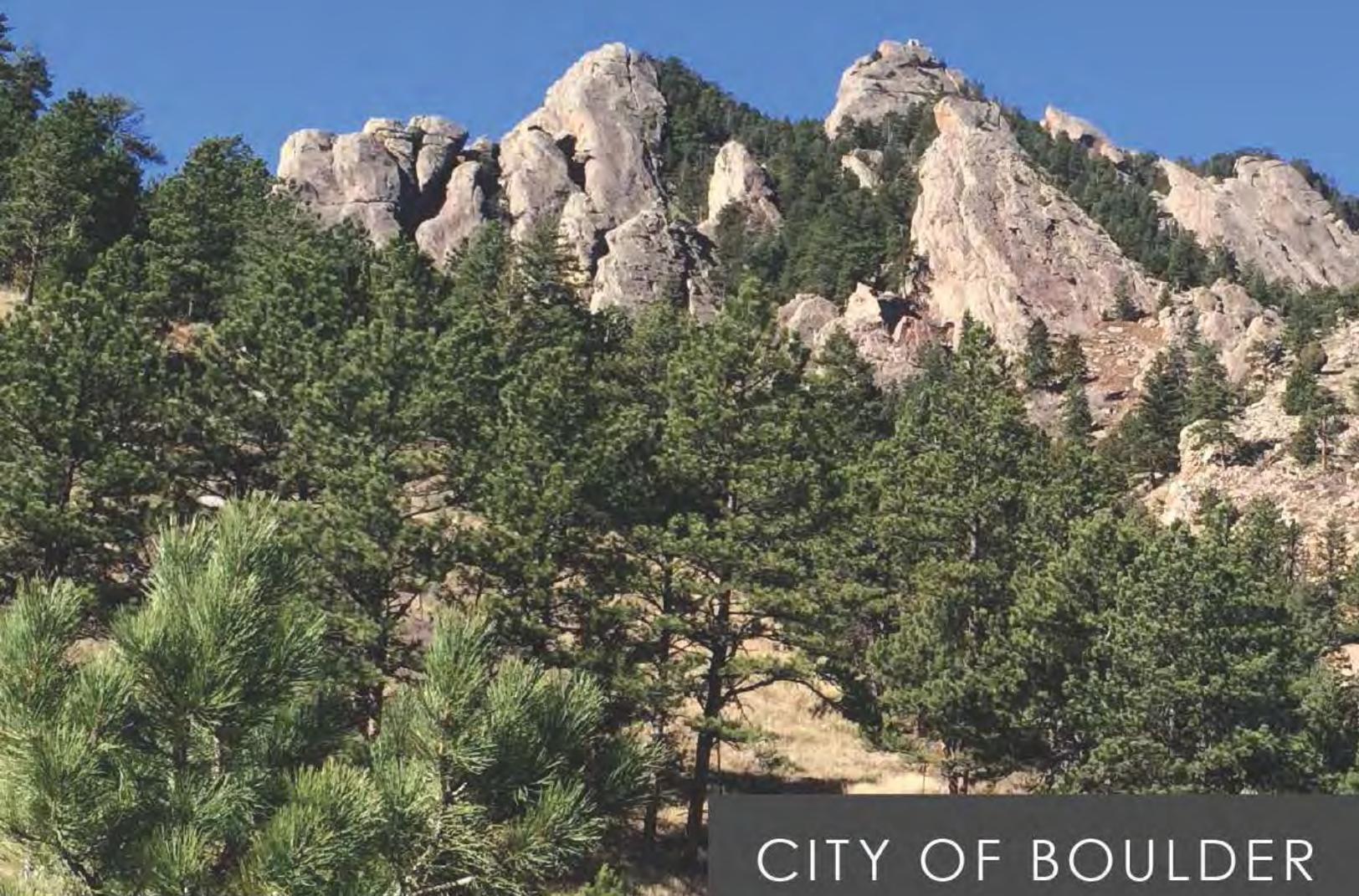




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CITY OF BOULDER

Developer TDM Requirements

Best Practices Research

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1.0 Introduction

The city of Boulder is updating its developer transportation demand management (TDM) guidelines. As part of that update it is seeking to understand the TDM requirements of other government agencies as they pertain to new development. To assist with that goal UrbanTrans North America, in coordination with Kimley-Horn and Associates, conducted a review of current developer-focused TDM programs and regulations.

To assure that the research was applicable to the city of Boulder, examples were sought from communities that had established TDM requirements; were able to provide lessons learned; and had similar population, land use, and development trends as Boulder. Recognizing that a limited number of examples exist, it was decided that examples could be included that failed to meet all of the above criteria if they offered good examples of enforcement policies, options for dealing with transfers of ownership, maximizing developer participation in TDM, and integrating transportation management associations into program delivery. Based on the identified criteria the following communities were selected for inclusion in the best practices research:

- Alexandria, Virginia
- Ann Arbor, Michigan
- Bloomington, Minnesota
- Cambridge, Massachusetts
- Eugene, Oregon
- Fairfax County, Virginia
- Madison, Wisconsin
- Montgomery County, Maryland
- Palo Alto, California
- Pasadena, California
- Portland, Oregon
- Santa Monica, California
- Vancouver, British Columbia

For each community the following information was sought:

- The processes communities use to develop TDM plans
- What TDM and parking strategies are required
- What triggers TDM requirements
- Internal staffing costs
- Enforcement policies
- Incentives to encourage developer participation
- Processes for benefit estimation
- Inclusion of bike share and car share requirements
- Use and/or funding of transportation management associations to meet TDM requirements
- Zoning regulations and language
- Lessons learned



Information on the TDM requirements was obtained by conducting phone interviews and sending email questionnaires to government representatives and reviewing applicable zoning code and legislation. This report contains a summary of information collected for each government agency and the text of each agency's applicable zoning or legislative code.

While significant efforts were made to collect information from each identified government agency, we were unable to obtain information from Ann Arbor and Vancouver. Additionally, it was determined that Eugene, Madison, Palo Alto, and Portland do not have formal TDM programs. However, those cities do require developers to implement TDM programs on a case-by-case basis. Information regarding those requirements is provided in Appendix A.

In addition to collecting information specific to developer TDM requirements, the city of Boulder desired to learn what other cities are doing to encourage developers to fund bike share stations, encourage bike share memberships, and support car share. The review of TDM policies yielded minimal information on this subject. As a result, additional research was conducted to identify cities that encourage these activities outside of specific TDM regulations. The findings are summarized in Section 3.



2.0 TDM Developer Regulations Summary

The TDM regulations and policies reviewed for this report differ by government agency and often times significantly. The various policies affect different land uses and different scales of development, have varying requirements, are implemented in different ways, and use different methods of enforcement. This section summarizes the identified policies highlighting the range of implementation options. It also discusses the applicability to Boulder of different TDM requirements and policy choices that other communities have made. The discussion is categorized by subject matter and includes policies from the following governments:

- Alexandria, Virginia
- Bloomington, Minnesota
- Cambridge, Massachusetts
- Fairfax County, Virginia
- Montgomery County, Maryland
- Pasadena, California
- Santa Monica, California

A full summary of the reviewed TDM policies, along with applicable legislative language, can be found in Appendix A. That appendix also includes a discussion of the developer-related TDM efforts undertaken in cities that were reviewed for this report but do not have formal TDM policies that affect new development.

2.1 Impacted Land Uses and Triggers for Participation

Developer TDM requirements tend not to impact all new development within a city or county. Rather, the requirements typically apply based on a development's location, type of use, and/or size.

In Fairfax and Montgomery counties TDM requirements apply only to developments within certain geographic areas that are noted for their congestion, density, or growth. Most new development projects within these geographic areas, regardless of whether they are residential or commercial, must comply with established TDM requirements. Alternatively, in the cities of Bloomington and Cambridge, TDM requirements are not geographically limited nor do they apply to all land uses, some residential and non-residential land uses are excluded. The cities of Santa Monica and Pasadena have policies that apply to all geographies and all land uses.

In addition to considering location and land use, some TDM regulations also take into account factors that are generally correlated with vehicle trip generation. For example, in Bloomington and Cambridge TDM requirements apply only to developments that



require a certain amount of parking spaces, 350 in the case of Bloomington and 5 in the case of Cambridge. In Pasadena, Alexandria, and Santa Monica developments must exceed a certain square footage or number of residential units before TDM requirements apply.

If Boulder leaders desired to limit TDM requirements based on geography, impacted areas could be based on current parking districts. Any move toward parking maximums will limit the city's ability to base requirements on parking, but the city could pursue a policy that is based on a development's square footage or number of residential units.

2.2 Program Goals

All of the reviewed programs seek to reduce vehicle trips. However, the manner in which they measure reductions and the desired reduction levels vary.

Fairfax County has established trip reduction goals based on ITE vehicle trip generation rates, a site's distance from a rail station, and the amount of surrounding development. Vehicle trip reduction goals range from 25 to 65 percent of ITE rates. The closer a site is to a rail station and the greater the amount of nearby development, the greater the vehicle trip reduction goal. Alexandria uses a similar system.

The remaining reviewed cities have trip reduction goals based on mode split. Cambridge and Montgomery County have established specific drive-alone rates that vary based on geography. The California examples establish goals based on average vehicle ridership rates that range from a low of 1.5 to a high of 2.2.

A potential problem associated with the use of ITE trip generation rates is that those rates are regularly updated by ITE. Tying trip reduction goals to those rates could cause confusion over time. The alternative of establishing specific mode split goals can make program success easier to track. While the use of AVR is common in California, most TDM agencies in Colorado are more familiar with standard mode splits, likely making them a better fit within the Boulder context.

2.3 Required and Encouraged TDM Strategies

Across the jurisdictions reviewed there is a broad and extensive range of TDM strategies being recommended for implementation as part of developer TDM requirements. Some strategies are mandatory, while others are part of a "shopping list" of potential measures that could be implemented. Available TDM strategies generally include both programmatic and physical options. None of the reviewed government agencies stood



out as exceptional or unique in this category. Ideally, any strategies selected for Boulder should be unique to its demographics, infrastructure, and other resources. A sampling of strategies is provided from Montgomery County, Pasadena, and Alexandria.

Montgomery County, Maryland

- Alternative work hours program
- Carpool or vanpool incentives
- Subsidized transit passes
- Preferential parking
- Peak-period or single-occupancy vehicle parking charges
- Improved bicycle and pedestrian access and safety
- Telework
- Permanent display with information on transit
- TDM presentations to employees
- Guaranteed ride home promotion
- Provision of ADA information
- Annual commuter survey
- Workshops about commuting options
- Information for new employees about their travel options
- Free or reduced cost carpool and vanpool parking
- Preferred or reserved carpool and vanpool parking
- Alternative work schedules such as flextime, compressed work weeks, telework, and job sharing
- Pre-tax monthly transit benefits
- Purchase Maryland Commuter Choice Tax Credits
- Bike, transit, and pedestrian amenities
- Carpool matching
- Participation in Air Quality Action Days

Pasadena, California

- Carpool and vanpool preferential parking designation
- Bicycle parking designation
- Commuter matching services for all employees on an annual basis and for all new employees upon hiring
- Transportation information displays that include:

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- **Current maps, routes, and schedules for public transit routes serving the development**
- **Telephone number and web sites referrals for transportation information**
- **Ridesharing promotional materials**
- **Bicycle routes and facility information**
- **Listing of facilities available for bicyclist, carpoolers, pedestrian, transit riders, and vanpoolers at the development**
- **Contact information for responsible program management party at the site**

Alexandria, Virginia

- **Establish a fund to finance TDM activities**
- **Provide restricted parking spaces for carpool and vanpool vehicles**
- **Appoint a transportation coordinator**
- **Provide ride-sharing incentive programs**
- **Establishment of a car -hare program with Zipcar and a process to reimburse a percentage of usage fees or pay annual fees**
- **Public transit incentive programs including shuttle services**
- **Subsidized transit fares**
- **Construction of transit shelters, stations, and amenities**
- **Land dedication**
- **Marketing programs**
- **Funding for recommended transit improvements**
- **Bicycle and pedestrian incentive measures:**
 - **Provision of bicycle parking and storage facilities**
 - **Construction and extension of bicycle paths**
 - **Construction of pedestrian walkways**
 - **Provision of shower and locker facilities**
- **Establishment of variable work hour, telework, or flex time programs**
- **Parking policies to reduce the reliance on single-occupancy vehicles, which may include: parking fees to discourage single-occupancy vehicles and time and other access restrictions to parking spaces**



2.4 Processes for Developing TDM Plans

Having TDM requirements for new development generally means that developers must create TDM plans that are subsequently approved by the city. Processes for the development of TDM plans generally fall into one of three categories: (1) developers are primarily responsible for the creation of plans with little government assistance; (2) developers are provided with a checklist to assist them with the creation of a plan; and (3) developers and the government agency or its designee work together to develop the plan.

Fairfax County and Alexandria provide no direct assistance to developers with the creation of their TDM plans. Developers create the plans on their own or hire third parties to assist them. Government's role is limited to the review and approval of the plans.

The city of Cambridge provides developers with checklists of TDM strategies, and developers are expected to select a minimum number of strategies to be implemented at their development sites. Their final plans are approved by the city. Bloomington uses a hybrid system in which smaller developments are able to choose TDM strategies from a checklist while larger developments must create TDM plans using a process similar to that found in Fairfax County and Alexandria.

Montgomery County, Pasadena, and Santa Monica all provide developers with a more robust level of assistance. In Montgomery County TMAs, or their equivalent, provide assistance to developers with the creation of TDM plans that are subsequently reviewed and approved by county staff. In Pasadena city staff work directly with developers who are also assisted by Metro Commute Services, the local TMA. As with Montgomery County, developer plans are reviewed and approved by the city. City of Santa Monica staff provide direct assistance to developers, and the city is working to create new TMAs that can assist developers with the creation of TDM plans, which must ultimately be approved by the city.

The city of Boulder has traditionally used the checklist model; however, it does have the internal and external TDM resources and knowledge needed to provide higher levels of assistance as occurs in Montgomery County, Pasadena, and Santa Monica.



2.5 Available Incentives

The provision of incentives to develop and implement TDM plans is limited. The major incentive is development approval. When incentives are offered they are typically limited to the provision of TDM services through a TMA or its equivalent. The cities of Pasadena and Alexandria fund local TMAs that assist developers with the creation and implementation of TDM plans. Montgomery County and Cambridge helped create TMAs that assist developers, but developers and employers are responsible for funding the TMAs. Santa Monica is pursuing a similar model to that provided in Montgomery County and Cambridge.

The experience of the reviewed agencies indicates that incentives may not be necessary to implement successful developer TDM requirements. The city of Boulder already provides free TDM services to developers and businesses, which means it is among the most supportive governments among those reviewed.

2.6 Enforcement and Penalties

TDM requirements are primarily enforced through the use of fines, with a few exceptions. Fairfax County, Bloomington, Pasadena, Santa Monica, and Alexandria are all assess fines against properties that fail to comply with TDM goals or TDM plan elements. Fairfax County requires letters of credit for penalty and remedy funds. Developments that fail to meet trip reduction goals are required to use money from their remedy funds to implement additional TDM strategies. Continued failure to meet trip reduction goals can result in the county assessing fines against the penalty fund. The value of the funds is negotiated and can exceed \$1 million for very large developments. Once the funds are depleted no additional fines or fees are applied. Bloomington also requires financial guarantees from developers, and the value is set at \$50 per parking space. Failure to comply with TDM requirements can result in fines that are assessed against the financial guarantee. Both Bloomington and Fairfax will release the guarantees after developers or subsequent property owners demonstrate for two or more years that they have implemented agreed upon TDM plans and are meeting vehicle trip reduction goals.

Pasadena and Santa Monica do not require financial guarantees but will assess administrative penalties or other fees if developments fail to implement their TDM plans or meet trip reduction goals. Alexandria and Cambridge also assess penalties and fees; however, in Alexandria continued failure to meet trip reduction goals or implement a plan can trigger a court procedure to revoke a development permit. In Cambridge the



city can revoke a landowner's parking permits for failure to implement an approved TDM plan.

Montgomery County avoids many compliance issues by requiring properties to join local TMAs, which are then responsible for the implementation of TDM programs. TMA fees are generally collected as part of a property's tax assessment, thus preventing property owners from opting out of participation in the TMA.

Colorado state and local laws will need to be reviewed to determine what options exist for Boulder should it desire to use fines to assure compliance with TDM goals and requirements. Should membership in a local TMA be mandated, a process through which payment of membership fees can be guaranteed will need to be determined. Additionally, the period for which fines or membership fees should be collected will need to be determined.

2.7 Changes in Ownership and Management

To be effective, TDM requirements must transfer when properties change hands, as many properties are sold quickly after construction is completed. Most government agencies address this issue by using deed restrictions or their equivalent. Fairfax County establishes TDM requirements in proffers that are attached to the property regardless of ownership. Bloomington and Alexandria add conditions to the land deeds, while Santa Monica adds conditions to the land deeds of non-residential properties and to covenants of residential properties. In Pasadena covenants are added to larger properties, but excluded from smaller properties. Cambridge does not use deed restrictions but requires a property transfer form to be completed with all sales. New property owners remain subject to the TDM requirements but may work with the city to create a new TDM plan.

Determining what options are best and available to Boulder will require a review of local and state laws.

2.8 Monitoring Program Impacts

Most government agencies monitor the vehicle trip-reduction impacts of TDM programs through annual reports and mode-split surveys. Annual reporting also allows government agencies to track compliance and subsequently take necessary enforcement actions.

Fairfax County, Bloomington, Cambridge, Pasadena, Alexandria, and Santa Monica all require property owners to submit annual reports that provide information on the TDM

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strategies implemented during the previous years, and, in some cases, total funds expended to implement TDM strategies. These same government agencies also require property owners to conduct regular travel surveys to determine the site's mode split. Fairfax County, Bloomington, and Cambridge also require traffic counts; however, the counts are not required on an annual basis. In Montgomery County all reporting is done through the established TMAs.

As of the writing of this report the interviewed agencies were unable to provide specific details regarding the impacts of their TDM regulations on vehicle trip generation. This is likely due to some programs being relatively new; the difficulty tracking and consolidating survey data; and the difficulty determining how TDM programs impact vehicle trip generation versus other factors such as land use, level of transit service, area walkability, and tenant demographics.

Should the city of Boulder use surveys to track TDM program impacts it could potentially use its tri-annual travel diary survey.



3.0 Car and Bike Share Requirements

The review of developer TDM requirements identified little in terms of steps governments are taking to encourage developers and property owners to support car and bike share. Therefore, additional research was conducted with assistance from Boulder B-cycle staff. This section provides a summary of the information that was collected. More complete information on bike share and car share policies can be found in Appendices B and C, respectively.

The government agencies discussed in Section 2 will generally allow developers to meet part of their TDM requirements by providing subsidies or other support for bike and car share programs, such as parking spaces, property for bike share stations, free memberships, and discounted usage.

Cambridge will often require developments that are 50,000 square or larger to make two parking spaces publicly available for car share vehicles. Alexandria supports car share by covering the cost of Zipcar application fees and the first year of membership. Developers that participate in the program are required to provide free parking for car-share vehicles.

Austin, Denver, and Portland, Oregon all allow developers to reduce their parking requirements by providing bike share stations. The Denver policy allows developers to reduce their minimum parking requirements by one space for every five bike-share spaces they provide within their parcel. The reduction applies to any non-residential use in any zoning district. Portland's parking reduction ratios are more complex than those of Denver and are as follows:

- 4 docks and 2 shared bicycles reduces the parking requirement by 1 additional space.
- 15 docks and 8 shared bicycles reduce the parking requirement by 3 spaces.

Stations must be placed on private property where they are publicly visible and accessible. The city also offers parking reductions for the provision of car-share spaces. Each car-share space reduces parking requirements by two spaces up to a maximum of 25 percent of the required parking spaces.

Washington, DC takes a somewhat different tack than Portland and requires developers to pay for bike share stations if they provide excess parking spaces. The provision of 100 excess parking spaces requires a developer to pay for one Capital Bikeshare station with a minimum of 12 bike stalls. The provision of 200 excess parking spaces requires a



developer to pay for two Capital Bikeshare stations with a minimum of 12 bike stalls each. The bike share stations do not need to be provided onsite, but must be installed within the same Ward as the development.

San Francisco does not have regulations associated with bike share but does generally require developments with 50 or more residential units and 25 or more commercial parking spaces to provide parking spaces for car-share vehicles. The spaces must be made available to a car-share organization at no cost. Residential properties with 50 to 200 units must provide one parking space, and properties with more than 200 units must provide two parking spaces plus one for every 200 units over 200. Commercial developments with 25 to 49 parking spaces must provide one car share parking space. Developments with 50 or more parking spaces must provide one car-share parking space plus one space for every 50 parking spaces over 50. Car share parking spaces can be provided within the development or on another property within 800 feet of the building site. In some situations the city will require developers or property owners to pay residents' annual membership costs to certified car-share organizations.

As can be seen from this review, there has been very little standardization among cities regarding the provision of car and bike share spaces and requirements that developers subsidize memberships and usage of the programs.



Appendix A – TDM Regulations Review by Geography

A.1 Fairfax County, Virginia

Fairfax County is located outside of Washington, D.C. and has a population of approximately 1.1 million. The county experiences significant traffic congestion and because of its proximity to Washington, D.C. is a highly desirable area for new development. Growth demands are especially acute in the Tysons Corner area, through which the new Silver Line connecting Washington, D.C. to the Dulles Airport, will soon travel.

Fairfax County has encouraged developers to commit to the implementation of TDM programs as part of their development review process for many years. More recently the county has outlined specific TDM goals for the Tysons Corner area. The goals are outlined in the “Fairfax County Comprehensive Plan, 2013 Edition: Tysons Corner Urban Center, Areawide Recommendations.” As part of the development review and approval process developers are required to create TDM plans that identify strategies that will allow their development to achieve specific trip reductions goals identified by the county. Trip reduction goals vary based on a site’s distance from rail stations and the amount of development in the Tysons Corner Area. The following table, from the “Fairfax County Comprehensive Plan, 2013 Edition,” outlines the trip reductions goals. The percentages represent a percentage vehicle trip reduction based on Institute of Transportation Engineers peak-hour vehicle trip estimates and account for the impacts of land use, transit, and TDM.

Development levels in total square feet (with corresponding forecast year)	TDM Vehicle Trip Reduction Goals, (Percentage Reduction from ITE Peak Hour Rates)			
	TOD Locations			Non-TOD Locations (more than 1/2 mile from station)
	0 to 1/8 Mile from Station	1/8 to 1/4 Mile from Station	1/4 to 1/2 Mile from Station	
2010 to 2020	45%	35%	30%	25%
84 million (2030)	55%	45%	40%	35%
96 million (2040)	60%	50%	45%	40%
113 million (2050)	65%	55%	50%	45%

TDM plans created by developers are required to list the development’s trip reduction goals over time (based on the table above), the strategies the development will use to achieve those trip reductions, and a program implementation budget. The TDM plans

also specify how vehicle trips will be monitored to determine compliance with trip reduction goals, how frequently progress reports will be made to the county, how much funding will be set aside to implement contingency TDM strategies should the site fail to meet its trip reductions goals, and how much in penalties a site will be required to pay should it fail to meet its trip reduction goals for multiple years. TDM plans must be submitted and approved by the county prior to a development receiving approval.

At this time developers are responsible for the implementation of their TDM programs; however, the county is working to create a Tysons-area transportation demand management association (TMA) that will assist developers with the implementation of their TDM strategies. It is anticipated that the developers will pay membership fees to the TMA, which will then implement TDM programs and measure vehicle trip generation to determine developer compliance with trip reduction goals. Developments that fail to meet their trip reduction goals will still be required to surrender contingency funds and pay fines.

Land Uses Impacted

All developments in Tysons Corner are impacted by the policy, but only residential and office land uses are required to meet the established vehicle trip reduction goals. However, county staff typically request that TDM programs and services be made available to hotel and retail employees.

It is possible that the county would choose to exclude a small development from the policy; however, current developments in Tysons Corner tend to be mixed-use and larger than 1 million square feet.

Types of Strategies Required/Encouraged

The Fairfax County Comprehensive Plan identifies the TDM strategies listed below for inclusion in TDM plans; however, developers are able to select TDM strategies based on the unique characteristics of their development and the anticipated demographics of the site's residents and employees.

- Transit and vanpool subsidies
- Pre-tax deduction of transit and vanpool fares
- Telework program
- Carpool and vanpool matching service
- Shower and locker facilities for bicyclists and walkers
- Secure and weatherproof bicycle parking
- Carpool and vanpool preferential parking



- On-site car-sharing vehicle
- Employee shuttle
- Guaranteed Ride Home Program
- Commuter information center (bulletin board, web site, brochure table)
- Employee Transportation Coordinator (ETC)
- Flexible or alternative work hours
- TDM education programs directed at the public and employers

Developers are provided moderate deference in the selection of TDM strategies due to the significant enforcement options available to the county and the need for plans to be able to adjust over time and based on changes in occupant numbers and demographics.

TDM Plan Development

Developers are responsible for the creation of their TDM plans, which must be approved by county staff. Developers typically hire third parties to assist with the creation of the plans. Final plan content is the result of negotiation between county staff, the developer, and the developer's representatives.

Changes in Ownership

TDM requirements are written into proffers that details all requirements associated with the development. The proffers are attached to the property and changes in ownership do not negate proffered requirements, including those associated with TDM.

Estimating TDM Impacts on Trip Generation

The county established its vehicle trip reduction goals based on an analysis of vehicle trip generation rates at developments throughout the county. Those numbers were supplemented with estimates of the potential impacts a robust TDM program could have on vehicle trip generation rates.

Developments will be required to submit annual reports on the status of their TDM programs. At different intervals, based on the number of occupancy permits issued to a development, property owners will be required to conduct travel surveys and submit the results. Additionally, property owners will be required to conduct vehicle trip counts to supplement survey results. The county will use the resulting data to track the impacts of the TDM programs and monitor general compliance with vehicle trip reduction goals.



Inclusion of Bike Share and Car Share

The county has no requirements for developers to include space for bike share stations or car share parking. Nor does the county require or encourage developers to subsidize bike share or car share memberships. However, developers and subsequent property owners are free to utilize funds set aside for TDM programming for such strategies so long as approval is obtained from the county.

Available Incentives

Beyond development approval, Fairfax County currently offers no incentives to encourage developers to develop and implement TDM programs. The county is working to create a TMA that will assist developers with the implementation of their programs, vehicle trip tracking, and annual reporting requirements; however, developers will be responsible for funding the TMA's activities.

Staffing Requirements

Creation and approval of a typical TDM plan can cost a developer more than 50,000 USD, based on a typical development size. In Tysons Corner it is not uncommon for planned developments to exceed 3 million square feet. Annual TDM program budgets are typically close to 200,000 USD per development.

The county currently assigns one full-time staff person to the TDM development review process. This staff member also monitors existing developments' compliance with proffered TDM requirements. Long-term program monitoring costs are unknown at this time.

Enforcement Policies and Compliance Tracking

The enforcement mechanism used to assure compliance with TDM requirements is relatively complex. All TDM requirements for a site are enshrined in a site-specific proffer, which is a legally binding document. All current and future property owners are held to the requirements outlined in the proffer. The proffer language requires developments to establish TDM accounts into which funds are annually deposited for the implementation of TDM strategies and programs. The site's TDM plan identifies the amount of funds that must be spent on TDM programs each year (amounts are adjusted annually based on inflation). Developers are also required to deposit funds into a TDM remedy fund, which can be drawn upon should the site fail to meet required trip



reductions. Additionally, developers must deposit funds into a penalty fund¹. If a development fails to meet trip reduction requirements three or more years in a row, the county may draw funds from the penalty fund for use on transportation improvements or programs likely to reduce vehicle trips in the Tysons Corner area. The penalty and remedy funds are returned to developers, less any previously assessed fines, once a site reaches build out and trip reductions goals are met for two years. Developers are never released from their requirement to implement TDM programs and policies and fund those efforts as outlined in their TDM plans. This requirement holds even if developments are meeting the vehicle trip reductions goals identified by the county.

Developments must conduct vehicle trip counts and travel surveys on a regular basis to determine their compliance with vehicle trip reduction targets. Results must be provided to county staff. In addition, developments must provide annual reports to the county that detail the TDM programs that were implemented in the previous year and likely to be implemented in the current year. Budget amounts for program implementation must also be provided. County staff may recommend changes to planned TDM efforts.

Lessons Learned/Developer and Employer Response

Developer acceptance of the TDM requirements has varied. Developers generally see the requirements as another element of the development review and approval process and approach them in that manner. Developers have expressed frustration with the strong emphasis placed on penalties, annual reporting and ongoing changes that the county makes to the policy as it works to address developer and staff concerns.

Prior to the creation of the “Tysons Corner Urban Center Areawide Recommendations,” TDM requirements were not uniform and varied by development. The goals outlined in the Areawide Recommendations were developed in response to the county’s desire to create uniformity and clarity for developers. Efforts to improve clarity and process continue and the county is exploring options that allow developers to implement their required TDM programs through an area transportation management association.

Implementation of the TDM requirements remains a relatively new process for the county. No occupancy permits have been issued for developments that fall under the TDM requirements outlined in the “Fairfax County Comprehensive Plan, 2013 Edition: Tysons Corner Urban Center, Areawide Recommendations.” The county has found that

¹ The amount of funds that must be deposited into the Penalty Fund has varied by development. However, the county is working to establish a fixed rate for all development sites. Different rates are likely to be charged for residential and non-residential uses based on square footage.



it needs to provide uniform language to developers regarding the establishment of TDM accounts and penalty funds and the situations in which penalties will be assessed and the amount of those penalties. Because certain elements of the TDM plans will affect developments in perpetuity, the county must develop a process through which TDM requirements and allowed trip rates can be easily tracked over time. The county also needs to establish a process through which it will be able to easily track property owners and TDM program contacts.

Policy/Regulation Language

As noted, the policy that guides TDM requirements in the development review process is outlined in the “Fairfax County Comprehensive Plan, 2013 Edition: Tysons Corner Urban Center, Areawide Recommendations.” A copy of the policy is included below. It is important to note that the policy is a guide and not a requirement. However, no recent development in Tysons Corner has received approval without agreeing to implement TDM programs and to being held to the vehicle trip reduction goals outlined in the policy.

Transportation Demand Management

Transportation Demand Management (TDM) refers to a variety of strategies aimed at reducing the demand on the transportation system, particularly to reducing single occupant vehicles during peak periods, and expanding the choices available to residents, employees, shoppers and visitors. The result is more efficient use of the existing transportation system. Transportation Demand Management is a critical component of this Plan. Traffic needs to be minimized to decrease congestion within Tysons, to create livable and walkable spaces, and to minimize the effects of traffic on neighboring communities.

When the four Metrorail stations open in Tysons and denser mixed use transit-oriented development is constructed surrounding the stations, a substantial percentage of travelers are expected to commute via Metrorail without any TDM programs in place. This development pattern will also reduce the need for driving trips because jobs, housing, shopping, recreational and cultural opportunities will be close at hand and accessible by walking or a short transit ride.

A broad, systematic, and integrated program of TDM strategies throughout Tysons can further reduce peak period single occupancy vehicle trips, as well as increase the percentage of travelers using transit and non-vehicular modes of transportation. TDM programs should embrace the latest information technology techniques to encourage



teleworking, provide sufficient information to enable commuters and other trip makers to choose travel modes and travel times, or decide if travel is actually necessary at that time.

A large component of TDM will be the promotion of the programs to the various stakeholders within Tysons. A Transportation Management Association should be established to coordinate TDM outreach. At a minimum, development proposals should include the following elements associated with their TDM program:

- Indicate the trip reduction goals over time (2050 and interim development levels) by using the values specified in Table 5.
- TDM implementation plans. TDM implementation plans should include at least the following:
 - Evaluations of potential TDM measures
 - Listing of TDM measures to be provided
 - Listing of alternate TDM measures which may be provided
 - Phased trip reduction goals
 - Implementation budgets
 - Monitoring arrangements and associated remedial and contingency funds. The remedial fund is to be used if TDM goals are not met and the contingency fund is used if unanticipated changes in travel behavior (Tysons-wide) result in an increase in the TDM trip reduction goals. Please see the TDM Monitoring section.
- Commitments to ensure Transportation Demand Management efforts are successful. These may include parking plans that reduce parking ratios before latter phases are constructed, phasing plans that tie future development to recording successful vehicle trip reductions, remedy funds to improve TDM program delivery, and penalties to deter non-compliance.

Areas closest to the Metrorail stations should have higher transportation demand management requirements. Within 1/8 mile of the stations, development should provide the greatest incentives to reduce single-occupant vehicle commuting. The recommended TDM trip reductions of traffic generation estimates provided by the Institute of Transportation Engineers (ITE) are shown in Table 5.



Table 5
TDM Vehicle Trip Reduction Goals
For Commercial and Residential Development

Development levels in total square feet (with corresponding forecast year)	TDM Vehicle Trip Reduction Goals, (Percentage Reduction from ITE Peak Hour Rates)			
	TOD Locations			Non-TOD Locations (more than 1/2 mile from station)
	0 to 1/8 Mile from Station	1/8 to 1/4 Mile from Station	1/4 to 1/2 Mile from Station	
2010 to 2020	45%	35%	30%	25%
84 million (2030)	55%	45%	40%	35%
96 million (2040)	60%	50%	45%	40%
113 million (2050)	65%	55%	50%	45%

The TDM trip reductions in Table 5 equate to total trip reductions for Tysons of over 30% in 2013; over 40% in 2030; and over 50% in 2050. These trip reductions include the transit mode shares indicated in Table 2. As the Tysons Corner area is developed, and the land use and transportation infrastructure matures, TDM trip reduction goals should be examined to determine if they are adequate for changing conditions.

Examples of TDM measures:

- Transit and vanpool subsidies
- Pre-tax deduction of transit and vanpool fares
- Telework program
- Carpool and vanpool matching service
- Shower and locker facilities for bicyclists and walkers
- Secure and weatherproof bicycle parking
- Carpool and vanpool preferential parking
- On-site car-sharing vehicle
- Employee shuttle
- Guaranteed Ride Home Program
- Commuter information center (bulletin board, web site, brochure table)
- Employee Transportation Coordinator (ETC)
- Flexible or alternative work hours
- TDM education programs directed at the public and employers

TDM programs will only work where parking is not over-supplied, and will be most effective where parking costs are charged directly to users. TDM programs must be coordinated with parking reductions and/or management programs.



A.2 Montgomery County, Maryland

Montgomery County's TDM program is well established, district based, has requirements that adjust based on district characteristics, has a process to encourage on-going funding for TDM activities and is implemented through transportation management associations.

Montgomery County created five transportation management districts (TMDs) throughout the county to guide transportation activities. Each TMD is located in an urban center where traffic congestion and air quality have increasingly become county concerns. Montgomery County created strategies for both developers and employers inside each TMD. Developers must submit a traffic mitigation agreement (TMA) and certain employers must submit a traffic mitigation plan (TMP). Participation in the TDM program is mandatory.

Policy/Regulation Language

Montgomery County established its TDM program through legislation based on the county's overall Growth Policy, which was set forth in 1997. The TDM program legislation enhances the commuting goals established in the Growth Policy. These goals are: increase transportation capacity; reduce existing and future levels of traffic congestion; reduce air and noise pollution; and promote traffic safety and bicycle and pedestrian access. The TDM legislation establishes policies regarding TMD districts, the authority of the Planning Department and Board, traffic mitigation plans, traffic mitigation agreements, annual surveys, executive reports, transportation management fees and enforcement.

TDM programs are implemented through the TMDs and vary based on the unique characteristics of the TMDs. The five TMDs are North Bethesda, Downtown Bethesda, Friendship Heights, Downtown Silver Springs and Wheaton. The County's Department of Transportation oversees the implementation of TDM activities in Friendship Heights, Silver Springs and Wheaton while private organizations, through county contract, manage the North Bethesda and Downtown Bethesda districts.



Commute mode share goals have been identified for each TMD. These goals, which are consistent with acceptable traffic conditions, represent the percentage of commuters not driving to work during the most congested times of the day. The goals for each TMD are:

- Bethesda: 37 percent non-drive alone
- North Bethesda: 39 percent non-drive alone
- Friendship Heights: 39 percent non-drive alone
- Silver Spring: 46 percent non-drive alone
- New development: 50 percent non-drive alone

Developers have an obligation to make a best effort to meet and maintain the traffic mitigation goals established in each of the transportation management areas.

Developers meet this goal, in part, by reducing the amount of on-site parking to ensure compliance or provide no on-site parking. Often developers wish to provide on-site parking at levels exceeding the amount needed to support the TMD trip reduction goal. In these cases, developers need to enter trip reduction agreements certifying that they will be able to meet the established trip reduction goal. The agreement may consist of several elements designed to manage traffic such as charging for parking and paying transit subsidies.

An additional component of the TDM regulations is the payment of TMD fees by property owners. The TMD fees support the implementation of TDM. The amount of the fee is set by County Council and cannot exceed the cost of providing TDM services. Funds collected from properties must be spent within the TMD where the paying property is located. Only three of five TMDs collect TMD fees from property owners. The cost of the fee is \$0.10 per square foot per year.

Developer TDM regulations are supported by employer TDM regulations. Within the county each employer of with 25 or more full- or part-time employees in a transportation management district must submit a Traffic Mitigation Plan (TMP). The TMD districts and the Montgomery County's Department of Public Works and Transportation (DPWT) help County employers develop comprehensive plans to encourage their employees to consider alternate commute options, including carpooling, transit, telecommuting and bicycling. TMD staff members help employers develop a TMP designed to reduce the number of employees driving alone to work.

Typical procedures for employers creating a TMP's include the following phases. First, the employer must contact the specific district TMD staff for assistance in customizing an effective TMP for their company and employees and submit the TMD to DPWT. Then DPWT reviews the submitted TMP and upon successful review, DPWT will issue



confirmation that the TMP was approved. Next the employer works with the TMD staff and its own employees to actively implement and promote the traffic management strategies that were included in the TMP. The employer must also participate in the annual commuter survey and lastly the employer must submit an annual report of activities related to its TMP.

Land Uses Impacted

Any proposed development within one of the five established TMD districts is subject to submitting a traffic mitigation agreement if the Planning Board decides that more transportation facilities or transportation demand management measures are necessary to meet the commuting goals set in the Growth Policy and TDM legislation.

In addition to affecting developers, Montgomery County law requires that every employer with 25 or more full- or part-time employees in a transportation management district submit a Traffic Mitigation Plan (TMP) within 90 days of notification from the Department of Transportation. Employers must also participate in the TMD's annual commuter survey and submit an annual report of activities.

Types of Strategies Required/Encouraged

As set forth in the TDM legislation, each traffic mitigation plan and traffic mitigation agreement should be consistent with and contribute to the achievement of any commuting goals set in the Growth Policy. A traffic mitigation plan may include an alternative work hours program, carpool or vanpool incentives, subsidized transit passes, preferential parking, peak-period or single-occupancy vehicle parking charges, improved bicycle and pedestrian access and safety, telework, and other transportation demand management measures.

Required strategies in each traffic mitigation plan submitted include: a contact person, post transit/pooling options, permanent display with information on TMD transit, TMD presentations to employees, guaranteed ride home promotion, provision of ADA information, and an annual commuter survey.

Elective strategies in each traffic mitigation plan submitted include: attend workshops about commuting options; inform new employees of their travel options; provide free or reduced cost carpool and vanpool parking; provide preferred or reserved carpool and vanpool parking; offer alternative work schedules such as flextime, compressed work weeks, telework, and job sharing; provide pre-tax monthly transit benefits; purchase



Maryland Commuter Choice Tax Credits; provide bike, transit, and pedestrian amenities; assist with carpool matching; and participate in Air Quality Action Days.

TDM Plan Development

A traffic mitigation agreement (TMA) is entered into by a real estate developer and Montgomery County government represented by the Department of Public Works and Transportation and the Montgomery County Planning Board. The agreement is established at the time land is being approved for subdivision.

Changes in Ownership

We have asked Montgomery County staff person for additional information on this item but we have not received a response.

Estimating TDM Impacts on Trip Generation

As previously noted, employers and developers must participate in the travel surveys conducted by the TMDs. Benefits associated with TDM efforts can be estimated through an analysis of the resulting trip survey data.

Inclusion of Bike Share and Car Share

The five Montgomery County TMA's utilize bike and car sharing as optional strategies in both the traffic mitigation plans and the traffic mitigation agreements. In certain instances greater trip reduction requires higher-level strategies and bike and car sharing are among those strategies.

Car sharing strategies that have been utilized include reserved parking spaces in preferential, visible locations; memberships; and rental discounts to employees and residents. Bike sharing strategies developed include space on-site for a station, payment of capital or operating costs for stations, and payment of membership or usage fees for employees and residents.

Available Incentives

No incentives are currently offered to developers for participating in the TDM program.



Staffing Requirements

Information on county staffing requirements associated with the implementation of the TDM regulations was not available. TDM staffing within the various TMDs varies by TMD and was not readily available.

Enforcement Policies and Compliance Tracking

We have asked Montgomery County staff person for additional information on this item but we have not received a response.

Lessons Learned/Developer and Employer Response

We have asked Montgomery County staff person for additional information on this item but we have not received a response.

A.3 Bloomington, Minnesota

The City of Bloomington, Minnesota has a population of approximately 86,000 and is home to multiple colleges and universities. The city's TDM policy has two tiers of programs dependent upon development types and sizes. Each tier requires developers to create a TDM plan and complete other requirements. The TDM plan must be funded for three years and membership in the local TMA is free. Financial guarantees must be made to assure compliance during the three-year program-funding period.

Policy/Regulation Language

The city of Bloomington consolidated and revised all TDM policies into a single section of the city code in 2009 in order to simplify and strengthen existing policies. The city's ordinance establishes policy applicability, TDM plan requirements, financial guarantees, administration processes, compliance, and the release and forfeiture of financial guarantees.

The ordinance divides developments into two tiers based on land use type, size of the development and parking requirements. The two tiers have different TDM requirements reflecting both the differences in trip generation and resources available to different development sizes. Tier 1 plans require greater levels of effort than Tier 2 plans.

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A Tier 1 TDM plan requires a developer to:

- Fund a study analyzing the projected transportation and parking impacts of the development
- Prepare a TDM plan describing trip reduction goals, TDM measures to be implemented, evaluation measures, and a three-year budget for TDM implementation
- File a TDM agreement including the details of the approved TDM plan with the City Attorney's office
- Provide a financial guarantee to the city in an amount determined by the number of required parking spaces
- File an annual TDM status report with the city

Tier 2 TDM plan requires developers to select potential TDM measures from a check-list provided by the city.

Land Uses Impacted

A TDM plan is required for all developments and redevelopments of office, institutional, industrial, and warehouse uses. The development types that are exempt from Tier 1 TDM program requirements are: places of assembly, schools (K-12), parks and recreational facilities, and other institutional uses that are not customarily in operation during the peak weekday traffic period (6:30-9:00 AM and 3:00-6:00 PM).

The Tier 1 TDM program is required for all new development and/or redevelopment involving: new developments where the city code requires more than 350 parking spaces (attributable to office, institutional, industrial, and warehouse uses), new non-residential developments seeking flexibility from the standard parking requirements, and redevelopment and/or additions to existing non-residential development that result in a 25 percent or greater increase in parking spaces (attributable to office, institution, industrial, and warehouse uses) and the total amount of required parking attributable to office, institution, industrial, and warehouse uses is 350 or more spaces, other development as required by city council condition.

Land uses exempt from Tier 1 plans are required to develop and implement Tier 2 plans if they are new non-residential or non-residential additions larger than 1,000 square feet.

Parking was used as the primary threshold dividing Tier 1 and Tier 2 developments because the parking requirements are based on projected trip generation rates.



Types of Strategies Required/Encouraged

The city of Bloomington does not require specific TDM measures for a Tier 1 TDM plan. The city identifies on-site transit facilities, preferential location of car and van pool parking, telecommuting, on-site bicycle and pedestrian facilities and employer subsidized transit passes as TDM measures that could potentially be included in a Tier 1 TDM plan. Ultimate approval of the TDM plan is left up to the Public Works Director's designee.

For Tier 2 TDM plans developers are required to select potential TDM measures from a checklist.

TDM Plan Development

The TDM plan prepared by a Tier 1 developer must be approved by the city before the building permit is issued and construction is allowed to move forward. Developers are encouraged to also use the assistance of the I-494 Corridor Commission, a joint powers coordination that assists five local municipalities with TDM planning.

For Tier 2 TDM plans developers are required to commit to measures selected from the TDM check list and submit the checklist with their development package.

Changes in Ownership

The city of Bloomington handles property ownership changes by adding as a condition of the land deed that the TDM plan must be approved and maintained. This ensures that any future property owner must abide by the TDM ordinance.

Estimating TDM Impacts on Trip Generation

Estimation of TDM impacts on trip generation is conducted by the city of Bloomington through the annual report required for 2 years in the Tier 1 TDM plans. These are the primary means of measurement. The annual report must be filed by the property owner and include employee surveys assessing self-reported commute modes and awareness of TDM measures in place. It must also include documentation of annual expenditures on TDM measures by the property owner.

Tier 2 TDM plans do not have measurement or estimation mechanisms.



Inclusion of Bike Share and Car Share

The city of Bloomington currently does not have bike share or car share programs. However, being close to Minneapolis, which has both of these programs, these trends might be realized in the future.

Available Incentives

No incentives are currently available to developers. The city established the rate \$50 of per required parking space to ensure the financial guarantee operated as an incentive to developers not a deterrent to development. The city was also conscious of imposing a large encumbrance on smaller developments where the financial guarantee and TDM measures would constitute a larger portion of the overall cost of the project. They worked to set thresholds that would target the largest developments in the city for the Tier 1 TDM plan while allowing smaller developments to commit to a less stringent Tier 2 TDM plan.

Staffing Requirements

Specific city staffing requirements for implementation of the TDM requirements have not been estimated but are assumed to be minimal. City staff are designated as contacts for each Tier 1 and 2 TDM programs as well as a joint effort coordination called the I-494 Corridor Commission, which provides assistance to five local municipalities TDM programs.

Developer and property owner staffing needs for implementation of TDM programs is assumed to be minimal. The city of Bloomington makes no requirements regarding staffing. However, annual reporting requirements necessitate the designation of a city contact.

Enforcement Policies and Compliance Tracking

The city requires a financial guarantee that helps to pay for agreed upon building and installation of bike racks, bus shelters and other items. The value of the financial guarantee is determined by the number of code-required parking spaces in the proposed development. The rate is currently set at \$50 per code-required parking space. The minimum value of the financial guarantee would be \$17,500 for a development meeting the required 350 parking space threshold.



In addition to providing a financial guarantee, developments subject to Tier 1 TDM plans are required to submit annual status reports.

The financial guarantee is held by the city for a minimum of two years. If at that point the property owner has demonstrated through its annual status reports a good faith effort to meet the trip reduction goals and implement the TDM measures included in the agreed-upon plan, the financial guarantee will be returned to the original property owner who submitted the guarantee; the guarantee does not transfer with ownership.

If the property owner has not demonstrated a good faith effort the city will hold the financial guarantee for up to an additional year at which point another annual status report must be submitted. At the end of the additional period the financial guarantee will be either released or forfeited based upon the city's determination of whether or not the property owner demonstrated a good faith effort to implement the TDM strategies set forth in the approved TDM plan or otherwise achieve the TDM plan goals.

Additionally, if the city determines on the basis of the annual reports that the failure to implement the strategies set forth in the Tier I TDM plan or otherwise achieve the TDM plan goals is attributable to inexcusable neglect on the part of the property owner or its successors and assigns, the financial guarantee will be immediately forfeited to the city.

Upon conclusion of the two- to three-year monitoring period a developer or property owner is no longer required to implement the approved TDM plan.

Lessons Learned/Developer and Employer Response

The city of Bloomington employed its own internal citywide TDM plan as a tool to influence travel behavior of its employees and to show the city's dedication to the 2009 TDM policy. The city also benefited from engaging with developers early and often to hear what their concerns with the plan were and to understand where the city should be making changes. Engaging developers to be a part of the process early can turn potential opponents of the plan into supporters.



A.4 Cambridge, Massachusetts

Cambridge has a population just over 100,000 and is home to multiple educational institutions. It is the location of Harvard University and the Massachusetts Institute of Technology, both of which are economic magnets for businesses that generate a large number of peak-hour commute trips into and from the city. A combination of TDM incentives to walk, bike, take transit and rideshare, and disincentives to drive alone are required in Cambridge for projects that expand parking. Requirements vary based on anticipated vehicle trip generation, measured based on parking needs. Developments needing 20 or more parking spaces are subject to the greatest regulation. Those developments must create TDM plans designed to assure that the development's drive-alone mode share will be 10 percent lower than the average drive-alone mode share for the census tract in which the development is located based on 1990 Census data. Larger projects also require annual reporting including employee surveys, biennial counts of car and bike parking occupancy and driveway ins/outs, and a status of the TDM measures being offered. A smaller project requires three TDM measures but no mode share commitments or annual reporting.

Developers have flexibility when creating TDM plans, but plans are subject to city review. The city enforces its TDM requirements by removing a development's access to its parking and through fines.

Policy/Regulation Language

The Parking and Transportation Demand Management (PTDM) ordinance is a mechanism for Cambridge to regulate and control air pollution emitted from motor vehicles and reduce vehicle trips and traffic congestion by tightly managing the development of non-residential parking facilities. The overarching goal of the PTDM ordinance is to reduce non-residential vehicle trips by 10 percent below 1990 Census levels. The ordinance furthermore promotes traffic safety, public welfare and environmental sustainability. The PTDM zoning ordinance, made permanent in 2006, provides mandatory requirements pertaining to TDM measures.

Land Uses Impacted

The city of Cambridge PTDM policy impacts non-residential development and applies to both small and large projects. However, developments that will add fewer than five non-residential parking spaces are not affected by the ordinance.



Participation in the TDM program is triggered when an owner of non-residential property proposes to add parking above the currently registered number. A small project PTDM plan is required if the total parking equals 5 to 19 spaces. A large project PTDM plan is required if the total parking equals 20 or more spaces.

Types of Strategies Required/Encouraged

A comprehensive set of TDM incentives to walk, bike, take transit and rideshare, and disincentives to drive alone are required in Cambridge for larger projects and projects that expand parking. TDM incentives include, but are not limited to, transit subsidies, provision of free shuttle bus service, construction of bus shelters, market-rate parking fees charged directly to employees or patrons, daily parking charges made available to occasional drivers instead of monthly parking passes, bicycle parking above minimum zoning requirement, provision of shower facilities and lockers, financial incentive for walking or biking, emergency ride home programs, car/vanpool matching, priority/discounted HOV parking, transportation information, hiring of Cambridge residents, on-site TDM coordinators, and TMA membership.

TDM Plan Development

The process through which a TDM plan is created is as follows: the developer utilizes a comprehensive plan checklist and sample PTDM plans provided by the city develop a draft TDM plan, a PTDM officer issues a draft decision that typically includes recommendations for revisions, the developer submits a revised and final PTDM plan, and the PTDM officer issues a final decision. The developer can obtain necessary permits after the final PTDM plan is accepted.

Changes in Ownership

The city of Cambridge requires that a property transfer form be completed when property subject to the PTDM ordinance is transferred to new ownership. The proposed new owner continues to operate under the existing PTDM plan or may otherwise work with the city to create a new PTDM plan.

Estimating TDM Impacts on Trip Generation

Large projects with 20 or more parking spaces are required to submit annual reporting and monitoring forms. These reports include results from employee surveys, biennial counts of car and bike parking occupancy and driveway ins/outs, and a status of the TDM measures being offered. Estimations of the single occupancy vehicle (SOV) mode-

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share commitment, agreed upon in the TDM plan, are also performed as part of the reporting process. The annual reports submitted to the city by each property owner are then combined to create an overall city annual PTDM monitoring report.

Projects receive monitoring response letters noting whether a project is in compliance and technical assistance is offered to non-compliant projects. In some cases when a property has implemented all of a plan's required TDM elements and still does not achieve desired mode-split goals, the city works with the property owner to develop additional, reasonable TDM measures to promote non-single-occupancy vehicle travel.

Inclusion of Bike Share and Car Share

The city of Cambridge has both bike sharing and car sharing. While neither of these options are listed specifically within the city's list of recommended TDM strategies, if they are deemed valid strategies for use at specific development sites land owners may choose to include support for the programs in their TDM plans.

Hubway is the public regional bike-share system and has stations in Cambridge, Boston, Brookline, and Somerville. It offers assistance to employers through corporate accounts, promotion and education services, and monthly invoicing and employee usage statistics. Potential TDM strategies might include offering a Hubway station on-site or offering discounted memberships.

Cambridge has a few car share companies operating within the city. These include Hertz On Demand, Mint, WeCar by Enterprise, and Zipcar. Potential TDM strategies for car sharing include designated car share parking spaces close to entrances and discounted membership rates.

Available Incentives

The city of Cambridge has created a TMA that can assist developers and property owners with the implementation of TDM programs; however, employers and property owners must pay a membership fee to access the services of the TMA. Membership in the TMA offers benefits and information on local transit and bike share information and pricing as well as assistance with understanding transportation and commuting regulations and managing approved TDM programs.



Staffing Requirements

The City Manager designates one PTDM officer whose duties include reviewing, negotiating, approving and denying PTDM plans. The PTDM officer reports directly to the City Manager. The PTDM officer additionally prepares an annual report updating city council and staff as to the effectiveness and implementation of the PTDM ordinance.

Enforcement Policies and Compliance Tracking

The PTDM ordinance contains several enforcement policies and compliance tracking methods. To enforce compliance with the ordinance the city may impose fines of up to \$10.00 per day per parking space that each parking space was operated without a registration accepted by the city or without a PTDM plan approval issued by the Planning Officer or in non-compliance with an approved PTDM plan. The city also has the right to revoke a landowner's parking permits. Furthermore, the required annual reporting for larger projects serves as a compliance tracking method ensuring that each larger TDM plan's goals are being achieved.

Lessons Learned/Developer and Employer Response

Cambridge has successfully implemented and gained acceptance for its PTDM by utilizing a mandatory TDM parking management ordinance that aids in reducing commuter vehicle trips. The success of the Ordinance additionally resides in the fact that almost all site proposals calling for increases in non-residential parking spaces must implement some level of TDM strategies.

According to the 2011 PTDM monitoring report from the city, 62 percent of the monitored projects (23) met their PTDM mode split commitments for 2011. Projects meeting their mode-split commitments all showed single-occupancy vehicle driving rates below requirements. Compliant mode splits ranged from a low of zero percent to a high of 95 percent single-occupancy mode split.

A wide variety of measures have been implemented in order to meet these mode split goals. While all PTDM plans include measures to promote non-single-occupancy vehicle travel, the ordinance allows property owners and employers some flexibility in determining which measures best fit their particular circumstances. Measures typically implemented include MBTA pass subsidies of varying levels, reserved parking for carpools, extensive bicycle parking, showers and changing facilities for walk and bike commuters, employee-paid parking, and shuttles to transit lines and commuter rail



stations. Some projects have also employed techniques such as providing financial incentives for walking and biking, combining summer picnics with transportation information fairs, offering commuters who typically use sustainable travel modes the opportunity to park occasionally, and using car sharing to reduce the need for personal vehicles

Ordinance Language

10.18.010 Purpose

(a) It is the purpose of this Chapter to regulate and control atmospheric pollution from motor vehicles by formalizing parking and transportation demand management planning, programs, and coordination which have been ongoing for a number of years. This Chapter will reduce vehicle trips and traffic congestion within the City, thereby promoting public health, safety, and welfare and protecting the environment. This Chapter requires parking and transportation demand management (PTDM) plans for commercial parking facilities and other types of non-residential parking facilities over a specified size as set forth in 10.18.050 and 10.18.070. This Chapter also establishes a process whereby City officials will be able to track the number, use and location of off-street parking spaces in the City.

(b) A Parking and Transportation Demand Management Planning Officer will be designated by the City Manager with the responsibility for reviewing, conditioning, approving and/or denying PTDM plans. Any project subject to the requirements of this Chapter shall not be qualified to receive a permit from the Planning Board, a commercial parking permit from the Commercial Parking Control Committee, a special permit or variance from the Board of Zoning Appeal, a building permit from the Commissioner of Inspectional Services, a certificate of occupancy from the Commissioner of Inspectional Services, or an operating license from the License Commission absent written approval of its PTDM plan from the PTDM Planning Officer or evidence of registration of its parking spaces with the Department of Traffic, Parking, and Transportation.

10.18.020 Definitions

"Commercial Parking Space" means a parking space available for use by the general public at any time for a fee. The term shall not include (i) parking spaces which are owned or operated by a commercial entity whose primary business is other than the operation of parking facilities, for the exclusive use of its lessees, employees, patrons, customers, clients, patients, guests or residents but which are not available for use by the general public; (ii) parking spaces restricted for the use of the residents of a specific residential building or group of buildings; (iii) spaces located on public streets; or (iv)



spaces located at a park-and-ride facility operated in conjunction with the Massachusetts Bay Transportation Authority.

"Commercial Parking Facility" means a parking facility owned or operated by a commercial entity whose primary business is the operation of a parking facility and at which there are at least five (5) Commercial Parking Spaces.

"Commercial Parking Permit" means a (i) permit issued under chapter 10.16 of the Cambridge Municipal Code, authorizing the use of a designated number of parking spaces at a specified location as Commercial Parking Spaces; (ii) a permit or approval issued prior to the effective date of this Chapter pursuant to the Procedures, Criteria, and Memorandum of Agreement dated November 15, 1984; (iii) a Controlled Parking Facility Permit that expressly authorizes use of the parking facility for Commercial Parking Spaces; or (iv) a letter from the Director confirming the number of spaces at a specified location that were in existence and being used as Commercial Parking Spaces as of October 15, 1973.

"Controlled Parking Facility Permit" (CPFP) means a permit issued by the Director prior to the effective date of this Chapter, which authorized the construction or operation of a parking space or the construction, operation, or modification of a parking facility.

"Determination of Exclusion" means a determination made by the Director that a parking facility or a parking space did not require a controlled parking facility permit.

"Director" means Director of the Cambridge Department of Traffic, Parking, and Transportation.

"Effective Date" means November 16, 1998, the original date of final adoption of this Chapter of the Cambridge Municipal Code.

"Existing Parking Facility" shall mean a parking facility for which (i) a certificate of occupancy was issued by the Commissioner of Inspectional Services; (ii) an operating license was issued by the License Commission; or (iii) the Director issued a letter confirming the number of spaces at that location which spaces were in existence and being used as commercial parking spaces as of October 15, 1973 (a "Director's Letter").

"New Project" means a project to construct or operate parking spaces within a new facility or an existing parking facility which will cause such facility to have a net increase in the number of spaces for which a certificate of occupancy, operating license, variance, special permit, or Director's Letter has not been issued as of the effective date of this



Chapter and which is not a park-and-ride facility operated in conjunction with the Massachusetts Bay Transportation Authority.

"Parking Facility" means any lot, garage, building or structure or combination or portion thereof, on or in which motor vehicles are parked, except any such facility used in association with or by a municipal police or fire station, and in the case of university or college campuses, the stock of parking spaces maintained within the City by the university or college which supports university or college activities within the City.

"Person" means and includes a corporation, firm, partnership, association, executor, administrator, guardian, trustee, agent, organization, any state, regional or political subdivision, agency, department, authority or board, and any other group acting as a unit, as well as a natural person.

"Planning Officer" means the City official responsible for PTDM plan reviews.

"PTDM" means Parking and Transportation Demand Management.

"Small Project" means a project to construct or operate five (5) to nineteen (19) non-commercial, non-residential parking spaces within a new facility or an existing parking facility which will cause such Facility to have a net increase in the number of spaces for which a certificate of occupancy, operating license, variance, special permit, or Director's Letter has not been issued as of the effective date of this Chapter. To qualify as a Small Project, the total number of non-commercial, non-residential parking spaces at the parking facility must remain at or below nineteen (19).

10.18.030 PTDM Planning Officer

Within thirty (30) days of the effective date of this Chapter, the City Manager shall designate a Parking and Transportation Demand Management Planning Officer who shall have responsibility for reviewing, conditioning, approving, and/or denying PTDM plans and who shall report to the City Manager. Said officer shall be a Cambridge resident within six months of employment in this position. Prior to rendering his/her determination(s), the Planning Officer shall consult with the PTDM plan applicant, the Director and the Assistant City Manager for Community Development.

10.18.040 Registration of All Parking Spaces

(a) No person shall build, expand, or reconfigure a parking facility for non-residential parking spaces resulting in a net increase in the number of parking spaces or a change in the use of such spaces based on the categories of use listed below at paragraphs b(v) and



(vi), without first submitting a parking registration form to, and obtaining acceptance from, the Director.

(b) The registration form shall be prepared by the Director and shall be available at the offices of the Department of Traffic, Parking and Transportation. The form will require the following information:

- (i) name and address of parking facility owner;
- (ii) name and address of parking facility operator;
- (iii) address of parking facility;
- (iv) total number of existing parking spaces;
- (v) number of existing parking spaces in each of the following categories:
 - residential- commercial- non-commercial- customer- employee- patient- student- client- guest
- (vi) number of parking spaces proposed to be added to the parking facility in each of the following categories:
 - residential- commercial- non-commercial- customer- employee- patient- student- client- guest
- (vii) identification of any existing parking permits for the parking facility; and
- (viii) explanation of any enforcement actions against the parking facility.

(c) The Director shall accept or return a registration form to the registrant with a request for additional information within thirty (30) days after the form was filed.

(d) The License Commission shall not issue a license and the Commissioner of Inspectional Services shall not issue a building permit or certificate of occupancy for a parking facility subject to this section without evidence (i) that the registration form has been accepted by the Director; and (ii) if required, that the facility has a PTDM Plan approved by the Planning Officer.

10.18.050 Parking and Transportation Demand Management Plans

(a) No person shall build, expand, or operate a parking facility subject to the Parking and Transportation Demand Management (PTDM) Plan requirements of this Chapter absent a PTDM Plan approved by the Planning Officer.

- (b) The PTDM requirements of this Chapter shall apply to each of the following:
- (i) any commercial parking facility for which a certificate of occupancy or operating license, variance or special permit was not obtained prior to the effective date of this chapter;
 - (ii) an existing commercial parking facility at which the number of parking spaces is increased after the effective date of this chapter;



- (iii) any parking facility at which the use of existing or permitted parking spaces is changed to commercial use after the effective date of this chapter;
- (iv) any new project to build or create by change of use twenty or more non-residential parking spaces; and
- (v) any new project to expand an existing parking facility resulting in a total number of non-residential parking spaces of twenty (20) or more.

(c) The PTDM Plan shall be designed to minimize the amount of parking demand associated with the project and reduce single-occupant vehicle trips in and around Cambridge. The PTDM Plan shall be based on the following facts, projections and commitments:

(i) Facts and Projections:

- nature of development and property use;
- proximity of project to public transit and other non-Single-Occupant Vehicle facilities;
- availability of and accessibility to offsite parking spaces which could serve the project;
- number of employees and their likely place of origin; and
- type and number of patrons/users of proposed parking supply and their likely place of origin.
- number of vehicle trips expected to be generated by the project and description of measures to reduce associated traffic impacts on Cambridge streets; and
- other factors published by the Planning Officer.

(ii) Commitments:

- commitment to work with the Cambridge Office of Work Force Development;
- commitment to implement vehicle trip reduction measures including some or all of the following:
 - subsidized MBTA passes and other incentives; shuttle services; ride-sharing services; bicycle and pedestrian facilities; flexible working hours; preferential parking for Low Emission Vehicles/Zero Emission Vehicles/bicycles/carpools/vanpools (Note: this list is not meant to preclude implementation of other types of vehicle trip reduction measures). This commitment must be accompanied by a detailed description of the measures proposed to be implemented; and commitment to establish and make reasonable efforts to achieve a specified, numeric reduction (or percent reduction) in single-occupant vehicle trips in and around Cambridge. The percent reduction will be based on PTDM practices



successfully implemented in reasonably comparable environments and as identified in professional and academic literature and based on analysis of existing trip reduction measures in Cambridge.

Each PTDM Plan shall identify the total number of existing and proposed parking spaces at the facility and specify how many existing and proposed spaces fall within each of the following categories (explain how many spaces are used for multiple purposes):

- residential- commercial- non-commercial- customer- employee- patient- student- client- guest

Where the parking facility includes or proposes a combination of commercial and non-commercial parking spaces, the Plan shall specify how the parking facility will prevent commercial use of the non-commercial parking spaces.

Each PTDM Plan shall contain the following certification signed by an authorized corporate officer:

"I hereby certify that a commercial parking permit has been obtained for each space being used for commercial parking. None of the other existing or proposed parking spaces at this parking facility have been or will be available as commercial parking spaces until a commercial parking permit therefor has been obtained."

(d) The Planning Officer shall review, condition, approve and/or deny the PTDM Plan based on the above-listed facts, projections, and commitments. The Planning Officer shall issue his/her decision in writing within 60 days of receipt of the proposed PTDM Plan. The required time limit for action by the Planning Officer may be extended by written agreement between the proponent and the Planning Officer. Failure by the Planning Officer to take final action within said sixty (60) days or extended time, if applicable, shall be deemed to be approval of the proposed PTDM plan. If the project proponent elects to make a request pursuant to 10.18.060, the decision of the Planning Officer shall be expanded to include a recommendation about whether offsite parking should be allowed at distances greater than those allowed in the Zoning Ordinance and/or whether fewer parking spaces than the minimum required in the Zoning Ordinance should be allowed. Decisions of the Planning Officer may be appealed by the project proponent to a review committee composed of the City Manager, or his designee,

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and two other City staff members designated by the City Manager none of whom may have participated in the initial review of the Plan.

(e) The Planning Officer shall also make available sample PTDM plans which a project proponent may adapt for their project, such to approval by the Planning Officer.

(f) No permit, commercial parking permit, special permit, variance, building permit, certificate of occupancy, or operating license shall be issued for any project subject to 10.18.050 by the Planning Board, Commercial Parking Control Committee, Board of Zoning Appeal, Commissioner of Inspectional Services, or License Commission absent a written decision indicating approval from the Planning Officer of the project proponent's PTDM Plan. Any such permit or license shall be consistent with, and may incorporate as a condition, the decision of the Planning Officer and shall include written notice of the requirements of 10.18.050 (g) and (h), below. Nothing in this ordinance shall be construed to limit the power of the Planning Board or Board of Zoning Appeal to grant variances from or special permits under the provisions of the Zoning Ordinance. No project proponent shall be required by the Planning Officer to seek such relief under the Cambridge Zoning Ordinance.

(g) Approvals issued by the Planning Officer shall be automatically transferrable by and among private parties, provided that the proposed new owner (the "Transferee") shall continue to operate under the existing PTDM Plan and shall submit to the Planning Officer within thirty (30) days of the title transfer a certification that the existing PTDM plan will remain in effect. The certification shall be submitted on a form issued by the Planning Officer and shall certify that such Transferee commits to implement the existing PTDM plan, as approved; and acknowledges that failure to implement the plan is subject to the enforcement provisions of this Chapter. Where such certification is submitted, the approved plan shall remain in effect as to the Transferee. The Transferee may elect instead to and consult with the Planning Officer within thirty (30) days of title transfer regarding appropriate revisions to the existing plan. Based on such consultation, the Planning Officer may require information from the Transferee concerning proposed changes in use of the parking facility and associated buildings and the relevant facts and projections regarding the proposed changes. Within thirty (30) days of receipt of such information, the Planning Officer may issue a written approval of the revised plan and obligations to the Transferee, or the Planning Officer may require submittal of a new PTDM Plan from the Transferee for review, condition, approval and/or denial. Until such time as a new or revised plan has been approved, the existing PTDM plan shall remain in effect.



(h) Each PTDM Plan approval issued by the Planning Officer shall contain, at a minimum, the following conditions:

- (i) The parking facility owner and operator each commit to implement all elements of the PTDM Plan, as approved, including annual reporting requirements, and to maintain records describing implementation of the Plan;
- (ii) The City shall have the right to inspect the parking facility and audit PTDM implementation records; and
- (iii) The parking facility owner and operator each commit to notify and consult with the Planning Officer thirty (30) days prior to any change in ownership, use or operation of the facility.

10.18.060 Reduction in Minimum Parking and Maximum Distance Requirements

(a) A project proponent may elect to request that the Planning Officer include as an element of its PTDM Plan a plan for fewer parking spaces than the minimum set forth in the Zoning Ordinance. Upon the written request of the project proponent, based on an evaluation of the facts, projections, and commitments listed at 10.18.050 (c), the Planning Officer may make a written recommendation about the maximum number of parking spaces for the project. This recommendation shall remain subject to review and approval by the Planning Board or Board of Zoning Appeal as appropriate.

(b) A project proponent may elect to request that the Planning Officer include as an element of its PTDM Plan a plan for utilizing off-site parking spaces that are farther from the project site than the maximum distance requirements set forth in the Zoning Ordinance. Upon the written request of the project proponent, based on an evaluation of the facts, projections, and commitments listed at 10.18.050 (c), the Planning Officer may make a written recommendation about how many parking spaces serving the project may be appropriately located at an off-site location and at what distance from the project site. This recommendation shall remain subject to review and approval by the Planning Board or Board of Zoning Appeal as appropriate.

10.18.070 Requirements Applicable to Small Projects

The owner or operator of each Small Project shall implement at least three (3) PTDM measures and maintain records of such implementation. A list of acceptable types of measures may be obtained from the Traffic, Parking and Transportation Department, the Inspectional Services Department, the Community Development Department, or the License Commission. The Planning Officer shall create and periodically update this list, which shall include: T-pass subsidies; bicycle parking; changing facilities; carpools/vanpools; financial incentives not to drive alone; or other similar measures.



10.18.080 Enforcement

(a) The Director shall enforce the provisions of this Chapter. If the Director has reason to believe that any provision of this Chapter is being violated, the Director shall investigate the possible violation. If after investigation the Director determines that any provision of this Chapter is being violated, s/he shall provide a first written notice of violation to the person charged with the violation, or the duly authorized representative thereof, of the determination of violation and shall order that the violation cease within thirty (30) days of the issuance of the first written notice. If the violation is not cured within the thirty (30) days after issuance of the determination of violation, the Director may proceed to assess the fines established in this chapter as well as any other remedies available to the city. In addition to all other remedies, if the violation has not ceased within thirty (30) days after the first written notice, then the Director may order shutdown of the parking facility. Second or subsequent written notices to a facility for the same violation shall be immediately effective and shall not provide the thirty (30) day opportunity to cure contained in the first written notice. A determination and order of the Director may be appealed to the City Manager by the person charged with the violation within thirty (30) days of issuance of the Director's determination and order.

(b) In addition to other remedies available to the City, any person who builds or modifies a parking facility without complying with the provisions of this Chapter shall be subject to a fine of up to \$10.00 per day per parking space for every day that such parking space was operated without a registration accepted by the Director or without a PTDM Plan approval issued by the Planning Officer or in non-compliance with an approved PTDM Plan. On a determination, after investigation, by the Director that this Chapter is being violated, and the exhaustion of any appeal to the City Manager in accordance with (a) above, the Director shall take steps to enforce this chapter by causing complaint to be made before the district court and/or by applying for an injunction in the superior court.

(c) In addition to other remedies available to the City, a determination that a facility is operating in violation of the provisions of this Chapter shall be ground for revocation by the Director of the facility's parking permit or other form of approval.

(d) The Planning Officer shall have independent authority to inspect a parking facility and audit its records to determine whether it is in compliance with its PTDM Plan. The Planning Officer shall issue a finding of non-compliance in writing and provide copies to the parking facility owner and operator and to the Director.



10.18.090 Evaluation

The PTDM Planning Officer shall prepare a report annually on the status and effectiveness of the implementation of this Ordinance.

A.5 Pasadena, California

Pasadena has a population of almost 140,000 and is home to the California Institute of Technology and multiple scientific institutions including the Jet Propulsion Laboratory. The city is relatively well served by transit; it is connected to downtown Los Angeles via the Gold light rail line and has six light rail stations.

The city created a TDM program to address congestion. The program affects new nonresident developments that are 25,000 square feet or larger and residential developments that are 50 units or larger if part of a mixed-use development and 100 units or larger if not part of a mixed-use development. Requirements vary based on development size.

Smaller developments are required to implement a standard set of TDM strategies and submit, for review, an annual update on the implementation of their transportation plan. Larger developments are required to submit a TDM program plan. These plans include identification of site conditions that affect commute travel; TDM plan measures; evaluation criteria for reviewing TDM program plans; and duties, responsibilities and qualifications of a certified employee transportation coordinator. Furthermore, larger projects are required to submit a TDM program statement of commitment ensuring they will meet the California's Air Quality Management District's regulations and monitoring requirements for the reporting of TDM strategies, annual status reports, and average vehicle ridership requirements (AVR). All items must be submitted to and approved by the director of transportation prior to the issuance of a building permit.

Larger developments are encouraged to achieve a minimum AVR of 1.5 for trips that occur between 6:00 a.m. and 9:00 a.m., Monday through Friday. All projects located within a "Transit Oriented Development" area are encouraged to achieve an AVR of 1.75. Developments submit annual reports regarding AVR compliance and if goals are not met the property owner must submit a revised TDM plan that includes new strategies to reach the established AVR goals. Failure to comply with the policy can result in permits being withheld and fines.



Policy/Regulation Language

Pasadena's trip reduction ordinance is contained within the city's municipal code in two sections: the general development chapter and the transportation demand management chapter. The municipal code outlines two TDM plan tiers. A copy of the code language is in Appendix A5.

Land Uses Impacted

Pasadena's ordinance applies to residential developments, nonresidential projects, and mixed-use projects. Participation in the TDM program is divided into two tiers based on a development's size. The first tier, with fewer TDM requirements affects nonresidential projects and the nonresidential portion of mixed-use projects, which are between 25,000 square feet and 75,000 square feet of gross floor area. The second tier, with more significant TDM requirements affects multi-family residential developments with 100 or more units, mixed-use developments with 50 or more residential units of 50,000 square feet or more of non-residential development, and nonresidential developments that exceed 75,000 square feet of gross floor area.

Types of Strategies Required/Encouraged

Pasadena requires a TDM plan for smaller projects that includes carpool and vanpool preferential parking designation; bicycle parking designation; commuter matching services for all employees on an annual basis and for all new employees upon hiring; transportation information displays that include, without limitation, current maps, routes, and schedules for public transit routes serving the development; the telephone number and web sites referrals for transportation information including the numbers and web sites for the regional ridesharing agency and local transit operators; ridesharing promotional materials; bicycle routes and facility information; and a listing of facilities available for bicyclist, carpoolers, pedestrian, transit riders, and vanpoolers at the development; and contact information for responsible program management party at the site.

TDM plans for larger developments are not as prescriptive and should contain strategies that will reduce vehicle trips such that an AVR of 1.5 to 1.75 is met. Strategies should be applicable to the surrounding area and available transportation options.



TDM Plan Development

Developers must work with the city of Pasadena and Metro Commute Services, the local TMA, while creating TDM plans. Both small and large projects have strict requirements, as outlined above, which they must meet in order to receive necessary building permits, certificate of occupancy, or other forms of required approval (permits, licenses) for the project to proceed.

Changes in Ownership

Developments falling under the larger compliance tier are required to attach the TDM plan as a covenant to the property as a condition of development. As part of the covenant, the property owner must notify the city of any changes in property ownership. Property owners must also inform any potential future owner of the associated TDM requirements.

Estimating TDM Impacts on Trip Generation

The City of Pasadena requires property owners to submit TDM annual status reports to the city. TDM annual reports must include results from annual commuter surveys to document progress toward meeting AVR goals. Annual surveys must be in conformance with South Coast Air Quality Management District's guidelines to determine commute travel behavior, which requires the collection of data on employee means of travel, arrival time, and interest in information on ridesharing opportunities.

Inclusion of Bike Share and Car Share

The City of Pasadena does not currently have a bike share system. However, Los Angeles has been considering implementing one for several years. Once this occurs, Pasadena could likely develop a system as well.

Pasadena does have a car share pilot program ongoing through Zipcar. Potential TDM strategies for car sharing include designated car share parking spaces close to entrances and discounted membership rates. Developers are free to include these strategies in their TDM plans.



Available Incentives

The city of Pasadena funds a TMA that provides transportation information to employers and developers at no cost. Developers often join the TMA to receive assistance with the development of TDM plans, to obtain help maintaining compliance with air quality mandates and standards, and to obtain assistance with the creation of required reports. The TMA also provides a forum in which developers and employers can discuss TDM strategies and obtain advice on how to successfully implement TDM plans.

Staffing Requirements

The city of Pasadena's TDM ordinance requires that developers identify a certified employee transportation coordinator. The South Coast Air Quality Management District, part of the overall State of California air quality program, offers training programs for employees to become certified. The city of Pasadena has internal staff that are assigned to manage and enforce each of the ongoing small and large TDM plans.

Enforcement Policies and Compliance Tracking

Pasadena's TDM ordinance establishes strict enforcement policies. Failure to comply with any part of the TDM process is grounds for adding additional elements to the TDM plan and not approving critical building permits, certificates of occupancy, and other required licenses that can delay the construction or leasing of new developments. The city can also issue a stop work order or assess a financial administrative penalty. Non-compliance includes failure to submit a Transportation Demand Management Program Plan, failure to implement strategies contained in an approved TDM program plan, failure to submit annual TDM status reports, and failure to substantially achieve the established AVR requirement.

The city requires a deposit of \$2,000 upon the submittal of a TDM plan for review and approval, the owner/developer shall place a deposit with the city prior to the issuance of a building permit. The deposit is subject to refund or an additional billing in case the deposit amount is not sufficient to cover the cost of the review. Each property owner also pays a fee of \$430 each time an annual report is submitted, which covers internal city review costs.



Lessons Learned/Developer and Employer Response

Pasadena has successfully implemented and gained compliance with its TDM goals by making its TDM ordinance mandatory. The city recognized that different scales of TDM plans for small and large developments would aid landowners in successful compliance. Additionally, placing the TDM policy in both the city's ordinance and zoning code incorporates TDM policy into every step of the development process and creates a mechanism for enforcement after the development process is complete. Furthermore, requiring developments to inform the city of changes in property ownership ensures that future owners are aware of the city's TDM requirements during the purchase process, thereby ensuring that the TDM program plan continues to be implemented.

Ordinance Language

10.64.005 Purpose

It is the purpose of this Chapter 10.64 to implement the requirements of the Los Angeles County Metropolitan Transportation Authority's ("Metro") Congestion Management Program in accordance with California Government Code Sections 65089 and 65089.3, and consistent with the provisions of Metro's model trip reduction ordinance; and to be a leader in environmental compliance and sustainability efforts.

10.64.010 Transportation plan for smaller projects

Nonresidential projects, and the nonresidential portion of mixed-use projects, which are between 25,000 square feet and 75,000 square feet of gross floor area, shall provide employee transportation information services and a transportation plan which conforms to the program requirements approved by the City Department of Transportation. This transportation plan shall be reviewed and approved by the Director of Transportation prior to the issuance of a building permit. Thereafter, these projects shall submit for review an annual update on the implementation of the pre-existing transportation plan. The plan requirements include, but are not limited to, the following:

- A. Project description;
- B. Carpool and vanpool preferential parking designation;
- C. Bicycle parking designation;
- D. Commuter matching services, to be provided for all employees on an annual basis, and for all new employees upon hiring;

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E. Transportation information displays, to be provided on site, situated so as to be seen by the greatest number of employees. Information displayed shall include, without limitation, current maps, routes, and schedules for public transit routes serving the development; the telephone number and web sites of referrals for transportation information including the numbers and web sites for the regional ridesharing agency and local transit operators; ridesharing promotional materials; bicycle routes and facility information; and a listing of facilities available for bicyclist, carpoolers, pedestrian, transit riders, and vanpoolers at the development; and

F. Contact information for responsible party at the site.

10.64.020 Transportation demand management program plan

A. Transportation Demand Management Program Plan. TDM Program Plans will be required by the following projects:

1. Multi-family residential developments that are 100 or more units;
2. Mixed-use developments with 50 more residential units; or 50,000 square feet or more of non-residential development; or
3. Nonresidential projects which exceed 75,000 square feet.

B. Transportation Demand Management Program Plan requirements. TDM Program Plans shall conform to the program requirements approved by the City Department of Transportation. The TDM Program Plans shall be reviewed and approved by the Director of Transportation prior to the issuance of a building permit and thereafter shall be reviewed and approved annually. Program requirements will include, but not be limited to, the following:

1. Project description;
2. Site conditions that affect commute travel;
3. TDM Program Plan measures;
4. Evaluation criteria for reviewing TDM Program Plans; and
5. Duties, responsibilities and qualifications of a certified Employee Transportation Coordinator.

C. Average vehicle ridership requirements. Nonresidential development projects, and the nonresidential portion of mixed-use development projects, shall strive to achieve a minimum average vehicle ridership ("AVR") between 6:00 a.m. and 9:00 a.m., Monday through Friday, as follows:

1. All projects shall strive to meet an AVR of 1.5 starting 1 year from the effective date of this ordinance.



2. All projects that are located within a "Transit Oriented Development" area (as defined in Title 17, Article 8) shall strive to meet a 1.75 AVR starting 3 years from the effective date of this ordinance.
3. The TDM Program Plan shall include a statement of the property owner's Chief Executive Officer confirming the owner's commitment to strive to meet the AVR requirements.

D. Transportation Demand Management Program statement of commitment. The property owner's Chief Executive Officer shall make the following commitments to the program:

1. Commitment to conduct annual surveys in conformance with South Coast Air Quality Management District's guidelines to determine commute travel behavior including collection of data on employee means of travel, arrival time, and interest in information on ridesharing opportunities.
2. Commitment to monitor the TDM Program Activities; and
3. Commitment to report on the TDM Program annually in a manner required by the City (e.g., TDM Status Report).

E. Annual Transportation Demand Management Status Report.

1. Property owners shall submit an annual "TDM Status Report" to the City beginning with the first annual reporting date assigned by the City. The City shall provide the property owner with written notification indicating whether the TDM Status Report is approved or is deemed unacceptable within 3 months of its receipt. Alternatively, the City may notify the owner in writing of an extension of this deadline of no more than 30 days.
2. Annual reports will be reviewed by the City to determine if the property owner has implemented and/or maintained the TDM Program.
3. City staff will determine if a property has met the applicable AVR as measured by responses from the annual commuter survey.
4. City staff may request auditable documentation to determine compliance.
5. If the performance objective has not been achieved, City staff will determine if progress has been made toward meeting the AVR. This will be determined by, among other things, any change in the reported AVR from the prior year.
6. If the AVR requirement has not been met and a property owner has not made progress toward the requirement, the City shall work collaboratively with the owner to identify modifications to the TDM Program and shall direct the owner to revise its program within 60 days to incorporate the modifications. In response to the recommended modifications, the owner shall submit a revised TDM Program Plan, including the requested modifications or equivalent measures, within 60 days of receiving written notice to revise its program. The City shall

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review the revisions and notify the owner of acceptance or rejection of the revised program. If a revised program is not accepted, the City will send written notice to that effect to the owner within 60 days.

F. Commitment to Maintain Transportation demand management compliance for the life of a project.

1. Property owners subject to trip reduction requirements shall record a Covenant and Agreement to a property's codes, Covenants and Restrictions (i.e., CC&Rs) that make the TDM Program a condition of property ownership. The CC&Rs shall include provisions to:

- a. Guarantee adherence to the TDM objectives and perpetual operations of the TDM Program Plan for all legal parcels within the site regardless of property ownership.
- b. Inform all subsequent property owners of requirements of the TDM Program Plan.
- c. Inform the City Department of Transportation of any change in property ownership.
- d. Identify consequences of non-performance.

2. Space use agreements (i.e., lease documents) shall include provisions to inform and commit tenants to and participate in measures of the property's TDM Program, including:

- a. Encouraging employees to participate in campaigns that promote use of carpools, vanpools, transit, walking and bicycling; and
- b. Posting transportation information in employee common areas; and
- c. Participating in the annual employee commute survey; and
- d. Promoting the availability of preferential car/vanpool parking spaces to employees.

G. Enforcement.

1. Property owners shall submit an annual TDM Status Report and relevant data/reports to document compliance with this Chapter. The City shall monitor such compliance in a manner it deems appropriate and reasonable. Monitoring mechanisms may include, but not be limited to, the following:

- a. Printed documentation of site features (e.g., location of carpool parking spaces);
- b. Photographs of TDM Program facilities (e.g., carpool parking spaces);
- c. Field-site inspections by City staff; or
- d. Other building site reports/surveys which the City may deem appropriate.

2. Non-compliance includes failure to:

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- a. Submit a Transportation Demand Management Program Plan;
 - b. Implement strategies contained in an approved TDM Program Plan;
 - c. Submit annual TDM Status Reports; or
 - d. Substantially achieve the established AVR requirement.
3. The City shall issue a written notice of non-compliance to owner of properties that are out of compliance with this Chapter. The notice shall indicate the cause for non-compliance (e.g., failure to: submit an approved TDM Program Plan, submit an annual TDM Status Report, substantially achieve the established AVR requirement) and identify actions necessary to attain compliance. Property owners shall be given 30 days to provide documentation of compliance. Each day that a property owner violates the provisions of this Chapter or the terms and conditions of any approved TDM Program Plan shall constitute a separate violation of this Chapter.
4. Non-compliance will result in 1 or more of the following:
- a. Require the addition of elements to the property owner's TDM Program Plan.
 - b. Institute proceedings to revoke any approval of a TDM Program Plan.
 - c. Impose an administrative penalty as provided for in Title 1 (General Provisions) of the Municipal Code.
 - d. Withhold the issuance of building permits, certificates of use and occupancy, and/or other City issued permits or licenses
 - e. Issue a stop work order.
 - f. Request that the City Attorney take appropriate enforcement action. Referral to the City Attorney is not a condition precedent to any enforcement action by the City Attorney.

A.6 Alexandria, Virginia

Alexandria, Virginia has a population of 151,000 and has been shaped by its proximity to the nation's capital. Alexandria has a Long Range TDM plan in place that sets TDM goals for the city from 2011-2036. The city's zoning ordinance requires that developments over a certain size have a Transportation Management Plan (TMP) in place following the city's Transportation Management Plan Special use Permit Program. Each development is required to show a sustainable funding source for its TDM programs and annual reporting is required. A traffic impact study must be completed in order to establish projections of future traffic volumes and levels of service within and surrounding the development. The projections are used to establish goals for the TMP and to help identify TDM strategies.



The city of Alexandria has established two goals for each TMP, depending on the development use. The first of these goals is for 10 to 30 percent of the total number of projected a.m. and p.m. peak-hour trips to or from the development to utilize a travel mode other than driving alone. Goals vary based on land use type.

The second goal specifies that the development achieve a trip distribution in which no more than 40 percent of projected single-occupancy vehicle trips to the development occur between 6:00 a.m. and 10:00 a.m. and no more than 40 percent of projected single-occupancy vehicle trips from the development occur between 3:00 p.m. and 7:00 p.m. In the case of residential land uses the ordinance affects trips from the development during the morning peak period and to the development during the evening peak period.

To assist developments with the implementation of TDM programs the city operates a transportation management association called Local Motion. The organization works with employers to offer transportation benefits and information to employees. Local Motion offers a range of service offerings including: outreach and engagement of local employers, hosting and participation in city community and business events to promote alternatives to single-occupancy vehicle (SOV) travel, supporting private partners (such as Zipcar and Capital Bikeshare) and offering financial incentives to residents and businesses to employ carsharing strategies, and administration of transit subsidies to the city's employees.

Policy/Regulation Language

Alexandria's Transportation Management Plans (TMP) program is committed to reducing traffic congestion and improving air quality. TMPs are part of the City of Alexandria's Zoning Ordinance, which requires developments of a certain size to mitigate traffic and its related impacts with an on-site TDM program. The ordinance can be found in Appendix A6.

Land Uses Impacted

Alexandria's transportation management plan special use permit program impacts certain commercial and/or professional office space, retail sales space, industrial space and residential developments in specific zones within the city.

Participation in the city's transportation management program is triggered when a development is located within an identified zone and meets one or more of the following conditions: Any individual building, structure, or complex of structures, with aggregate

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usable square footage of 50,000 or more usable square feet of commercial and/or professional office space; 40,000 or more usable square feet of retail sales space; 150,000 or more usable square feet of industrial space; 250 or more residential units; or any combination of space which includes 50,000 or more usable square feet of commercial and/or professional office space, or 40,000 or more usable square feet of retail sales space, or 250 or more residential units.

Types of Strategies Required/Encouraged

A comprehensive set of TDM incentives to walk, bike, take transit and rideshare, and disincentives to drive alone are required in Alexandria. Each TMP must include the following strategies and procedures:

- Establish transportation activities to persuade individuals who drive alone to switch to public transportation. These activities should be measured against a TMP percentage goal, which is determined by demographic data and factors in the site's distance to Metro stations.
- Establish a fund to finance TDM activities and submit biennial reports detailing expenses incurred.
- Provide restricted parking spaces for carpool and vanpool vehicles.
- Manage, enforce, and supervise on-site parking facilities.
- Appoint a transportation coordinator to administer the TMP and coordinate its activities with the city. The transportation coordinator's duties include: distribute, display and promote literature on regional transportation services; conduct and submit annual transportation surveys; and prepare and submit annual reports that discuss activities conducted during the year and the effect of those activities on reducing traffic and related impacts. The report should also include the activities planned for the coming year.

The TMP is also required to have a combination of some or all of the following strategies:

- Ride sharing incentive programs
- Establishment of a car share program with Zipcar and a process for the TMP to reimburse a percentage of usage fees or pay annual fees
- Public transit incentive programs including shuttle services
- Subsidized transit fares
- Construction of transit shelters, stations, and amenities
- Land dedication



- Marketing programs
- Funding for recommended transit improvements
- Bicycle and pedestrian incentive measures that may include the provision of bicycle parking and storage facilities, the construction and extension of bicycle paths and pedestrian walkways, shower and locker facilities and similar incentive features
- Establishment of variable work hour, telework, or flex time programs
- Parking policies to reduce the reliance on single-occupancy vehicles, which may include: parking fees to discourage single-occupancy vehicles and time and other access restrictions to parking spaces
- Use and accessory use design options that reduce reliance on single occupancy vehicles such as the provision of less parking area than that, shared parking arrangements, the incorporation of residential units and other similar design features

TDM Plan Development

The city of Alexandria requires developers to submit an application for a transportation management special use permit concurrently with the application for approval of a preliminary site plan. The transportation management special use permit application must include all of items mentioned previously including a TMP and a traffic impact study.

Once the application has been filed with the city, public hearings with the Planning Commission and the City Council are scheduled. The Planning Commission hears the application first and submits comments to other city departments and the City Council. Next, City Council approves or denies the application based on the quality of the TMP program and whether one of the city's two goals, mentioned above, are met.

Additionally, tenants and/or owners of each site are required to contribute to, and manage, a TMP fund. These TMP funds are established to finance transportation strategies that may include incentivizing transit use by offering subsidies, providing disincentives to those commuters who drive alone such as parking fees, providing additional funding for shuttle bus service, registration fees for car sharing, bus shelter construction and maintenance, bicycle lockers and parking facilities for carpoolers/vanpoolers, and limited marketing and administrative costs of the program.



Changes in Ownership

Any transportation management special use permit approved by the city is written into the deed and is therefore mandatory and binding upon the applicant, all owners of the land and all occupants and future owners. Any use authorized by a special use permit granted under a transportation management special use permit must be operated in conformity with the permit. Failure to do so is grounds for annulment of the permit, after notice and hearing, by the City Council.

Estimating TDM Impacts on Trip Generation

One of the basic requirements of the Alexandria's TMP program is to assign a transportation coordinator who will oversee an annual mode share survey among tenants of the development. The surveys are used to determine the number of employees; their home locations; modes of transportation used to commute to the site; and employee willingness and ability to use carpooling, vanpooling, and transit to commute to work. Annual reports are also required that detail the various TDM strategies implemented during the year, the effectiveness of the plan's activities reducing traffic, and financial impacts.

Inclusion of Bike Share and Car Share

The city of Alexandria provides developers with an incentive to promote car share. The city provides the initial application fee and the first year of membership for Zipcar. After the first year the landowner must maintain this membership and provide car share parking spaces as per the approved TMP.

The City of Alexandria's bike share program, in partnership with the District Department of Transportation, Arlington County, and Montgomery County, is called Capital Bikeshare. This large program has over 300 stations in the region. Developers can choose to accommodate bike share by providing funding for stations or bicycle access to nearby stations. However these specific strategies are not mentioned in the city's ordinance so each developer would need to get prior approval from the city to add them to their TMP.

Available Incentives

Alexandria provides limited incentives for developers since creating a TMP is typically required. Beyond site plan approval, developers receive one-year memberships to Zipcar, as discussed above. Additionally developers and employers can access the



services available through the city's TMA, Local Motion, which offers information about local transportation programs and resources, as well as useful travel tools and information about biking and walking, bus and rail service, and opportunities for ridesharing in Alexandria. The Local Motion website promotes alternative transportation programs and commuting choices for Alexandria residents and businesses, as well as visitors. Additionally, Local Motion employs an external outreach specialist to help businesses with more than 100 employees tailor programs specifically to the commute needs of their employees. Other employee services promoted by Local Motion and the employer services program include SmartBenefits, which allows employers to subsidize alternative transportation options for their employees; guaranteed ride home programs; and incentives and rewards to commuters who walk, bike, telecommute, carpool, vanpool, take a subway, train, bus, or work a compressed week.

Staffing Requirements

Alexandria requires developments to designate a transportation coordinator. The coordinator is responsible for implementing, managing, and tracking the TMD strategies approved in the TMP. Annual reporting and surveying are required for monitoring, as mentioned previously.

The cities Local Motion program has a staff of 11 whose responsibilities contribute directly to, or complement, the developer TDM requirements.

Enforcement Policies and Compliance Tracking

Alexandria's transportation management special use permits ordinance specifies that failure to comply with the approved TMP will incur zoning tickets, which have a daily monetary scale that, when exhausted, will trigger a court procedure for revoking a development permit per the ordinance.

Lessons Learned/Developer and Employer Response

Currently, Alexandria's transportation management program, including the governing ordinance and special use permit requirement, comprise the city's strongest and most comprehensive tool to mitigate the negative transportation impacts of new development, to manage transportation demand, and to assure appropriate land use and transportation planning. However, a substantial amount of TMP-generated funding to implement site-specific TDM programs remains unspent by the TMP program beneficiaries/tenants. Reasoning behind this includes a lack of "buy-in" and interest in



the program, lack of perceived need for funds, and lack of technical knowledge regarding TDM program implementation. City staff feel that additional enforcement options could be useful.

Generally developers view the program benignly, feeling, at worst, that it is a necessary evil. It is appreciated for not being an antidevelopment program. For developers, it was also clear that Alexandria is a sufficiently attractive real estate market to make it worth the added obligations of the program. Some developers find that within the local real estate market it has become possible to sell the program's obligations as a "green" amenity to prospective tenants.

Non-residential development participants have had a wide range of experiences with the program. Some have found that the program guided them toward developing programs and services that their tenants have come to value, to the point that the program managers fund these programs beyond their TMP obligations and would continue them regardless of continued TMP obligations. Others expressed the need for more guidance from the city as to what is expected of them beyond annual reports and surveys. Difficulties seem particularly significant where buildings have a high rate of turnover.

Ordinance language

Sec. 11-700 Transportation management special use permits.

11-701 Purpose and intent.

(A) There are certain uses of land which, by their location, nature or size and density, or by the accessory uses permitted or required in connection therewith, or by certain operational or design and engineering characteristics, tend to cause traffic and related impacts which are contrary to the public health, safety and general welfare in that they lead to, generate or exacerbate: danger and congestion in travel and transportation upon the public streets, parking problems, harmful air pollution, wasteful energy consumption, excess noise, and other adverse impacts upon public and private transportation facilities, environmental quality, historic areas and other qualities of the city which make it a desirable, prosperous and attractive residential and commercial community. These uses present a disproportionate danger of such impacts relative to similar uses of a different size and density and to other uses permitted under this ordinance.

(B) These uses may be allowed to locate within designated zones only under a special use permit, as provided in this section 11-700, which, through the imposition of



pertinent conditions and requirements, shall ensure that the adverse and disproportionate traffic and related impacts of such uses are reduced to levels consonant with the public health, safety and general welfare, that surrounding land, structures, persons and property are adequately protected and that public and private transportation is facilitated.

(C) The purpose of this section 11-700 is to mitigate the traffic and related impacts of such certain office, retail, industrial and residential uses through the requirement that a transportation management plan for such uses be prepared and that a special use permit be issued for such uses containing terms and conditions which require the implementation of an appropriate transportation management plan.

11-702 Application.

(A) The following uses, when allowed as a permitted or special use by the use regulations applicable in the zone in which located, shall require a transportation management special use permit pursuant to the provisions of this section 11-700

- (1) Any individual building or structure which contains:
 - (a) 50,000 or more usable square feet of commercial and/or professional office space;
 - (b) 40,000 or more usable square feet of retail sales space;
 - (c) 150,000 or more usable square feet of industrial space;
 - (d) 250 or more residential units; or
 - (e) Any combination of space which includes 50,000 or more usable square feet of commercial and/or professional office space, or 40,000 or more usable square feet of retail sales space, or 250 or more residential units.
- (2) Any project, complex or development which is or becomes the subject of common ownership or control, which is or becomes the subject of a common, concerted, coordinated or phased plan of development irrespective of ownership or control, or which is or becomes the subject of a common, concerted, coordinated or phased plan of lease, sale, marketing or operation irrespective of ownership or control, and which when completed or assembled involves two or more buildings or structures containing in the aggregate:
 - (a) 50,000 or more usable square feet of commercial and/or professional office space;
 - (b) 40,000 or more usable square feet of retail sales space;
 - (c) 150,000 or more usable square feet of industrial space;
 - (d) 250 or more residential units; or



(e) Any combination of space which includes 50,000 or more usable square feet of commercial and/or professional office space, or 40,000 or more usable square feet of retail sales space, or 150,000 or more usable square feet of industrial space, or 250 or more residential units.

(B) All other uses shall be exempt from the requirements of this section 11-700

11-703 Definitions.

The following words and phrases shall, for purposes of this section 11-700 have the following meanings:

(A) **Bus pool.** Subscription bus service on a regular and prearranged basis between locations responsive to commuter needs.

(B) **Car pool.** Three or more people traveling together on a continuing and prearranged basis in a private motor vehicle.

(C) **Peak hour.** The period of a single hour in the morning and the period of a single hour in the afternoon or evening during which the road system servicing the proposed use is most heavily utilized by motor vehicles other than those traveling to or from the proposed use.

(D) **Peak period.** The period from 6:00 a.m. to 9:00 p.m. in the morning and the period from 3:00 p.m. to 7:00 p.m. in the afternoon and evening during which the road system servicing the proposed use is most heavily utilized by motor vehicles other than those traveling to or from the proposed use.

(E) **Projected single occupancy vehicle trips.** The projected number of single occupancy vehicle trips generated by the proposed use in a designated time period based upon the size, type and intensity of the proposed use.

(F) **Projected trips, total number of.** The projected number of total person trips generated by the proposed use in a designated time period based upon the size, type and intensity of the proposed use.

(G) **Proposed project.** A proposed use which consists of more than one building or structure and which may be constructed in phases over time.

(H) **Proposed use.** A use which is described in an application for a special use permit filed under this section 11-700



- (I) **Public transit.** Publicly provided and regularly scheduled transportation, usually by bus or rail, or a combination of both.
- (J) **Retail sales.** The sale of goods or the provision of business or personal services.
- (K) **Ride matching.** The process of identifying interested drivers and interested riders for purposes of ride sharing.
- (L) **Ride sharing.** The transportation of persons in a motor vehicle where such transportation is incidental to another purpose of the driver. The term shall include ride sharing arrangements known as car pools, van pools and bus pools.
- (M) **Transit subsidies.** The provision of cash reimbursement or payment and/or transit fare media (e.g., tickets, tokens, flash passes) to tenants and occupants of a building to encourage their use of public transit.
- (N) **Transportation coordinator.** A person responsible for educational, promotional and marketing measures to help the tenants and occupants of a building find and utilize ride sharing or public transit commuting alternatives.
- (O) **Transportation management plan.** A comprehensive, coordinated and continuously operated plan submitted as part of an application for a special use permit under this section 11-700 which demonstrates the administrative activities, the physical facilities and the operational, financial and other commitments which will be undertaken at or in conjunction with a proposed use in order to reduce the traffic and related impacts of the proposed use.
- (P) **Usable square feet.** Floor area of a proposed use, which shall be the sum of all gross horizontal areas under a roof or roofs of all buildings or structures comprising a proposed use, computed by measuring from the exterior faces of walls and from the eaves of all roofs where they extend party walls, and which shall include all space with a headroom of seven feet six inches or more, whether or not provided with a finished floor or ceiling. Excluded shall be elevator and stair bulkheads. No deduction shall be made for columns and projections necessary to the building structure.
- (Q) **Van pool.** Eight or more people traveling together on a continuing and prearranged basis in a motor vehicle.



(R) **Variable work hours.** Work schedules within which employees choose their arrival and departure times within management imposed limits (also known as flex time).

11-704 Application and procedures for special use permit.

(A) An application for a special use permit under this section 11-700 shall be made in writing, on such forms as the director shall provide, shall be filed with the director, and shall include all information necessary for appropriate review. The application shall be filed concurrently with the application for approval of a preliminary or combined site plan for the same use, if such site plan is required by section 11-400 of this ordinance.

(B) The owner, contract purchaser or lessee of real property on or in which a use subject to this section 11-700 is or may be located, or any authorized agent of such party in interest (hereafter referred to as the applicant) may file an application for a special use permit under this section 11-700

(C) The city manager shall docket the special use permit application for public hearing and consideration by the city council and shall give notice of the hearing pursuant to section 11-300 of this ordinance. The city manager shall refer the application to the planning commission for public hearing and consideration prior to consideration of the application by city council.

(D) Prior to the time the planning commission first considers the application, the director shall review the application and submit it to the other departments and offices of the city concerned therewith for their review, and shall transmit their comments and recommendations, together with his own, to the commission.

(E) Not later than five days prior to the public hearing before city council, the planning commission shall submit to council its recommendations, together with its reasons therefor.

(F) At the conclusion of its public hearing on the application, city council may approve or deny the application, as provided in section 11-706, or defer decision on the application for no more than 30 days in order to receive such additional information as it may require.

11-705 Contents of application.

Each such application for a special use permit under this section 11-700 shall contain the following information:

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(A) A clear and concise statement identifying the applicant, including the name and address of each person or entity owning an interest in the applicant and the extent of the ownership interest. If the applicant itself or any of the entities holding an ownership interest in the applicant is a corporation or a partnership, each person owning an interest in excess of ten percent in such corporation or partnership shall be identified by name and address, and the extent of his interest shall be described. For the purpose of this section 11-705(A), the term ownership interest shall include any legal or equitable interest held at the time of the application in the real estate which is the subject of the application.

(B) A traffic impact study of the proposed use which shall comply with the following requirements.

(1) The traffic impact study shall be conducted by a qualified transportation planner or traffic engineer who shall meet and confer with the director and the director of transportation and environmental services prior to undertaking the study to define and agree upon the study elements. The extent of the required study will vary depending on the location of the site, the size and nature of the project, and may include some or all of the following elements, to be determined by the directors:

- (a) The streets and intersections to be included in the study;
- (b) The adequacy of available traffic and turning movement counts and the need for additional data;
- (c) The time period of the study (i.e., morning or evening peak period or both);
- (d) The approximate trip generation rates of the proposed use;
- (e) The directional distribution of the traffic generated by the proposed use;
- (f) The modal split and vehicle occupancy assumption to be utilized in the study;
- (g) The trends in the growth of traffic in the area of but not generated by the proposed use;
- (h) The transportation management programs operated by the city or other governmental units in the area of the proposed use, as well as the transportation management programs proposed for the area, to be considered in the study;
- (i) The nature and level of public transit that will service the site of the proposed use;
- (j) The years to be covered by the study;



- (k) The intersection level of service analytical technique to be utilized in the study; and
 - (l) The identification of citizen and neighborhood associations whose membership will be proximately affected by the traffic and related impacts of the proposed use.
- (2) Unless otherwise directed by the director or the director of transportation and environmental services, the traffic impact study shall include the following information:
- (a) All mutually agreed upon elements of the study identified in section 11-705(B)(1);
 - (b) Traffic volumes and levels of service for all designated streets and intersections at the time of the study;
 - (c) Projections of future traffic volumes and levels of service for all designated streets and intersections, without consideration of the proposed use, at the time the proposed use is to be completed or, if applicable, at the time each phase of the proposed project is to be completed;
 - (d) Trip generation rates of and directional traffic distribution to and from the proposed use at the time the proposed use is to be occupied or, if applicable, at the time each phase of the proposed project is to be occupied, and, where the proposed use will include on-site parking in excess of the requirements of this ordinance, the trip generation rates and directional traffic distributions which would exist if such excess parking was not included;
 - (e) Projections of future traffic volumes and levels of service for all designated streets and intersections and of any other significant traffic and related impacts attributable to the proposed use at the time it is to be occupied or, if applicable, at the time each phase of the proposed project is to be occupied.
 - (f) Based on the projections in sections 11-705(B)(2)(c) and (e), projections of the cumulative future traffic volumes and levels of service for all designated streets and intersections and of any other significant traffic and related impacts at the time the proposed use is to be occupied or, if applicable, at the time each phase of the proposed project is to be occupied.
 - (g) Identification of all proposed parking facilities, their type of operation (e.g., self-park, valet, attendant), their hours of operation, whether parking in the facilities is to be leased or purchased, and parking charges, including lease rates and purchase prices, for unrestricted and restricted spaces;



- (h) An appendix of all study references and background field data;
- (i) A statement that the applicant has made a good faith effort to discuss the traffic and related impacts of the proposed use with the associations identified pursuant to section 11-705(B)(1)(I), an identification of the associations with which discussions have occurred and a summary of the assessments by affected citizen and neighborhood associations of the traffic and related impacts of the proposed use; and
- (j) Such additional information, diagrams and drawings as the director or the director of transportation and environmental services may require in order to consider and evaluate the impacts of the proposed use.

(C) A transportation management plan for the proposed use which is in narrative form and contains specific detail and supporting documentation to ensure that the use will comply with the provisions of this section 11-700, shall be prepared by a qualified transportation planner or traffic engineer and shall comply with the following requirements:

- (1) The transportation management plan shall include a description of the following procedures:
 - (a) Procedures whereby the car pool spaces required and any van pool spaces provided pursuant to Article VIII of this ordinance are restricted to car pool vehicles and van pool vehicles, respectively;
 - (b) Procedures whereby car pool vehicles and van pool vehicles are registered with the city's office of transit services and programs;
 - (c) Procedures for the management and supervision of on-site parking facilities proposed for the use generally and for the enforcement of the parking facilities management aspects of the transportation management plan; and
 - (d) Procedures for the provision of a transportation coordinator for the proposed use who will administer its transportation management plan and coordinate its activities with the city's office of transit services and programs, and whose responsibilities shall include, but not be limited to:
 - (1) The distribution, display and promotion of any transportation packet issued by the city's office of transit services and programs.
 - (2) In the case of office and industrial uses, a survey, using adequate sampling procedures, of owner/tenant employees at the time 60 percent occupancy is reached to determine the number of employees, their residence, modes of transportation, willingness and ability to use car pooling, van pooling and/or public transit, and such additional information as the director may require, such surveys to be conducted annually thereafter and all surveys to be submitted to the



office of transit services and programs to be used for the operation match program.

(3) The preparation and submission of an annual report, consistent with guidelines established by the director, which discusses the activities taken during the year pursuant to the transportation and management plan for the use which demonstrates that the plan has been complied with fully and continuously during the year and which describes the effect of the plan's activities in reducing the traffic and related impacts of the use.

(a) Procedures for the phased implementation of the transportation management plan in the event such phased implementation is appropriate.

(4) The transportation management plan shall include a reasonable and effective combination of some or all of the following elements which shall be appropriate to the size, scale and location of the proposed use and shall demonstrate that reasonable and practicable actions will be taken in conjunction with and over the life of the use which will produce a significant reduction in the traffic and related impacts of the use:

(a) Ride-sharing incentive programs which may include activities to encourage and assist the formation of car, van and bus pools, such as cash payments or subsidies and preferential parking charges and parking space location, and other analogous incentive programs;

(b) Public transit incentive programs which may include the provision of paratransit services to and from convenient public transit sites and to accommodate midday and evening excursions, the construction of transit shelters and amenities, the construction of bus/rail transit stations and related facilities, the dedication of land and the provision of other subsidies for the construction and operation of public transit facilities, the provision of transit fare media subsidies and marketing programs, and the provision of other analogous incentive programs;

(c) Recommended improvements in public transit which services the site of the proposed use, such as changes in service routes, increases in the frequency of service, alterations in the location of facilities, the establishment of fare incentive programs and other measures designed to make public transit more accessible to occupants of the proposed use;

(d) Bicycle and pedestrian incentive measures which may include the provision of bicycle parking and storage facilities, the construction and extension of bicycle paths and pedestrian walkways, the provision of shower and locker facilities and similar incentive features;

(e) In the case of office and industrial uses, variable work hour, or flex time, programs under which employees working at the proposed use will



stagger their work hours in order to affect a reduction in the amount of peak period traffic to and/or from the use which would otherwise occur;

(f) Measures to reduce the reliance on single-occupancy vehicles by employees and others who will travel to and from the proposed use which may include parking fee structures tailored to discourage single-occupancy vehicles, proscription of tenant-employer subsidy of parking costs for single-occupancy vehicles, time and other access restrictions to parking spaces in on-site parking facilities, and programs to support and encourage the utilization of alternative transportation modes;

(g) Use and accessory use design options which reduce reliance on single-occupancy vehicles by employees and others who will travel to and from the proposed use, such as the provision of less parking area than that required under the provisions of this ordinance, shared parking arrangements, the incorporation of residential units (in the case of proposed commercial uses) and other analogous design features; and

(h) Any other technique or combination of techniques capable of reducing the traffic and related impacts of the proposed use.

11-706 Action by city council.

(A) In reviewing an application for a special use permit under this section 11-700, the city council shall only consider the traffic and related impacts of the proposed use and the following characteristics of the proposed use which will determine or affect the extent of those impacts:

(1) Traffic. Number of employees, staff, residents and other persons regularly present at the proposed use during normal working hours and other hours of the day, number of guests, service providers and other persons who periodically travel to and from the proposed use, level of vehicular traffic generated by the proposed use, traffic peak characteristics of the proposed use and of the traffic affected by the proposed use, likely vehicle use patterns, extent of traffic congestion in the vicinity of the proposed use, types and number of vehicles associated with the proposed use, and such other operational characteristics of the proposed use as the council may determine substantially affect the traffic and related impacts associated with the proposed use;

(2) Accessory parking use. Evidence of parking demand created by the proposed use, minimum number of on-site parking spaces required by this ordinance to be provided, number of on-site parking spaces proposed for construction, fee structure for the proposed accessory parking, and such other operational characteristics of the proposed accessory parking use as the council



may determine substantially affect the traffic and related impacts associated with the proposed use;

(3) **Parking overflow.** Extent to which adjacent neighborhoods may be affected by vehicles associated with the proposed use which park on the public streets, current availability of off-site, off-street parking in the vicinity of the proposed use, and such other design and operational characteristics of the proposed use as the council may determine substantially affect the parking overflow associated with the proposed use;

(4) **Safety.** Number and location of driveways and curb cuts associated with the proposed use, traffic control, accessibility to fire, police and emergency service vehicles, access and good traffic circulation to and from adjacent lands, existing streets, alleys and sidewalks, as well as proposed or planned streets, alleys and sidewalks, design of traffic circulation and control within the site of the proposed use and in coordination with adjoining properties and facilities, vehicle loading and service areas, pedestrian circulation, walkways and safety, and such other design and engineering characteristics of the proposed use as the council may determine substantially affect the traffic and related impacts of the proposed use;

(5) **Location.** The location of the proposed use relative to public transit facilities, to public streets and highways, and to geographic areas with eating, shopping and other facilities within pedestrian range.

(B) The city council will approve an application for a special use permit under this section 11-700 if it determines (i) that the applicant's transportation management plan is in accord with the requirements of this section 11-700, and (ii) that the transportation management plan, together with any amendments deemed appropriate by council, demonstrates that reasonable and practicable actions will be taken in conjunction with and over the life of the proposed use which will produce a significant reduction in the traffic and transportation impacts of the use. In deciding whether such a determination may be made, council may consider whether either of the following goals for the proposed use will be achieved by the transportation management plan:

(1) That ten to 30 percent of the total number of projected trips to the use during the a.m. peak hour in the case of commercial, industrial or retail uses, or from the use during the a.m. peak hour in the case of residential uses, utilize a mode of travel other than the single-occupancy vehicle, and that ten to 30 percent of the total number of projected trips from the use during the p.m. peak hour in the case of commercial, industrial or retail uses, or to the use during the p.m. peak hour in the case of residential uses, utilize a mode of travel other than the single-occupancy vehicle; or



(2) That the use attains a degree of trip dispersion which results in no more than 40 percent of the number of projected single-occupancy vehicle trips to the use in the case of commercial, industrial or retail uses, or from the use in the case of residential uses, between 6:00 a.m. and 10:00 a.m. occurring during the a.m. peak hour, and no more than 40 percent of the number of projected single-occupancy vehicle trips from the use in the case of commercial, industrial or retail uses, or to the use in the case of residential uses, between 3:00 p.m. and 7:00 p.m. occurring during the p.m. peak hour.

(C) In approving an application for a special use permit under this section 11-700, city council may place such reasonable conditions and requirements in the permit as it deems necessary to ensure that the transportation management plan for the proposed use, which forms the basis for its determination under section 11-706(B), will, unless revised or rescinded by council, be fully and continuously implemented throughout the life of the proposed use.

(D) Any special use permit granted by city council under this section 11-700, unless revoked or expired, shall run with the land and shall be mandatory and binding upon the applicant, all owners of the land and all occupants and upon all of their heirs, successors and assigns. Any use authorized by a special use permit granted under this section 11-700 shall be operated in conformity with such permit, and failure to so operate shall be deemed grounds for revocation of such permit, after notice and hearing, by the city council.

11-707 Permit validity and modification.

(A) Each special use permit issued pursuant to the provisions of this section 11-700 shall expire and become null and void concurrently with the expiration of the site plan approved in connection therewith as provided in section 11-400, provided that if no such site plan is required to be submitted and approved, then the special use permit issued under the provisions of this article shall expire and become null and void 18 months after the date such permit is approved and issued, unless operation of the use authorized by such special use permit is commenced and thereafter diligently continuously pursued within such 18 month period.

(B) The prior applicant, or the successor in interest thereof, or any authorized agent of such applicant or such successor in interest who is bound by a special use permit issued pursuant to the provisions of this section 11-700, may petition the city council for modification of the permit's transportation management plan, after notice and hearing, consistent with the provisions of this section 11-700. Such petition shall set forth with



particularity the modifications desired and the reasons therefor and shall show that the plan as so modified will comply with the provisions of this section 11-700

11-708 Nonconforming use status and related matters.

(A) No individual building or structure, otherwise subject to the provisions of this section 11-700, which is in existence on May 16, 1987, or for which a preliminary or combination site plan approved on or before May 16, 1987, continues in force and effect, shall be deemed a nonconforming or noncomplying use by virtue of any provision of this section 11-700, nor shall any such building or structure be subject to the provisions of this section 11-700

(B) Any other provision of law to the contrary notwithstanding, the owner, contract purchaser or lessee, or any authorized agent of such party in interest, of any individual building or structure or project, complex or development which is or becomes a lawful nonconforming or noncomplying use under the provisions of this section 11-700, may file an application for the issuance of a special use permit under the provisions of this section 11-700

(C)

(1) The enlargement, extension or increase of more than five percent in the floor area expressed in usable square feet of any use for which a special use permit has been issued under the provisions of this section 11-700 shall require an application for and approval of a new or amended special use permit governing the entire use as enlarged, extended or increased.

(2) In the case of a mixed-use building or structure for which a special use permit has been issued under this section 11-700, any modification of the mixture of uses which increases or decreases the amount of usable square feet utilized by the dominant use by more than 20 percent shall require an application for and approval of a new or amended special use permit governing the entire building or structure as modified.

(3) Any change in use of a building or structure for which a special use permit has been issued under this section 11-700 to another use required to obtain such a permit shall require an application for and approval of a new special use permit for the building or structure so changed in use.

(D) Whenever the use of any land, building or structure required to obtain a special use permit under the provisions of this section 11-700, irrespective of whether or not such permit has been obtained, ceases to be operated for a period in excess of 24 months, or is changed to another use likewise required to obtain a special use permit



under the provisions of this section 11-700, then such other use shall require application for and approval of a new special use permit under the provisions of this section 11-700, and the former special use permit, if any, shall expire at the end of such 24-month period in the event operation ceases or at the time the use is so changed in the event of a change in use.

11-709 Relationship with other provisions of law.

(A) Unless otherwise specifically provided, the provisions of this section 11-700 shall apply in addition to all other requirements and provisions of the city code, the city charter and general law, and compliance with the provisions of this section 11-700 shall not excuse compliance with any other provision or requirement of the city code, the charter and of general law.

(B) Whenever a proposed individual building or structure or project, complex or development is required to obtain a special use permit under the provisions of section 11-500 of this ordinance as well as under the provisions of this section 11-700, then one joint application without duplication of information shall be filed for both special use permits, and the application for both such permits shall be considered together by the planning commission and city council pursuant to the requirements of both this section 11-700 and section 11-500

(C) The provisions of section 11-500 of this ordinance shall not apply to any application for a special use permit filed solely under and as a result of the provisions of this section 11-700

11-710 Administration.

(A) The director shall administer the provisions of this section 11-700 and shall consult and coordinate with the directors of transportation and environmental services and of the office of transit services and programs and such other divisions of the city government as may be appropriate.

(B) The fee for filing and processing a special use permit application shall be according to that prescribed by section 11-104 and such fee shall be in addition to any other fees required under this ordinance.



A.7 Santa Monica, California

Santa Monica has a population of almost 90,000 and is a popular tourist destination. The city is relatively well served by transit; a new light rail line will serve the community in 2015.

The city created a TDM program to address congestion and to comply with California's Air Quality Management District's regulations and monitoring requirements. The TDM program first worked only with large employers, but in 2010 the city started requiring new developments to implement TDM strategies as well. As of the date of this report, the city of Santa Monica is updating its TDM policies and requirements for both employers and new development. This summary deals with the proposed changes to the TDM policies for new developments, which were approved by the Planning Commission but have not yet been approved by City Council.

The proposed regulations will require nonresidential projects to submit a trip reduction plan (TRP) that assures they will meet the California's Air Quality Management District's regulations and monitoring requirements for the reporting of TDM strategies, annual status reports, and average vehicle ridership requirements (AVR). All items must be submitted to and approved by the director of transportation prior to the issuance of a building permit.

Nonresidential projects are encouraged to achieve a minimum AVR of 1.5-2.2, depending on the project's location and distance to a light rail station, for trips that occur between 6:00 a.m. and 9:00 a.m., Monday through Friday. All projects located within a "Transit Oriented Development" area are encouraged to achieve an AVR of 2.2. Failure to comply with the policy can result in permits being withheld and fines.

The proposed regulations will also require TRPs from residential projects. However, residential projects will not have an AVR goal, as the city does not currently monitor the AVR of residential properties; however, properties still will be required to actively encourage the use of transportation options for the life of the project.

Land Uses Impacted

Santa Monica's newly proposed ordinance applies to both residential developments and nonresidential projects. Participation in the TDM program is dependent on the type of development, nonresidential projects 7,500 square feet and larger, and residential projects of 16 units or more (this number was chosen as 16 units or more are required to



have on-site property managers, per City code) are required to submit TRPs and annual reports.

Types of Strategies Required/Encouraged

A baseline of physical requirements that support the use of sustainable travel modes is proscribed within the city's development standards, examples include unbundled parking, bicycle parking, shower and locker facilities, and TDM bulletin board/kiosk. These and any supplemental facilities/infrastructure are identified in the TRP and incorporated into the site design to assure the site is accessible via all travel modes and that access is considered at the outset of the planning process. Development requirements may include specific short/long-term bike parking, showers, lockers, preferential carpool/vanpool parking spaces, etc.

The programmatic elements will be shaped to meet the AVR goal set for the District in which the project is located and likely drawn from a "menu" of options. A basic set of programmatic requirements may include distribution of information on benefits of flex schedules and compressed work weeks, identification of an on-site (certified) project transportation coordinator, ridematching, vanpool subsidies, car-share subsidies, bike-share subsidies, transit pass subsidies, registration in the Metro Guaranteed Ride Home (GRH) program, marketing of transportation options, participation in transportation management organization formation, and parking cash-out for employees who choose not to have a parking space.

Augmented programmatic requirements from the "menu" of trip reduction measures may apply should the developer not meet its AVR target. The city works with individual development to enhance their TDM programs

Since programmatic elements are more challenging to condition for residential projects, the on-site manager is required to help administer trip reduction marketing materials to actively encourage the use of sustainable modes of transportation. Leasing staff will be required to provide a handout in their welcome packet to each resident that provides detailed transit options in the area (LRT, Big Blue Bus/Metro Trip Planning) and directs the residents to on-site bicycle parking facilities, transportation-related websites for ride matching information (carpool/vanpool programs) car share/bike share and electric vehicle charging facilities.

Depending on the size of the residential project, additional programmatic elements may be required such as subsidies for transit, vanpool, car sharing services and bike share; the provision of on-site bicycles; and other services specific to the development. City



staff work with the development/property managers annually to ensure that all TDM measures are kept current and up-to-date.

TDM Plan Development

Developers must work with the city of Santa Monica and any local TMA to create TDM plans. Both small and large projects have strict requirements, as outlined above, which they must meet in order to receive necessary building permits, certificate of occupancy, or other forms of required approval (permits, licenses) for the project to proceed.

Changes in Ownership

Nonresidential developments establish the TRP within the development agreement, which is tied to the land deed. Subsequent landowners must comply with the development agreement per city code. Residential projects are required to attach the TDM plan as a covenant to the property as a condition of development. As part of the covenant, the property owner must notify the city of any changes in property ownership. Property owners must also inform any potential future owner of the associated TDM requirements.

Inclusion of Bike Share and Car Share

The city of Santa Monica currently does not have either car-share or bike-share programs. However, developers are encouraged to plan ahead for both of these programs as the city expects them to be operational in the near future. Large-scale developments can utilize “on-site” bike share (offering a few free bikes) as a TDM strategy. Developers can also set aside parking spaces to be used for car share in the future. There is no tradeoff for regular parking spaces however.

Available Incentives

Beyond development approval and permitting, Santa Monica currently offers no incentives to encourage developers to develop and implement TDM programs. The city is working to create TMAs that will assist developers with the implementation of their programs, vehicle trip tracking, and annual reporting requirements; however, outside of a small amount of money available from the city and potential grants, developers and other members will be responsible for funding the TMA’s activities.



Enforcement Policies and Compliance Tracking

Santa Monica's newly proposed TDM ordinance establishes strict enforcement policies. Failure to comply with any part of the TDM process is grounds for adding additional elements to the TRP plan and not approving critical building permits, certificates of occupancy, and other required licenses, which can delay the construction or leasing of new developments. The city can also issue a stop work order or assess a financial administrative penalty. Non-compliance includes failure to submit a TRP, failure to implement strategies contained in an approved program plan, failure to submit annual TRP status reports, and failure to substantially achieve the established AVR requirement.

Annual compliance reports are required to confirm TRP measures are in place and to monitor progress toward achieving trip reduction goals. A key element of the annual report for non-residential developments is the annual employee travel survey. All employees on the site are surveyed about their mode of travel over five days, using forms provided by the city. Results are measured by calculating AVR. For projects that are expected to generate significant non-employee, e.g., visitor trips, such as retail uses, a combination of cordon surveys and hose or driveway counts may be appropriate and required by the city. These are conducted at the developer's cost with a consultant and methodology to be approved by the city. For residential projects annual compliance visits will be conducted to verify that the physical TDM requirements are being provided and to assure that optional programmatic elements, such as transit subsidies are being implemented. A fee will be developed to cover the city's cost of administering the program, including reviewing TRPs and annual monitoring.

A.8 Eugene, Oregon

Eugene, Oregon utilizes TDM strategies to aid in reducing overall parking requirements for new developments on a case-by-case basis. Developers can work the city to determine if using various TDM strategies would be beneficial for the development and for reducing overall parking. The city does not, however, outline what TDM strategies could be used, these are determined on a case-by-case basis. Furthermore, Eugene does not have any TDM requirements or triggers for development, nor does it have official policies defining TDM, strategies, or operations. TDM also shows up at the policy level in various transportation and area plans that establish TDM as a policy but without specifics on implementation.



A.9 Madison, Wisconsin

Madison, Wisconsin uses TDM strategies to help reduce parking and other requirements for new developments. The strategies can be used as conditional use measures at the discretion of the planning commission during the development approval process. Often big-box retail developments over 20,000 square feet are required to offer TDM strategies to reduce parking demand and to aid traffic mitigation, but this requirement and the TDM strategies used are determined on a case-by-case basis. The city does not have any enforcement, penalties, or measurement processes, and there are no incentives for developers to implement TDM strategies or follow through with strategies they have pledged to implement. Madison is examining how to update its TDM policies to have more requirements and enforcement.

A.10 Portland, Oregon

Portland, Oregon has not specific requirements that developers implement TDM strategies. Some conditional use applicants are asked, through a negotiation process, to implement TDM strategies. However, there are no staff resources to monitor how projects perform and there are no incentives or “sticks” to motivate developers or landowners to achieve vehicle trip reduction goals that may be established during negotiation of the conditional use. The city is seeking grant funds to further study how it can better integrate TDM into the development review process.

A.11 Palo Alto, California

Palto Alto, California is experience significant development pressure that has resulted in congestion and a parking shortage in its downtown. Starting in 2013 the city began actively pursuing TDM and parking management solutions to address some of its transportation issues. To date no specific policies have been developed; however, a consultant has been hired to help the city form a downtown TMA that will provide transportation services to area employees. The city would like the TMA to be financially independent and funded by local businesses. It is anticipated that the study will be completed by the end of 2014 and that a TMA will be in place by mid to late 2015.



Appendix B: Bike-Share Practices by Geography

This section provides a summary of current actions being taken by cities to encourage developers to fund bike share stations and subsidize memberships. Information was gathered by contacting representatives of B-cycle and by distributing a request for information through the National Association of City Transportation Officials' bike share email distribution list. Email and phone calls were made to city and bike share representatives who responded to the NACTO request for information.

Austin, Texas

The city of Austin, Texas is currently testing a pilot program to allow commercial businesses to reduce their parking requirements if they commit to implement strategies designed to reduce individual motor vehicle trips. Providing bike share stations on-site is one of the strategies being tested. Success of the program will be determined by the effectiveness of the various strategies implemented and their impacts on reducing single occupancy vehicle usage. The city also requires bike share stations in some re-zoning applications, but this is determined on a case-by-case basis. Austin planning staff are skeptical as to whether developers will see bike share as an amenity versus an added burden.

Cambridge, Massachusetts

Cambridge, Massachusetts uses the donation of bicycle share (Hubway) stations as one of the TDM tools available to developers within Parking and Transportation Demand Management (PTDM) plans. While providing bike share stations is not specifically mentioned within the ordinance, it is among many TDM strategies being used by the city to reduce parking requirements and single occupancy vehicle trips. When a developer agrees to donate a bike share station, three years of operation and maintenance as well as corporate memberships paid for by employers to Hubway is required. Enforcement of the TDM measures set forth within the PTDM plan relies on yearly status reports. If a developer does not follow the PTDM plan requirements, fails to meet reduction goal, or does not provide a yearly status report the city can disavow occupancy permits or add additional TDM strategies.



Charlotte, North Carolina

The city of Charlotte does not require developers to provide bike share stations for development approval or rezoning. The city feels this would be too heavy of a burden to place on developers. The city does require certain measures to improve “way of life” such as sidewalks, bike parking, and pedestrian and bicycle connectivity in certain targeted areas of the city such as light rail corridors; bike share could be a voluntary option. In some instances, however, developers building apartment complexes have voluntarily contributed to or purchased bike share stations as they have realized the benefits of providing stations with the development.

Washington, D.C.

Washington DC currently does not have any bike share related impact/mitigation requirements in its zoning code; however, in certain situations TDM plans are required and bike share support can be included as an element of those plans. Though never required, the city has had a handful of developers and universities provide bike share stations as part of their zoning related mitigations and amenities. City staff achieved these commitments simply by asking for them and/or pointing out gaps in the bike-share station network. TDM plan language, as it pertains to bike share, is as follows:

The provision of excess parking spaces shall require the following Transportation Demand Management (TDM) features:

... In addition, the provision of more than one hundred (100) excess parking spaces shall require the provision of one (1) Capital Bikeshare station with a minimum of twelve (12) bike stalls, and the provision of more than two hundred (200) excess parking spaces shall require the provision of two (2) Capital Bikeshare station with a minimum of twelve (12) bike stalls each. These shall be located on site or at an off-site location within the Ward at a location to be determined by DDOT.

Denver, Colorado

The city of Denver allows developers to reduce parking requirements by funding bike share. Denver’s zoning code states that developers can reduce their minimum parking requirements by one spot for every five bike-share parking spaces provided via B-cycle. This applies to any nonresidential use in all zoning districts. The city’s zoning code states that the bike share stations must be located within the proposed development’s parcel. Since this is an optional program, the developer must do a cost analysis to



determine if providing a bike share station is feasible. In instances where the developer must build structured parking, providing a bike share station will be a cost savings. The language for the zoning ordinance is as follows:

Reduction for Bike Sharing

Nonresidential projects, the nonresidential component of a mixed-use project, or in the Campus Zone Districts where participation in the City of Denver Bike Share Program is made available to project occupants, and where bikes from the program are available in the same building or on the same zone lot where the project is located, or in the public right-of-way adjacent to the subject zone lot. The Zoning Administrator may reduce vehicle parking requirements by 1 space for each 5 bike share parking spaces.

Portland, Oregon

Portland Oregon recently amended its zoning code for multi-dwelling developments and mixed-use commercial centers to include a provision for a parking reduction incentive through the provision of bike-share stations. The ordinance states that 15 docks and 8 shared bicycles reduce the parking requirement by 3 spaces. An addition of 4 docks and 2 shared bicycles reduces the parking requirement by 1 additional space, up to a maximum of 25 percent of the required parking spaces. These stations must be placed on private property and must be publicly visible. An agreement between the developer and the bike-share company must be approved and filed by the city. The language for the ordinance is as follows:

Substitution of bike sharing facility for required parking. Substitution of a bike sharing facility for required parking is allowed if all of the following are met:

- a. A bike sharing station providing 15 docks and eight shared bicycles reduces the motor vehicle parking requirement by three spaces. The provision of each addition of four docks and two shared bicycles reduces the motor vehicle parking requirement by an additional space, up to a maximum of 25 percent of the required parking spaces;
- b. The bike sharing facility must be adjacent to, and visible from the street, and must be publicly accessible;
- c. The bike sharing facility must be shown on the building plans; and



d. Bike sharing agreement.

- (1) The property owner must have a bike sharing agreement with a bike sharing company;**
- (2) The bike sharing agreement must be approved by the Portland Bureau of Transportation; and**
- (3) A copy of the signed agreement between the property owner and the bike sharing company, accompanied by a letter of approval from the Bureau of Transportation, must be submitted before the building permit is approved.**

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Appendix C: Car-Share Practices by Geography

This section provides an overview of current strategies being utilized by cities to encourage developers to provide car-share spaces, memberships, rental subsidies, and capital. The information was gathered by contacting city representatives and researching city websites and ordinances.

Cambridge, Massachusetts

Cambridge, Massachusetts does not have requirements for developers to provide car-sharing spaces or membership in their ordinance. The city does, however, use car share as a TDM strategy for developments over 50,000 square feet. These large developments require special permits, and with these the city often requires 2 publically available car-share spaces. These spaces do not reduce the developer's overall parking requirement, they are simply an added requirement. Each project is considered on a case-by-case basis but requiring car share spaces is becoming commonplace. Cambridge is considering adding language to its development ordinance to include car share as a way for developers to reduce parking requirements.

San Francisco, California

The city of San Francisco has comprehensive requirements for developers to provide car-share spaces. These spaces are generally provided in projects with 50 or more residential units and 25 or more commercial parking spaces. The required spaces must remain free of charge to car-share organizations and must be dedicated for use only by such organizations. A restriction is placed on the property prior to the issuance of necessary building permits to record this commitment and associated conditions. The requirements for car-share spaces for residential projects are as follows: residential units of 50-200 require 1 car share space, residential units over 200 require 2 spaces plus 1 for every 200 units over 200. Requirements for commercial projects are as follows: developments requiring 25-49 parking spaces must provide 1 car-share space and developments requiring 50 or more parking spaces must provide 1 car-share space plus 1 for every 50 spaces over 50. The required car-share spaces may be provided within the new development or on another property within 800 feet of the building site.

Additionally, the city can require developers or property owners to pay the annual membership costs for residents of new development projects to a certified car-share organizations. The city is authorized to impose this condition when approving projects that include parking above the number of spaces principally permitted.



Berkeley, California

The city of Berkeley does not have a car-share ordinance requiring developers to provide car-share spaces. The city does encourage developers to utilize car share as an option to reduce required parking spaces on a case-by-case basis. This has been successful in a number of instances when the city was working with large-scale developments that required large amounts of parking.

The city of Berkeley itself participates in a car share program called City Share, based out of San Francisco, which provides car-share membership and cars to its employees. This car-share program also provides a number of vehicles for the city's fleet. City Share is also available to private employers and citizens.

Aspen, Colorado

The city of Aspen does not have car-share requirements for developers. However, developers are encouraged to provide car-share spaces for the city operated car-share program as a TDM mitigation effort. Developers can also provide capital contributions to the city for the purchase of a car for car share. The city prefers that new trips be mitigated through the use of various TDM strategies; however, capital contributions are allowed when a developer is unable to mitigate vehicle trips to an acceptable level using typical TDM strategies. The provision of a capital contribution for the purchase of a car-share vehicle or other purpose does not alleviate the need to also implement TDM strategies to mitigate vehicle trip impacts.

Portland

Portland Oregon recently amended its zoning code for multi-dwelling developments and mixed-use commercial centers to include a provision for a parking reduction incentive through the addition of car-share spaces. The ordinance states that providing 1 car share space reduces the parking requirement by 2 additional spaces, up to a maximum of 25 percent of the required parking spaces. Car-share spaces must be identified within the building plans. An agreement between the developer and the car-share company must be approved and filed with the city. The language for the ordinance is as follows:

Substitution of car sharing spaces for required parking. Substitution of car sharing spaces for required parking is allowed if all of the following are met:

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- a. For every car sharing parking space that is provided, the motor vehicle parking requirement is reduced by two spaces, up to a maximum of 25 percent of the required parking spaces;**
- b. The car sharing parking spaces must be shown on the building plans; and**
- c. A copy of the car sharing agreement between the property owner and the car sharing company must be submitted with the building permit.**

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