 9 and above); Arts, technical or trade schools; Colleges, universities</i></p> <p><b>Health:</b> <i>Clinic, medical, dental, or optical; Medical laboratory; Physical, occupational or massage therapy; Veterinary clinic, animal hospital; Hospital</i></p> <p><b>Others:</b> <i>Library, Museum; Recreation, community and neighborhood centers; Counseling, community services organizations</i></p>

Leased parking does not count towards parking total and may be eligible for TDM points under shared parking agreement.

Considerations for Mixed Use and/or Multitenant Developments

For mixed use or multitenant developments, TDM requirements are considered and met separately for each use or tenant space. However, uses may be considered together if TDM measures for each use category are common across all uses or jointly between all uses. Measures jointly implemented for the development can be counted towards the point target for each use, provided they are accessible for each use. Parking is allocated for all uses to determine use specific TDM targets. If parking is shared amongst the different uses, their respective parking ratio would be considered for determining their targets. For example, in a mixed-use development, each use must have parking stalls allocated towards it to determine the ratio.

Because of the possibility for shared TDM amenities, zoning certificate applicants are generally responsible for ensuring TDM program compliance. Similar to building and zoning compliance issues, the zoning certificate applicant is responsible for non-compliance related to certification and/or recertification of TDM Plans. These responsibilities and obligations may, however, be passed along to tenants in lease agreements.

For “white box” developments, or multitenant developments for which one more users have not yet been identified, the developer will be responsible for drafting and submitting the initial TDM Plan. This plan should reflect the proposed or assumed occupant(s) and contain TDM measures demonstrating compliance with the plan. These can include both programmatic measures (which a potential tenant would be expected to implement) as well as infrastructure-based measures (which the developer would be responsible for implementing at that time).

**2.2 – Step 2: Determine TDM Requirements**

TDM requirements are assigned using a point-based system and depend on the development’s land use(s), size, proposed parking capacity, and location. Further, measures related to transit and shared mobility will have their point values adjusted based on the proposed developments proximity to the service areas of those transportation options.

TDM requirements for a proposed development can be determined by using the City-provided *Transportation Demand Management Plan Creation Tool* (Figure 12), an Excel-based spreadsheet that automatically generates the TDM requirements, based on the proposed use. One can download the spreadsheet at <https://www.cityofmadison.com/transportation/initiatives/transportation-demand-management>. The tool can be

used to select TDM measures and demonstrate compliance with the TDM Ordinance. Though the tool is used to derive TDM requirements and demonstrate compliance, an explanation of what the tool calculates is included for added clarity and transparency.

Land use has a direct impact on how size tiers are classified. Size tiers are defined differently for the four use categories – dwelling unit for residential uses, student enrollment for educational uses, and floor area for all other non-residential uses. Parking ratios also vary across the different uses – for residential uses, TDM point requirements are based on the ratio of parking stalls per dwelling unit; employment, commercial, and institutional uses are based on the number of parking stalls per 500 sq. ft. of floor area. A large building size, a high parking ratio, or the combination of the two would imply a higher TDM point requirement for the development. For buildings in lower size tiers, reducing parking ratios can eliminate TDM point requirements entirely. TDM point requirements range from 5 to 37 points for each use. Table 2 lists point value requirements based upon building size tier and parking ratio.

Once the raw TDM target has been determined, the value is multiplied by a location-based modifier. The location-based modifier seeks to acknowledge that different amounts of TDM measures are available and feasible within different locations of the city. As shown in the TDM Requirement Modifiers Map (Figure 14), projects located in the densest portions of the city are required to meet the highest TDM point requirements. As development occurs further from the urban core, point requirements decline. To determine the final TDM target, the raw TDM target is multiplied by the modifier percentage shown in the map. For example, a project located on the Capitol Square with a raw TDM point value of 20 would have a final TDM point value of 20 (20 x 100% = 20). The same project, if located on the periphery, would have a point value of 13 (20 x 65% = 13). The opportunity to implement TDM measures and the effectiveness of those measures declines as a development occurs further from the downtown area.

Next, proximity to transit is considered to derive transit base points. As shown on the Transit Base Points map (Figure 11), projects are awarded base points for proximity to existing or planned transit service. For instance, projects within ¼ mile of high-frequency transit service area receive 5 base points, those within the all-day transit service area receive 3 base points, those within the peak-only service area receive one base point, and those outside of the transit service network do not receive transit base-points. For projects located outside of the transit service area, the points provided for transit measures are reduced by 50%. The aim of this modifier-and base-points approach is to incentivize developing within areas rich with transit access.

**City of Madison | Department of Transportation**

**Transportation Demand Management Plan Creation Tool (DRAFT)**

Transportation demand management (TDM) refers to a package of policies and strategies designed to increase transportation system efficiency and shift travel patterns to reduce the number and length of single-occupancy vehicle (SOV) trips.

The purpose of this spreadsheet is to:

- determine the applicability of the TDM program to your project
- if your project is subject to TDM requirements, provide a number of points to meet VMT reduction goals
- show you the mitigation measures applicable to your project
- provide you a clear tool to demonstrate compliance with the TDM requirements for your project

**Project Name:** [Input Field]

**Project Address:**

Address [Input Field]  
Address 2 [Input Field]

**TDM Coordinator:**

Name [Input Field]  
Address [Input Field]  
Address 2 [Input Field]  
City [Input Field]  
State [Input Field]  
Zip [Input Field]

**Proximity to Alternative Transportation**

With all-day transit service area?  
  
[Click here for Map \(coming soon\)](#)

With 1/4 mile of bike sharing station?  
  
[Click here for Map](#)

With 1/4 mile of car sharing station?  
  
[Click here for Map](#)

**What Zone is your Project Located In**

[Click here for Density Zone Map \(coming soon\)](#)

Figure 12- TDM Plan Creation Tool

Finally, proximity to active and shared transportation modes, namely bike sharing and car sharing, is identified. Similar to transit, point values for measures related to car sharing and bike sharing services are reduced by 50% if the development is located more than ¼ mile from a station. For a current listing of Zip Car stations (Madison’s car sharing service), visit <https://www.zipcar.com/universities/university-of-wisconsin-madison>. For a current listing of B-Cycle Stations (Madison’s bike sharing service), visit <https://madison.bcycle.com/>.

Figure 13 - TDM Requirements for Different Land Uses

	SMALL	LOW-MEDIUM	MEDIUM	HIGH-MEDIUM	LARGE
<b>RESIDENTIAL USES</b>	<b>10-25 DU</b>	<b>26-50 DU</b>	<b>51-100 DU</b>	<b>101-150 DU</b>	<b>&gt; 150 DU</b>
<b>EMPLOYMENT USES</b>	<b>10,000 - 25,000 sq. ft.</b>	<b>25,001 -50,000 sq. ft.</b>	<b>50,001 - 100,000 sq. ft.</b>	<b>100,001 -150,000 sq. ft.</b>	<b>&gt; 150,000 sq. ft.</b>
<b>PARKING STALLS PER DWELLING UNIT (DU) OR 500 SQ. FT. FLOOR AREA</b>	<i>TDM Points required</i>				
<b>&lt; 0.5</b>	no TDM	5	7	9	12
<b>0.5 - 0.99</b>	no TDM	9	12	15	17
<b>1.0 - 1.49</b>	12	15	17	19	22
<b>1.5 - 1.99</b>	17	19	22	25	27
<b>2.0 - 2.5</b>	22	25	27	29	32
<b>&gt;2.5</b>	27	29	32	35	37

	SMALL	LOW-MEDIUM	MEDIUM	HIGH-MEDIUM	LARGE
<b>COMMERCIAL USES</b>	<b>&lt; 40,000 sq. ft.</b>	<b>40,001 - 100,000 sq. ft.</b>	<b>100,001 - 150,000 sq. ft.</b>	<b>150,001 -200,000 sq. ft.</b>	<b>&gt; 200,000 sq. ft.</b>
<b>PARKING STALLS PER 500 SQ. FT. FLOOR AREA</b>	<i>TDM Points required</i>				
<b>&lt; 1</b>	no TDM	5	7	9	12
<b>1 - 1.24</b>	no TDM	9	12	15	17
<b>1.25 - 1.49</b>	12	15	17	19	22
<b>1.5 - 1.74</b>	17	19	22	25	27
<b>1.75 - 2.0</b>	22	25	27	29	32
<b>&gt;2</b>	27	29	32	35	37



	<b>SMALL</b>	<b>LOW-MEDIUM</b>	<b>MEDIUM</b>	<b>HIGH-MEDIUM</b>	<b>LARGE</b>
<b>EDUCATIONAL USES</b>	< 500 students	501 - 1000 students	1001 - 2000 students	2001 - 5000 students	> 5000 students
<b>INSTITUTIONAL USES</b>	< 40,000 sq. ft.	40,001 - 100,000 sq. ft.	100,001 - 150,000 sq. ft.	150,001 -200,000 sq. ft.	> 200,000 sq. ft.
<b>PARKING STALLS PER 500 SQ. FT. FLOOR AREA</b>	<i>TDM Points required</i>				
<b>&lt; 1</b>	no TDM	5	7	9	12
<b>1 - 1.24</b>	no TDM	9	12	15	17
<b>1.25 - 1.49</b>	7	12	17	19	22
<b>1.5 - 1.74</b>	12	17	22	25	27
<b>1.75 - 2.0</b>	17	22	27	29	32
<b>&gt;2</b>	22	27	32	35	37

*\* Floor area is defined in Madison’s Zoning Code as the sum of the gross horizontal areas of the floors or parts of a building devoted to the use, measured from the exterior faces of the exterior walls or from the center line of walls separating two buildings. It does not include porches, garages, or space in a basement or cellar when used for storage or incidental uses.*

Figure 14 - TDM Requirement Modifiers Based on Location

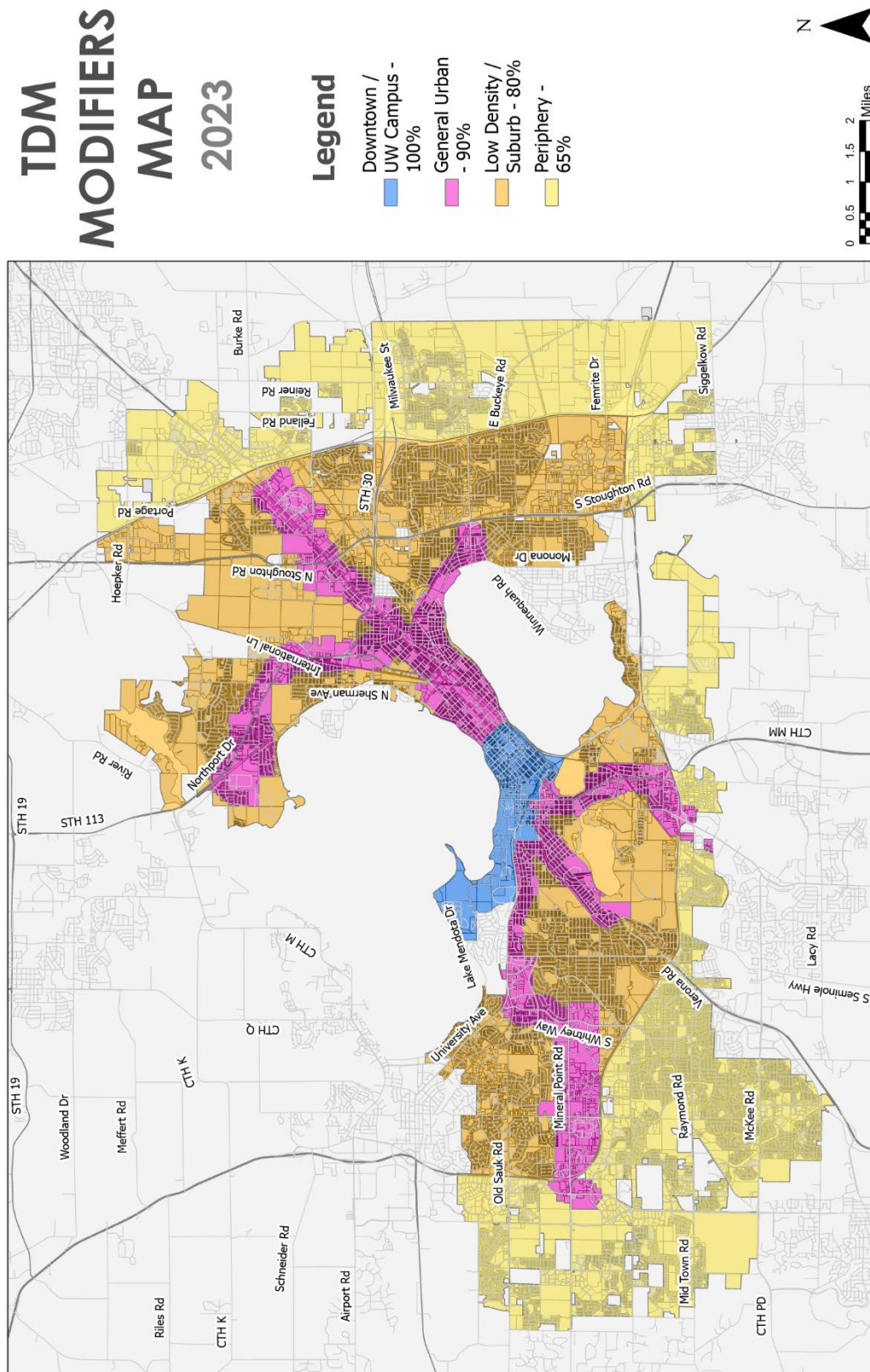
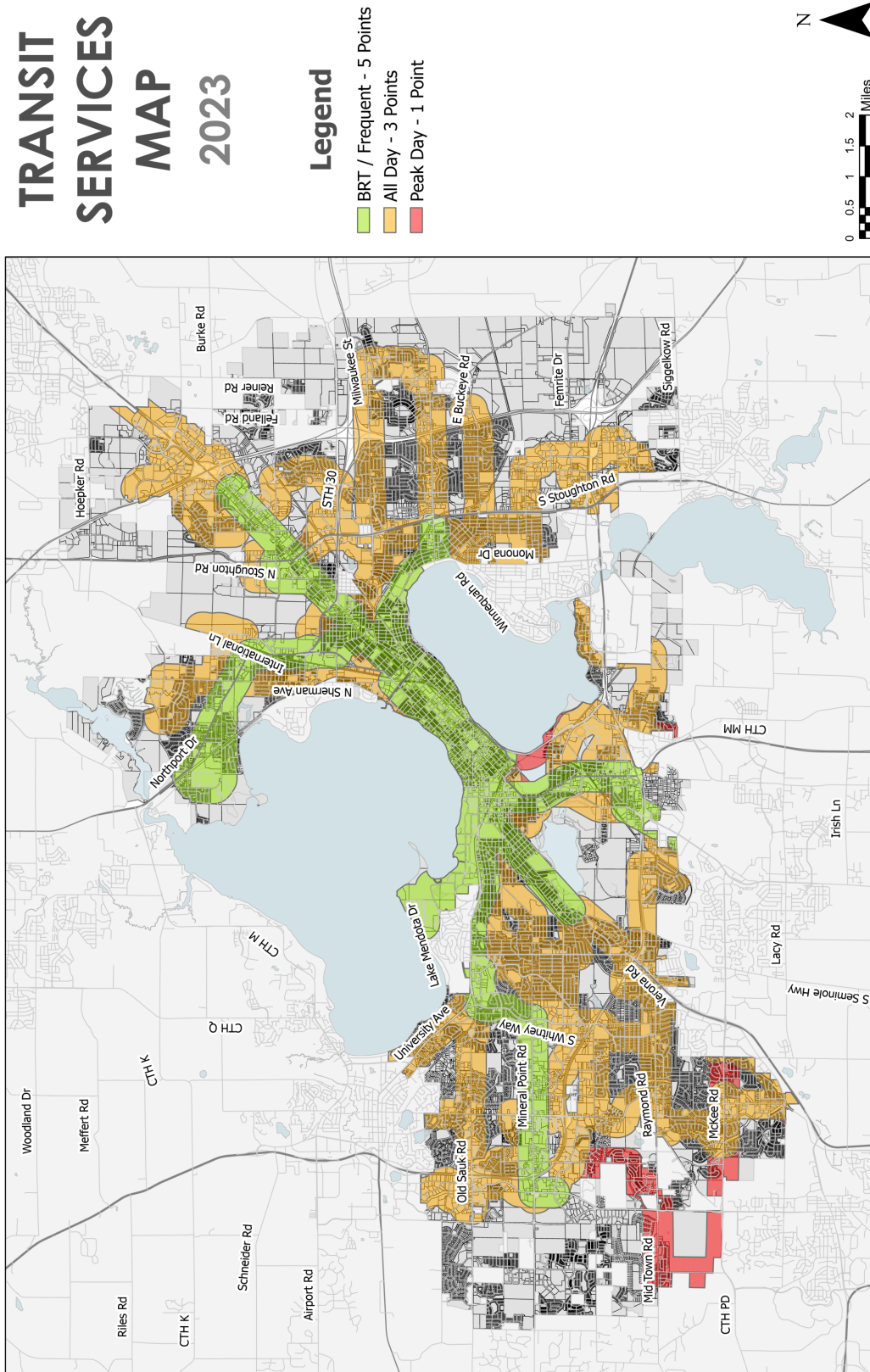


Figure 15 - Transit Service Base Points Based on Location



**2.3 – Step 3: Create and Submit TDM Plan**

The next step requires developers or building owners to choose TDM measures to meet required point targets. They would then need to prepare a TDM Plan with descriptions of selected measures and submit it for review and approval, along with a TDM Plan review fee.

TDM measures are within 9 categories – Active Transportation, Transit, Parking Management, Shared Mobility, Information & Communication, Delivery, Land Use, Employer Policies, and Other measures. Measures range from one to ten, points based on efficacy in reduction of vehicle miles traveled (VMT)<sup>3</sup>, documented best practices, cost of implementing the measure, and contextual relevance for Madison.

Figure 16 - TDM Measure Categories



<sup>3</sup> California Air Pollution Control Officers Association (Aug 2010). *Quantifying Greenhouse Gas Mitigation Measures*. Retrieved from: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

Some measures have their efficacy based on the location of the development and its proximity to existing transportation options, including transit, and car and bike share systems. Selecting these measures when located outside of the service area will result in certain measures counting for half of their maximum point value. Further, some measures provide varying point values based on the level of investment provided in those measures (i.e. different point values depending on the percentage of dwelling units at a certain level of affordability).

Additional flexibility can be found in the “Other Innovative Measures” measure provided under the “Other Measures” category. Building owners can also propose a TDM measure not on the list and propose a point value, based on the aforementioned rationale. They may then be awarded points at City staff discretion. The next section explains each measure category along with their respective options. [Appendix A](#) provides information on applicability, points, and compliance requirements for all TDM measures.

Figure 17 - TDM Measures

CATEGORY	MEASURE TYPE	MEASURE NAME	PTS
ACTIVE TRANSPORTATION	Infrastructure	Dedicated Access to Bike Parking	1
ACTIVE TRANSPORTATION	Infrastructure	Indoor covered bike parking near Entrance	1
ACTIVE TRANSPORTATION	Infrastructure	Bicycle Maintenance Facilities	1
ACTIVE TRANSPORTATION	Infrastructure	Clothes Lockers and/or Showers	1-2
ACTIVE TRANSPORTATION	Infrastructure	Secure Storage Room or Bicycle Lockers	2
ACTIVE TRANSPORTATION	Programmatic	Shared Fleet of Bicycles	2
ACTIVE TRANSPORTATION	Infrastructure	Improve Surrounding Pedestrian Infrastructure	1-4
ACTIVE TRANSPORTATION	Infrastructure	Improve Surrounding Bicycle Infrastructure	1-4
ACTIVE TRANSPORTATION	Infrastructure	Traffic Calming Measures	1-4
TRANSIT	Programmatic	Provide Fast Fare Cards	1
TRANSIT	Programmatic	Provide Fast Fare Cards with Fare Value	2-4
TRANSIT	Programmatic	Subsidized Commute Cards	4
TRANSIT	Programmatic	Complementary Commute Cards	7
TRANSIT	Infrastructure	Fund transit stop amenities	1-4
TRANSIT	Programmatic	Sponsor a Shelter/Bench	1
PARKING	Programmatic	Carpool preferential parking	1
PARKING	Programmatic	Shared parking agreement	4
PARKING	Programmatic	Parking cash-out	10
PARKING	Programmatic	Unbundle Parking	10
PARKING	Programmatic	Unbundle Some Parking	3
PARKING	Programmatic	Market-rate Parking Fees	10
PARKING	Programmatic	Additional Accessible Parking	1-2
SHARED MOBILITY	Programmatic	Provide Shared Fleet of Vehicles	1
SHARED MOBILITY	Programmatic	Provide car share parking space	1
SHARED MOBILITY	Programmatic	Subsidized car-sharing memberships	2
SHARED MOBILITY	Programmatic	Offer complimentary Bikeshare membership or passes	2
SHARED MOBILITY	Programmatic	Offer subsidized Bikeshare membership or passes	1
SHARED MOBILITY	Programmatic	Emergency Ride Home program	2

CATEGORY	MEASURE TYPE	MEASURE NAME	PTS
SHARED MOBILITY	Programmatic	Provide a Shuttle bus	3
SHARED MOBILITY	Programmatic	Provide Vanpool	3
SHARED MOBILITY	Infrastructure	Install a bike share station	6
INFORMATION	Programmatic	Marketing & informational campaign	1
INFORMATION	Infrastructure	Active Transportation Wayfinding, Maps, and Signage	1
INFORMATION	Infrastructure	Sustainable Transportation Kiosk	1-2
DELIVERY	Programmatic	Secure Area for Deliveries	1
DELIVERY	Programmatic	Tenant/Customer Package Drop-Off Area	2
DELIVERY	Programmatic	Provide VMT-Reducing Delivery Services	1
LAND USE	Infrastructure	Provide Affordable Housing at 30% of AMI	1-10
LAND USE	Infrastructure	Provide Affordable Housing at 60% of AMI	1-5
LAND USE	Infrastructure	Proximity to Public Transportation	1, 3, or 5
LAND USE	Infrastructure	Add to Land Use Mix	1-5
LAND USE	Programmatic	On-site Childcare Facility	4
LAND USE	Programmatic	Provide Other Specific Trip-reducing Service	1
EMPLOYER POLICY	Programmatic	Flexible Work Schedules	1
EMPLOYER POLICY	Programmatic	Teleworking / Work From Home	1
OTHER	Programmatic	Join a Transportation Management Association	3
OTHER	N/A	Other Innovative measures	1+
OTHER	N/A	Relief Points (for properties built or approved prior to effective date of TDM Ordinance, issued at staff discretion)	1-5

\*Transit, Bikeshare, and carshare measures worth 50% if located outside of ¼ mile service area

**2.4 – Step 4: Implementation, Reporting and Monitoring**

Once the TDM Plan is approved, building owners are required to implement the measures specified in their plans. Developments may also choose to enroll or participate in a Transportation Management Association for additional assistance with on-site TDM operations. The City will track and monitor program implementation and set reporting requirements for developments, to ensure compliance with their respective TDM Plans.

TDM Plans shall be recertified bi-annually, by re-submitting a TDM Plan spreadsheet and a TDM Plan recertification fee, to the Department of Transportation.

**2.5 – Applicability of TDM Requirements to Existing Properties**

TDM requirements are applicable to all existing structures within the City that are expanded or for which:

- Uses change from one primary use category to another (e.g. changing from employment to commercial use)
- Sub-uses change from one category to another (e.g. commercial – retail to commercial restaurant)
- The total parking on the site is increased
- The primary structure in which the use takes place is expanded
- The overall composition of uses on the site changes (e.g. a building with 50% employment and 50% commercial, becomes 60% employment and 40% commercial)

For all existing structures in which uses or sub-uses do not change, the structure is not expanded, parking is not modified, or the overall composition of uses on the site does not change, TDM requirements would not apply. Further, sites in which prior uses are reactivated are not subject to TDM requirements unless the structure and/or parking are expanded to accommodate this reactivation of use.

### ***2.6 – Appeals Process***

For existing properties brought into the TDM program that are unable to meet the TDM point requirements for either cost of physical constraint reasons, the applicant may appeal to the Department of Transportation staff review for up to five TDM points of relief, provided at the discretion of City staff. Relief points should be considered a last resort, only provided if the applicant can demonstrate significant hardship, making meeting TDM requirements impractical. If the applicant wishes to appeal the staff point decision or requests further relief, they may request additional relief from the Transportation Commission.

The applicant will be required to share the following information with the Transportation Commission: site information, required TDM points, proposed TDM measures, requested point reduction, and rationale for reduction. The Transportation Commission will have the final determination on the point reduction. If staff and/or the Commission grant TDM point reductions, these reductions will continue in perpetuity until uses are expanded, changed, or parking is modified.

**APPENDIX A: TDM MENU & MEASURES**

The following section describes TDM measure categories mentioned above, along with information and requirements for each TDM measure.

**A.1 – Active Transportation**

Measures in this category seek to improve accessibility, safety, and convenience in making trips by active modes, such as walking and cycling. The measures listed ahead encourage enhanced access to bicycle parking, pedestrian and bike infrastructure improvements for better connectivity, traffic calming measures, provision of street furniture, and bike user facilities such as showers, lockers and repair/maintenance facilities, and use of bike share facilities by onsite users. These measures focus on planning and designing for pedestrians and bicyclists, which help improve “first mile” and “last mile” connectivity between transit stations and the origin/destination of trip makers.

*Figure 18 - Active Transportation Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>DEDICATED ACCESS TO BIKE PARKING</b>	<b>Infrastructure</b>	Provide a convenient and separate access to the bike parking area without stairs.	1
<b>INDOOR COVERED BIKE PARKING NEAR ENTRANCE</b>	<b>Infrastructure</b>	Locate the bike parking in a covered, indoor space, less than 100 feet from a building entrance.	1
<b>BIKE MAINTENANCE FACILITIES</b>	<b>Infrastructure</b>	Provide a bicycle maintenance station for on-site employees, tenants, residents and visitors. Tools and supplies should include at minimum: a bicycle pump, wrenches, a chain tool, tire levers, hex keys/ Allen wrenches, torx keys, screwdrivers, and spoke wrenches. Suggest including lubricants.	1
<b>CLOTHES LOCKERS AND SHOWERS</b>	<b>Infrastructure</b>	Provide showers and/or clothes lockers for cyclists. One point for showers, one point for lockers. Not applicable for residential developments.	1-2
<b>SECURE STORAGE ROOM OR BIKE LOCKERS</b>	<b>Infrastructure</b>	Provide secure storage room or bike lockers for secure, long-term storage of bikes. Provide at least one locker for every 20 DUs or 30 employees.	2
<b>SHARED FLEET OF BICYCLES</b>	<b>Programmatic</b>	Provide an on-site shared fleet of free loner bicycles for use by residents/ employees. Recommend a fleet with at least one bicycle for every 10 DUs or 30 employees, with a minimum of five bikes.	2
<b>IMPROVE SURROUNDING PEDESTRIAN INFRASTRUCTURE</b>	<b>Infrastructure</b>	Improve pedestrian infrastructure (sidewalks, curb ramps, crosswalk, RRFB, etc.) within 500 ft of the site, consistent with City plans and ordinances and federal accessibility requirements. One point per 100ft of infrastructure, up to four total points.	1-4
<b>IMPROVE SURROUNDING BICYCLE INFRASTRUCTURE</b>	<b>Infrastructure</b>	Improve bicycle infrastructure (bicycle lanes, cycle tracks, new crossings, bike-ped paths, etc.) within 500 feet of the site, consistent with City plans, ordinances, and federal requirements. One point per amenity or one point per 100 feet of infrastructure, up to four points.	1-4
<b>TRAFFIC CALMING MEASURES</b>	<b>Infrastructure</b>	Install traffic calming measures such as speed humps and roundabouts. One point per small-dollar measure (e.g. pedestrian flags, temporary speed hump) and two points per large-dollar measure (e.g. RRFB, permanent speed hump). Must be located within 500 feet of project and be consistent with City plans, ordinances, and federal requirements. One point per amenity or one point per 100 feet of infrastructure, up to four points.	1-4



**A.2 – Transit**

Measures in this category focus on encouraging the use of public transportation as an alternative to driving for all or a portion of a trip. These measures focus on transit pass access and subsidy, and funding bus stop amenities. Measures in this category are subject to the transit modifier and all properties located outside the transit service area are only eligible for 50% of listed point values.

*NOTE: As of 10/1/24, Commute Cards cost \$1.40 per trip with a maximum cost of \$65 per month. If a Commute Card is not used, purchaser is not charged.*

*Figure 19 - Transit Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
PROVIDE FAST FARE CARDS	Programmatic	Provide Fast Fare cards to employees/residents – one per dwelling unit or employee. Fast Fare cards can be secured at Metro Transit’s administrative office, 1245 E Washington Ave, Suite 201.	1
PROVIDE FAST FARE CARDS WITH FARE VALUE	Programmatic	Provide Fast Fare cards to employees/residents – one per dwelling unit or employee, with at least \$10 of value on each card (\$2/ride for a standard fare). Points increase for every additional \$10 per card, up to a maximum of 4 points.	2-4
SUBSIDIZED COMMUTE CARDS	Programmatic	Provide <a href="#">Commute Cards</a> to all employees – one per employee, at some cost to employees (ex: payroll deduction). Signed Commute Card contract with Metro Transit required.	4
COMPLEMENTARY COMMUTE CARDS	Programmatic	Provide <a href="#">Commute Cards</a> at no cost to all employees. Signed Commute Card contract with Metro Transit required.	7
SPONSOR A SHELTER/BENCH	Infrastructure	Work with Metro Transit to sponsor a bus stop and/or stop amenities (shelter, bench, etc.), within a ¼ mile of the site.	1-2
FUND TRANSIT FACILITIES AND AMENITIES	Infrastructure	Fund transit amenities at existing or proposed bus stops – including benches and shelters, or other amenities approved by Metro Transit staff. Up to one point per feature, up to a maximum of four points. Metro Transit must accept proposal prior to points being awarded.	1-4

**A.3 – Parking Strategies**

This category of measures focuses on discouraging trips made by private vehicles and limiting parking supply, through the implementation of pricing measures such as unbundling the cost of a parking space from the rent, and not providing free parking as a benefit of employment. Priced parking encourages drivers to weigh the cost of parking against the cost of taking a sustainable transportation mode on a regular basis. Other measures include preferential parking for carpool vehicles, which seeks to incentivize HOV trips, and shared parking, which allows uses to lower parking capacity below applicable parking minimums.

*Figure 20- Parking Management Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>CARPOOL PREFERENTIAL PARKING</b>	<b>Programmatic</b>	Provide carpool preferential parking for employees, shoppers, students, or others as applicable. Carpool preferential parking signage must be shown at head of stall, as noted on a site plan. For sites where parking is charged, the project would be eligible for an additional point if carpool stalls are free.	1-2
<b>SHARED PARKING AGREEMENT</b>	<b>Programmatic</b>	Keep parking capacity below the use-specific parking minimum, as specified in <a href="#">MGO 28.141</a> , by sharing parking with an adjacent property, or allow users at an adjacent property to park on-site such that that facility has parking capacity below applicable base parking (parking minimums). May utilize City of Madison Parking garages.	4
<b>PARKING CASH-OUT</b>	<b>Programmatic</b>	Offer all employees the choice to forgo free parking for an in-lieu cash payment equal to the market rate cost of parking. Cannot be used in combination with unbundle parking or parking fees. Not applicable for residential developments. (Most appropriate in suburban environments)	10
<b>UNBUNDLE PARKING</b>	<b>Programmatic</b>	Lease or sell parking separately from residential units or office spaces. Must be optional. Must apply to all parking stalls on the property. Cannot be used in combination with parking fees or cash-out.	10
<b>UNBUNDLE SOME PARKING</b>	<b>Programmatic</b>	Lease or sell parking separately from residential units or office spaces. Must be optional. Must apply to at least 75% of all parking stalls on the property. Cannot be used in combination with parking fees or cash-out.	3
<b>MARKET-RATE PARKING FEES</b>	<b>Programmatic</b>	Drivers must pay the full market value for parking. Properties offering validation not eligible for this strategy. Cannot be used in combination with cash out or unbundling. (Most appropriate in urban environments)	10
<b>ADDITIONAL ACCESSIBLE PARKING</b>	<b>Infrastructure</b>	Provide more accessible parking stalls than required by the ADA. One point for one accessible stall more than the minimum amount required by the ADA; two points for providing more than one accessible stall above what is required.	1-2

**A.4 – Shared Mobility**

Shared Mobility measures encourage the use of active and shared modes of transportation by subsidizing the use of modes outside of single occupancy vehicles. The measures listed ahead focus on vanpools, private shuttle services, and shared mobility services. Most measures are programmatic and need to be maintained throughout the life of the project.

Figure 21 - Shared Mobility Measures

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
PROVIDE SHARED FLEET OF VEHICLES	Programmatic	Provide a shared vehicle available for use by employees or residents.	1
PROVIDE CAR SHARE PARKING SPACE	Programmatic	Contract with car-share provider (such as Zipcar) to place vehicles on site for use by car-share provider's customers.	1
OFFER SUBSIDIZED CAR-SHARING MEMBERSHIPS	Programmatic	Offer subsidized car-share memberships - covering the cost of membership, at a minimum) to every resident or employee for using car-share. Car-share vehicles must be located on-site or within a quarter-mile walking distance.	2
OFFER COMPLIMENTARY BIKESHARE MEMBERSHIP OR PASSES	Programmatic	Offer complimentary Bikeshare membership to each employee or building tenant that wishes to obtain one.	2
OFFER SUBSIDIZED BIKESHARE MEMBERSHIP OR PASSES	Programmatic	Offer subsidized Bikeshare membership to each employee or building tenant that wishes to obtain one.	1
EMERGENCY RIDE HOME PROGRAM	Programmatic	Establish an Emergency Ride Home program for employees who do not drive to work. Contact the Greater Madison MPO <a href="#">RoundTrip program</a> for assistance with program set up.	2
PROVIDE A SHUTTLE BUS	Programmatic	Provide a complementary shuttle service for employees. Three points for shuttles circulating within one-mile radius of the site or providing service to major transit hubs or facilitating a complete trip. <i>Not applicable for residential uses.</i>	3
PROVIDE VANPOOL	Programmatic	After ensuring that such a service is not duplicative of existing vanpool offerings (state Vanpool), establish and maintain a vanpool program for residents or employees. <i>Not applicable for residential uses.</i>	3
INSTALL A BIKE SHARE STATION	Infrastructure	Coordinate with the operator of the existing bike share network to pay for and install a bike share station within ¼ mile of the project.	6

**A.5 – Information**

This category of measures focuses on ensuring that residents, tenants, employees and visitors are well informed about available sustainable transportation options. This can be done through programmatic measures such as organizing tailored marketing campaigns and informational events, providing information through employee orientations and resident welcome packets, as well as infrastructural measures such as installing multimodal wayfinding signs and screens to provide real time information on transit or shuttle arrival times and availability of bike share bicycles at docking stations.

*Figure 22- Information Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>MARKETING &amp; INFORMATIONAL CAMPAIGN</b>	<b>Programmatic</b>	Provide informational material/brochures on TDM and various sustainable transportation options as part of a welcome packet/orientation packet. Organize at least one tailored promotional campaign annually, such as participating in the Week Without Driving.	1
<b>ACTIVE TRANSPORTATION WAYFINDING, MAPS, &amp; SIGNAGE</b>	<b>Infrastructure</b>	Provide all-weather signs, maps, and wayfinding signage that indicate the direction of nearby commute routes, bicycle and pedestrian paths, and nearby major destinations and amenities.	1
<b>SUSTAINABLE TRANSPORTATION KIOSK</b>	<b>Programmatic</b>	Install, operate, and maintain a kiosk providing sustainable transportation information. The kiosk should contain, at a minimum, include bike route system maps, information about TDM programs, and transit system maps for one TDM point. Adding a screen displaying real-time travel information for buses in the nearby vicinity adds an additional point. Bicycle Network Maps and Transit System Maps can be obtained at no-charge from the City of Madison. One point for carrying information, one additional point for real-time display.	1-2

**A.6 – Delivery**

Delivery services can reduce VMT by consolidating trips that would otherwise be made by made by a single-occupant vehicle. This can include the provision of package drop boxes or a secure package pick-up area for residential or employment uses, or by providing delivery services for businesses that are able to do so.

*Figure 23 - Delivery Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>SECURE AREA FOR DELIVERIES</b>	<b>Programmatic</b>	Provide a secure area for receipt and temporary storage of deliveries (e.g. USPS, UPS, FedEx, and/or Amazon)	1
<b>TENANT/CUSTOMER PACKAGE DROP-OFF AREA</b>	<b>Programmatic</b>	Provide an area for tenants, employees, and/or patrons to drop off packages for acceptance (e.g. USPS, UPS, FedEx, and/or Amazon)	2
<b>PROVIDE VMT-REDUCING DELIVERY SERVICES</b>	<b>Programmatic</b>	Provide delivery services that reduce VMT from single-stop motorized deliveries. Qualifying services include deliveries by bicycle, on foot, or in a delivery vehicle that makes multiple stops.	1

**A.7 – Land Use**

This category of measures focuses on improving the land use mix or providing trip-reducing uses as a means of reducing VMT. In addition, this category provides a varying number of points for locating within priority development areas – specifically those close to high-frequency transit that can be depended upon for most daily trips. Further, it provides an incentive for providing affordable housing, as residents in affordable housing generate less VMT due to residents of affordable housing having increased transit dependency in comparison to residents of market-rate housing.

*Figure 24- Land Use Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>PROVIDE AFFORDABLE HOUSING AT 30% OF AMI</b>	<b>Infrastructure</b>	Provide affordable housing. One point is awarded for every 10% of units that are offered at or below 30 percent of Annual Median Income (AMI). Maximum of 10 points. <i>Only applicable to residential developments.</i>	1-10
<b>PROVIDE AFFORDABLE HOUSING AT 60% OF AMI</b>	<b>Infrastructure</b>	Provide affordable housing. One point is awarded for every 20% of units that are offered at or below 60 percent of Annual Median Income (AMI). Maximum of 5 Points. <i>Only applicable to residential developments.</i>	1-5
<b>PROXIMITY TO PUBLIC TRANSPORTATION</b>	<b>Infrastructure</b>	Locate development within a ¼ mile of public transit service. One point for locating within the transit service area, three points for locating within the all-day service area, five points for locating within BRT/high-frequency service area. (see map)	1, 3, or 5
<b>ADD TO LAND USE MIX</b>	<b>Infrastructure</b>	Provide two or more land uses onsite, allowing users to drive less. One point per additional use outside of the primary use. Maximum of five points.	1-5
<b>ON-SITE CHILDCARE FACILITY</b>	<b>Programmatic</b>	Establish an on-site daycare facility, to be used by residents or employees. Points for this measure are awarded separately and in addition to points for the Add to Land Use Mix measure.	4
<b>PROVIDE OTHER SPECIFIC TRIP-REDUCING SERVICE</b>	<b>Programmatic</b>	Provide any other trip-reducing service for building users, such as on-site food service for employees, pet-care service, laundry, playroom, dog walking/park, or a business center/co-working space.	1

**A.8 – Employer Policy**

The COVID-19 pandemic offered a glimpse into a future of remote work. At this time, it is yet to be determined whether employer policies such as flexible work schedules or the ability to telework increase or decrease VMT. Some studies suggest that employees may end up moving further from work or spurring numerous mid-day trips, causing them to commute further on days they do come into the office. Other studies suggest that VMT is reduced, even if more mid-day trips are present or employees relocated. As such, the policies are given modest point values with the intention of the values being adjusted as more information becomes available regarding the impact of the policies.

*Figure 25 - Employer Policy Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>FLEXIBLE WORK SCHEDULES</b>	<b>Programmatic</b>	Provide at least 25% of employees the opportunity to beginning AND end work shifts outside of peak traveling hours. Peak travel hours are 7am-9am and 4pm-6pm. <i>Not applicable to residential developments.</i>	1
<b>TELEWORKING / WORK FROM HOME</b>	<b>Programmatic</b>	Provide at least 25% of employees the opportunity to work from home. <i>Not applicable to residential developments.</i>	1

**A.9 – Other**

This category offers additional options to meet TDM requirements. Projects may receive three points for joining a City-approved Transportation Management Association. Building owners have the additional option to propose any other TDM measure that is not on the list. They may then be awarded points at City staff discretion. Owners may also seek additional relief for properties built or approved prior to the effective date of the TDM Ordinance, as explained in Section 2.6.

*Figure 26 - Other Measures*

MEASURE NAME	TYPE	CONSIDERATIONS & DESCRIPTION	PTS
<b>JOIN A TRANSPORTATION MANAGEMENT ASSOCIATION</b>	<b>Programmatic</b>	Form or join a Transportation Management Association (TMA) to facilitate TDM activities such as marketing, outreach, and distribution services. The TMA must be accredited by the City and must provide services that meet or exceed requirements for those for relevant measures claimed by the building under this program.	3
<b>OTHER INNOVATIVE MEASURES</b>	<b>N/A</b>	Provide measures not listed here. Points are awarded at the discretion of City staff.	1 +
<b>RELIEF POINTS</b>	<b>N/A</b>	Only for properties built or approved prior to effective date of TDM Ordinance, issued at staff discretion based on financial viability and space constraints.	1 - 5

**APPENDIX B: HYPOTHETICAL PROJECT EXAMPLES**

The following are a series of hypothetical project examples to demonstrate how point values would be applied to a variety of project types. Though these examples demonstrate how to calculate values manually, applicants shall use the City-provided TDM Plan spreadsheet, which calculates requirements automatically and allows applicants to demonstrate compliance by selecting measures and meeting required TDM points.

**B.1 – Residential Use**

Step 1: Determine applicability

**Project information**

- **Property:** 7400 block of Raymond Road
- **Use:** Residential (20 percent units at or below 60 percent of annual median income)
- **No. of DUs:** 100
- **Proposed parking capacity:** 150 stalls

Based on the information provided above, the proposed number of residential units is above the threshold of ten units. TDM requirements would be applicable under the residential use category.

Step 2: Determine TDM requirements

Based on the information provided, the project would fall under **Medium** size tier and the proposed parking rate per dwelling unit (DU) is **1.5 stall/DU**. Referring to the TDM target table for residential use given below the general point target for this type of use is 19 points.

	SMALL	LOW-MEDIUM	MEDIUM	HIGH-MEDIUM	LARGE
<b>RESIDENTIAL USES</b>	<b>10-25 DU</b>	<b>26-50 DU</b>	<b>51-100 DU</b>	<b>101-150 DU</b>	<b>&gt; 150 DU</b>
<b>PARKING STALLS PER DWELLING UNIT (DU)</b>	<i>TDM Points required</i>				
< 0.5	no TDM	5	7	9	12
0.5 - 0.99	no TDM	9	12	15	17
1.0 - 1.49	12	15	17	19	22
<b>1.5 – 1.99</b>	17	19	<b>22</b>	25	27
2.0 - 2.5	22	25	27	29	32
2.5 +	27	29	32	35	37

After identifying the general point target for this type of use, the value is modified by the location of the project. The project is located within the periphery zone. As a result, the point value – 22 – is multiplied by 65%, resulting in a score of **14 points**. The area is outside of the transit, car share, and bike share service areas and would be eligible for only 50% of the available points for these measures.

Step 3: Create and submit TDM Plan

To meet the 14 points, the building owner can choose from other measures in the menu. Since it is an affordable housing project, it would also earn some points based on the percentage of affordable units. A sample list of measures that could be carried out to meet the target is provided below.

MEASURE TYPE	TDM MEASURES	POINTS ACHIEVED
Active Transportation	Dedicated Access to Bike Parking	1
Active Transportation	Bicycle Maintenance Facilities	1
Land Use	Provide Affordable Housing at 30% of AMI (20% of all units)*	2
Parking	Unbundle Parking	10
<b>TOTAL POINTS</b>		<b>14</b>

\*Note that additional Affordable Housing % would garner more points.

Step 4: Implementation, reporting and monitoring

Pay a review fee for administrative processing of the TDM Plan. Once the TDM Plan is approved, building owners would be required to implement the measures specified in the plan. The City would monitor the implementation to ensure compliance with the plan and may set some reporting requirements.



**B.2 – Employment Use**

Step 1: Determine applicability

Project information

- **Property:** 100 block of E. Main Street
- **Use:** Office
- **Floor area:** 110,000 sq. ft.
- **Proposed parking capacity:** 220 stalls

Based on the information provided above, TDM requirements would be applicable under the employment use category.

Step 2: Determine TDM requirements

Based on the information provided, the project would fall under **High-Medium** size tier and the proposed parking rate is **1 stall per 500 sq. ft. gross area**.

	SMALL	LOW-MEDIUM	MEDIUM	HIGH-MEDIUM	LARGE
EMPLOYMENT	10,000 - 25,000 SQ. FT.	25,001 - 50,000 SQ. FT.	50,001 - 100,000 SQ. FT.	100,001 - 150,000 SQ. FT.	> 150,000 SQ. FT.
PARKING STALLS PER 500 SQ. FT. GROSS AREA	<i>TDM Points required</i>				
< 0.5	no TDM	5	7	9	12
0.5 - 0.99	no TDM	9	12	15	17
1.0 - 1.49	12	15	17	19	22
1.5 - 1.99	17	19	22	25	27
2.0 - 2.5	22	25	27	29	32
2.5 +	27	29	32	35	37

After identifying the general point target for this type of use, the value is modified by the location of the project. The project is located within the downtown and campus zone. As a result, the point value – 19 – is multiplied by 100%, resulting in a score of 19 points. The area is within of the transit, car share, and bike share service areas and would be eligible for 100% of the available points for these measures.

Step 3: Create and submit TDM Plan

The project earns five points based on its location within the high frequency transit service area. To meet the remaining ten points, the building owner can choose from other measures. A sample selection of measures to meet the target is provided below.

Alternative 1

MEASURE TYPE	TDM MEASURES	POINTS ACHIEVED
<b>Transit</b>	Offer transit passes to all employees (75% subsidy)	3
<b>Information</b>	Marketing & informational campaign	1
<b>Land Use</b>	Proximity to Public Transportation (high frequency service)	5
<b>Parking</b>	Market-rate Parking Fees	10
<b>TOTAL POINTS</b>		<b>19</b>

Alternatively, the developer could choose to reduce parking and take a different approach to SOV mitigation. A slight reduction in the number of stalls from 220 to 210 available would result in the TDM point requirements being reduced from 19 to 15. Under this scenario, the developer could pursue different avenues to meet TDM requirements.

Alternative 2

MEASURE TYPE	TDM MEASURES	POINTS ACHIEVED
<b>Transit</b>	Complimentary Transit Passes for Employees	7
<b>Information</b>	Marketing & informational campaign	1
<b>Information</b>	Sustainable Transportation Kiosk (w/real-time display)	2
<b>Land Use</b>	Located within BRT Service Area	5
<b>TOTAL POINTS</b>		<b>15</b>

Step 4: Implementation, reporting and monitoring

Pay a TDM Plan review fee for administrative processing of the TDM application. Once the TDM Plan is approved, building owners would be required to implement the measures specified in the plan. The City would monitor the implementation to ensure compliance with the plan and may set some reporting requirements.

**B.3 – Commercial Use**

Step 1: Determine applicability

Project information

- **Property:** 2100 block of Regent Street
- **Use:** Grocery store
- **Floor area:** 20,000 sq. ft.
- **Proposed parking capacity:** 65 stalls

Based on the information provided above TDM requirements would be applicable under the commercial use category.

Step 2: Determine TDM requirements

Based on the information provided, the project falls under **Small** size tier. The proposed parking rate is **1.63 stalls per 500 sq. ft. gross floor area**. Referring to the TDM target table for commercial uses given below, this project would need to achieve a **target of 17 points**.

	<b>SMALL</b>	<b>LOW-MEDIUM</b>	<b>MEDIUM</b>	<b>HIGH-MEDIUM</b>	<b>LARGE</b>
COMMERCIAL	<b>&lt; 40,000 SQ. FT.</b>	<b>40,001 - 100,000 sq. FT.</b>	<b>100,001 - 150,000 sq. FT.</b>	<b>150,001 - 200,000 sq. FT.</b>	<b>&gt; 200,000 sq. FT.</b>
<b>PARKING STALLS PER 500 SQ. FT. GROSS AREA</b>	<i>TDM Points required</i>				
<b>&lt;1</b>	no TDM	5	7	9	12
<b>1.0 - 1.24</b>	no TDM	9	12	15	17
<b>1.25 - 1.49</b>	12	15	17	19	22
<b>1.5 - 1.74</b>	17	19	22	25	27
<b>1.75 – 2.0</b>	22	25	27	29	32
<b>&gt;2</b>	27	29	32	35	37

After identifying the general point target for this type of use, the value is modified by the location of the project. The project is located within the general urban zone. As a result, the point value – 17 – is multiplied by 90%, resulting in a score of 15 points. The area is within of the transit, car share, and bike share service areas and would be eligible for 100% of the available points for these measures.

Step 3: Create and submit TDM Plan

The project earns three points for its proximity to all-day transit service. The remaining points could be met by a combination of measures, as demonstrated in the table below.

MEASURE CODE	TDM MEASURES	POINTS ACHIEVED
Active Transportation	Dedicated Access to Bike Parking	1
Active Transportation	Bicycle Maintenance Facilities	1
Active Transportation	Secure Storage Room or Bike Lockers	2
Transit	Fund transit facilities and amenities	1
Shared Mobility	Provide complimentary bikeshare membership or passes	2
Shared Mobility	Emergency Ride Home program	2
Information	Sustainable Transportation Kiosk	2
Land Use	Proximity to Transit Service (All-Day Service Area)	3
Delivery	Provide VMT-Reducing Delivery Services	1
<b>TOTAL POINTS</b>		<b>15</b>

Step 4: Implementation, reporting and monitoring

Pay a TDM Plan review fee for administrative processing of the TDM application. Once the TDM Plan is approved, building owners would be required to implement the measures specified in the plan. The City would monitor the implementation to ensure compliance with the plan and may set some reporting requirements.

**B.4 – Mixed Use**

Step 1: Determine applicability

Project information

- **Property:** 2900 block of University Ave
- **Use:** Residential + Commercial (retail)
- **No. of DUs:** 50
- **Commercial Floor area:** 10,000 sq. ft.
- **Proposed parking capacity:** 102 stalls (residential: 70 stalls; commercial: 32 stalls)

Based on the information provided above, TDM requirements would be applicable separately under the residential and commercial use categories.

Step 2: Determine TDM Requirements

For residential use, the project falls under **Low-Medium** size tier and the proposed parking rate per dwelling unit (DU) is **1.4 stall/DU**. Referring to the TDM target table for residential use given below, this project would need to achieve a **target of 15 points**.

	SMALL	LOW-MEDIUM	MEDIUM	HIGH-MEDIUM	LARGE
RESIDENTIAL	10-25 DU	26-50 DU	51-100 DU	101-150 DU	> 150 DU
PARKING STALLS PER DWELLING UNIT (DU)	<i>TDM Points required</i>				
< 0.5	no TDM	5	7	9	12
0.5 - 0.99	no TDM	9	12	15	17
1.0 - 1.49	12	15	17	19	22
1.5 – 1.99	17	19	22	25	27
2.0 - 2.5	22	25	27	29	32
2.5 +	27	29	32	35	37

After identifying the general point target for this type of use, the value is modified by the location of the project. The project is located within the general urban zone. As a result, the point value – 15 – is multiplied by 90%, resulting in a score of **14 points**. The area is within of the transit, car share, and bike share service areas and would be eligible for 100% of the available points for these measures.

For commercial use, the project falls under **Small** size tier. The ratio of the proposed parking to the use-specific base parking is **1.60 times the base parking**. Referring to the TDM target table for commercial use given below, this project would need to achieve a **target of 17 points**.

	SMALL	LOW-MEDIUM	MEDIUM	HIGH-MEDIUM	LARGE
COMMERCIAL	< 40,000 sq. ft.	40,001 - 100,000 sq. ft.	100,001 - 150,000 sq. ft.	150,001 - 200,000 sq. ft.	> 200,000 sq. ft.
PARKING STALLS PER 500 SQ. FT. GROSS AREA	<i>TDM Points required</i>				
<1	no TDM	5	7	9	12
1 - 1.24	no TDM	9	12	15	17
1.25 - 1.49	12	15	17	19	22
1.50 - 1.74	17	19	22	25	27
1.75 - 2	22	25	27	29	32
>2	27	29	32	35	37

After identifying the general point target for this type of use, the value is modified by the location of the project. The project is located within the general urban zone. As a result, the point value – 17 – is multiplied by 90%, resulting in a score of **15 points**. The area is within of the transit, car share, and bike share service areas and would be eligible for 100% of the available points for these measures.

Step 3: Create and submit TDM Plan

Both uses within the project would receive five points for located within the BRT service area. Location-based measures such as proximity to transit service and a bike share station would give points to both the uses. Infrastructure-related measures such as building off-site pedestrian infrastructure and wayfinding signs would be counted for the both the uses as well. The residential use earns points for mixed use due to the presence of on-site retail use. Programmatic measures would earn points for one or both uses, based on whether they are directed towards residents and/or employees.

MEASURE CODE	TDM MEASURES	POINTS ACHIEVED	
		RESIDENTIAL	COMMERCIAL
Active Transportation	Improve Surrounding Pedestrian Infrastructure	2	2
Active Transportation	Bike work station – within residential garage	1	0
Active Transportation	Indoor Covered Bike Parking	1	1
Shared Mobility	Offer complimentary bikeshare membership or passes to employees	0	2
Shared Mobility	Offer subsidized car-sharing memberships	2	0
Shared Mobility	Emergency Ride Home Program	0	2
Information	Marketing & informational campaign	1	1
Information	Active Transportation Wayfinding, Maps, and Signage	1	1
Land Use	Add to Land Use Mix(two uses)	1	1
Land Use	Proximity to Public Transportation (BRT)	5	5
<b>TOTAL POINTS</b>		<b>14</b>	<b>15</b>

Step 4: Implementation, Reporting and Monitoring

Pay a TDM Plan review fee for administrative processing of the TDM application. Once the TDM Plan is approved, building owners would be required to implement the measures specified in the plan. The City would monitor the implementation to ensure compliance with the plan and may set some reporting requirements.

## APPENDIX C: Use Categories

### 1. Residential Uses

For all Residential uses, the base parking – 1 parking stall per dwelling unit – shall be applied to determine TDM requirements for the use.

### 2. Employment Uses

For all Employment uses, the base parking – 1 parking stall per 500 sq. ft. – shall be applied to determine TDM requirements for the uses found below:

- Airport
- Animal husbandry
- Artisan workshop
- Asphalt, concrete batching or ready-mix plant
- Automobile storage and towing (excluding wrecked or junked vehicles)
- Bakery, wholesale
- Bottling plant
- Brewery
- Bus or railroad passenger depot, railroad or intermodal freight yard, motor freight terminal, railroad yard or shop, taxi or limousine dispatching, maintenance and storage
- Car wash
- Concrete, asphalt and rock crushing facility
- Contractor's yard
- Cultivation
- Electric power production
- Electric substations, gas regulator stations, telecommunications facilities, sewerage system lift stations, water pumping stations and other public utility uses
- Extraction of gravel, sand, other raw materials
- General manufacturing
- Hazardous waste collection, storage or transfer
- Intensive agriculture
- Laboratories - research, development and testing
- Light manufacturing
- Limited production and processing
- Lumberyard
- Mail order house
- Motor vehicle salvage
- On-site agricultural retail, farm stand
- Printing and publishing
- Recycling center
- Recycling collection center, drop-off station
- Storage - personal indoor facility

Any use not listed above but allowed in the Zoning Code and categorized as an Employment Use shall use 1 parking stall per 500 sq. ft. of floor area to determine required TDM points.



### 3. Commercial Uses

For all Commercial uses, the base parking– 1 parking stall per 500 sq. ft. – shall be applied to determine TDM requirements for the uses found below:

- Adult entertainment establishment, adult entertainment tavern
- Animal boarding facility, kennel
- Animal daycare
- Auto convenience store
- Auto sales and rental
- Auto service station, body shop, repair station
- Bank, financial institution
- Building materials
- Business sales and services
- Catering
- Coffee shop, tea house
- Day care center
- Drive-through sales and services, primary and accessory
- Dry cleaning, commercial laundry
- Farmers' market
- Furniture and household goods sales
- Garden center, outdoor
- General retail
- Greenhouse, nursery
- Indoor recreation
- Laundromat, self-service
- Liquor store
- Lodge, private club, reception hall
- Mortuary, funeral home
- Nursery school
- Outdoor recreation
- Outdoor uses, commercial
- Package delivery service
- Payday loan business
- Post office
- Restaurant
- Restaurant-tavern, tavern, brewpub
- Service business; service business with showroom or workshop
- Small appliance repair
- Theater, assembly hall, concert hall

Any use not listed above but allowed in the Zoning Code and categorized as a Commercial Use shall use 1 parking stall per 500 sq. ft. of floor area to determine required TDM points.

#### **4. Institutional and Educational Uses**

For all Institutional uses, the base parking to – 1 parking stall per 500 sq. ft. – shall be applied to determine TDM requirements for the uses found below:

- Bed and breakfast establishment
- Clinic, medical, dental or optical
- Health/sports club
- Hospital
- Hostel
- Hotel, inn, motel
- Medical laboratory
- Physical, occupational or massage therapy
- Veterinary clinic, animal hospital
- Lodge
- Public and private high schools (Grades K-12)
- Arts, technical or trade schools
- Colleges, universities
- Health: Clinic, medical, dental, or optical
- Physical, occupational or massage therapy
- Library
- Museum
- Recreation, community and neighborhood centers
- Counseling, community services organizations

Any use not listed above but allowed in the Zoning Code and categorized as an Institutional Use shall use 1 parking stall per 500 sq. ft. of floor area to determine required TDM points.

## APPENDIX D: TDM PROGRAMS IN OTHER CITIES

### Case Study #1: Arlington County, VA<sup>i</sup>

#### Demographics

**Population:** 236,842

**City Area:** 26 sq. mi.

**Pop. Density:** 9,110 pp. sq. mi.

#### Program Goal and Applicability

Arlington County Commuter Services was established as a TDM agency in 1989 to reduce traffic congestion, parking demand, promote HOV infrastructure and improve air quality and mobility which manages several TDM-related programs. TDM for Site Plans targets developers and property managers for large residential and commercial development. The underlying goal is to reduce SOV trips and change commuter travel habits in Arlington by offering more and better choices at the building level.

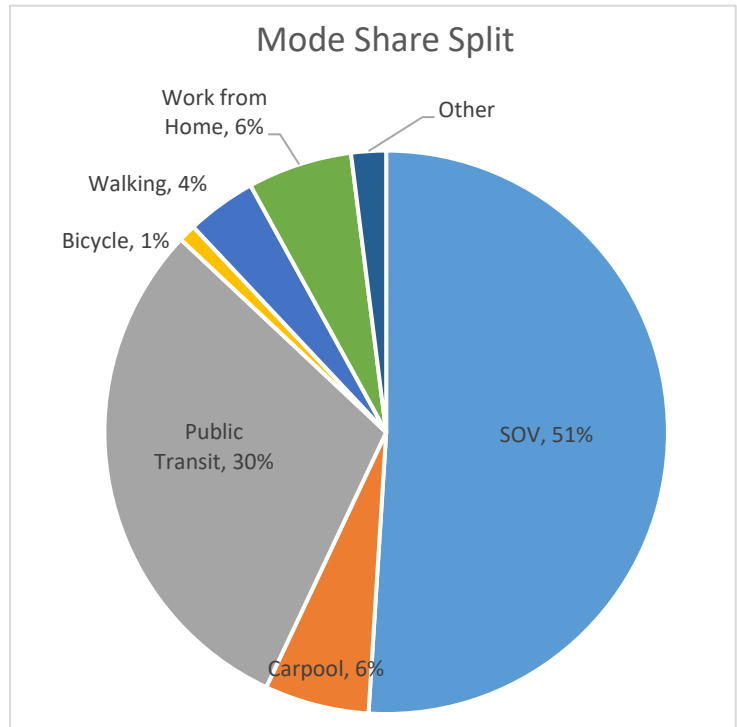
#### TDM requirements

TDM strategies must be laid out as site plan conditions, for adoption along with the site plan, required under the Administrative Regulations Governing the Submittal of Site Plans (A.R. 4.1).<sup>ii</sup>

Upon approval of their site plan and conditions, TDM plans are prepared by developers to lay out schedule and details about TDM strategies. The strategies are tailored to address the transportation impacts of the project, based on the TDM Policy Matrix (1990). This matrix provides a framework of requirements based on land use category (consistency with Arlington’s General land use plan) and size classification. TDM plans also contain information about participation and funding, and each building must join a TMA and pay fees to said organization.

#### Reporting and Monitoring

Annual site visits are conducted by the Site Plans team and annual reports outlining the TDM activities must be submitted by the site plan building. Surveys of commuting patterns of on-site employees or residents are required at two-, five- and ten-year intervals and after the tenth year, the county may require data collection in five-year increments. Enforcement action up to and including referral to the Zoning Administrator and escalating fines, are allowed.



**Case Study #2: Cambridge, MA** <sup>iii</sup>

Demographics

**Population:** 118,925

**City Area:** 6.4 sq. mi.

**Pop. Density:** 18,601 pp. sq. mi.

Program Goal and Applicability

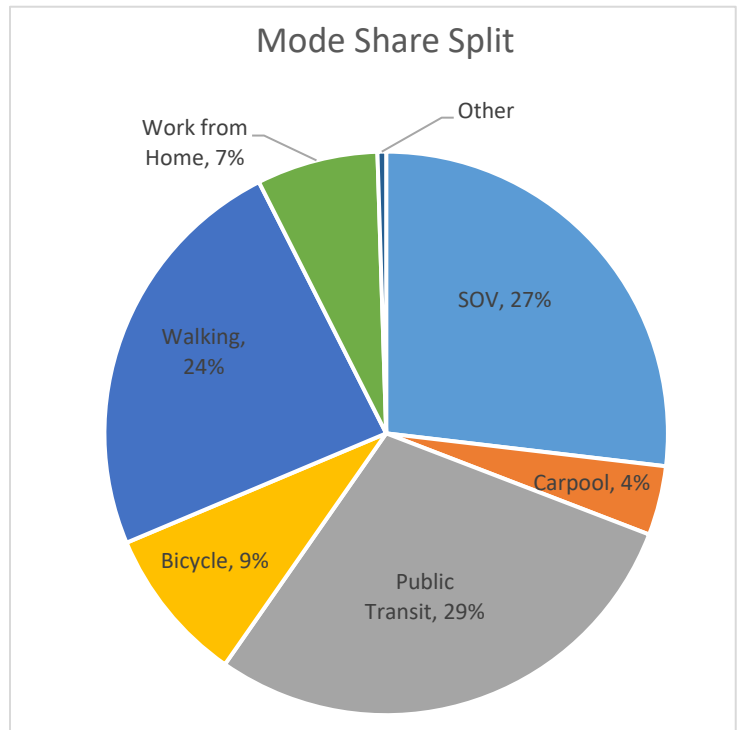
A Parking and Travel Demand Management Ordinance was adopted in 1998 and made permanent for developers in 2006. Participation is triggered when an owner of non-residential property proposes to add parking spaces above the registered number. The program has been credited for reducing driving by 10% and increasing transit use by 13%, as of 2017.

TDM requirements

The number of parking spaces determines TDM requirements. For projects with 5-19 spaces, Small Project PTDM plans need to be prepared which require 3 TDM measures from many options such as installing showers and lockers, membership with a TMA and offering a financial incentive for walking or biking to work. For projects with 20 or more spaces Large PTDM Plans are required with SOV mode share commitment, a more comprehensive set of TDM measures and annual monitoring and reporting. Developers need to commit to reduce SOV rate for their development to 10 percent below the average rate for the census tract in which their development sits.

Reporting and Monitoring

Annual monitoring and reporting are required for Large Project PTDM Plan. The annual reporting consists of surveying building employees and patrons, counting car and bike parking spaces available every two years, and the status of implemented TDM measures. These are validated by the City through bi-annual driveway/lot utilization monitoring. The City may enforce and address non-compliance by charging \$10 per parking space per day until the trip reduction requirements are met and can shut down a non-compliant parking facility.



**Case Study #3: Denver, CO<sup>iv</sup>**

Demographics

**Population:** 727,211

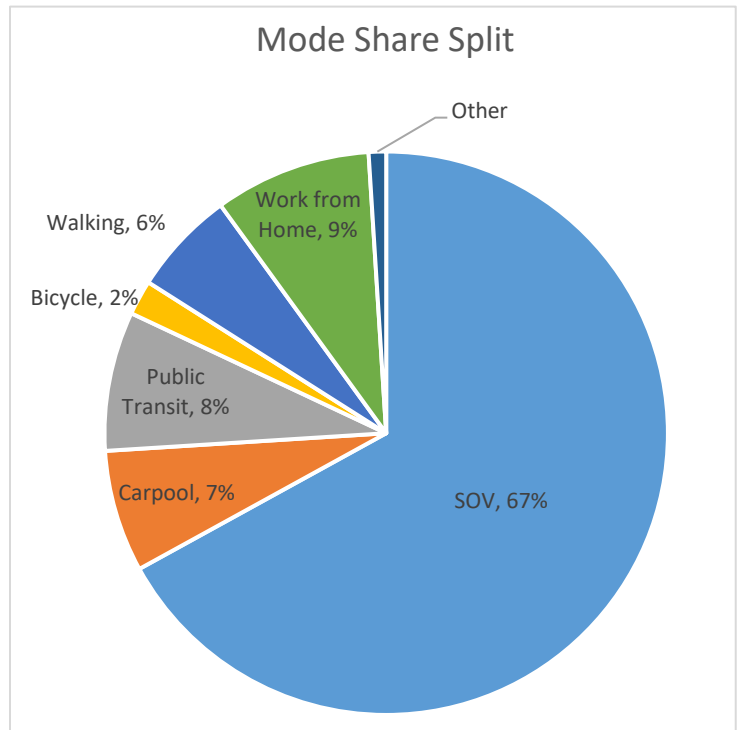
**City Area:** 153 sq. mi.

**Pop. Density:** 4,744 pp. sq. mi.

Program Goal and Applicability

Denver recently introduced a new TDM ordinance (in Spring 2021) for new development to help balance the demand on city transportation infrastructure by reducing vehicle trip generation and promoting utilization of the City’s transit, bicycle and pedestrian infrastructure.

The ordinance establishes three development tiers by number of residential units or square feet of non-residential space – tier 0 properties are exempt; Tier 1 includes smaller developments (25-49 residential units, 25000-50000 sq.ft. non-residential area); tier 2 includes larger developments (50+ residential units, 50000+ sq.ft. non-residential area).



TDM requirements

TDM plans have to be submitted as part of the Site Development Plans. Tier 1 properties have to assign a TDM coordinator, achieve a target SOV commute rate and implement infrastructure-based TDM measures. Tier 2 properties additionally need to implement programmatic measures, verify implementation of measures, and conduct a biennial commute survey.

The measures and SOV target rate required of developers correspond to the land use (residential, commercial & office, industrial), size tier geographic location, and access to high-capacity transit. SOV targets may vary and are generally lower in more dense areas.

Reporting and Monitoring

A pre-occupancy inspection will be conducted to verify construction of infrastructural TDM strategies. Annual reports are required to verify implementation of TDM strategies as per the approved TDM Plan. Tier 2 properties need to conduct biennial tenant surveys to ensure the Maximum SOV rate is being achieved.

In case of failure to implement TDM measures, the Certificate of Occupancy will not be issued. For programmatic strategies, a grace period of six months will be provided after issuance of the certificate, to demonstrate measure implementation.

**Case Study #4: Pasadena, CA<sup>v</sup>**

Demographics

**Population:** 141,040

**City Area:** 23 sq. mi.

**Pop. Density:** 6,143 pp sq. mi.

Program Goal and Applicability

The goal of Pasadena’s Trip Reduction ordinance is to encourage alternative transportation modes and off-peak hours by implementing requirements of LA County MTA’s Congestion Management Program. It applies to non-residential projects and non-residential components of mixed-use development based on floor area, and multi-family residential projects based on the number of residential units.

The TDM program is a condition of property ownership.

TDM requirements

Transportation plans are required for smaller developments (25,000 sq. ft. – 75,000 sq. ft.) while TDM plans are required for larger developments (75,000 sq. ft. and above).

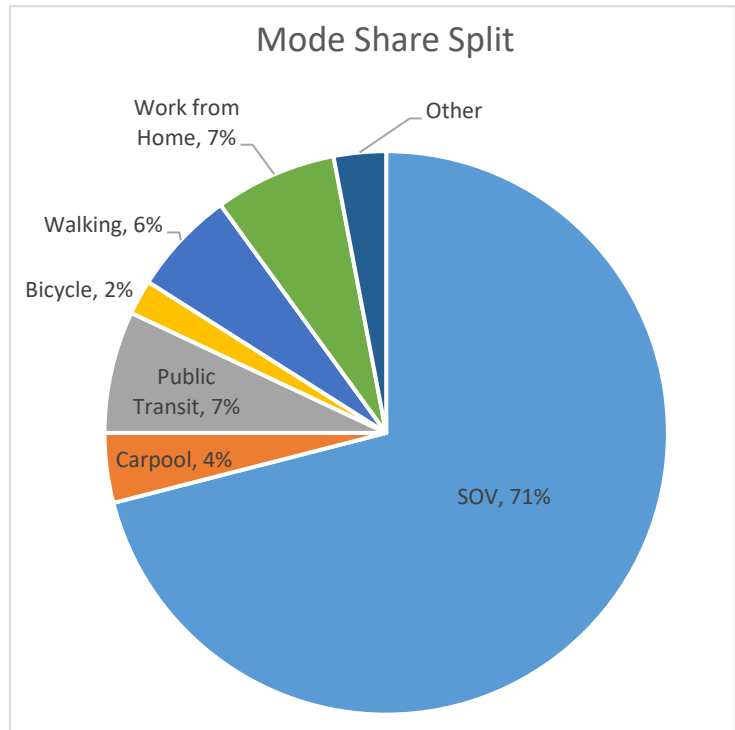
Developments are required to designate a minimum 10 percent of employee parking as preferential parking spaces for carpool and vanpool vehicles, provide employees with commuter-matching services and trip reduction information, provide bicycle parking facilities and/or other non-auto enhancements.

All projects must strive to meet an average vehicle ridership (AVR) of 1.5 starting after the first year. Projects located within a TOD area or downtown need to meet an AVR of 1.75 in 3 years.

Reporting and Monitoring

Annual TDM Status reports need to be submitted which require reporting on change in employees’ means of transportation, average vehicle ridership calculations, vehicle counts, status of commuter facilities and incentives provided, as well as involvement in a TMA.

If the AVR requirement is not met, the City shall work with the owner to identify modifications to the TDM Program which are to be revised within 60 days. Other enforcement measures include proceedings to revoke approval of a TDM Plan, administrative penalty and a stop-work order.



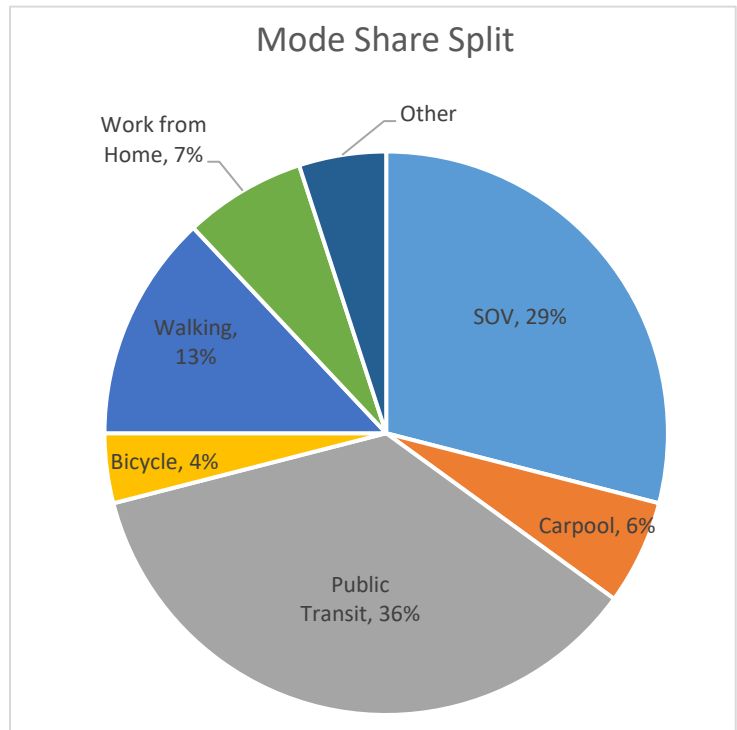
**Case Study #5: San Francisco, CA<sup>vi</sup>**

Demographics

**Population:** 881,549  
**City Area:** 46.9 sq. mi.  
**Pop. Density:** 18,795 pp. sq. mi.

Program Goal and Applicability

The goal is to reduce VMT generated in new development projects through a citywide TDM program established in the Planning Code (Section 169), effective since March 2017. Applies to all new multi-family residential or group housing developments over the threshold of 10 units; new non-residential development with 10,000 sq. ft. of occupied area; and change of use resulting in 25,000 or more occupied square feet of non-residential use, or properties applying for an increase in parking spaces. 100 percent affordable housing projects are exempt from the program.



TDM requirements

New development projects are required to develop a TDM plan that offers on-site infrastructure and programs to prioritize alternatives to driving alone according to a point-based system. There is no measurable performance goal such as a VMT or SOV mode-share target. Targets are established based on the land uses associated with the development projects (there are four established land use categories) and the number of accessory parking spaces proposed for the land use – the more parking that is created, the higher the point target for the development.

Developers need to choose from a menu<sup>vii</sup> with 26 TDM measure options and a total of 68 sub-options, grouped into 8 categories – active transportation, car share, delivery, family, HOV, information & communication, land use and parking management. Points are awarded for the measures based on likelihood to achieve VMT reduction (derived from literature study/academic research).

Reporting and Monitoring

The program involves regular monitoring, inspections and required reporting from developers. Pre-occupancy staff visits are conducted to verify inclusion of all planned physical measures. An on-site TDM coordinator is required to be designated and regular reports documenting compliance need to be submitted. Enforcement and administration are managed by the Planning Department which collects an ongoing fee from approved projects to support the monitoring and reporting work.

**Case Study #6: Santa Monica, CA<sup>viii</sup>**

Demographics

Population: 90,401  
City Area: 8.4 sq. mi.  
Pop. Density: 10,743 pp. sq. mi.

Program Goal and Applicability

Santa Monica Municipal Code (Chapter 9.53) establishes a TDM ordinance that applies to both developers and all employers, except the very small ones with less than 10 employees.

TDM requirements

Employers need to strive to achieve, and developers of non-residential developments need to achieve the applicable AVR targets, which are defined separately for different land uses and locations (districts).

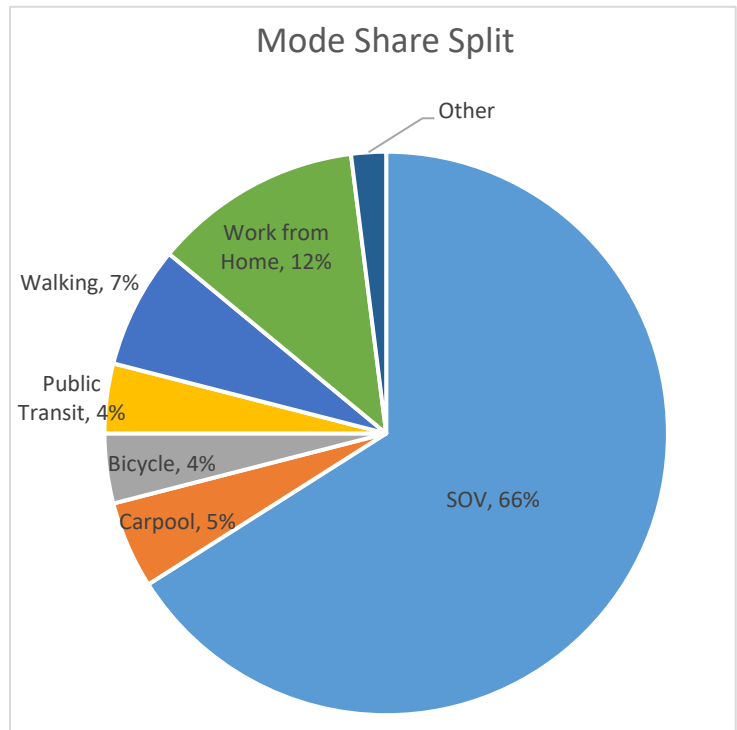
Developers need to submit a Developer TDM Plan if they exceed 7500 sq. ft. floor area for non-residential use and 16 DUs for residential uses.

Employers with 10-29 employees need to submit Worksite transportation plans and those with 30 or more employees need to submit an Emission Reduction Plan (ERP) with mandatory parking cash out programs. The ERP requires four key elements: attending a class to become certified as an Employee Transportation Coordinator; survey of employees' commuting patterns; implementation of strategies to increase biking, walking, riding transit, and carpooling to the worksite; and payment of an annual transportation fee. Discounts are given to employers who successfully reduce drive-alone trips and meet the target vehicle reduction assigned by the City.

Reporting and Monitoring

Annual plans need to be submitted, indicating the amount of Mobile Source Emission Reduction Credits purchased or as part of the ERP, employers have to submit detailed reporting on the transportation habits of employees. This information is provided annually to the City of Santa Monica by completing plan forms.

Non-compliance strategies include revoking any approval of an ERP or WTP or revoking the business license held by any violator. Violating any provision of the Article of the Municipal Code shall be guilty of an infraction – and a fine or imprisonment may be possible.





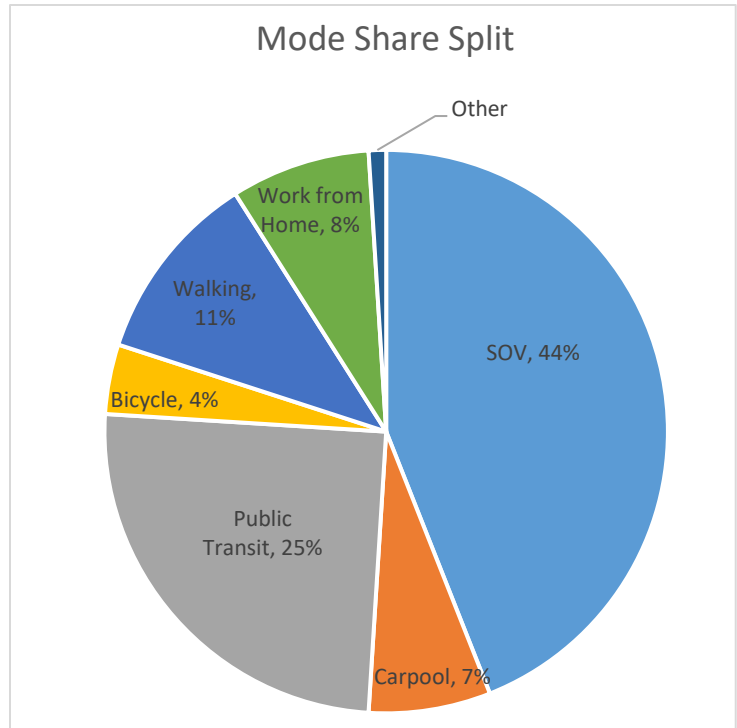
**Case Study #7: Seattle, WA<sup>ix</sup>**

Demographics

Population: 753,655  
City Area: 83.9 sq. mi.  
Pop. Density: 8,987 pp. sq. mi.

Program Goal and Applicability

Washington state’s 2006 Commuter Trip Reduction Efficiency Act requires its metro areas to reduce employee commute trips to large workplaces by car and per capita VMT. The TDM program in Seattle targets employers/ businesses with over 100 employees working at a single site between 9am – 6pm, to reduce employee commute trips. There is a separate Transportation Management Program for new commercial buildings with over 100,000 sq.ft. of gross area, that have smaller employers. Conditions are set as a part of the site development review process for them.



TDM requirements

Based on the number of employees.

Drive alone reduction goals established geographically calculated by dividing the total drive-alone trips by the total trips made to their location. TDM measures are divided into three categories and employers have to implement two strategies from each category.

Category A: Employee information and amenities – real time transportation information, flexible work schedule, employee shuttles, rideshare matching, bicycle parking facilities, guaranteed ride home.

Category B: Subsidies and modal support – transit subsidies, carpooling subsidies, vanpooling provision, Pre-tax transportation benefits.

Category C: Parking management – Increased charges for SOV parking, daily rate (rather than monthly), preferential HOV/ bicycle/ micro mobility parking, carshare parking, parking cash-out program.

Reporting and Monitoring

Each employer is required to have an Employee Transportation Coordinator (ETC) and conduct commuter surveys and submit biennial reports. If an employer does not appoint an ETC, distribute information, implement a program or survey employees as required, then the City of Seattle can levy a civil penalty of \$250 per day.

**Case Study #8: St. Paul, MN<sup>x</sup>**

Demographics

**Population:** 308,096  
**City Area:** 52 sq. mi.  
**Pop. Density:** 5,927 pp. sq. mi.

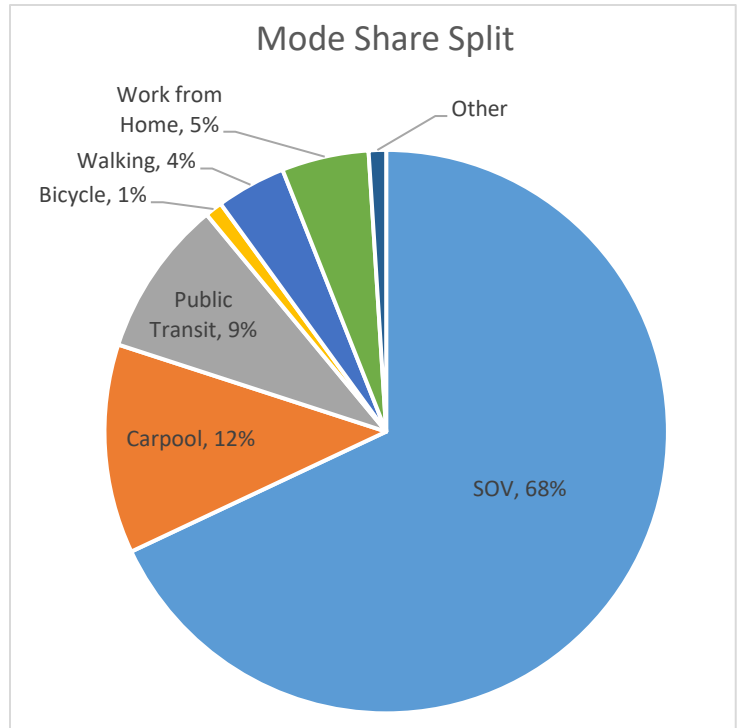
Program Goal and Applicability

The TDM requirements applies to commercial and residential development or redevelopment

TDM requirements

TDM applicability is based on the number of parking spaces in a new development. If the development exceeds the threshold of 100 spaces, a TDM plan is required to be submitted.

Each TDM Plan has several key components and requirements can vary based on the development location. A typical goal might be to have a 10 percent of trips made by bike, or 20 percent of trips made by transit. Five of the eight outlined strategies are recommended to be included in the plan which include measures related to rideshare programs and services, transit services and products, active transportation programs and infrastructure and promotional marketing and campaigns.



Reporting and Monitoring

Annual reports need to be submitted after the first and second year to the Zoning administrator to demonstrate 'good faith efforts towards implementing the TDM measures which should include follow up survey results, expenditures and TDM implementation evidence.

In case of failure to comply or submit a timely annual report, the security agreement (development's two-year TDM plan budget) is held for another year, after which it is released/forfeited based on the administrator's assessment.

<sup>i</sup> Arlington Transportation Partners. *Arlington TDM for Site Plans program*. Retrieved from [arlingtontransportationpartners.com/programs/property-development/tdm-for-site-plans/](http://arlingtontransportationpartners.com/programs/property-development/tdm-for-site-plans/)

<sup>ii</sup> Arlington County. *Administrative Regulation 4.1*. Retrieved from [arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2019/06/AdminReg4.1\\_May2019\\_FINAL.pdf](http://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2019/06/AdminReg4.1_May2019_FINAL.pdf)

<sup>iii</sup> Arlington Transportation Partners. *Arlington TDM for Site Plans program*. Retrieved from [arlingtontransportationpartners.com/programs/property-development/tdm-for-site-plans/](http://arlingtontransportationpartners.com/programs/property-development/tdm-for-site-plans/)

<sup>iv</sup> Denver Department of Transportation and Infrastructure. *Transportation Demand Management*. Retrieved from [denvergov.org/Government/Departments/Department-of-Transportation-and-Infrastructure/Programs-Services/Transportation-Demand-Management](http://denvergov.org/Government/Departments/Department-of-Transportation-and-Infrastructure/Programs-Services/Transportation-Demand-Management)

<sup>v</sup> City of Pasadena. *TDM requirements*. Retrieved from [cityofpasadena.net/transportation/community-mobility/transportation-demand-management/](http://cityofpasadena.net/transportation/community-mobility/transportation-demand-management/)

<sup>vi</sup> San Francisco Planning Department. *Standard for the Transportation Demand Management program*. Retrieved from [sfplanning.org/transportation-demand-management-program](http://sfplanning.org/transportation-demand-management-program)

<sup>vii</sup> San Francisco Planning Department. *Appendix A – TDM measures*. Retrieved from [https://default.sfplanning.org/transportation/tdm/TDM\\_Measures.pdf](https://default.sfplanning.org/transportation/tdm/TDM_Measures.pdf)

<sup>viii</sup> City of Santa Monica. *Transportation Demand Management*. Retrieved from [smgov.net/departments/pcd/transportation/employers/](http://smgov.net/departments/pcd/transportation/employers/)

<sup>ix</sup> Seattle Department of Transportation. *Commute Trip Reduction program*. Retrieved from [seattle.gov/transportation/projects-and-programs/programs/transportation-options-program/commute-trip-reduction-program](http://seattle.gov/transportation/projects-and-programs/programs/transportation-options-program/commute-trip-reduction-program)

<sup>x</sup> Move Minnesota. *Transportation Demand Management: Build Capacity or Change Behavior*. Retrieved from [movemn.org/transportation-demand-management-build-capacity-or-change-behavior/](http://movemn.org/transportation-demand-management-build-capacity-or-change-behavior/)