

WHAT IS TDM?

The purpose of Transportation Demand Management (TDM) is to guide, distribute, and even reduce travel demand in both space and time. It focuses on a particular population's interaction with the in-place transit infrastructure, as well as ridesharing, walking, biking, and teleworking. When done well, TDM should be cost-effective in guiding the continued design of transportation and physical infrastructure, so that alternatives to driving alone are naturally encouraged and relevant systems are better integrated and balanced.

TDM is an intentional program of information-plus-incentives, which are provided by local or regional organizations to help the constituents of those organizations become aware of and become confident users of all their transportation options, across all modes in the system. To be successful, this program of information-plus-incentives should effectively counterbalance the incentives to drive that preexist thanks to the subsidies of parking and roads.

BENEFITS OF TDM

There are many important and interrelated benefits to reducing the number of cars on the road and the number of miles driven.

Transportation System Benefits

- A. Reduced congestion and resulting commute time savings
- B. Multiple options for commuting for work, education, and pleasure

Environmental Benefits

- A. Improved air quality
- B. Reduced greenhouse gas emissions
- C. Reduced need for paved surfaces
- D. Improved water quality
- E. Reduced polluting emissions and fluid leaks
- F. Reduced dependence on fossil fuels

Health and Safety Benefits

- A. Enhanced quality of life in walkable and bikeable communities
- B. Fitness benefits of active transportation, e.g. biking and walking
- C. Health benefits of improved air quality
- D. Stress reduction

Financial Benefits

- A. Reduced costs of vehicle ownership and maintenance
- B. Reduced cost of parking
- C. Reduced cost of housing

TDM PLAN COMPONENTS

A TDM Plan should define program goals and then strategies for achieving those goals appropriate to the project's proposed use, projected new trips generated, and baseline transportation impacts.

In order to identify baseline numbers for trip generation and parking generation, the Project will provide:

- Traffic Impact Assessment and Study (TIAS) data
- Employee trip origin data
- Parking usage and count data

This TDM plan then details methods by which to achieve SOV mode reduction, and a schedule by which to capture that reduction and track it over time. The initial method for achieving this SOV mode reduction will be by implementing a number of measures, detailed below.

1 TDM MEASURES FOR MODAL SHIFTS

1.1 PARKING MANAGEMENT

1.1.1 Reduction in Surplus Parking: This project will reduce the amount of surplus parking to less than 3% of the total parking spaces provided.

1.1.2 Shared Parking: Sharing parking across residential, office, hotel, retail, and other users – rather than reserving spaces for each use – resulting in a significantly reduced total demand estimate and avoiding parking surplus.

1.1.3 Unbundled Parking: As part of this project, the residential (excluding the inclusionary units), office, and hotel guests will be charged for parking in addition to rent/daily rate.

1.1.4 Parking Pricing: This project will use variable parking pricing to manage demand, such as:

- Monthly (24/7)
- Reverse Commuter (i.e. out by 8:30 AM, in no earlier than 4:30 PM)
- Daily

1.2 BIKE/PEDESTRIAN

1.2.1 Improved Walking and Biking Conditions: Streetscape and crosswalk improvements to encourage walking.

1.2.2 Bicycle Parking: This project will provide over 900 secure and covered bicycle parking spaces (in excess of MBTA bike parking)

1.2.3 Bicycle Repair Station: A public, on-site space for bicycle repair with tools will be provided.

1.3 SITE DESIGN/LAND USE

Choices made by the Project that demonstrate cross-site connectivity and location-efficient residential and commercial development include:

- 1.3.1 Mixed-use elements, all within a 1/4 mile walk (5 minutes), which include apartments, office, retail and entertainment, and a hotel. These uses are sized and organized to be mutually supportive.
- 1.3.2 Public spaces lined principally with retail establishments. Where these retail spaces interface with the sidewalk, ground floor façade design incorporates transparent materials and architectural and furnishing elements that help foster an inviting, dynamic, and varied pedestrian experience.
- 1.3.3 An aesthetically pleasing environment for pedestrians with widened and improved sidewalk.
- 1.3.4 A compact grid of walkable streets and short blocks with off-street, multi-use connections to regional recreational corridors.
- 1.3.5 A connected and improved network of open spaces for residents and visitors.
- 1.3.6 Buildings sited to the street.
- 1.3.7 Passenger drop-off locations near building entrances.
- 1.3.8 Limited driveway curb cuts. Buildings are serviced through drives intentionally designed to minimize their impact on the public realm.
- 1.3.9 Parking primarily contained within structured garages, hidden from public view.
- 1.3.10 Integrated transit with improved access.
- 1.3.11 Opportunities for recreational and cultural activities.

1.4 CAR SHARE

1.4.1 Car-Share Parking: Opportunity for spaces devoted to car-share parking, dependent upon car-share vendor interest.

1.5 SUPPORT FOR ELECTRIC CAR USAGE

1.5.1 Electric Car Charging: This project will provide car charging for 10% of the non-MBTA parking spaces, as well as making an additional 10% of the non-MBTA spaces “EV charging ready.”

1.5.2 Electric Bus Charging: An electric charging station will be provided for the MBTA buses in the Transit Square.

1.5.3 Electric Car Parking: Preferential parking for electric vehicles, located near the charging stations.

1.6 FAMILY-FOCUSED INITIATIVES

1.6.1 Car Seat Storage: Storage for car seats and strollers near car-share parking.

1.6.2 Emergency Ride Home: Guaranteed or reimbursed transportation home for those using alternative forms of transportation in the event of an emergency, such as discount taxi vouchers or rideshare credits. Emergency Ride Home program to be offered through and dependent upon TMA membership (see below).

1.7 HIGH-OCCUPANCY VEHICLES

1.7.1 Contributions or Incentives for Sustainable Transportation: This project will provide a \$500,000 subsidy for the following alternative transportation options:

- Reimbursement equal to 80% of the cost of a monthly LinkPass (\$72). LinkPass allows for unlimited travel on the subway, local bus lines, and the silver line.
- Contribution to facilitate bike-share station installation.

1.7.2 In addition, this project will provide \$130,000 for a 6-month PILOT shuttle service between the project site and the Auburndale Commuter Rail stop. The shuttle will run 6-times per day (M-F) and will be free to the public.

1.8 TMA MEMBERSHIP OR SITE-SPECIFIC TDM COORDINATOR

Project will depend upon either **membership in a Transportation Management Association (TMA)** and/or upon a **site-specific TDM Coordinator** to guarantee the execution of many of these measures.

If there is site-specific TDM Coordinator, the coordinator (1) could be a property manager working in coordination with a qualified TMA to which the development would belong, or (2) could be a dedicated employee identified through the assistance of a local TMA.

The TMA and/or TDM Coordinator would have duties including:

- 1.8.1 Coordinate with ride share vendor, as described above
- 1.8.2 Connect employees with carpool/vanpool program, as described above
- 1.8.3 Administer preferential parking, as described above
- 1.8.4 Coordinate emergency ride home program, as described above
- 1.8.5 Develop informational packet for residents and employees on TDM programs
- 1.8.6 Create and administer TDM promotions and incentives
- 1.8.7 Conduct surveys of residents and employees
- 1.8.8 Gather and maintain long-term program data
- 1.8.9 Conduct annual review of TDM program for effectiveness and modification

1.9 MARKETING

1.9.1 Multimodal Wayfinding Signage: Directional signage for locating transportation services (transit stop/shuttle stop) and amenities (bicycle parking, regional bicycle routes, and pedestrian walkways).

1.9.2 Real-Time Transportation Information Displays: Large screens or monitors that displays, at a minimum, transit arrival and departure information.

1.9.3 Tailored Transportation Marketing Services: Custom marketing would provide residents and employees with information about travel options. These services will be provided by the TDM Coordinator and/or through a TMA membership. Marketing services could include:

1.9.3.1 Promotions: Development and deployment of promotions to encourage use of sustainable transportation modes. This could include targeted messaging and communications campaigns, incentives and contests, and other creative strategies. These campaigns may target existing and new residents, employees, and tenants.

1.9.3.2 Welcome Packets: New residents and employees could be provided with tailored marketing information about sustainable transportation options associated with the Project site (e.g., specific transit routes and schedules; bicycle routes; carpooling programs, etc.) as part of a welcome packet. For employees, the packet should reflect options for major commute origins. New residents and employees could also be offered the opportunity for a one-on-one consultation about their transportation options.

2 TDM PLAN MONITORING AND REPORTING

2.1 Pre-Occupancy Site Visit

Facilitate a site inspection by City staff to confirm that all approved physical measures in the project's TDM Plan have been implemented and/or installed.

2.2 Ongoing Monitoring and Reporting Plan

(2.2.1) Once the building is occupied, an Ongoing Monitoring and Reporting Plan will be submitted to the City to review and to ensure compliance with the final approved TDM Plan, and conduct a site visit to ensure that Ongoing Monitoring and Reporting Plan's contents reflect on-site TDM measures.

(2.2.2) The first Ongoing Monitoring and Reporting Plan will be submitted within 30 calendar days of the 18-month anniversary of the issuance of the First Certificate of Occupancy, i.e. 18-19 months after the issuance. Subsequent Ongoing Monitoring and Reporting Plans shall similarly be submitted in 18-month increments with the addition of a 30-day grace period for each submission. Each subsequent Plan will be submitted 18-19 months after the previous one.

(2.2.3) If the TDM Plan is found to be complete and ongoing as outlined in the TDM Plan and the submittals of the Ongoing Monitoring and Reporting Plans have been found satisfactory over four consecutive years, i.e. a minimum of three consecutive successful plan submissions - then the Project's Ongoing Monitoring and Reporting Plan requirement will shift to a submittal every three years. At that point, the City will conduct a site visit of the project once every three years, rather than every

18-19 months, to confirm all approved physical measures in the project's TDM Plan continue to be implemented and/or installed.

(2.2.4) If, at any later time, the project fails to demonstrate satisfactory ongoing monitoring and reporting, the project can be required to revert back to submitting forms on the 18-month schedule until the project again demonstrates four consecutive years of satisfactory monitoring and reporting.

(2.2.5) If, at any later time, the project fails to demonstrate satisfactory ongoing monitoring and reporting, the project can be required to revert back to submitting forms on the 18-month schedule until the project again demonstrates four consecutive years of satisfactory monitoring and reporting.

(2.2.6) The Ongoing Monitoring and Reporting Plan should include all measures in the project's TDM Plan, their current status, and any updates to those measures. All additional voluntary measures added between Ongoing Monitoring and Reporting Plans should also be listed, along with their current status and any updates to those voluntary measures.

(2.2.7) The City Planning Department has asked for more detail regarding how TDM Plan initiatives will be monitored onsite. The following represents a preliminary outline of anticipated monitoring actions with the understanding that such initiatives may change or be modified based on numerous variables and technologies that might be available as the project develops.

(2.2.7.1) The site-specific TDM Coordinator and/or the TMA to which the site belongs will regularly monitor TDM Program activities so that participation, over time, can be reviewed and participation levels assessed for all initiatives.

(2.2.7.2) The TDM Coordinator and/or TMA would coordinate memberships and reimbursement opportunities, so tracking those activities will be straight-forward and based on transactional information.

(2.2.7.3) To supplement the data collected by the TDM Coordinator and/or TMA through transactional records and potential third-party apps, surveys of the residential, office, and retail tenants will be conducted at the time that the TDM Monitoring report is being developed. The surveys will be designed (1) to garner an understanding of the modes of transportation that are being utilized by residents, office users, and the retail employee base on site, and (2) to identify current barriers to alternative transportation utilization. 128 Business Council has extensive experience with community- and transportation environment-specific survey development and can serve as a resource for developing surveys specific to the evolving conditions and needs of the development.

(2.2.7.4) Surveys can be administered:

- Online,¹ distributed through internal email networks and advertised throughout the development;

¹ Note that online surveys, distributed through internal email networks or administered using digital tablet stands, can utilize smart logic—meaning that the questions that a participant sees are dependent upon their answers to prior questions, and questions that are not relevant to a given participant can be automatically skipped. Smart logic can exponentially increase the length and depth of a survey without increasing the time commitment for each participant

- using on-site surveying stations, which utilize either paper surveys with drop boxes or digital tablet stands;
- or through in-person canvassing, which requires the prior definition of an adequate, representative sample set—taking into account zoning uses and local demographics.

Most effective surveying efforts require some combination of these methods in order to achieve statistical significance, and to provide the opportunity for adequate contextualization and follow-up questions generated by the initial data set.

(2.2.7.5) Surveys oriented toward mapping out specific origins/destinations into and out of a development, and potential public transportation gaps relative to those trips have included questions like the following:²

- *Identify your most frequently repeated trip in or out of [Relevant Location]. This might be driving to and from work each day. It might be going to your school, or dropping a child off at their school. Or, it might be a weekly volunteering activity or doctor's appointment.*
- *What is the purpose of this trip? [Multiple choice.]*
- *If this trip begins at [Relevant Location], where does the trip end? Conversely, if the trip ends at [Relevant Location], where does it begin?*
- *What time(s) of day do you usually make this trip? [Multiple choice.]*
- *By what mode(s) do you currently undertake this trip, and how often? [Multiple choice with numerical scale for each option.]*
- *If you did NOT check "public transportation" above: How willing would you be to make this trip by public bus or public shuttle, assuming the service existed and were well-run? [Numerical Scale.]*

(2.2.7.6) Surveys oriented toward identifying barriers to alternative transportation usage have included questions like the following:

- *Thinking about the public transportation trips you take in a typical week, how satisfied are you with each of the following service characteristics: information on when the next bus/train is coming; reliability of the service (i.e. how often it is on time); ability to be productive while riding the bus/train; number of transfers you have to take; options for paying your fare (cash, cards, etc.); safety of your trip to the stop/station? [Numerical Scales.]*
- *For what types of trips do you most often drive alone? [Multiple choice.] For each of these trip types, how easy would it be to travel by: public transportation, carpool/vanpool, walk, bike? [Numerical Scales.] If you answered 'very difficult,' what are the barriers to this mode usage? [Multiple choice.]*
- *How comfortable are you with each of the following aspects of using our ride-matching application: using the app's navigation menus; searching for rideshare partners yourself; letting the system assign you a rideshare partner; planning a trip somewhere new; logging your trips and miles? [Numerical Scales.]*
- *Some employers provide incentives or support to their workers who take public transportation. For example, they may provide a transit pass, give money to those who do not park a car at the office, or offer a guaranteed ride home for late nights. To your knowledge, what incentives or support does your employer provide? [Can be structure as an open-ended question, especially if used in canvassing. Can also be broken down into a series of multiple-choice questions for paper or online surveys.]*

² These examples are provided by 128 Business Council and are taken from past surveys. Situation-specific wording has been adjusted for clarity.

2.3 Post-Construction Traffic Mitigation (if required)

As outlined City Council document (Ordinance No. B-46) Section E. Post-Construction; additional mitigation measures will be necessary should traffic, specific to the development project, be 110% or more of the adjusted projections made in the TIA. Additional measures would include adjusting or adding TDM measures and exploring technological options that may be available at that time. The TDM Monitoring survey results will be instrumental in understanding what might be appropriate to modify, adjust, or add to the program and therefore it isn't possible to predict what the measures would be at this time. However, for the purpose of demonstrating the "types" of measures that may be appropriate the following list has been established:

- 2.3.1 Increasing the transit subsidy, with a cap of \$1,000,000 for the following items:
 - Increasing the transit reimbursement by improved marketing and/or increasing the level of subsidy.
 - Expanding transit subsidy participation beyond the dwelling units.
 - Continuing shuttle service to connect to other transportation hubs or other points of interest, to be determined through the site-specific surveying practices.
 - Providing additional on-site bike sharing facilities.

- 2.3.2 Increasing the cost of daily parking for non-MBTA daily or weekly users.