

Transportation Demand Management (TDM) Program Guidelines

June 2022 DRAFT



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Contents

Executive Summary	6
Preface	7
Overview	8
Chapter 1: Introduction	9
1.1 Development of Transportation Demand Management (TDM) Program	9
1.2 Transportation Demand Management in Los Angeles	10
1.2.1 Alignment with Mobility Plan 2035	10
1.3 Transportation Demand Management and California Policy	11
1.4 Outreach	12
Chapter 2: Program Goals and Benefits	14
2.1 Program Goals	14
2.1.1 Transportation System Efficiency	14
2.1.2 Environmental and Pulic Health Outcomes	14
2.1.3 Equity	14
2.1.4 Transportation Happiness	15
2.1.5 Universal Basic Mobility	15
2.1.6 Context Sensitive Approach	15
2.1.7 Adaptive	15
2.1.8 Streamlined Project Review and Monitoring	15
2.1.9 Effective Program Evaluation	15
Chapter 3: Applicability, Levels, and Point Targets	16
3.1 Applicability	16
3.1.1 Land Use Categories	16
3.1.2 Exemptions: Small Development Projects	16
3.2 Project Levels	17
3.2.1 Residential and Commercial Projects	18
3.2.2 Mixed-Use Projects	18
3.2.3 Affordable Housing Projects	18
3.3 Point Targets	20
3.3.1 Base Point Target	20
3.3.2 Parking's Effect on the Point Target	20
3.3.3 Calculating Point Targets	21
Chapter 4: Qualified TDM Strategies	22
4.1 Evaluating the Effectiveness of TDM	22
4.1.1 Literature Review	22
4.2 Menu of Qualified TDM Strategies	22

4.2.1 Strategy Applicability	22
4.2.2 Strategies Not in Compliance	22
4.2.3 User-defined TDM Strategies	23
4.2.4 TDM Strategies Described	23
4.3 TDM Packages	39
Chapter 5: Compliance & Monitoring	41
5.1 Compliance & Monitoring Requirements	41
5.1.1 TDM Plan	41
5.1.2 TDM Plan Compliance Documentation	42
5.1.3 TDM Monitoring Report	42
Travel Surveys	42
Parking-Hour Utilization	43
5.1.4 Site Enforcement	43
SCAQMD Rule 2202 and Employment Uses	43
5.1.5 Transportation Management Organizations (TMOs)	44
5.1.6 Review Fees	44
5.2 Non-Compliance	44
5.3 Penalties	44
Chapter 6: TDM Program Updates	46
6.1 Program Evaluation and Amendments	46
6.1.1 TDM Strategies	46
Future TDM Strategies	46
6.1.2 Future Amendments	47
Appendix A: Glossary of Common Terms	48
Appendix B: Findings from Planning Studies and Literature	51
Appendix C: Summary of TDM Strategies	68
Appendix D: Compliance & Monitoring Materials	79
Appendix E: Transportation Management Organization (TMO) Certification Guidelines	90

Executive Summary

Angelenos want mobility solutions that are good for the planet and create more enjoyable travel experiences. Prior to the COVID-19 pandemic, about 70 percent of all commute-based trips were made by people driving alone.¹ With just two or three percent fewer cars on the road, congestion delays could be reduced by 10 to 15 percent.² By switching a few drive alone trips to more sustainable ways of getting around we can improve the transportation user experience and reduce greenhouse gas emissions to create safer, healthier communities.

The Department of City Planning (DCP) and City of Los Angeles Department of Transportation (LADOT) have collaborated to develop a Transportation Demand Management (TDM) Program as a set of solutions to encourage more sustainable development and support growing transportation options for all Angelenos. The TDM Program incorporates sustainable transportation options into the design of new developments to provide more mobility choices to residents, employees, and visitors. As Los Angeles continues to grow, TDM will responsibly address transportation needs and increase the efficiency of our transportation system by encouraging sustainable modes of transportation through specific strategies integrated into new development. This program is a priority as indicated in the City's policy and guidance documents including the Mobility Plan 2035, LA's Green New Deal, and the LADOT Strategic Plan. The TDM Program addresses challenges Angelenos face today, like congestion, air quality, and difficulty in accessing jobs and services through solutions that are good for the environment and good for Angelenos for generations to come.

¹ U.S. Census. 2019 ACS 5-Year Estimates Subject Tables. <u>https://data.census.gov/</u>

²Sorensen, Paul [et al.] 2008. Moving Los Angeles: Short-Term Policy Options for Improving Transportation. The RAND Corporation. Page xxiv.

Preface

The City of Los Angeles ("City") is home to about 4 million residents, provides more than 1.7 million jobs, and, in 2018, attracted more than 50 million domestic and international visitors.³ These numbers are expected to continue growing significantly - the City is estimated to gain an average of 35,000 new residents and 36,000 jobs each year.⁴

Today, congestion delays in the Los Angeles metropolitan area rank at or near the worst in the nation.⁵ A major contributor is the number of drive alone trips that make up the largest proportion of commute trips, which was 69.6 percent in Los Angeles just prior to the COVID-19 pandemic.⁶ Los Angeles has tried to solve congestion with supply-side solutions, such as widening streets and freeways to create new travel lanes. These types of investments have been found to be ineffective at reducing congestion⁷ and have led to unsafe outcomes for pedestrians and bicyclists.⁸ Plus, in a built-out city, there is simply no more space to continue widening roadways. Los Angeles is currently investing billions into expanding the transit and active transportation networks to accommodate our growing transportation demands. But to be effective, policies must also focus on the demand side to ensure residents and visitors can use expanding transportation infrastructure and services more efficiently, safely, and sustainably. Simply put - if the majority of Angelenos continue to drive alone for most trips, our system is not sustainable. We need solutions that are good for Angelenos and good for the environment.

The City's Transportation Demand Management (TDM) Program update directly addresses the City's immense transportation demands by offering new development tools to design mobility options as part of a building's features. A diverse menu of strategies offers mobility strategies that residents, employees, and visitors can use to make more sustainable transportation choices. These strategies reduce vehicle miles traveled (VMT) and decrease drive alone trips. The strategies make more efficient use of streets and the growing transit networks to improve access to destinations for all Angelenos. By improving mobility options for a growing city, the TDM Program can work to promote active and healthy lifestyles and reduce harmful greenhouse gas (GHG) emissions.

The South Coast Air Quality Management District (South Coast AQMD) imposes emission reduction requirements on large employers subject to Rule 2202. The City's TDM Program does not alter those regulations or their means of compliances. Rather, the TDM Program update applies to significant, new developments and major additions, including those that may require analysis under the California Environmental Quality Act (CEQA). The Program seeks to maximize transportation options in and around these developments to allow the City to simultaneously absorb new residents, jobs and commercial activity, improve access to destinations and services, and improve quality of life.

³ Los Angeles Times. "Los Angeles County hosts a record 50 million visitors in 2018." January 16, 2019.

⁴ Population estimate from one-year ACS data for 2010-15; employment estimate from California Employment Development Department 2011-6.

⁵ INRIX, <u>Urban Mobility Scorecard</u>, 2015.

⁶ U.S. Census. 2019 ACS 5-Year Estimates Subject Tables. <u>https://data.census.gov/</u>

⁷ Office of Planning and Research, "Technical Advisory on Evaluating Transportation Impacts in CEQA". December 2018.

⁸ Vision Zero Los Angeles. "Safety Study for Los Angeles". January 2017

Overview

This document provides a program description and additional requirements and processes to support the update to the Los Angeles Municipal Code Section 12.26 J, the Transportation Demand Management (TDM) Ordinance. This TDM Program Guidelines document consists of five chapters, Appendices A through D, and a TDM Calculator. All documents are on the City Planning Mobility website. If the program is approved by the LA City Council, the documents and Calculator will transition to their permanent home on the LADOT <u>Development Review website</u>.

Chapter 1 defines TDM, describes the TDM Program in Los Angeles, and explains how the TDM Program advances the City's vision for mobility, as set forth in the Mobility Plan 2035 and transportation, air quality, and climate action policy objectives.

Chapter 2 describes the goals of the TDM Program and details how achieving these goals will result in better public health, improved quality of life, a streamlined project review process, and additional benefits for property owners, employees, residents, and visitors.

Chapter 3 defines the types of development projects subject to and exempt from the TDM Program, establishes a three-leveled system for categorizing development projects that must comply with the TDM Program, and instructs applicants or owner/tenants how to calculate Point Targets.

Chapter 4 summarizes the best practice research that informed the selection of qualified TDM strategies for this program, assigns point values to each strategy, and describes each strategy in depth. It also describes alternative methods for compliance for projects that propose new or innovative approaches beyond the list of qualified strategies.

Chapter 5 provides information on monitoring and evaluation efforts.

Appendix A is a glossary of common terms used throughout this document.

Appendix B summarizes key findings and statistics from relevant planning case studies and empirical research. These findings demonstrate the effectiveness of qualified TDM strategies at reducing vehicle miles traveled and achieving other desired outcomes outlined in this Program Guidelines.

Appendix C is a summary of all TDM strategies.

Appendix D includes the forms required for compliance with the TDM Program.

Chapter 1: Introduction

This document describes the City of Los Angeles Transportation Demand Management Program (TDM Program) and provides the structure, requirements, and strategies for compliance developed to supplement Section 12.26 J of the Los Angeles Municipal Code (LAMC), the Transportation Demand Management Ordinance. This chapter describes the research, analysis, and outreach City staff conducted to develop the TDM Program and defines how the implementation of the Program will advance local, regional, and state policy objectives.

1.1 Development of Transportation Demand Management (TDM) Program

TDM describes strategies that improve the efficiency of the transportation network by providing infrastructure, services, programs, and information that support the use of sustainable travel options. TDM includes a broad range of activities that may effectively improve access to destinations, while reducing the number of people who drive alone to work or other destinations. Strategies can range from improved transportation options, to education and incentive programs that make it easy to plan and choose multi-modal journeys, to mixed-use site design that brings common destinations closer to people. The full list of TDM strategies is outlined in Chapter 4.

Mobility solutions that are the most visible to the public often focus on the supply of transportation infrastructure—increasing the capacity of infrastructure for driving, walking, bicycling, and riding transit—like expanding highways, widening roads, or building new transit lines and active transportation infrastructure. Limited opportunities exist to continue increasing roadway capacity in built-out cities like Los Angeles, necessitating investments in sustainable infrastructure that move more people in less space, and effective management of travel demand to accommodate future development and economic growth in the region.

TDM strategies that focus on changing transportation behavior through incentives are generally less visible than large scale infrastructure projects; however, they can be incredibly effective by focusing on the demand for transportation—shifting travel to sustainable modes that improve efficient use of infrastructure. TDM strategies can have a cumulative impact on travel demand to enable existing transportation facilities to be more accessible. For instance, a TDM strategy that improves transit frequencies or introduces a new neighborhood shuttle, moving more people in less street space than personal vehicles, relieves excessive demand for auto use, improves functionality, and provides new mobility services that can serve more customers more effectively. This shift reduces roadway congestion and supports the environmental and sustainability goals of the City.

Employers have long used TDM strategies to incentivize their employees to commute sustainably to reduce congestion and parking demand, and meet compliance with regulatory trip reduction targets, like South Coast AQMD's Rule 2202. Some employers have formed transportation management organizations (TMOs) or hired an employee transportation coordinator (ETC) to coordinate TDM options offered in the workplace. TDM programs implemented by large employers that must comply with regional TDM requirements have demonstrated the effectiveness of these policies throughout the region.

The development of the Los Angeles TDM Program, similar to relevant examples in other jurisdictions, applies holistic citywide TDM policies that can reduce congestion, improve accessibility for people using sustainable modes, decrease monetary and opportunity costs of parking, improve air quality, and offer more mobility options to communities. These concepts were based on extensive research, analysis, review of best practices, and collaboration with local and national experts.

City staff initiated a TDM technical advisory committee with local experts to inform program development and coordination between agencies. Staff interviewed approximately 15 local TDM Program coordinators and TMOs where they reflected on challenges, opportunities, and lessons learned in administering TDM for their constituent organizations. City staff also coordinated with national TDM experts, attended TDM-related conferences, and participated in numerous webinars that provided insight into the latest TDM implementation strategies and practices. The feedback collected from these efforts informed program development and include the following key takeaways:

- TDM is important to attract and retain talent
- Solutions should be context-sensitive and also consistent with a regional approach
- Successful TDM programs are often the result of compelling marketing and education components along with strong executive buy-in
- Effective motivational strategies can include gamification and personalized trip-making or matching
- Large developments provide great opportunities to establish and monitor TDM
- Programs should be flexible and adaptive in response to ongoing monitoring and reporting
- Programs should be regularly updated to keep up with innovation and technology

1.2 Transportation Demand Management in Los Angeles

In 1993, the City adopted its first citywide TDM Ordinance to comply with the State Legislature's directive for local jurisdictions to connect regional transportation planning to community growth, land use, and air quality decisions. This ordinance is limited in scope and no longer serves the City's growing population and immense mobility needs. The prescriptive TDM strategies in the 1993 ordinance reflect the more limited mobility options available at that time. Program monitoring and evaluation were not a component of the original ordinance.

The proposed update to the TDM Ordinance captures additional land uses, acknowledges the proliferation of sustainable transportation options in the City of Los Angeles, considers the benefits of incorporating new transportation technology innovations, examines diverse travel preferences, and establishes performance monitoring and enforcement as an integral component of the TDM Program.

1.2.1 Alignment with Mobility Plan 2035

The TDM Program update is an implementation program outlined in the Mobility Plan 2035 (The Plan), the adopted Transportation Element of the City's General Plan. The Plan's comprehensive approach to mobility addresses the challenges of "environmental constraints, public health issues, regional inequity, and some of the longest traffic delays in the nation."⁹ Specifically, this TDM Program advances the Plan goal of fostering collaboration, communication, and informed choices citywide by implementing Policy 4.8, which aims to "encourage greater utilization of TDM strategies to reduce dependence on driving alone."¹⁰

The Plan acknowledges that the majority of all commute trips in the City (67 percent when the Plan was prepared) are made as drive alone trips. Mirroring a national trend, the percentage of commuters who carpool to work has been steadily declining since the 1970s. High rates of drive alone trips contribute to roadway congestion, cause delays for millions of people, and lead to a host of other negative side effects including degraded air quality and health outcomes. The Plan identifies TDM as a solution that "can reduce the percentage of commuters who drive

⁹ Mobility Plan 2035, p. 13.

¹⁰ Ibid, p. 109.

alone by raising awareness of available alternatives and by offering incentives to make those alternatives more attractive."

The multimodal transportation vision set forth in the Plan relies on reducing demand for drive alone trips and VMT in the City, while improving accessibility to destinations. The menu of TDM strategies aims to shift trips from driving alone in personal vehicles to more sustainable travel options. Many of the TDM strategies outlined in Chapter 4 of this document originate in the Plan,¹¹ including the following:

- The TDM Program considers "the strong link between land use and transportation" by requiring new developments to incorporate TDM strategies appropriate to their built-environment context, in part to encourage infill development in dense, diverse parts of the City, thereby reducing drive alone trips.¹²
- The TDM Program aims to improve people's experience when choosing alternatives to drive alone trips, including walking and biking. The Plan relies on convenient, non-motorized travel choices, pointing out that "even a relatively minor incremental shift in mode choice can yield large rewards." The recent emergence of dockless micro-mobility solutions including electric scooters and bicycles also provides additional options as a first-last mile solution to transit. The Plan notes that 47 percent of trips in the City are shorter than three miles, a length that could be easily traveled on foot or by bicycle, but 84 percent of such trips are currently made by car.¹³
- The TDM Program allows projects to offset the travel demand generated at the site by constructing or contributing to complete streets. The Plan "seeks to prioritize resources to transform and maintain our streets as complete streets that serve all users, now and into the future."¹⁴ The Plan calls for street design and operations that prioritize the comfort and safety of the most vulnerable street users. These street safety improvements influence social equity and shifts in travel behavior. Goals include increasing bicycling among women, who have been found to be more discouraged by safety concerns than men, and adding pedestrian safety improvements in disadvantaged areas of the City,¹⁵ which have been found to disproportionately be affected by traffic fatalities and severe collisions. Nearly half of the Vision Zero designated High Injury Network (HIN) corridors fall within the most vulnerable communities in Los Angeles.¹⁶

1.3 Transportation Demand Management and California Policy

Under California Senate Bill 743 (SB 743), signed into law September 27, 2013, local jurisdictions are required to revise their transportation impact assessment methodology. In doing so, localities must follow the Office of Planning and Research (OPR) proposed transportation impact analysis guidelines, pursuant to the California Environmental Quality Act (CEQA). Based on empirical evidence presented in OPR's January 2016 guidelines, the updated final guidelines released in November 2017, the final guidelines released in December 2018, and an independent literature review by City staff, the City concluded that establishing vehicle miles traveled (VMT) as the basis for transportation impact significance criteria for projects will reduce air emissions and greenhouse gasses,

¹¹ Ibid, p. 109.

¹² Ibid, p. 11

¹³ Ibid, p. 32, 63

¹⁴ Ibid, p. 32.

¹⁵ Mobility Plan 2035, p. 79.

¹⁶ Vision Zero Los Angeles Fact Sheet, p. 2.

promote the expansion of a multimodal transportation system, and mitigate other environmental problems relative to a vehicle delay-based transportation impact criteria.

On July 30, 2019, the City of Los Angeles adopted new transportation assessment methodologies and thresholds using VMT, safety, and accessibility metrics. The revised evaluation methods under CEQA determine the environmental outcomes of new developments from VMT estimates that factor in the location and characteristics of the development and require developments to mitigate projected VMT above the significance threshold. However, even developments estimated to generate low VMT and developments that implement mitigation programs are likely to produce drive alone trips, a heavy reliance on the local street system, and demand for parking. The City's TDM Program will require new developments to implement strategies that minimize the reliance on auto activity to and from and in the vicinity of the development.

Beyond SB 743 compliance, the TDM Program complements or supports additional State policy objectives:

- California's Complete Streets Law, Assembly Bill 1358 (2008), declares it is State policy "to shift from short trips in the automobile to biking, walking, and use of public transit,"—a key benefit of the City's TDM Program.
- The California Department of Transportation (Caltrans) Strategic Management Plan calls for tripling bicycle mode share and doubling pedestrian and transit mode shares, compared with 2010-12 baselines, and for reducing statewide VMT.¹⁷
- South Coast Air Quality Management District's Rule 2202, adopted in 1995 with subsequent amendments, requires employers with worksites of 250 or more employees to manage drive alone commute trip demand.¹⁸
- Assembly Bill 2548¹⁹ (Friedman, 2018) authorized LA Metro to adopt, and revise as necessary, a commute benefit ordinance that requires employers operating within the authority's area with a specified number of employees to offer certain employees commute benefits.

1.4 Outreach

City staff conducted an outreach process that built public awareness around adopting a new framework that guides transportation-related growth and development decisions. The update to the TDM Program was introduced as part of the effort to comply with SB 743. Public engagement started in 2017 and public open houses were held in winter 2018. Staff introduced the TDM Program to a variety of stakeholders including neighborhood groups, interest groups, non-profit organizations, practitioners and governmental agencies through presentations and discussions. Following the outreach process, the TDM Program was developed taking into consideration the guidance and feedback received from a technical advisory committee (TAC) of TDM experts and briefings with stakeholders. Interviews with local businesses, employers, agency partners, and transportation management organizations further supplemented the outreach process as of April 2020.

Drafts of the proposed TDM Ordinance, TDM Program Guidelines, and TDM Calculator were shared with the public in June 2021. Webinars, office hours, and public presentations engaged over 330 people in Summer 2021. An open house and public hearing are planned for Summer 2022 to share information and solicit feedback. The Ordinance is

¹⁷ <u>Caltrans Strategic Management Plan</u>, 2015-2010, p. 11.

¹⁸ South Coast Air Quality Management District. "<u>Rule 2202 - On-Road Motor Vehicle Mitigation Options</u>". Amended June 6, 2014.

¹⁹ <u>https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2548</u>

expected to be reviewed by the City Planning Commission and the Transportation and Planning and Land Use (PLUM) Committees of the City Council before being considered by the full City Council for approval.

Chapter 2: Program Goals and Benefits

This chapter describes the goals of the TDM Program and details how achieving these goals will result in improved air quality and public health outcomes, more affordable travel options, reduction of transportation-related collision risk, an improved user experience, and other indirect benefits.

2.1 Program Goals

The main goal of the TDM Program is to provide more transportation options to improve accessibility to destinations and reduce drive alone trips. The TDM Program is part of the City's comprehensive approach to mobility, which seeks to accommodate growing mobility needs by reforming transportation impacts analysis methods, maintaining safe and efficient transportation networks, and delivering world-class infrastructure.

The TDM Program will help residents, employees, and visitors to minimize their reliance on vehicular travel by reducing drive alone trips and VMT generated from new developments and surrounding communities. The program includes TDM strategies that can incentivize sustainable travel options that reduce and shorten vehicle trips. Ultimately, this effort can achieve a more efficient use of our transportation infrastructure, reduce transportation related GHGs, and improve quality of life through the following objectives:

2.1.1 Transportation System Efficiency

The TDM Program is designed to reduce reliance on drive alone trips and encourage sustainable modes of transportation. Improved transportation system efficiency can help to move more people in the same amount of space, with fewer negative externalities. TDM creates capacity for vehicular travel by people with few other alternatives, deliveries of goods and services, and transit services. A more efficient parking system will reduce the amount of dedicated space and costs associated with storing personal vehicles while maintaining access to places people need to go.

2.1.2 Environmental, Public Health, and Wellness Outcomes

The TDM Program is designed to produce shifts to sustainable modes of transportation. Shifting travel to sustainable modes of transportation has many benefits, including reducing VMT, transportation costs, opportunity costs²⁰, improving air quality, public health, and wellness. An example includes reduced driving and increased time for exercise and family bonding as a result of working from home.

2.1.3 Equity

Historically, LADOT, like many transportation agencies over the last century, focused investments and made decisions that prioritized improving vehicular speeds at peak hours of the day. This focus tended to emphasize the travel needs of workers that reside in outer-lying communities over the needs of the communities they drove through. The communities that suffered from these types of policies lack a diverse array of accessible, affordable, reliable, and safe travel options. These communities also tend to be lower income communities of color that have been disproportionately affected by traffic violence and poor health outcomes as a result of pollution. The TDM Program can help rectify the historic inequities by providing more travel options and services that restore dignity to the travel experience. LADOT will continue to evaluate ways to expand dignified transportation options for all,

²⁰ Examples of opportunity cost include personal time that could be used more productively and urban space devoted to driving or parking, which reduces land available for livability and open space.

reduce the need to drive alone, and support investment decisions that increase the quality and availability of mobility infrastructure and services in communities that have been disproportionately impacted by past policies and practices.

2.1.4 Transportation Happiness

Transportation happiness is a method of evaluating transportation projects and operations that goes beyond the traditional focus on cost-benefit or travel time. Instead, it considers the quality of the experience, dignity, and well-being of travelers. Evaluating additional metrics like quality of service, the customer experience, and mode choice availability will bring about services that are useful, usable, desirable, findable, accessible, and credible.²¹ As a policy objective, transportation happiness can contribute to a strong transportation system that provides many dignified options, focuses on the user experience, and leads to quality of life outcomes.

2.1.5 Universal Basic Mobility

Universal Basic Mobility (UBM) is a concept that everyone should have access to reliable, affordable, dignified transportation. TDM can improve transportation options and therefore, access to opportunity.

2.1.6 Context Sensitive Approach

The TDM Program is designed to meet the needs of diverse communities, geographies, and development project types by offering choices that take into account varying land use and transportation conditions. Applicants may also suggest new strategies for consideration. A flexible approach can result in context sensitive solutions citywide.

2.1.7 Adaptive

A program that monitors and updates TDM strategies over time will result in a more adaptive and responsive program. New technologies, innovations in the mobility marketplace, and solutions for evolving travel preferences necessitate an adaptive approach. Strategies may also be altered to reflect geographic context. An adaptive TDM Program will serve people and neighborhoods with mobility solutions that lead to the greatest public benefit.

2.1.8 Streamlined Project Review and Monitoring

TDM Program requirements are designed to be user-friendly in compliance, monitoring, and evaluation. A streamlined project review process offers developers, employers, and property owners the flexibility to select strategies from a diverse pool of options that consider varying geographic and transportation conditions. The TDM Program provides a clear and predictable process to obtain project approval, and opportunities to update the selected strategies, should monitoring and evaluation demonstrate a need for adjustment. Regular project performance monitoring and program evaluation ensures a transparent process that is efficient for all parties.

2.1.9 Effective Program Evaluation

The TDM Program prioritizes the collection of valuable data, which will help demonstrate the long-term efficacy of strategies in achieving program goals. Data can improve the program over time and inform future transportation and land use planning decisions.

²¹ Urban Mobility in a Digital Age. "<u>Transportation Happiness</u>". August 2016

Chapter 3: Applicability, Levels, and Point Targets

This chapter defines the types of development projects subject to the TDM Program, establishes a tiered system for categorizing new development projects that must comply with the TDM Program, and describes Point Target calculations. These requirements are codified in the Los Angeles Municipal Code (L.A.M.C.) 12.26 J. The TDM Calculator, an online application, is available to assist applicants in determining which TDM program requirements apply to a particular project site. The TDM Calculator is accessible on the LADOT website.

3.1 Applicability

3.1.1 Land Use Categories

The TDM Program applies to new development projects and major additions above the minimum size threshold that are likely to generate an incremental increase in VMT and drive alone trips. New development projects and major additions that are constructing new floor area including, but not limited to, office employment, housing, industrial/warehousing, schools, retail, restaurant, and/or hotels are subject to the TDM Program. These land-use categories generate the majority of vehicle travel in the City and are included in trip generation and parking demand standard manuals.²² Mixed-use projects that include a mix of these land uses are also subject to the TDM Program. Mixed-use projects can typically demonstrate partial mitigation of drive alone trips by design. A combination of land uses on a single project site improves walkability and land use diversity, allowing users to reduce the need for an additional trip to conduct errands.²³ The list of qualified TDM strategies, outlined in Chapter 4, can be applied to proposed development projects of all land use types.

3.1.2 Exemptions: Small Development Projects

New development projects and additions that do not add significant floor area dedicated to employment, housing, retail, mixed-uses, or special uses are exempt from the requirements of the TDM Program. Also, any building alteration or change of use that does not add new floor area is exempt from the requirements of the TDM Program. Small projects generate relatively low demand for drive alone trips and generally lack the management capacity to adequately administer and measure the effectiveness of TDM strategies. The TDM Program does not apply to projects that meet all of the following criteria:

- 1. adds fewer than 25 housing units,
- 2. adds fewer than 50 housing units in which all units in the Project (exclusive of manager's units) are affordable dwelling units
- 3. adds less than 25,000 square feet (sf) of non-warehouse/non-industrial employment or office floor area,
- 4. adds less than 50,000 sf of retail or medical use floor area,
- 5. adds less than 25,000 sf of warehouse/industrial floor area,
- 6. adds fewer than 25 guest rooms, or suites of rooms, in a hotel,
- 7. adds arena(s), stadium(s), or theater(s) of fewer than 10,000 total seats, and less than 250,000 sf of total floor area,
- 8. adds charter or private school(s) of fewer than 250 total students, and
- 9. any project that consists only of the uses listed in Table 1 below.

²² ITE trip generation manual, ITE parking manual

²³ Smart Growth America. "<u>Mixed-Use Trip Generation Model</u>". Accessed June 2018.

. Exempt Uses	
Housing:	Alzheimers and Dementia Care Housing Assisted Living Community Care Facility Homeless Shelter Hospice Mobilehome Park Senior Living, including: Medical Care, Non-Medical Skilled Nursing Home
Special Uses:	Cemetery Certified Farmers' Market Day Care Facility Kennel Gym Nature Reserve Open Space, Public Outdoor Recreation, Commercial, including Golf Course Penal Institution Public Safety Facility Recreation, Public Religious Assembly Veterinary Care
Agriculture, Heavy Commercial, and Industrial:	Animal Keeping Fleet Services Motor Vehicle Services, including: General, Car Wash, Commercial Vehicles, Fueling Station Plant Cultivation Recycling Facility Resource Extraction Salvage Yard Self-Service Storage Facility Solid Waste Facility Storage, Outdoor, including: Cargo Container, Official Motor Vehicle Impound, Standard Vehicle, Commercial Vehicle Utilities, including: Major, Minor, and Wireless Telecommunication

Table 1. Exempt Uses

3.2 Project Levels

The travel demand generated by large-scale projects—especially projects that provide a large supply of unmanaged vehicular parking²⁴—have the potential to impose a greater burden on the transportation system. The TDM Program recognizes that major development projects generate more sizable travel demand than smaller scale projects by scaling up TDM strategy and monitoring requirements as project size increases. The TDM Program assigns progressive compliance requirements to all non-exempt development projects through ascending project levels based on project size and use activity, which is reflective of the project's transportation demand.

²⁴ Parking management involves strategies that either manage parking demand by pricing incentives to encourage people to try other transportation options, or manage parking supply by encouraging the sharing of parking across sites or uses, thereby encouraging more efficient parking utilization.

The criteria for categorizing projects was developed based on Institute of Transportation Engineers (ITE) trip generation rates by comparing similar land uses and generally utilizing the natural breaks proposed by ITE. Breakpoints between projects of Project Levels 1, 2, and 3 were determined and then affiliated with an equivalent land use identified in the ITE Trip Generation Manual, 10th edition.²⁵

The following sections define the criteria for categorizing a development project in the appropriate TDM Project Level and the associated reporting activity.

3.2.1 Residential and Commercial Projects

Residential projects are classified based on number of units, while commercial/non-residential projects are classified by square footage.

3.2.2 Mixed-Use Projects

Mixed-use projects are evaluated based on a combination of the proposed uses. For example, if a mixed-use project falls into a lower project level based on one land use (such as number of housing units) and a higher project level based on another land use (such as square footage of employment floor space), the project as a whole will be classified in the higher applicable project level with greater program and monitoring requirements. However, the combination of multiple uses in a single project in and of themselves will not reclassify a project into a higher project level if each use component independently falls into the same project level.

3.2.3 Affordable Housing Projects

The applicability framework recognizes the City's goal to incentivize development of affordable housing²⁶ and empirical data demonstrating that affordable housing generates higher rates of transit use, less traffic congestion, and lower parking demand than market-rate housing.²⁷ Given the demonstrated demand for sustainable transportation options and in line with LADOT's goals of improving access to opportunities, the TDM Program does not outright exempt 100% affordable housing projects. Housing projects with 50 or more units where all of the total combined Dwelling Units or Guest Rooms, exclusive of any manager's units, are affordable, are classified in Project Level 1. An affordable dwelling unit, as defined in the TDM ordinance, is a dwelling unit which is restricted by a covenant certified by the City of Los Angeles Housing and Community Investment Department or its successor agency to be rented or sold at an affordable level to, and occupied by, persons or families whose annual income does not exceed 120 percent of the Area Median Income for persons or families residing in Los Angeles County. The Area Median Income and affordable housing costs shall be established from periodic publications of the United States Department of Housing and Urban Development, as determined by the California Department of Housing and Community Development or its successor or assignee. Any Floor Area used for the delivery of Supportive Services, as defined in LAMC 12.03, shall be considered accessory to the residential use. If other land uses on-site fall into a higher project level, the entirety of the project would fall into that higher level.

 Table 2 summarizes the applicability criteria for the three TDM Project Levels.

²⁵ ITE Trip Generation Manual, 10th Edition, 2017.

²⁶ <u>City of Los Angeles Department of City Planning Recommendation Report: Affordable Housing Linkage Fee</u>. October 2016.

²⁷ Local traffic count and parking utilization data demonstrates that affordable housing generates significantly less traffic and parking demand than market-rate housing. <u>http://trrjournalonline.trb.org/doi/abs/10.3141/2319-02</u>.

Table 2: TDM Project Levels

	Level 1	Level 2	Level 3
		New, within the net new floor area:	
Housing	25-49 housing units	50-249 housing units (except as noted in affordable housing section)	250 housing units or more (except as noted in affordable housing section)
Affordable Housing	50 or more housing units, in which all units in the Project (exclusive of managers' units) are affordable dwelling units	N/A	N/A
Employment / Office	25,000-49,999 sf of floor area	50,000-99,999 sf of floor area	100,000 sf or more of floor area
Retail / Customer-Facing	50,000-99,999 sf of floor area	100,000-249,999 sf of floor area	250,000 sf or more of floor area
Medical Care / Hospital	50,000-99,999 sf of floor area	100,000-249,999 sf of floor area	250,000 sf or more of floor area
Warehouse/ Industrial Space	25,000-99,999 sf or more of floor area	100,000-249,999 sf or more of floor area	250,000 sf or more of floor area
Hotel / Motel	25-99 guest rooms, or suites of rooms	100-249 guest rooms, or suites of rooms	250 or more guest rooms, or suites of rooms
Arena / Stadium / Multiplex Theater	N/A	250,000-499,999 sf of total floor area, or with 10,000 to 19,999 seats	500,000 sf or more of total floor area, or 20,000 or more seats
School, Trade School, College, or University (that requires building permits from the City of Los Angeles)	250 or more students	N/A	N/A

A Project that consists of multiple uses that result in different Project Levels

shall be classified in the highest applicable Project Level.

Projects that do not meet ANY of the above criteria are exempt from the TDM Program requirements.

3.3 Point Targets

The TDM Program sets a TDM Point Target for each project. The Point Target establishes the total number of points a project must meet by selecting from the list of TDM strategies. Each TDM strategy is assigned a point value. All development projects subject to the TDM Program are required to implement TDM strategies to meet their Point Target.

3.3.1 Base Point Target

Base Point Targets are dependent on a project's TDM Project Level, which relates to project size and land use. Smaller projects may not be able to implement as many TDM strategies as larger projects and therefore, have lower base Point Targets.

3.3.2 Parking's Effect on the Point Target

The cost and ease of finding parking heavily influences a person's decision to drive. As a result, the base Point Target considers a project's provided parking, or the rate of parking supply over the minimum generalized citywide parking baseline.²⁸ This calculation of a development project's Point Target relying in part on parking supply, follows the rationale of well-established TDM Programs, including programs in Cambridge, Massachusetts and San Francisco, California.

Empirical research supports the claim that when people are guaranteed free or low-cost parking at the beginning and end of their most common trips, they are more likely to drive for the majority of their trips. A study of New York residents with and without reserved parking spaces available to them found commuters with a guaranteed parking space at home are more likely to commute by automobile.²⁹ As part of the same study, researchers compared two similar neighborhoods and found that people with guaranteed parking at home are 45 percent more likely to drive to Wanhattan and 28 percent more likely to drive to work.³⁰ A study of transit-oriented developments in New Jersey found that parking availability predicted people's driving habits more than access to transit.³¹

One study of nine U.S. cities over 50 years found that gradual increases in parking supply led to significant increases in driving over time. Most notably, as parking supply increased in these nine cities, people began driving for short, local trips once served by walking, biking, and local transit.³² Despite the generally high rate of driving in one of the cities studied, Hartford, Connecticut, only 71 percent of insurance company employees drove alone to work when they were charged a monthly fee for parking, compared to 83 to 95 percent among employees who received free parking.³³ In fact, past research shows that pricing parking is essential to successful employer-based TDM programs,

²⁸ The generalized citywide parking baseline is defined here as the default parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code for each applicable use not taking into consideration other parking incentives to reduce the required parking that would apply, or local development regulations as required in a Specific Plan.

²⁹ Rachel Weinberger et al., "Guaranteed Parking – Guaranteed Driving," 2008; Rachel Weinberger, "Death by a Thousand Curb-Cuts: Evidence on the Effect of Minimum Parking Requirements on the Choice to Drive," *Transport Policy* 20 (2012): 93–102, doi:10.1016/j.tranpol.2011.08.002.

³⁰ Chris McCahill et al., "Effects of Parking Provision on Automobile Use in Cities: Inferring Causality," *Transportation Research Record: Journal of the Transportation Research Board* 2543 (2016): 159–65, doi:10.1017/CBO9781107415324.004.

³¹ Daniel G. Chatman, "Does TOD Need the T?," *Journal of the American Planning Association* 79, no. 1 (January 2, 2013): 17–31, doi:10.1080/01944363.2013.791008.

³² Christopher McCahill and Norman Garrick, "Parking Supply and Urban Impacts," in *Parking: Issues and Policies*, ed. Stephen Ison and Corinne Mulley, vol. 5 (Emerald Group Publishing Limited, 2014), 33–55, doi:10.1108/S2044-994120140000005017.

³³ Christopher McCahill and Norman W. Garrick, "Losing Hartford: Transportation Policy and the Decline of an American City," in *18th Annual Meeting of the Congress for the New Urbanism* (Atlanta, GA, 2010).

which can reduce driving alone by 12 to 40 percent.³⁴ For these reasons, the City's TDM Program also includes a category of parking management strategies in the list of qualified TDM strategies that project applicants can select to meet their Point Target.

3.3.3 Calculating Point Targets

Given the importance of parking supply, projects that provide parking above the generalized citywide parking baseline must meet a Point Target above the base for the project's Level. Specifically, for every 10 percent of additional parking spaces provided above the generalized citywide parking baseline, a project's Point Target increases by 2 points, up to a maximum of 10 additional points per project. The maximum number of points the TDM Program requires is 35 points (**Table 3**). This maximum point target is to avoid an undue burden on project developers or implementation of an infeasible number of TDM points.

For the purposes of the TDM Program, the generalized citywide parking baseline is defined as the default number of parking spaces required by Section 12.21 A.4 of the Los Angeles Municipal Code (or departmental regulatory guidance) for each applicable use. The default number of parking spaces does not consider any potential parking reductions allotted by programs or ordinances, such as the Density Bonus program, the Transit-Oriented Communities (TOC) program, bicycle parking ordinance, and/or area-specific parking reductions. The generalized citywide parking requirement can be found in the Department of Building and Safety's Summary of Parking Regulations.³⁵

In order to meet the Point Target, a project must apply qualified TDM strategies in order to offset its estimated drive alone demand, as defined in Chapter 4 of the TDM Program Guidelines. LADOT developed a TDM Calculator to assist applicants in understanding their Point Targets.

	TDM Project Level		
Parking Provided	Level 1	Level 2	Level 3
0% - 109% of generalized citywide parking baseline	15 points	20 points	25 points
110% - 119% of generalized citywide parking baseline	17 points	22 points	27 points
120% - 129% of generalized citywide parking baseline	19 points	24 points	29 points
130% - 139% of generalized citywide parking baseline	21 points	26 points	31 points
140% - 149% of generalized citywide parking baseline	23 points	28 points	33 points
150% or greater of generalized citywide parking baseline	25 points	30 points	35 points

Table 3: TDM Program Point Targets

³⁴ Thomas J. Higgins, "Demand Management in Suburban Settings," *Transportation* 17 (1990): 93–116, doi:10.1007/BF02125331.

³⁵ Los Angeles Department and Building and Safety. Summary of Parking Regulations. Document No. P/ZC 2002-011 (https://www.ladbs.org/docs/default-source/publications/information-bulletins/zoning-code/summary-of-parking-regulations-ib-p-zc2002-011.pdf?sfvrsn=24)

Chapter 4: Qualified TDM Strategies

To meet Point Targets, projects apply qualified TDM strategies to offset their estimated drive alone trip demand. Varying point values are assigned to each TDM strategy commensurate to its estimated effectiveness in reducing drive alone trips, VMT, and vehicle trips. This chapter describes each strategy in depth and offers alternative methods for compliance to the TDM Program for projects that propose new or innovative approaches. LADOT's TDM Calculator, an online application, is available to help applicants navigate their TDM Program requirements. The TDM Calculator provides a project's Point Target and sums the number of points earned as a result of the total TDM strategies selected by the developer. **Appendix B** summarizes the best practice research that informs the selection of qualified TDM strategies and the assignment of point values.

4.1 Evaluating the Effectiveness of TDM

Various factors influence travel choices, including population, housing and jobs density, land use diversity, street network design, proximity to high-quality transit options, and information and awareness of available travel modes. The City's TDM Program includes strategies that can encourage, promote, and support sustainable travel to and from project sites. Tables 4 through 20 under Section 4.2.4 provide the list of qualified TDM strategies that are available to project applicants or owner/tenants subject to the TDM Program. This section contains information about each strategy, land use compatibility, and point value. **Appendix C** contains the same menu of TDM strategies in a simplified printer-friendly table format.

4.1.1 Literature Review

One of the principal sources of information on the effectiveness of TDM measures is the 2010 report published by the California Air Pollution Control Officers Association (CAPCOA) titled "Quantifying Greenhouse Gas Mitigation strategies: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures." The CAPCOA report estimates how greenhouse gas emissions (GHGs) are influenced by land use, transportation, energy use, and other factors, based upon a review of the latest research. The CAPCOA report motivated City staff and State Smart Transportation Initiative (SSTI) researchers to conduct a comprehensive literature review to further inform the list of qualified TDM strategies and assignment of point values. Point values were assigned to each TDM strategy based on available evidence of demonstrated effectiveness to reduce drive alone trips, VMT, and/or vehicle trips. The following sections summarize the empirical research findings, local data analyses, best-practice research, and transportation practitioner expert judgment that qualify the TDM strategies available for application. Additional resources that were used to inform this document are included in **Appendix B**.

4.2 Menu of Qualified TDM Strategies

Listed below are qualified TDM strategies and their respective point values. Applicants may select from this menu and/or may select a TDM Package, a simplified bundle of pre-qualified strategies. For a list of the TDM strategies in a table format, see **Appendix C**.

4.2.1 Strategy Applicability

While many strategies apply to projects of all types, some strategies are only proven effective for a particular land use. The applicable land uses for each TDM strategy are described below. Unless otherwise noted, "employment" includes offices, industrial, warehouses, hotels, arenas, stadiums, theaters, and other land uses other than housing, retail, and schools.

4.2.2 Strategies Not in Compliance

TDM strategies that do not meet Los Angeles TDM Program objectives are not qualified to fulfill Point Targets and, thus, are not available options for property owners and employers. An example of a non-qualifying TDM strategy is

varying employers' shift times without complementing this strategy with other strategies. This strategy applied on its own would result in spreading traffic to off-peak hours, but would not reduce overall demand for vehicle use. By shifting trips to off-peak, the total VMT is not reduced.

4.2.3 User-defined TDM Strategies

New opportunities to reduce drive alone trips, VMT, and vehicle trips are constantly emerging. The TDM program embraces effective innovation and will adapt over time. In order to receive points for strategies not on this menu, an applicant may apply for discretionary approval of a proposed "User-Defined TDM Strategy." The application for such approval will be submitted to the DCP and will include evidence that the proposed strategy will meet the TDM Program goals. LADOT staff will assist in reviewing proposals, which will be accepted or rejected with justification, and with a point value assigned as needed. Enhanced monitoring and reporting may be required for these strategies. If strategies are approved but do not demonstrate expected results down the line, staff may require the future owner or tenant to substitute the strategy with another of equal or greater point value. TMOs or community members can also propose user-defined strategies during the development review process.

If a user-defined TDM strategy is approved, an additional monitoring report is required. This report should include a clear description of the strategy as agreed upon by LADOT and the applicant, provide data to prove the efficacy of the user-defined strategy, and specify metrics to evaluate the strategy's ability to reduce drive alone trips, VMT, and/or vehicle trips. An annual performance monitoring report is required to LADOT for all user-defined strategies. Methodology for assessing effectiveness must be included.

4.2.4 TDM Strategies Described

The following TDM Strategies are listed in alphabetical order.



Affordable Housing

Table 4: Affordable Housing TDM Strategies

Projects may be eligible for a maximum of one (1) Affordable Housing TDM Strategy.

Affordable Housing TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Affordable Housing 1: 20% of State Density Bonus	Projects that are eligible for a Density Bonus of 20% or more (under CA Government Code Sec. 65915) and provide a minimum of: • 10% Low Income; or • 5% Very Low Income.	2 Points	Employment Retail

Affordable Housing 2: TOC Tier 1, 2, or 3 or equivalent	Projects that provide the following Affordable Housing percentages or commensurate minimum Tier 1 percentages in the most recent TOC Guidelines: • 20% Low Income; • 11% Very Low Income; or • 8% Extremely Low Income.	4 Points	Employment Retail
Affordable Housing 3: TOC Tier 4 or equivalent	Projects that provide the following Affordable Housing percentages or commensurate Tier 4 percentages in the most recent TOC Guidelines: · 25% Low Income; · 15% Very Low Income; or · 11% Extremely Low Income.	6 Points	Employment Retail
Affordable Housing 4: 100% Affordable	Projects in which 100% of the housing units (exclusive of any manager's unit(s)) are affordable dwelling units.	10 Points	Employment Retail



Bicycle Facilities

Table 5: Bicycle Facilities TDM Strategies

Bicycle Facilities TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Bicycle Facilities 1: Locate near a Bike Share Station*	Project is located within 600 feet of an existing bike share station - <u>Bike</u> <u>Share Location Map</u> .	2 Points	
	*Metro shall pre-approve the selection of this TDM Strategy and may require		

			1
	an agreement with the applicant.		
	May not be combined with Bicycle Facilities 2.		
Bicycle Facilities 2: Install Bike Share Station*	Install a publicly accessible bike share station with a minimum of 10 docks.	5 Points	
	*Must be pre-approved by Metro and may require an agreement		
	May not be combined with Bicycle Facilities 1.		
Bicycle Facilities 3: Bike Share Memberships*	Offer bike share membership passes to employees and/or residents in accordance with available pass options (applicable for locations within 0.25 miles from an existing or planned bike share station - <u>Bike Share</u> Location Map). *LADOT shall pre-approve the selection of this TDM Strategy to verify that the project is within an eligible location.	- 5 Points (See https://bikeshare.metro.n et/for-business/)	
Bicycle Facilities 4: Bicycle Parking	Install and maintain on-site bicycle parking at or above ratios as determined in Sections 12.03, 12.21, and 12.21.1 of the L.A.M.C.	2 Points	
Bicycle Facilities 5: Changing and Shower Facilities	Provide clothes changing and/or shower facilities for employees or students at or above ratios as determined in Section 91.6307 of the L.A.M.C.	Private = 2 Points Publicly Accessible = 4 points Publicly Accessible and in a disadvantaged area = 5 points	Housing

Bicycle Facilities Bonus Implementation of three or more Bicycle Facilities strategies for bonus points.	3 Strategies = 1 Point 4 Strategies = 2 Points	
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Car Sharing

Table 6: Car Sharing TDM Strategies

Car Sharing TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Car Sharing 1: Car Share Parking	Provide at least one car share space per 25 employees/dwelling units, with a minimum of two car-share parking spaces. Requires cooperation with a car share service provider.	Private = 3 Points Publicly Accessible = 4 points	School
Car Sharing 2: Car Share Memberships*	Offer an annual car share membership, not including trip fees (through a third-party car share service operator) for at least 50% of residents or employees (applicable for locations within 0.25 miles of an existing service area). If the applicant selects BlueLA as the provider, the TDM point total from this measure is 4 points. *LADOT shall pre-approve the partnership. Eligible projects must be located within 0.25 miles of existing BlueLA vehicle spaces.	3 Points Membership to Blue LA program or in a disadvantaged area = 4 points*	School
Car Sharing 3: Private Car Share Fleet	Provide a car share fleet available to all building	5 Points	School

	occupants. Minimum of 2 cars per project site.		
Car Sharing Bonus	Implementation of two or more Car Share strategies for bonus points.	2 Points	School
Electric Vehicle Bonus	Provide 100% electric vehicle fleet or membership to electric vehicle car share program for a bonus point.	1 Point	School



Child Care

Table 7: Child Care TDM Strategies

Child Care TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Child Care 1: On-site Child Care	On-site child care provided by a licensed childcare provider.	2 Points	Housing



High-Occupancy Vehicles

Table 8: High Occupancy Vehicles TDM Strategies

High-Occupancy Vehicles TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
High-Occupancy Vehicles 1: Guaranteed Return Trip	Provide at least six annual taxi or Transportation Network Companies (TNC) fare vouchers or reimbursements for at least 50% of employees who travel by non-drive alone trips.	2 Points	Housing

High-Occupancy Vehicles 2: HOV Parking	Provide free, reserved HOV parking spaces (carpool, vanpool, etc.). Should be closer to the building entrance than other non-HOV parking spaces (excluding ADA stalls). Must install a minimum of 2 HOV parking spaces. HOV parking must account for 10% or more of total parking spaces.	2 Points	Housing
High-Occupancy Vehicles 3: HOV Program	HOV Program where school administrators, employers, residential property managers, or homeowners associations coordinate, promote, and maintain a HOV program or service to match individuals, groups, parents and/or families available to share rides on a regular basis.	2 Points	Retail
High-Occupancy Vehicles 4: Mandatory trip-reduction Program	Deploy an employee-focused travel behavior change program that targets individual attitudes, goals, and travel behaviors, educating participants on the impacts of travel choices and opportunities to alter their habits. The program typically includes a coordinated ride-sharing, vanpool and/or carpooling program, requires a program coordinator, and includes program monitoring, reporting and evaluation. A minimum of 50% of all employees on site should be eligible for the trip reduction program. May not be	8 Points	Housing

combined with Information 3 or 4.	



Information

Table 9: Information TDM Strategies

Information TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Information 1: Transit Displays	Provide real-time transit arrival displays at each major entrance of the project site. Display should capture transit options within 0.25 miles.	Internally visible = 2 Points Publicly visible = 3 points	
Information 2: Wayfinding	Post wayfinding signage near major entrances directing building users to rail stations, bus stops, bicycle facilities, bicycle parking, car sharing kiosks, and other sustainable (non-drive alone) travel options, provided inside and/or outside of the building.	1 Point	
Information 3: Education, Marketing, and Outreach	Offer new employees and residents a packet of materials and/or provide personal consultation detailing sustainable (non-drive alone) travel options. These materials or consultations must be available on an ongoing basis and/or on permanent online channels. Packet must include the distribution of one Metro TAP card preloaded with a day pass or equivalent value, to	4 Points	

DRAFT Los Angeles TDM Program Guidelines and Technical Justification / Page 29

	each employee or residential unit. May not be combined with High-Occupancy Vehicles 4 or Information 4.		
Information 4: Voluntary Travel Behavior Change Program	A multi-faceted program involving two-way communication campaigns and travel feedback that actively engages participants to target individual attitudes, goals, and travel behaviors to alter their travel choices and habits. Program must include the distribution of one Metro TAP card preloaded with a day pass or equivalent value, to each employee or residential unit. Selection of this strategy requires a coordinator to manage the program, and ensure communication is available to all regular occupants of a site with a special focus on new occupants and/or employees. Must include participation from 20% of the project site's tenants/users to qualify for this TDM strategy. This strategy pairs well with a TMO. It may not be combined with Information 3 or High-Occupancy Vehicles 4.	6 Points	
Information 5: School Safety Campaign	The yearlong Safety Campaign targets the school's parents and students to heighten their awareness of the importance of traffic safety. This campaign also	4 Points	Employment Retail Housing

integrates TDM strategies to bring awareness to how parents and students can reduce congestion.		
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Table 10: Mixed-Use TDM Strategies

Mixed-Use TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Mixed-Use 1	Projects that are mixed-use and provide no more than 85% of floor area for a single land use.	5 Points	



Mobility Investment

Table 11: Mobility Investment TDM Strategies

Mobility Investment Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Mobility Investment 1: Access Improvements*	Install or make contributions to new or improved facilities in the public right-of-way (PROW) that support greater access to the project by people that bicycle, walk, and take transit and/or enable access to or through the project from a regional bicycle or multi-use path. All PROW investments shall be consistent with the Mobility Plan 2035,	 4 points for incorporating access to project site from a bicycle or multi-use path 4 points for improvements to 25-49 percent of ¼ mile walkshed or commensurate value 6 points for improvements to 50-74 percent of ¼ mile walkshed or commensurate value 	

	and may include, but are not limited to, curb extensions, leading pedestrian intervals, controlled mid-block crosswalks, pedestrian refuge islands, protected bicycle lanes, bike boxes, exclusive bicycle signal phases, street trees, etc. LADOT shall be consulted to verify the opportunity and feasibility of access improvements near the project site. The point values are relative to the improvement and location, and shall be determined in coordination with LADOT staff. *LADOT shall pre-approve the selection of this TDM Strategy to confirm availability of a mobility investment solution that meets the needs of people that bicycle, walk, and take transit in the project area and can be addressed by the proposed funding.	8 points for improvements to 75-99 percent of ¼ mile walkshed or commensurate value 10 points for 100 percent of improvements of ¼ mile walkshed or commensurate value	
Mobility Investment 2: Mobility Management	Funds capital expansion, operations, and maintenance for existing sustainable mobility programs (Metro Bike Share, carshare, etc.).	2 Points for \$50,000-\$199,999 4 points for \$200,000-\$499,999 6 points for \$500,000 and above	



Table 12: F	Parking	TDM	Strategies
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Parking TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Parking 1: Pricing and Unbundling Parking*	Pricing of parking encourages sustainable modes of travel (non-drive alone) and can be accomplished in several ways. Property managers and homeowner associations can unbundle the price of parking from rents or sale of units. ³⁶ The parking cost is set by the project applicant and paid by the vehicle owners/drivers. *This strategy may not be combined with Parking 2: Parking Cash Out.	 1 point - the cost of each parking space is at least \$25/mo. 4 points - the cost of each parking space is at least \$110/mo. 8 Points - the cost of each parking space is at least \$220/mo. 	Retail
Parking 2: Parking Cash Out	Implement a "cash out" program, where all full or part-time employees who do not use a parking space are paid the value of the space instead in time increments that the parking is leased. The value of a space shall be the leased cost, if leased, and shall be the market value of a parking space if owned by the property owner. *This strategy may not be combined with Parking 1: Pricing and Unbundling Parking.	4 Points	Housing, Retail
Parking 3: Shared Parking	Share parking among different land uses or properties. A notarized	1 - 4 Points (1 point for every 25% of parking stalls available to occupants during	

³⁶ For projects that are using incentives pursuant to the City's density bonus ordinance, the separate sale or rental of a dwelling unit and a parking space shall not cause the rent or purchase price of a Restricted Affordable Unit, including the parking space, to be greater than it would otherwise have been.

	agreement among tenants or property owners is required to receive points.	effective hours of shared parking)	
Parking 4: Public Parking	Provide public access to the property's parking. Must be coupled with on-demand parking availability publicized through public signage and/or approved mobile application. This strategy is especially encouraged for properties that provide parking supply at rates above L.A.M.C. or Specific Plan requirements. To earn points for this strategy, a project must provide the number of parking spaces available for public use. That supply must be, at a minimum, 25% of the total parking supply rounded up to the next whole number.	4 Points	
Parking 5: Reduced Parking Supply	Reduction in parking supply below the generalized citywide parking baseline (See Glossary), using parking reduction mechanisms, including, but not limited to, TOC, Density Bonus, Bicycle Parking ordinance, locating in an Enterprise Zone or Specific Plan area, or compliance with zoning regulations that require less parking than the generalized citywide parking baseline. Points are also awarded for projects providing a reduced supply of parking as allowed by an approved variance.	 2 Points - reduces 10% - 24% of the parking spaces available relative to the parking baseline. 4 Points - reduces 25%-49% of the parking spaces available relative to the parking baseline. 8 Points - reduces 50%-89% of the parking spaces available relative to the parking baseline. 12 Points - reduces 90%-100% of the parking spaces available relative to the parking baseline. 	



Shared Micro-Mobility TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Shared Micro-Mobility 1: Service Membership	Partner with a shared micro-mobility company to provide discounted membership fees for building occupants (e.g., residents and employees). Make shared micro-mobility fleet devices accessible for easy identification and use.	1 Point	
Shared Micro-Mobility 2: Local Shared Fleet	Purchase and operate a shared micro-mobility fleet that is available on-site for use or rent for building occupants (e.g. residents and employees). The fleet size shall be determined to ensure a shared device is available 90 percent of the time it is requested.	1 Point	

Table 13: Shared Mobility TDM Strategies



Telecommute

Table 14: Telecommute TDM Strategy

Telecommute TDM Strategies TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
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Telecommute 1: Telecommute	Offer employees a telecommute option for at least 1 day a week, which would allow employees to work from home rather than commute to the office. This telecommute option must be available to at least 50% of employees assigned to the project site.	2 - 6 Points (one additional point for each additional day an employee is allowed to work from home)	Housing Retail School
Telecommute 2: Televisits	Offer visitors virtual visitation options including telehealth, virtual meetings, remote learning, and conferencing.	3 Points	Housing Retail



Table 15: Transit Access TDM Strategies

Transit Access TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
Transit Access 1: Neighborhood Shuttles/Microtransit Service*	Operate a neighborhood-serving transit service (shuttle/ microtransit/ etc.). *LADOT shall pre-approve the selection of this TDM Strategy to ensure that the neighborhood-serving transit service is complementing and not substituting existing transit services.	Service that connects within the neighborhood but does not connect to high-quality transit stations = 3 Points Along a route that connects to high-quality transit station(s) = 5 points. Publicly available = +3 points Publicly available and in a disadvantaged area =	

		+4 points	
Transit Access 2: Transit Passes	Provide all employees/residential units transit subsidies. Points awarded vary based on the amount of transit subsidy provided per employee or residential unit.	Subsidy per employee or residential unit for Metro TAP card monthly fare: 25% of monthly fare = 7 Points; 50% of monthly fare = 10 Points; 75% of monthly fare = 12 Points 100% of monthly fare = 14 Points	
Transit Access 3: Improve Transit Service*	Provide funding to a local transit provider for improvements that improve service quality (reduce headways, etc.) at transit stops within ¼ mile radius of the project site. Funds could also contribute to an existing shuttle or microtransit service (e.g., DASH),in consultation with LADOT if this option is available near the project site. *LADOT shall pre-approve the selection of this TDM Strategy to ensure the availability of qualifying transit service that serves the property.	3 Points	
Electric Transit Vehicle Bonus	Provide 100% electric vehicle or bus for a bonus point.	1 Point	



Transportation Management Organizations

Table 16: TMO TDM Strategies

TMO TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
TMO 1: Join a TMO*	Join an existing TMO. *LADOT shall pre-approve the selection of this TDM Strategy to verify the availability of a qualifying TMO that could serve the property. For a reference of criteria that is considered in pre-qualifying a TMO, see Appendix E: Transportation Management Organization (TMO) Certification Guidelines.	2 Point	
TMO 2: Create a new TMO*	Create a new TMO in an area where there is not already an existing TMO service. Should a project select to start a new TMO, the project must not be within an existing TMO service area and must commit to a two- year membership to be awarded points. *LADOT shall pre-approve the selection of this TDM Strategy to verify the feasibility of establishing a TMO that could serve the property. For a reference of criteria that is considered in pre-qualifying a TMO, see Appendix E: Transportation Management Organization (TMO) Certification Guidelines.	4 Points	



User-defined TDM Strategies

Table 17: User-defined TDM Strategies

User-defined TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
User-defined strategies*	Implement a strategy in coordination with LADOT that does not appear in Appendix C. *Requires consultation with LADOT before submittal of a TDM Plan. User-defined strategies must have approval from LADOT before the TDM Plan is accepted.	Point value may vary.	

4.3 TDM Packages

Suggested packages of TDM strategies are provided below for ease of use for the applicant. These packages are available only to projects classified as Project Level 1 with a Point Target of 15 points, and are designed to allow the applicant to fulfill the 15 Point Target with a predetermined set of TDM strategies plus a bonus point. The additional point is provided for selecting a TDM package to encourage the synergies of strategies that are shown to be effective when combined.

Table 18: Level 1 Residential TDM Package

Implementation of all strategies in this package is equivalent to <u>15 points</u>, or the default Project Level 1 Base Point Target

Level 1 Residential TDM Package (15 points)	TDM Strategy Description
Bicycle Facilities 4: Bicycle Parking	Install and maintain on-site bicycle parking at or above ratios as determined in the L.A.M.C.
Information 3: Education, Marketing, and Outreach	Offer new residents a packet of materials and/or personal consultation detailing sustainable (non-drive alone) travel options on an ongoing basis
Parking 1: Pricing/ Unbundling	Price or unbundle parking costs at a cost of \$220/mo for each parking space.

Table 19: Level 1 Employer TDM Package

Implementation of all strategies in this package is equivalent to <u>15 points</u>, or the default Project Level 1 Base Point Target

Level 1 Employer TDM Package (15 points)	TDM Strategy Description
Bicycle Facilities 4: Bicycle Parking	Install and maintain on-site bicycle parking at or above ratios as determined in the L.A.M.C.
Information 3: Education, Marketing, and Outreach	Offer new employees a packet of materials and/or personal consultation detailing sustainable (non-drive alone) travel options on an ongoing basis
Parking 1: Pricing and Unbundling Parking	Price workplace parking for all employees to encourage sustainable modes of travel (non-drive alone). The parking cost must be set at the maximum range in Parking 1 Strategy to realize incentive in the employer TDM Package.

Table 20: School TDM Packages

Implementation of all strategies in this package is equivalent to <u>15 points</u>, or the default Project Level 1 Base Point Target.

Level 1 School TDM Package (15 points)	TDM Strategy Description	
Bicycle Facilities 4: Bicycle Parking	Install and maintain on-site bicycle parking at or above ratios as determined in Sections 12.03, 12.21, and 12.21.1 of the L.A.M.C.	
Information 4: Voluntary Travel Behavior Change Program	A multi-faceted program involving two-way communication campaigns and travel feedback that actively engages school employees to target individual attitudes, goals, and travel behaviors to alter their travel choices and habits. Program must include the distribution of one Metro TAP card preloaded with a day pass or equivalent value, to each school employee. Selection of this strategy requires a coordinator to manage the program, and ensure communication is available to all school employees. Must include participation from 20% of the school employees to qualify for this TDM strategy.	
High-Occupancy Vehicles 3: HOV Program	HOV Program where school administrators coordinate a HOV program to match individuals, groups, parents and/or families who live near one another and are available to share rides on a regular basis.	
Information 5: School Safety Campaign	The yearlong Safety Campaign targets the school's parents and students to heighten their awareness of the importance of traffic safety. This campaign also integrates TDM strategies to bring awareness to how parents and students can reduce congestion.	

Chapter 5: Compliance & Monitoring

5.1 Compliance & Monitoring Requirements

Projects in all project levels are required to implement qualified TDM strategies to meet Program goals. For projects subject to the TDM Program, the Project applicant must prepare a TDM Plan that demonstrates compliance and submit the TDM Plan to LADOT for their review and approval. Before any use permit and/or certificate of occupancy are issued for the project, the Project applicants must execute and record a Covenant and Agreement that an approved TDM Plan, and the TDM strategies contained therein, will be maintained throughout the life of the project. A TDM Plan may be modified as specified in the TDM Ordinance and at the discretion of LADOT. The largest development projects (Level 3), with greater quantities of housing units and/or square footage, must also commit to more substantial monitoring obligations to ensure TDM strategies are effective. The figure below demonstrates the compliance and monitoring requirements by Project Level. Failure to meet monitoring obligations can subject the project to penalties.

Figure 1: Compliance Requirements





Site TDM Plan Annual Compliance Documentation Annual TDM Monitoring Report

Each project subject to this program is responsible for designating a TDM Coordinator who coordinates with the City and the property owner and/or property manager to demonstrate the project's compliance with the approved TDM Plan and submitting some form of documentation of compliance. Level 1 and Level 2 development projects are only responsible for submitting Annual TDM Plan Compliance Documentation and Level 3 Projects are responsible for submitting an Annual TDM Monitoring Report in addition to Annual TDM Plan Compliance Documentation. Performance monitoring forms that could support an Annual TDM Monitoring Report are available in **Appendix D**. All performance monitoring elements described below should be submitted to LADOT via email at ladot.tdm@lacity.org</u>. All required performance monitoring forms must be submitted annually for each year in a five-year period with an option at LADOT's discretion to restart the monitoring period if the property is out of compliance at any point during that time. In the event that a property owner complies with the monitoring requirements for five years, the property owner is still responsible for submitting the TDM Plan Compliance Documentation that demonstrates how they are maintaining the TDM strategies as specified in their TDM Plan. LADOT may, at its discretion, enter the property to inspect TDM strategies.

5.1.1 TDM Plan

All projects subject to the TDM Program must provide a complete TDM Plan and receive approval of the TDM Plan from LADOT prior to receiving any building permits, certificate of occupancy, or entitlement action processed by

the Department of City Planning. The TDM Plan should contain all relevant project information such as the description of the proposed use, associated case number(s), the total parking supply, and the selection of TDM strategies proposed to comply with the Program. Applicants should use the TDM Calculator to select the TDM Strategies that they propose to implement. The TDM Calculator is an online application that simplifies compliance with the TDM Program. After a project applicant inputs project information, the TDM Calculator displays the total Point Target required for the project. The Point Target is based on the project level assigned to the proposed use and the total supply of parking. The TDM Calculator summarizes the Target Points - or the summary of the TDM strategy points selected. The TDM Calculator produces a summary report that forms the basis of the TDM Plan. The TDM Plan shall be submitted to LADOT for review.

5.1.2 TDM Plan Compliance Documentation

All projects subject to the TDM Program must provide LADOT complete and accurate TDM Plan Compliance Documentation annually. See the template TDM Checklist Form in **Appendix D**. This form provides LADOT information about the project including property owner, property address, contact of the property's TDM Coordinator and/or on-site contact person, project land use (i.e., number of housing units, square footage of retail, etc.), and selected TDM strategies to meet the Project Target. Compliance with the TDM Program will be determined by LADOT's review of the TDM Documentation demonstrating how the TDM strategies are or will be implemented. The TDM Documentation will need to be submitted on an annual basis in order to remain in good standing. The annual reporting will also allow owners or tenants the opportunity to revise their list of selected TDM strategies over time to meet their Point Target.

5.1.3 TDM Monitoring Report

In addition to the TDM Plan Compliance Documentation, Project Level 3 projects will be responsible for collecting monitoring data and submitting it in an annual TDM Monitoring Report. LADOT will work with the Project applicant to prepare an agreement that defines the contents of the TDM Monitoring Report that apply to their project, as appropriate for the selected TDM strategies. The agreement will be formalized in a TDM Monitoring Data Collection Plan. The TDM Monitoring Data Collection Plan will define performance metrics, data collection instruments, specific data collection technologies, optimal data collection formats, and monitoring data reporting frequency. LADOT will rely on a digital reporting format that captures components of site level travel trends. LADOT is exploring data collection technologies that would automate and streamline the collection of aggregate travel data to the extent feasible and in observation of personal data privacy practices. The TDM Monitoring Data Collection Plan can be revised upon the concurrence of both LADOT and the property owner to capture any changes that are necessary to realize greater administrative efficiencies in data collection. The Project application will need to submit the TDM Monitoring Data Collection Plan for LADOT review and approval prior to issuance of a Certificate of Occupancy.

Site level trends should capture residents, employees, students or visitors traveling to and from the Project site. Performance metrics contained within a TDM Monitoring Report were developed using best practices from various national and local examples, including Specific Plan areas within the City of Los Angeles. Potential performance metrics are further defined below.

Travel Surveys

Average vehicle ridership (AVR) is a reliable performance metric to evaluate travel trends in the travel surveys. AVR is the total number of people arriving to a site over a period of 24-hours, divided by the total number of personal and TNC vehicle trips made to and from that site during the same period. Higher AVR numbers demonstrate more people are using sustainable travel modes like carpooling, transit, biking, or walking. Vehicle trips are directly linked to VMT. Therefore, collecting AVR survey information can identify how people are traveling to a project site and what types of strategies can be used to reduce the number of vehicle trips and resulting VMT.

Travel Surveys collect data on anonymized and aggregated travel patterns of site users. This survey will provide information on typical travel patterns during an average week. The Travel Survey will collect data on transportation

mode choice, mode split, alternative work schedules, and alternative travel hours. Sites must achieve at least a 60 percent response rate to be considered compliant with the TDM Program. Findings of the Travel Survey must be summarized by the employer, property manager, TMO, or the project's TDM coordinator.

Parking-Hour Utilization

Projects that are required to monitor parking utilization as part of their TDM Monitoring Data Collection Plan shall report on parking utilization for both parking on-site, and at the neighborhood level where on-street parking spaces outside the building are unmetered(within at least 500 feet of a building entrance). These projects should have the capability to submit 365-days of vehicle parking-hour utilization data for off-street parking, or the numbers of occupied and unoccupied parking stalls for each hour. The count for on and off-street parking must be over a 24-hour period, across seven consecutive days, while LAUSD schools are in session and on weeks that do not include a state holiday. To collect parking occupancy data, it is recommended that the building owner or property manager rely on automated count technology that include parking occupancy sensors, video-space recognition, and/or vehicle detection at parking structure entrances such as gate arms and inductive loops. Neighborhood on-street parking demand can be captured by remote photography, video detection or manual counts where sensors are not available. The project design team should be familiar with the parking occupancy reporting requirements when designing the parking structure to take advantage of the most cost-effective parking count technology available.

To account for parking that is shared with other uses, through a survey or other methods, the property owner shall identify the number of parking spaces reserved for on-site occupants and those that are leased for off-site uses. For residential uses, the property owners or managers shall provide a means to identify automobiles that are not owned by the property residents. This data will identify instances in which residents of buildings are using on-street parking and help determine whether better on-street-parking management near the project site may be needed. Findings from vehicle parking utilization studies should be included in each Level 3 project's annual report to LADOT where specified in a project's TDM Monitoring Data Collection Plan.

5.1.4 Site Enforcement

LADOT staff will verify compliance, as needed, and review TDM Plan Compliance Documentation and TDM Monitoring Reports submitted by the property owner. LADOT will review TDM Plan Compliance Documentation in a checklist format (forms available in **Appendix D**) to ensure both programmatic and physical TDM strategies are implemented and continue to be available mobility options over time. Should a TDM strategy submitted in the TDM Plan Compliance Documentation form be found to be missing, City staff will provide a warning to the project contact. Similarly, for Level 3 Projects, if annual monitoring data is not submitted on time, City staff will provide a 30-day warning to the project contact. Following a project's first warning, further non-compliance will subject the project to progressive penalties.

South Coast AQMD Rule 2202 and Employment Uses

Large employers may be required to report compliance with other regional TDM regulations in addition to meeting compliance with the City's TDM Program. Pursuant to the state and federal Clean Air Act, South Coast AQMD administers Rule 2202, which requires large employers that employ over 250 employees to meet an Emission Reduction Target (ERT) that South Coast AQMD specifies for a compliance year. Employers have the option of complying with Rule 2202 by electing to fund the Air Quality Investment Program (AQIP) or by purchasing offset credits through the Emission Reduction Strategies compliance option. The South Coast AQMD also allows large employers to pursue commute trip reduction strategies, as measured in AVR, as one alternative option to meet their assigned ERT. Employers electing to choose either the AQIP or the Emission Reduction Strategies compliance options would not be required to provide employees with options to directly reduce mobile source emissions.

Large employer sites that select trip reduction strategies as the primary means to comply with Rule 2202 ERT are expected to achieve the below AVR targets, according to South Coast AQMD AVR Performance Zones.³⁷ Employment sites with a smaller proportion of employees that drive alone and a higher proportion that commute with non-drive alone modes, such as carpool, transit, walk, or bicycle would report greater AVR ratio values.

- Zone 1: 1.75 AVR (Central City area)
- Zone 2: 1.50 AVR (Majority of the City of Los Angeles)
- Zone 3: 1.30 AVR (San Gabriel Mountains area)

A map of South Coast AQMD AVR Performance Zones in the City of Los Angeles with an address lookup function to determine your project's Zone and your project's AVR standard, can be found <u>here</u>. Employment sites that select the commute trip reduction strategies option when complying with Rule 2202 are required to survey employees on their primary travel-to-work mobility option, or combination of options.

5.1.5 Transportation Management Organizations (TMOs)

Transportation Management Organizations (TMOs) can provide administrative support and monitoring of its members to ensure compliance with the TDM Program. Membership to a TMO may also satisfy a project's requirements to designate TDM Coordinator if the scope of their services includes documenting the project's compliance with the TDM program as addressed in Section 5.1.2 and 5.1.3 above. TMOs are organizations that provide up-to-date information and resources to help reduce dependence on drive alone trips and encourage sustainable transportation choices for all site users. Should a project subject to the TDM Program be a member of a TMO, the TMO would be responsible for site inspections of the TDM strategies and would be expected to provide monitoring reports to LADOT. LADOT will certify TMOs that are eligible to provide administrative support, monitoring, and enforcement of TDM for properties within the City of Los Angeles. The documentation requirements that inform TMO's eligibility are included in Appendix E: Transportation Management Organization Certification Guidelines.

5.1.6 Review Fees

The TDM Program requires City staff effort for monitoring projects for TDM Program compliance. All Projects would need to submit annual documentation demonstrating compliance with this requirement. A review fee must be submitted to LADOT with the TDM Plan Compliance Documentation for Level 1 and 2 Projects annually. In addition to the TDM Plan Compliance Documentation, Project Level 3 projects are also required to submit annual TDM Monitoring Reports. City staff may conduct randomized inspections to verify compliance with the TDM Program. Therefore, for Level 3 projects, a review fee must be submitted to LADOT with the project's annual TDM Plan Compliance Documentation and Monitoring Report. The City may discount annual review fees for members of a certified TMO since City review efforts may be reduced due to TMO involvement. Fees are referenced in Los Angeles Municipal Code (LAMC) Section 19.15 and may periodically be updated.

5.2 Non-Compliance

Projects that are not implementing their selected TDM strategies and/or following the outlined monitoring and reporting requirements will be found to be in non-compliance. In addition to civil penalties described below, the City shall withhold issuance of building, grading, demolition, foundation, use of land, and change of use permits, and issuance of Certificates of Occupancy, for any properties that fail to comply with the TDM Program.

5.3 Penalties

Projects that are deemed to be non-compliant with the TDM Program will be subject to penalties beyond the enforcement mechanisms outlined above. An applicant that is non-compliant with the TDM Program is in violation

³⁷ South Coast AQMD Rule 2202, Employee Commute Reduction Program (ECRP) Guidelines

of the LAMC and, therefore, subject to a maximum civil penalties and/or administrative fines for each and every offense (LAMC Section 11.00, Section 11.2.04 (b), and Section 12.26 J.7). Any person failing to comply with the mandatory requirements of the TDM Program shall be subject to an infraction charged by the City Attorney. Additionally, no building, grading, demolition, foundation, use of land or change of use permit, or a Certificate of Occupancy, shall be issued for any eligible Project that has not complied with the TDM Program requirements in the TDM Ordinance (LAMC 12.26 J). All collected penalties will be used for the City's administrative costs related to the TDM Program and/or on City-funded VMT-reduction strategies.³⁸

³⁸ Detailed penalty information can be found in LAMC 12.26 J (TDM Ordinance).

Chapter 6: TDM Program Updates

6.1 Program Evaluation and Amendments

During the development of this program, staff and the research team analyzed best practices from around the nation, reviewed research to determine the relative level of effectiveness of each strategy to reduce drive alone trips or VMT, and assigned point values for the relative effectiveness of each strategy as demonstrated through the research. In order to maintain a modern and effective program, strategies, processes, and standards will be reviewed annually by staff. These reviews will include the evaluation of monitoring reports from projects to assess the relative effectiveness of TDM strategies. LADOT staff will also continue to stay abreast of new research and best practices locally, nationally, and internationally in order to update and improve the TDM program over time.

6.1.1 TDM Strategies

This type of evaluation can provide a wealth of information on the effectiveness of various TDM strategies. Based on this analysis, strategies may be added or removed based on new research and/or information provided in the project monitoring reports for projects subject to the City's TDM program. If the list of qualified strategies is amended, projects may continue to operate the agreed upon strategies at the time the project was approved, or they may revise their list of selected strategies when submitting their TDM Documentation with strategies worth an equivalent or greater number of points.

Future TDM Strategies

The TDM strategies list in Chapter 4 is intended to evolve over time and adjust to meet Program goals. There are some strategies LADOT would like to include as part of the TDM Program that currently do not have the infrastructure or sound methodology for evaluation established. As the implementation of these strategies becomes more feasible, the following TDM strategies could be included in the TDM Program.

Future TDM Strategy	Description	Challenges
Mobility Hubs	Continue to support the Mobility Hub program by contributing a physical location or programmatic services.	Mobility Hub program under development.
Healthy Food Retail	Locating a certified healthy food retail on the project site.	No healthy food retail certification program is established at this time.
Cargo Bike Shared Fleet	Provide a fleet of shared cargo bikes and/or electric cargo bikes to support a greater variety of non-motorized trip purposes like retail, food pick-up, goods delivery. recreation, equipment, or transporting children and pets.	No current programs in place to demonstrate effectiveness.
VMT Exchange or VMT Mitigation Bank	Contribute to a VMT Exchange and/or VMT Mitigation Bank program to support off-site TDM	Additional technical evaluation and governing structure needs to be established to administer a VMT

Table 19: Future TDM Strategies

	strategies or mobility investments that reduce neighborhood or regional level VMT and vehicle trips.	Exchange and/or VMT Mitigation Bank.
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New TDM strategies implemented through this program either through LADOT or user-defined strategies may also be considered as mitigation measures under CEQA and in compliance with SB 743. These strategies would be reflected in the updates to the City of Los Angeles VMT Calculator maintained by LADOT.

6.1.2 Future Amendments

Projects that are past the approval stage will not be subject to Program Guidelines amendments and updates. Any updates to the Program Guidelines, forms, or reference materials will be published on the LADOT website.

Appendix A: Glossary of Common Terms

Affordable Housing: A residential project that includes a certain percentage of affordable dwelling units. An affordable dwelling unit is a dwelling unit which is restricted by a covenant certified by the City of Los Angeles Housing and Community Investment Department or its successor agency to be rented or sold at an affordable level to, and occupied by, persons or families whose annual income does not exceed 120 percent of the Area Median Income for persons or families residing in Los Angeles County. The Area Median Income and affordable housing costs shall be established from periodic publications of the United States Department of Housing and Urban Development, as determined by the California Department of Housing and Community Development or its successor or assignee.

Average Vehicle Ridership (AVR): The total number of employees (including those telecommuting) reporting to work during a work day over a five-day period (Monday through Friday), divided by the number of vehicles driven by these employees between home and the work site over that five-day period.

Disadvantaged Area: Reference LADOT's Equity-Focus Mobility Development Districts as defined and mapped per <u>Council File (CF) 17-1125</u>.

Employee Transportation Coordinator (ETC): ETCs play a leading role in delivering commuter benefits to the members of a company or organization's workforce. They also develop, implement, and update commuter programs and policies, and serve as internal and external "point people". They may also serve as the project's TDM Coordinator.

Generalized Citywide Parking Baseline: The parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code for each applicable use not taking into consideration other parking incentives that would apply, or local development regulations as required in a Specific Plan.

Greenhouse Gasses (GHG): A gas that contributes to the greenhouse effect by absorbing infrared radiation, e.g., carbon dioxide and chlorofluorocarbons.

High Injury Network (HIN): The High Injury Network (HIN) is the network of streets with the highest concentration of severe injuries and deaths, with an emphasis on those involving people walking and bicycling.

High Occupancy Vehicle (HOV) Parking: Designated parking spaces for carpool or vanpool vehicles.

Hotel: Any public or private floor space or structure, including but not limited to, any inn, hostelry, tourist home, motel, lodging house or motel rooming house offering space for sleeping or overnight accommodations in exchange for rent and for a period of less than 30 days. Hotel includes the parking lot and other common areas of the hotel. Hotel does not include living accommodations provided at any governmental or nonprofit institution in connection with the functions of that institution (L.A.M.C. 41.49).

Institute of Transportation Engineers (ITE): The Institute of Transportation Engineers (ITE) is an international educational and scientific association of transportation professionals who are responsible for meeting mobility and safety needs.

Microtransit: Unlike a standard bus, microtransit is used for short trips under approximately 20 minutes in duration in a defined service zone. The service will accept real-time requests for pick-ups and drops-offs to generate the most efficient possible shared trips for customers.

Mixed Use: Projects that have a mix of land use where no more than 85% of the total floor area is a single land use.

Parking Requirement / Code Parking Requirement: The base number of parking spaces required by the L.A.M.C. or as defined by a Specific Plan, prior to accounting for any potential parking reductions, such as through the Density

Bonus program, the Transit-Oriented Communities (TOC) program, bicycle parking ordinance, and/or area-specific parking reductions.

Base Point Target: Base Point Targets are assigned based on a project's TDM Project Level, which relates to project size and land use. Smaller projects may not be able to implement as many TDM strategies as larger projects and therefore have lower base Point Targets.

Point Target: Total number of points a project must meet by selecting qualified TDM strategies from a menu of options. Furthermore, projects that provide parking above the default amount required by the code will have their Point Target increase, specifically, for every 10% of additional spaces provided above the parking requirement, a project's Point Target increases by 2 points, up to a maximum of 10 additional points per project or a total of 35 points, whichever is lower.

Residential Unit: Dwelling unit or joint living and work quarters; a mobile home, as defined in California Health and Safety Code Section 18008; a mobile home lot in a mobile home park, as defined in California Health and Safety Code Section 18214; or a Guest Room or Efficiency Dwelling Unit in a Residential Hotel.³⁹

Responsible Reporting Entity: Individuals or organizations that are responsible for the long term conformance of the TDM Program including, but not limited to project applicants or property owners, property managers, tenants.

Shared Micro-Mobility: A fleet of human or electric powered lightweight vehicles, such as electric scooters, bicycles, or electric bicycles that may be borrowed as part of a self-service rental program in which people rent vehicles for short-term use, typically through a mobile application.

Single Occupancy Vehicle (SOV): A personal car that is transporting one person, the driver. Also known as a drive alone trip.

Sustainable Travel Options (Non-drive alone): modes of transportation that discourage drive alone trips.

Transportation Assessment Guidelines (TAG): LADOT guidelines that provide direction on how to analyze transportation impacts using vehicle miles traveled (VMT) and conduct local operational analyses to evaluate how projects affect the access, circulation, and safety of all users of the transportation system.

Transportation Demand Management (TDM): The aim of TDM is to improve mobility options by improving accessibility and reducing reliance on drive alone trips. Holistic implementation of TDM strategies can alter travel behavior in the long run and produce positive benefits to communities, such as improvement in transportation happiness, air quality, health, and quality of life.

Transportation Demand Management (TDM) Coordinator: A TDM Coordinator coordinates with the City and the property owner and/or property manager to demonstrate the project's compliance with the approved TDM Plan.

Transportation Management Organization (TMO): TMOs are formal membership organizations of employers, property owners, residents, and other stakeholders that allow for the pooling of resources to offer more transportation options for its members. TMOs typically implement marketing and engagement activities to promote sustainable transportation options, and to encourage an increase in the use of transit, carpooling, vanpooling, bicycling, walking and scooting within a defined area. TMOs offer monitoring assistance and may vary widely in size, organization, membership, and services offered.

Transportation Network Company (TNC): Transportation Network Companies (TNCs), or driver-for-hire companies, provide on-demand transportation services using an app-enabled platform (such as smartphone apps) that connect drivers using their personal vehicles with passengers, in exchange for compensation.

³⁹ https://planning.lacity.org/policyinitiatives/Housing/DB_Ord.pdf

Transit Oriented Communities (TOC) Program: City of Los Angeles TOC Affordable Housing Incentive Program developed pursuant to voter approved Measure JJJ. TOC Guidelines are available on the Department of City Planning website (L.A.M.C. 12.22 A.31).

Vehicle Miles Traveled (VMT): VMT is a calculation of the amount of driving generated from a project site measured in total distance (miles), per capita and per employee, or per service population.

Appendix B: Findings from Planning Studies and Literature

This appendix summarizes key findings and statistics from relevant planning case studies and empirical research. These findings demonstrate the effectiveness of qualified TDM strategies at reducing vehicle miles traveled and achieving other desired outcomes outlined in the Transportation Demand Management Program Guidelines. This appendix describes and cites the technical research used to develop the TDM Program, drawing from sources including in the Appendix of "Modernizing Mitigation: A Demand Centered Approach" published by the University of Wisconsin State Smart Transportation Initiative (SSTI).⁴⁰

TDM Strategies Research Findings Summary



Affordable Housing

The TDM program awards points to residential projects that provide on-site restricted affordable units, based on income categories defined in the City of Los Angeles Transit Oriented Communities (TOC) Program or California's Density Bonus Law

Not only is the construction and preservation of affordable housing an important goal of the City of Los Angeles, but affordable housing also generates fewer trips and VMT than comparable market-rate housing. Empirical research demonstrates that lower income households drive less and rely on transit more than higher income households. Households with incomes at or below 80 percent of the regional median income generally make fewer trips by automobile than households with higher incomes, resulting in reduced drive alone trips, and greater reliance on transit, biking, and walking. Transform and the California Housing Partnership Corporation estimate that extremely-low-income housing within a quarter mile of transit generates 37 percent fewer VMT than moderate-income housing; very-low-income housing generates 29 percent fewer VMT; and low-income housing generates 20 percent fewer VMT.⁴¹ However, CAPCOA calculates a 0.04 - 1.2 percent VMT reduction from affordable housing.⁴² A recent survey of affordable housing in Los Angeles for LADOT supports high VMT reducing estimates; the average number of daily trips generated by 42 affordable housing developments of various types was about one third of the standard ITE apartment trip daily trip rate. All but one subcategory of surveyed affordable housing types and time periods were also lower.⁴³ Likewise, the Center for Neighborhood Technology

⁴⁰ State Smart Transportation Initiative (SSTI), "Modernizing Mitigation: A Demand Centered Approach," September 2018, Appendix, <u>https://ssti.us/modernizing-mitigation/</u>.

⁴¹ City and County of San Francisco, "Transportation Demand Management: Technical Justification," June 2016, last updated January 22, 2018,

http://default.sfplanning.org/transportation/tdm/TDM_Technical_Justification_update2018.pdf, 26.

⁴² CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 176.

⁴³ Tom Gaul and Cary Bearn, "Infill and Complete Streets Study: Task 2.1A: Local Affordable Housing Trip Generation Study," 3, 6.

found that California low-Income households drive 10 percent less than average, very-low-Income households drive 25 percent less, and extremely-low-income households drive 33 percent less (55 percent less in transit-rich areas).⁴⁴

The table in Appendix C describes the Affordable Housing TDM strategies, their respective TDM points and which land uses are most compatible with each TDM strategy. Only one Affordable Housing TDM strategy can be applied per project.

In each TDM strategy, a Housing Development shall provide on-site Restricted Affordable Units⁴⁵ at a rate of at least the minimum percentages described in Appendix C. The number of on-site Restricted Affordable Units shall be calculated based upon the total number of units in the final project.

The strategy descriptions in Appendix C should be calculated in the same manner as the City of Los Angeles Transit Oriented Communities Program or California's Density Bonus Law—i.e., manager's unit(s) and additional units permitted under such programs are excluded. Projects that qualify for this TDM strategy also are classified in Project Level 1 (unless other land uses on-site fall into a higher project level).

Demonstrated VMT reduction: 0.04% - 37%



Bicycle Facilities

Projects located near an existing bicycle facility or that provide a bicycle facility near a project site can reduce drive alone trips and reduce VMT. The effects of these facilities are especially impactful when multiple bicycle facilities or services are implemented cohesively. Therefore, points are awarded for individual strategies and bonus points are awarded for implementing multiple bicycle-related strategies. The following sections detail the research justifications for each strategy related to bicycle facilities.

Bike Share Programs

Bike share is a newer VMT reduction strategy in the U.S.; thus, limited studies have examined bike share's effects on VMT. Fehr and Peers reported a 0.2 percent VMT reduction when projects located within 1,000 feet of a bike share station and a 1.1 percent VMT reduction when projects provide residents or employees bike share memberships.⁴⁶ CAPCOA notes that "bike sharing programs have minimal impacts when implemented alone. This strategy's effectiveness is heavily dependent on the location and context" and should be coupled with other

⁴⁴ Gregory L. Newmark and Peter M. Haas," Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy,"

http://www.cnt.org/sites/default/files/publications/CNT%20Working%20Paper%20revised%202015-12-18.pdf. ⁴⁵ For the purposes of this section, affordable means that rents or housing costs to the occupying residents do not exceed 30 percent of the maximum gross income of Extremely Low, Very Low or Low Income households, as those income ranges are defined by the United States Department of Housing and Urban Development (HUD) or any successor agency, as verified by the Los Angeles Housing and Community Investment Department (HCIDLA). Projects shall record a covenant acceptable to HCIDLA that reserves and maintains the total number of Dwelling Units as restricted affordable for at least 55 years from the issuance of the Certificate of Occupancy.

⁴⁶ San Francisco, "TDM Technical Justification," 26.

complementary bicycle TDM strategies, particularly infrastructure.⁴⁷ Results from other cities show bike share's effectiveness. In Minneapolis, 23 percent of bike share trips replaced driving; in Denver, 43 percent of trips replaced driving;⁴⁸ and in D.C., bike share reduced 198 VMT per person per year.⁴⁹

Bicycle Parking

Existing research finds that bicycle parking is an effective, small-scale measure that depends on other coordinated bicycle strategies to impact VMT reduction. According to CAPCOA, bicycle parking reduces VMT by 0.63 percent in non-residential locations. However, the analysis notes that bike parking should be grouped with other bicycle infrastructure for the greatest impact.⁵⁰ Meanwhile, the TDM program of the City and County of San Francisco awards points to bike parking equivalent to up to a four percent reduction in VMT, depending on surrounding land uses.⁵¹ A California Air Resource Board literature review finds a correlation between bicycle parking and bicycle use: a 1 percent increase in perceived bicycle parking availability leads to a 0.83 percent increase in the likelihood of biking.⁵² In Chicago, a study of bike-and-rides at nine commuter rail stations found that bicycle parking increased bicycle use and reduced approximately 1,740 VMT per day.⁵³

Showers, Lockers, and Other On-site Bike Facilities

Showers, lockers, and other on-site bicycle facilities have been shown to be an effective element to a project site implementing a package of bicycle strategies. Alone, however, these facilities reduce VMT by less than one percent. ⁵⁴

Demonstrated VMT reduction:

- 1.1% (bike share memberships)
- 0.2% (within 1,000 feet of a bike share station)
- 0.625% 4% (bicycle parking)
- 0.625% (showers, lockers and other on-site facilities)

Factors affecting benefits:

• Benefits depend on implementation with other coordinated bicycle strategies.

⁴⁷ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 256.

⁴⁸ SSTI "Modernizing Mitigation: A Demand Centered Approach" 40.

⁴⁹ Kristine Johnson, "Beyond Urban Planning: The Economics of Capital Bikeshare," Georgetown Public Policy Review, Apr. 7, 2014,

http://gppreview.com/2014/04/07/beyond-urban-planning-the-economics-of-capital-bikeshare/.

⁵⁰ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 202.

⁵¹ San Francisco, "TDM Technical Justification," 25-6.

⁵² Susan Handy, Gil Tal, and Marlon G. Boarnet, "Impacts of Bicycling Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions," Sept. 30, 2014,

https://www.arb.ca.gov/cc/sb375/policies/bicycling/bicycling_brief.pdf, 5.

⁵³ Richard H. Pratt, John E. Evans IV, Herbert S. Levinson, Shawn M. Turner, Chawn Yaw Jeng, and Daniel Nabors,

[&]quot;Pedestrian and Bicycle Facilities," Chapter 16 in Traveler Response to Transportation System Changes, 3rd Edition (Washington: Transportation Research Board, 2012), 16-388.

⁵⁴ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 235.



Car Sharing

Access to car sharing has proven to reduce auto use—modestly in the short term but more so over the longer term commensurate with the reliability of the car share program and availability of vehicles. Car share refers to a shared fleet of cars available on a specific project site to all building users, residents or employees. Typically car trips are round trip, where a car is checked out from a specific location and returned to that location at the conclusion of a user's trip.

Research suggests that one car share parking space and vehicle should be made available for every 50-200 units of a building⁵⁵ and a minimum of two car share parking spaces and vehicles for 201 units or more. Number of car share spaces and vehicles should be adjusted based on usage.⁵⁶ Car-share programs can reduce VMT and enable the benefits of auto travel without the burden of car ownership. CAPCOA calculates a 0.4 - 0.7 percent VMT reduction for providing car share.⁵⁷ In the short term, Oregon's Department of Transportation found a short-term 0.05 - 0.2 percent VMT reduction, with a possible increase to 1.7% with increased funding and implementation.⁵⁸ An Urban Land Institute study found a 0.33 percent reduction from shared cars in urban areas.⁵⁹ Meanwhile, a study in San Francisco demonstrated that providing residents or employees with car-share memberships could reduce VMT by 4.1 percent, and creating on-site car-share parking could lower VMT by 0.5 percent.⁶⁰ Among car-share members alone, VMT reductions are greater: 38 percent over two years and 67 percent over four, with preferred parking. Each member reduces their daily travel by seven VMT on average.⁶¹ Finally, two studies found that each car-share vehicle takes 7 - 11 autos or 9 - 13 autos off the road, respectively,⁶² though the studies may not be generalizable beyond car-share service areas.⁶³ Peer-to-peer car sharing, however, has not proven to reduce VMT and therefore does not qualify to receive points through this program.

Demonstrated VMT reduction:

- 0.05% 4.1% (car-share memberships)
- 0.5% (car-share spaces)

55

⁵⁶ http://www.ccdcboise.com/wp-content/uploads/2016/02/Document-D3-City-Carshare-Best-Practices.pdf

⁵⁸ "Carsharing," Oregon Department of Transportation Greenhouse Gas Emissions Reduction Toolkit,

⁶⁰ San Francisco, "TDM Technical Justification," 27.

⁶² Susan Shaheen and Elliot Martin, "The Impacts of Car2go on Vehicle Ownership, Modal Shift, Vehicle Miles Traveled, and Greenhouse Gas Emissions: An Analysis of Five North American Cities," Jul. 2016,

https://www-static.bouldercolorado.gov/docs/Boulder_Car_Share_Sept. 2015_DRAFT_Carshare_Policy_Review_a nd_Recommendations-1-201509181402.pdf pg. 12

⁵⁷ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 245.

https://www.oregon.gov/ODOT/Planning/Documents/Mosaic-Carsharing-Programs.pdf, 3.

⁵⁹ Cambridge Systematics, Inc., Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions, Jul. 2009,

http://www.reconnectingamerica.org/assets/Uploads/2009 moving coolerex ecsum and append.pdf, B-52.

⁶¹ Robert Cervero, Aaron Golub, and Brenda Nee, "San Francisco City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts," 2006, 25, 38.

http://innovativemobility.org/wp-content/uploads/2016/07/Impactsofcar2go_FiveCities_2016.pdf, 4 and Elliot Martin and Susan Shaheen, "The Impact of Carsharing on Household Vehicle Ownership," ACCESS 38 (Spring 2011): 27, http://sfpark.org/wp-content/uploads/carshare/access38 carsharing ownership.pdf.

⁶³ Robert Poole, "The Impact of Car-sharing on Vehicle Ownership," Reason Foundation,

https://reason.org/transportation-news/surface-transportation-news-155/#e.

Factors affecting benefits:

• Benefits may depend on a project site locating within or near a car-share service zone.



On-site child care at a workplace or residential development can reduce VMT and make daily travel patterns more convenient and efficient for those responsible for caring for a child. By eliminating the need for a separate or farther trip to childcare, on-site childcare options reduce miles traveled. To date, the VMT impact of on-site childcare has not yet been quantified by academic studies. However, the American Planning Association (APA) has stressed the importance of providing adequate child care and locating these facilities near work or home. The APA argues that well-placed child-care facilities can shorten auto trips or shift travel from driving to other modes. San Francisco's TDM program grants points to on-site child care programs where this strategy is selected via the TDM ordinance.

While limited research is available documenting the VMT-mitigating effects of on-site child care, eliminating the need for a separate or longer distance trip to childcare by a parent or caretaker could reduce trips and total driving. A well-placed child care facility closer to home or work can shorten auto trips or shift travel from driving alone to other modes of transportation. Qualifying child care facilities must be licensed under the Child Care Licensing Program through the California Department of Social Services.⁶⁵

Demonstrated VMT reduction:

• VMT benefits are not yet quantified in substantial literature.



High-Occupancy Vehicles

High-occupancy vehicle (HOV) incentives, also referred to as Commute Trip Reduction strategies are well-studied and remain integral parts of many TDM Programs. HOV strategies include a variety of strategies that replace drive alone trips for a trip with multiple riders in one vehicle. These strategies utilize one vehicle as a resource to many, whether it is sharing a personal vehicle with others in a carpool, or coordinating a program similar to a school bus program geared toward coordinating children attending the same school to reduce the number of overall trips for all students and their families. The effectiveness in reducing VMT varies based on the land use context as well as program efficiency and/or convenience of use. The following sections detail the research behind the TDM program's High-Occupancy Vehicles strategies.

⁶⁴ San Francisco, "TDM Technical Justification," 28.

⁶⁵ Child Care Licensing Program, California Department of Social Services. <u>http://www.cdss.ca.gov/inforesources/Child-Care-Licensing/How-to-Become-Licensed</u>.

Ride-matching, Carpool Programs, and HOV Parking

High-occupancy vehicle (HOV) programs like ride-matching, carpool, and vanpool programs have substantive yet varied effects on VMT. According to CAPCOA, ride-matching programs like coordinating carpools and reserving parking spaces for HOVs could provide a 1 - 15 percent reduction in VMT, depending on the land-use context.⁶⁶ At a larger scale, a regional carpool-matching program in Portland, Oregon reduced VMT by 0.07 - 0.1 percent.⁶⁷ Reserved spaces for high-occupancy vehicles also can reduce VMT, but its VMT benefits are not yet quantified in substantial literature.68

Guaranteed Return Trip

Guaranteed return trip programs—also called guaranteed ride home programs—are effective as part of suites of employee commute TDM packages. The individual VMT impact of guaranteed return trip programs have not yet been quantified. However, a New York study found that 16 percent of express bus riders sampled would stop riding without a guaranteed return trip program, and a Denver study concluded that guaranteed return trip raises carpool rates by 17 percent.⁶⁹ An Alameda County, California guaranteed return trip program with 2,179 enrollees reduced 16,404 VMT per workday.⁷⁰

HOV Program

Establishing school carpool programs for getting students to and from school can be a quite effective strategy at reducing school VMT. CAPCOA calculates that school carpool programs could reduce VMT by 7.2 - 15.8 percent, depending on the degree of implementation and aggressiveness of securing participation.⁷¹Similar findings could be found for non-school uses, though limited research has been conducted on residential and employment sites.

Trip-Reduction Programs

Required trip-reduction programs combine a number of other proven strategies, particularly high-occupancy vehicle strategies, to reduce VMT. CAPCOA calculates that such programs reduce VMT by 4.2 - 21.0 percent.⁷²

Demonstrated VMT Reduction

- 1% 15% (ride-matching, carpool programs, and HOV parking)
- 7.2% 15.8% (school carpool program)
- 4.2% 21.0% (required trip-reduction program)

Factors affecting benefits:

- Benefits may depend on density and land-use context.
- Benefits vary by degree of implementation. •

⁶⁶ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 227-8.

⁶⁷ Oregon Department of Transportation, "Ridesharing," 2, accessed February 27, 2017 http://www.oregonmosaic.org/files/30.pdf

⁶⁸ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 244.

⁶⁹ William B. Menczer, "Guaranteed Ride Home Programs: A Study of Program Characteristics, Utilization, and Cost," Journal of Public Transportation 10, no. 4 (2007): 143, https://nctr.usf.edu/jpt/pdf/JPT%2010-4%20Menczer.pdf. ⁷⁰ Alameda County Transportation Commission, "Guaranteed Ride Home Program Evaluation: Final Report," 2014, http://grh.alamedactc.org/wp-content/uploads/2015/08/Eval FINAL web.pdf, 1-2, 5-1.

⁷¹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 250.

⁷² CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 223.



Providing transportation information for users of a project site can help to improve awareness of available mobility options and reduce VMT. There is strong evidence that outreach and education have significant effects on travel behavior by providing project site users the information needed to make transportation choices based on their needs. Research on real-time transit information, education and marketing, and wayfinding have found moderate reductions of auto use. The following sections summarize the research on different information-based TDM strategies.

Real-time Transit Information Displays

Real-time transit information displays provide residents, employees, and customers with valuable information and certainty on their transit trip. Real time information also helps people make informed choices on whether to wait or use another mode - like bike share or walking - that can make the entirety of the trip more efficient. The VMT effects of displays have not yet been quantified, but a number of studies have found that transit riders perceive waiting and transfers as far longer than in-vehicle time. These studies found that time spent waiting feels three times longer than normal, on average, and up to 4.5 times longer at worst, depending on characteristics of the wait. Transit displays, however, bring down that perception of wait time to only 1.5 times longer than normal.⁷³ One study in Seattle found that real-time transit displays reduced perceived wait time by 13 percent and actual wait time by two minutes. Another study from Chicago saw a two percent increase in transit ridership after displays were added.⁷⁴

Wayfinding

Wayfinding literally points the way towards alternative transportation options. As with some other strategies, though, the independent VMT effects of wayfinding has not yet been studied and is likely small. San Francisco's TDM program grants points to providing wayfinding on-site equivalent to about a one percent reduction in VMT.⁷⁵

Education, Marketing, and Outreach

Education, marketing, and outreach at various levels can have a measurable, though often small, impact on reducing VMT. CAPCOA calculates a 0.8 - 4.0 percent reduction in VMT, depending on the percentage of employees eligible.⁷⁶ On the higher end, individual studies have found much greater reductions. A Portland, Oregon outreach and education program recorded a 9 - 13 percent reduction in solo driving trips among surveyed residents in the

 ⁷³ Brian D. Taylor, Hiroyuki Iseki, Michael Smart, Allison Yoh, "Thinking outside the Bus," ACCESS 40 (Spring 2012):
 11, 14, <u>https://www.accessmagazine.org/wp-content/uploads/sites/7/2016/01/access40_outsidethebus.pdf</u>.

⁷⁴ SSTI "Modernizing Mitigation: A Demand Centered Approach" 43.

⁷⁵ San Francisco, "TDM Technical Justification," 29.

⁷⁶ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 240-1.

program area⁷⁷ and a 10.4 percent reduction in solo driving trips among new residents.⁷⁸ A comprehensive marketing, education, and outreach program in Arlington, Virginia reduced VMT by 39 percent,⁷⁹ and a Seattle best-practices report calculates a 21 percent increase in transit ridership due to education, marketing, and outreach.⁸⁰

Voluntary Travel Behavior-Change Programs and School Safety Campaigns

Similar to required trip-reduction programs, voluntary travel behavior-change programs incorporate a range of other proven strategies to reduce VMT, on a voluntary basis. CAPCOA estimates that such programs reduce VMT by 1.0 - 6.2 percent.⁸¹ Similarly, school safety campaigns are the equivalent programs to voluntary travel behavior-change programs as they educate staff, students and families of alternative modes of transportation to travel to school other than a vehicle trip. These campaigns are key features in the Safe Routes to School programs.

Demonstrated VMT reduction:

- 0.8% 4.0 % for percentage of employees eligible (education, marketing and outreach)
- 39% where there is active participation in a regional TDM program
- 1.0% 6.2% (voluntary travel behavior-change program)



Research has shown that mixed-use developments reduce automobile trips by internally capturing some trips that would otherwise be made by automobile. Live-work, live-shop and shop-work arrangements can replace an additional long-distance driving trip with a shorter walking trip. These developments may also change the travel behavior of those living nearby, and not solely the residents of the new building.

Mixed-use development (projects that provide no more than 85% of floor area for a single land use) concentrates land uses of different types in close proximity to one another or on the same project site, minimizing the need for and distance of vehicle trips. Also known as diversity of land uses, this measure reduces VMT by approximately 9 - 30 percent, according to CAPCOA.⁸² These reductions can be significant, though often ill-captured by standard

- ⁷⁸ Jay Kassirer, "Portland's Smart Trips Welcome Program," *Tools of Change*, 2018, <u>http://www.toolsofchange.com/en/case-studies/detail/658</u>.
- ⁷⁹ Arlington County Government, "Reduction in SOV Trips," *Arlington, Virginia*, 2018, <u>https://transportation.arlingtonva.us/kev-performance-measures/mobility/reduction/</u>.

⁷⁷ Linda Ginenthal, "Portland Smart Trips," *Pedestrians and Bicycle Information Center*, Oct. 27, 2007, <u>http://www.pedbikeinfo.org/data/library/details.cfm?id=3961</u>.

⁸⁰ Seattle Department of Transportation, "Best Practices in Transportation Demand Management" (Seattle, WA, January 2008), 7C–2-3,

https://www.ctc-n.org/files/resources/07_seattle_best_practices_in_transportation_demand_management.pdf ⁸¹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 218.

⁸² CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 162.

trip-generation models. The Environmental Protection Agency (EPA) has developed a tool to estimate the unique impacts of mixed-use development on trip generation.⁸³

Demonstrated VMT reduction:

• 9% - 30%



Mobility Investment

TDM strategies in the Mobility Investment improve neighborhood accessibility by funding physical improvements that encourage walking and bicycling to nearby destinations or off-set costs to operate publically available mobility services. Such destinations may include local retail, transit stations, neighborhood services and institutions (including groceries and schools). Enhancements to the accessibility of pedestrian and bicycle facilities have demonstrated influence over incremental shifts in travel behavior. Unlike other TDM strategies which target building occupants, off-site mobility investments are typically implemented in the public right-of-way and provide benefits beyond a project site. Their greater relative point value reflects the potential to affect transportation behavior change for users over a greater neighborhood area.

Empirical research suggests that mobility investments that improve accessibility for people who bike and walk, specifically those that improve connectivity and user comfort, have powerful vehicle-trip reduction outcomes over time due to a multiplier effect. CAPCOA reports that improving the connectivity of pedestrian facilities may increase the proportion of all trips completed by walking by about 2 percent.⁸⁴ Additionally, the Oregon Sustainable Transportation Initiative reports that neighborhoods with complete pedestrian networks experience at least a 2 percent reduction in area VMT.⁸⁵

TDM credit for mobility investment strategies are conditional on LADOT review, which may impact the timeline of the review process and TDM Program compliance. Projects required by the L.A.M.C. or the LADOT Transportation Assessment Guidelines (TAG) to implement any of the following strategies that improve site access by people that walk, bike and take transit will also receive credit in the TDM Program.

Demonstrated VMT reduction:

- 3.0% 21.3% (improve pedestrian and overall design)
- 0.5% 24.6% (improve bicycle and pedestrian access to transit)
- 0.5% 2% (create pedestrian network improvements)
- 0.25% 1.00% (create traffic calming strategies)
- 0.625% (locate near bicycle lane)

⁸³ United States Environmental Protection Agency, "Mixed-use Trip Generation Model," United States

Environmental Protection Agency, https://www.epa.gov/smartgrowth/mixed-use-trip-generation-model. ⁸⁴ California Air Pollution Control Officers Association et al., "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures," Aug. 2010, http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf, 171, 181-2, 186-90, 200, 206, 275.

⁸⁵ Oregon Sustainable Transportation Initiative, "Oregon Greenhouse Gas Reduction Toolkit: Strategy Report: Pedestrian Environment," https://www.oregon.gov/ODOT/Planning/Documents/SR-Pedestrian-Environment.pdf, 1.

Factors affecting benefits:

- Benefits depend on how strategies are interrelated and complement one another.
- Benefits increase when located on pedestrian and bicycle networks.
- Benefits vary by density and land-use context.



There is strong evidence that parking management techniques directly impact transportation behavior choices and mitigate vehicle and parking demand. Currently, the price of parking is often invisible as it is lumped into other costs and passed onto building occupants and consumers. Disentangling the cost of parking from other costs, by pricing parking or unbundling its costs from rent, can create more equitable solutions for low-income residents who may own fewer or no automobiles. Parking cash out (for employment uses) is especially effective in reducing drive alone trips to employment centers. It is anticipated that over time, parking TDM strategies will increase the efficient utilization of parking supply and accessibility. The following sections discuss the research underlying each parking-related strategy in the TDM program.

Pricing Parking

Charging for parking reduces VMT and can be applied in a variety of ways as outlined below. Donald Shoup's *The High Cost of Free Parking* describes the positive effects on vehicle travel by pricing parking, especially in high-turnover areas near businesses.⁸⁶ One study of Hartford, Connecticut found that workplaces with free parking had 83 - 95 percent of workers drive alone to work, while a workplace that charged for parking reduced that share to 71 percent.⁸⁷ Another report found that priced parking, as part of a broader workplace TDM program, can reduce driving alone by 12 to 40 percent.⁸⁸

CAPCOA calculates that pricing off-street, workplace parking can reduce VMT by 0.1 - 19.7 percent.⁸⁹ A Transit Cooperative Research Program report finds pricing parking near high-quality-transit areas reduces VMT by 36 percent; however, pricing parking near low-quality-transit areas only reduces VMT by 10 percent.⁹⁰ A study for the Washington State Department of Transportation found that an increase in price from about \$0.28 per hour to \$1.19 per hour reduced VMT by 11.5 percent.⁹¹ However, if street parking nearby were free and plentiful, drivers may

⁸⁶ Donald C. Shoup, *The High Cost of Free Parking*, updated edition (2011; London: Routledge, 2017).

⁸⁷ Christopher McCahill and Norman W. Garrick, "Losing Hartford: Transportation Policy and the Decline of an American City" (paper presented at the 18th Annual Meeting of the Congress for the New Urbanism, Atlanta, GA, 2010), <u>https://pdfs.semanticscholar.org/9b72/5244e6760aa5efba3b11c6ebafac4de23952.pdf</u>, 6-7.

⁸⁸ Thomas J. Higgins, "Demand Management in Suburban Settings: Effectiveness and Policy Considerations," *Transportation* 17 (1990): 101.

⁸⁹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 261.

⁹⁰ Erin Vaca and J. Richard Kuzmyak, "Parking Pricing and Fees," chapter 13 in *Traveler Response to Transportation System Changes Handbook*, 3rd Edition (Washington: Transportation Research Board, 2005), 13-6.

⁹¹ Lawrence D. Frank, Michael J. Greenwald, Sarah Kavage, and Andrew Devlin, "An Assessment of Urban Form and Pedestrian and Transit Improvements as an Integrated GHG Reduction Strategy" (WSDOT Research Report WA-RD

continue to drive at the same rates and just park for free nearby. Thus, the benefits of parking pricing depend to a large degree on the lack of on-street parking supply surrounding the site (for example, where public on-street parking outside the building is metered or restricted).⁹²

Unbundling Parking

Unbundled parking reduces VMT by separating parking costs from property or rent costs. CAPCOA identifies the range of VMT reduction from unbundling as 2.6 to 13 percent.⁹³ A San Francisco study suggests 4.5 percent maximum VMT reduction in urban areas. The benefits of unbundling depend, in large part, on the availability and price of nearby street parking. If street spaces are free and widely available, auto-owners may choose to save on rent, forgo an off-street space, and park for free on-street. Therefore, metered/priced parking or residential parking permit districts are necessary to ensure that unbundling effectively reduces car ownership and/or VMT.⁹⁴

Parking Cash-out

Parking cash-out is an effective strategy for reducing VMT. It also has a dual benefit of creating a more efficient utilization of existing parking facilities. CAPCOA estimates that parking cash-out reduces VMT by approximately 0.6 to 7.7 percent.⁹⁵ The City and County of San Francisco estimates about a one percent reduction for very dense, urban areas where little parking is free.⁹⁶ On the other hand, after California enacted its parking cash-out law, VMT fell 12 percent among surveyed employees,⁹⁷ and the share of employees driving alone fell from 76 to 63 percent. The state estimated that its cash-out law can reduce commuter VMT by 113 million to 226 million miles annually.⁹⁸

If adjacent street parking is free and widely available, the benefits of cash-out are minimized. Employees could receive parking cash-outs and select to park for free nearby. Therefore, where parking is demonstrated to be highly used, metered parking, priced parking, and/or residential parking permit districts may help ensure the effectiveness of the cash-out measure. In addition, if the employer leases their office floor space or parking, the benefits of cash-out can increase if the building landlord or manager unbundled parking from the employer's lease. In those cases, employers can save money by leasing fewer spaces when cash-out reduces demand for parking.⁹⁹

Shared Parking

Shared parking between multiple buildings or uses can reduce VMT.¹⁰⁰ Shared parking on a single lot or garage is reducing the parking supply for each building served, as compared to having individual parking lots or garages. On a mixed-use development site, shared parking can help to reduce the total number of parking to ensure efficient use of the spaces for multiple uses that may activate during different times of the day.

http://www.wsdot.wa.gov/research/reports/fullreports/765.1.pdf, 34.

^{765.1,} Research Project Y-10845, Olympia, WA, Apr. 1, 2011),

⁹² CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 261.

⁹³ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 210.

⁹⁴ San Francisco, "TDM Technical Justification," 31.

⁹⁵ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 266.

⁹⁶ San Francisco, "TDM Technical Justification," 32.

⁹⁷ Vaca and Kuzmyak, "Parking Pricing and Fees," 13-18, 13-39.

⁹⁸ Donald Shoup, "Here's an Easy Way to Fight L.A.'s Traffic and Boost Transit Ridership—Reward Commuters who Don't Drive," *Los Angeles Times*, Mar. 28, 2017,

http://www.latimes.com/opinion/livable-city/la-ol-shoup-dtla-parking-cash-out-20170328-story.html.

⁹⁹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 266.

¹⁰⁰ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 207.

Public Parking

Public parking, or providing on-site parking spaces to the public, reduces private parking supply for the building, while also providing a community benefit. Allowing public parking on-site allows the parking provided to be utilized more efficiently.

Reduced Parking Supply

Including fewer parking spaces in a project can be one of the most potent means of reducing VMT. Donald Shoup's *The High Cost of Free Parking* demonstrates the various positive effects on vehicle travel of rationalizing parking supply.¹⁰¹ A New York City study found that residents with reserved spaces commuted by automobile more than those without. Residents of an outer-borough neighborhood with more reserved parking were 45% more likely to drive to work in downtown Manhattan and 28% more likely to drive in general than a comparable outer-borough neighborhood with less parking.¹⁰² In another study, even in transit-oriented developments, parking availability affected driving patterns more than access to transit.¹⁰³ One paper looked at nine major cities over 50 years, observing that gradual parking supply increases led to large raises in the share of driving, especially for short, local trips.¹⁰⁴

CAPCOA estimates a 5.0 to 12.5 percent reduction in VMT from reduced on-site parking supply where the maximum effect is assumed to be bound by a maximum 50 percent reduction in the conventional parking supply.¹⁰⁵ The Parking Transportation Demand Management Ordinance in Cambridge, Massachusetts reduced driving alone to work by 5.3 to 5.7 percentage points by encouraging a reduction of parking supply.¹⁰⁶ A strategy report from the Oregon Greenhouse Gas Reduction Toolkit calculates a 5 - 12 percent drop in VMT from parking management strategies like smaller amounts of parking.¹⁰⁷ Finally, San Francisco's TDM program grants points to reduced parking supply equivalent to a 1 to 11 percent reduction in VMT, depending on the number of spaces.¹⁰⁸ The benefits of reduced parking supply may be influenced by the supply of metered parking, nearby priced parking, or residential parking permit districts instituted to prevent spillover parking impacts on adjacent streets.¹⁰⁹

Demonstrated VMT Reduction:

• 0.1% - 36% (pricing parking)

http://www.cambridgema.gov/CDD/factsandmaps/transportationdata/200610jtwtable.

¹⁰¹ Shoup, *High Cost of Free Parking*.

¹⁰² Rachel Weinberger, Mark Seaman, Carolyn Johnson, John Kaehny, "Guaranteed Parking—Guaranteed Driving: Comparing Jackson Heights, Queens and Park Slope, Brooklyn Shows that a Guaranteed Parking Spot at Home Leads to More Driving to Work," October 2008,

https://www.transalt.org/sites/default/files/news/reports/2008/Guaranteed_Parking.pdf, 1.

¹⁰³ Daniel G. Chatman, "Does TOD Need the T?: On the Importance of Factors Other Than Rail Access," *Journal of the American Planning Association* 79, no. 1 (Winter 2013): 17-31.

¹⁰⁴ Christopher McCahill and Norman Garrick, "Parking Supply and Urban Impacts," chapter 3 in *Parking: Issues and Policies*, ed. Stephen Ison and Corinne Mulley, Transport and Sustainability vol. 5 (Bingley : UK: Emerald, 2014), 33-55.

¹⁰⁵ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 207-208.

¹⁰⁶ Cliff Cook, "2006-2010 Cambridge Journey to Work," *City of Cambridge*, 2011,

¹⁰⁷ Oregon Sustainable Transportation Initiative, "Oregon Greenhouse Gas Reduction Toolkit: Strategy Report: Parking Management," *Oregon Department of Transportation*,

https://www.oregon.gov/ODOT/Planning/Documents/SR-Parking-Management.pdf, 1.

¹⁰⁸ San Francisco, "TDM Technical Justification," 32-3.

¹⁰⁹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 207.

- 2.6% 13% (unbundling parking)
- 0.6% 12% (parking cash out)
- 5% 12.5% (reduced parking supply, including shared parking or public parking by 50 percent)

Factors affecting benefits:

- Benefits largely depend on a constrained supply of parking surrounding the building, such as metered and/or restricted parking in the surrounding streets.
- Benefits vary by degree of implementation.
- Benefits may depend on transit availability.
- Benefits vary by density and land-use context.
- When the employer leases their workplace or their parking from a landlord, benefits increase if the landlord unbundles parking from the employer's lease.



Shared Micro-Mobility

Shared fleets of alternative mobility devices allow users a flexible option for traveling short distances, for a fee. These shared fleets can either feature dockless capabilities or be able to lock to a designated parking spot. All shared mobility technologies must be compliant with the City of Los Angeles rules, regulations, and policies regarding each specific technology type. Any technologies not compliant will not be considered for TDM points.

New shared mobility may have comparable effects on travel patterns as bike share programs in their ability to expand the reach of transit and improve access to destinations. However, these systems are often so recently begun that their VMT impact has not yet been formally studied. The Federal Highway Administration notes that these "innovative services" have the potential to reduce VMT and auto ownership.¹¹⁰

Demonstrated VMT reduction:

• VMT benefits are not yet quantified in substantial literature.



Research demonstrates benefits when employment sites provide telecommuting options to employees, allowing employees to work from home rather than commuting to the office, reducing work-related VMT.¹¹¹

The effectiveness of telecommuting to reduce VMT should be understood in context of broader regional planning goals to balance plentiful housing options near employers and other frequent destinations. Telecommuter

¹¹⁰ Federal Highway Administration, Office of Operations, "Shared Mobility: Current Practices and Guiding Principles: Chapter 2: Overview of Shared Mobility Services," Federal Highway Administration, Office of Operations, Feb. 1, 2017, https://ops.fhwa.dot.gov/publications/fhwahop16022/ch2.htm.

¹¹¹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 236.

programs are shown to reduce VMT for telecommuters on the days they work, and frequent telecommuters utilize more active transportation modes. However, a greater lack of housing near employers could lead to increased VMT over time if people do not live close to jobs or activity centers.¹¹² Many researchers are studying the effects of work from home policies on reducing driving as a result of the global pandemic. Additional data can help evaluate the effectiveness of this TDM strategy over time.

Demonstrated VMT reduction:

• 0.07 - 5.50% (commute VMT)



Research demonstrates strong benefits when projects provide first/last mile connections to high quality transit. This TDM program does not generally provide points for subsidizing use of TNCs except when utilized in conjunction with a sustainable one way trip option, such as guaranteed return trip and connecting to the nearest transit station. Microstransit, shuttles, taxis, and TNCs that can connect to nearby transit stations have been documented to increase confidence in transit and non-drive alone travel options by providing more choices. Improving transit speed and reliability influences decisions to use transit . To ensure the Improved Transit Service strategy will be effective, this strategy requires additional review time to determine eligibility, compatibility with existing services, and costs. The following sections discuss the research that informs the Transit Access TDM Strategies.

Operate or Subsidize Microtransit, Shuttles, TNCs, or Taxi Connections to Transit

Employer shuttles and/or subsidized ridesharing can provide alternatives to driving alone and first-mile/last-mile connections to transit and key destinations. CAPCOA estimates that employer vanpools or shuttles can reduce VMT by 0.3 to 13.4 percent, capturing 2 to 20 percent of mode share.¹¹³ San Francisco's TDM program awards more points to shuttle buses than vanpool services because of the greater freedom that buses' longer service hours provide.¹¹⁴

Transit Subsidies/Passes

Purchasing fully or partially subsidized transit passes to employees or residents can significantly reduce VMT. A subsidy or especially an unlimited pass can lower or eliminate the marginal cost of each new transit trip. Broadly, a number of studies show lower transit fares increase transit use.¹¹⁵ Regarding transit pass programs in particular, CAPCOA estimates between a 0.3 and 20 percent VMT reduction.¹¹⁶ Another more focused study found a 4.2 to

https://www.ssti.us/2018/04/does-telecommuting-increase-vehicle-miles-travelled/

¹¹³ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 253.

¹¹² Chakrabarti, Sandip. "Does telecommuting promote sustainable travel and physical activity?". Journal of Transport & Health, Volume 9. June, 2018.

¹¹⁴ San Francisco, "TDM Technical Justification," 29.

¹¹⁵ SSTI "Modernizing Mitigation: A Demand Centered Approach" 44.

¹¹⁶ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 230.

4.8% reduction in VMT.¹¹⁷ These benefits vary based on the land-use context of the site, the percentage of eligible employees, and the value/size of the subsidy or pass.¹¹⁸

Improved Transit Service

Reducing transit headways and increasing service close to a development can also reduce VMT by increasing the quality of transit near the project site. More frequent buses and trains result in a more reliable transportation option. CAPCOA estimates a VMT reduction of 0.02 to 2.5% from improved transit service.¹¹⁹

Demonstrated VMT reduction:

- 0.3% 13.4% (vanpools and shuttles)
- 0.3% 20% (transit passes/subsidies)
- 0.02% 2.5% (reduced transit headways and improved transit service)

Factors affecting benefits:

• Benefits from transit passes/subsidies depend on percentage of employees eligible, value of the subsidy, and density and land-use context.



Transportation Management Organizations

Transportation Management Organizations (TMOs) are tasked with managing the transportation needs of a particular coalition of major employers, property owners, plan areas, or neighborhoods. TMOs typically develop, implement, and evaluate the effectiveness of TDM strategies and encourage more sustainable, efficient transportation options to encourage the reduction of VMT.

TMOs encourage a variety of strategies that promote usage of other modes of transportation and discourage drive alone trips aiming to slow the increase of VMT based on travel choices. TMO Services may include, multimodal transportation infrastructure and services, advocacy and marketing activities, on-site outreach to employees/residents, and coordination by a TMO coordinator. Monitoring and evaluation are also core services provided by TMOs. A project may only select one of the following strategies listed below. A project can either join an existing TMO or start a new TMO. Should a project select to start a new TMO, the project must not be within an existing TMO service area and commit to a two-year membership to be awarded points.

The VMT effect of joining a Transportation Management Organization (TMO) has not yet been formally studied. However, studies have found that TMOs do shift employees from driving alone to other modes: two TMOs studied by SCAG reduced their mode share of solo driving by six and seven percent, respectively.¹²⁰ The Victoria Transport Policy Institute notes that these values can increase if other TDM strategies are implemented along with TMO

¹¹⁷ "Methodology: Impact of Car Sharing Membership, Transit Passes and Bike Sharing Membership on Vehicle Miles Traveled," GreenTRIP Connect, http://connect.greentrip.org/Method.TDMs.beta.pdf, 3.

¹¹⁸ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 230-1.

¹¹⁹ CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures," 280.

¹²⁰ Southern California Association of Governments and Commuter Transportation Services, Inc., TMA Handbook: A Guide to Forming Transportation Management Associations (Los Angeles: SCAG and Commuter Transportation Services, 1989): 57.

membership.¹²¹ By enabling the pooling of resources among geographically proximate employers and developments, TMOs more efficiently and effectively implement VMT-reducing strategies above and help TMO members reach their maximum VMT reduction potential.

Demonstrated VMT reduction:

• VMT benefits are not yet quantified in substantial literature.



User-defined Strategies

New opportunities to reduce drive alone trips, VMT, and vehicle trips are constantly emerging. The TDM program embraces effective innovation and will adapt over time. In order to receive points for strategies not on this menu, applicants or property owner/tenants must submit evidence that a proposed strategy will meet the program goals. LADOT staff will review proposals, accept or reject them with justification, and assign point values as needed. Enhanced monitoring and reporting may be required for these strategies. If strategies do not demonstrate expected results, staff may require that an applicant replace the strategy. User-defined strategies can also be suggested by TMOs or community members during the development review process. To submit a user-defined strategy for consideration, email ladot.tdm@lacity.org with a description of the proposed TDM strategy along with the proposed evaluation metrics, monitoring and reporting plan. (See **Appendix D**)

Best Practices from Other TDM Programs

For this technical justification, State Smart Transportation Initiative researchers at the University of Wisconsin-Madison consulted materials and/or program staff in 11 localities and two states: Arlington County, Virginia; Bellevue, Washington; Boulder, Colorado; Cambridge, Massachusetts; Honolulu, Hawaii; Madison, Wisconsin; Pasadena, California; Portland, Oregon; San Francisco, California; Santa Monica, California; Seattle, Washington; and the states of Oregon and Washington. Some programmatic best practices and findings include:

- Arlington County Commuter Services, a bureau of Arlington County's Transportation Division in Virginia, operates a Transportation Demand Management for Site Plan Development program, which requires TDM integration in the site design. These include transit access, active transportation infrastructure, and other commuter services. In 2014, the program reduced 41,126 drive alone trips on an average weekday and reduced vehicle miles traveled by 39 percent.¹²²
- The City of Cambridge, Massachusetts, operates a TDM Program that imposes mitigation measures based on the number of vehicle parking stalls at a location. Between 2000 and 2010,¹²³ the city reported a 5.3 percent drop in drive alone trips arriving at workplaces in the city, and a 4.3 percent decrease in drive alone commute trips originating in the city.¹²⁴
- The City of Portland, Oregon Lloyd District is a growing commercial and residential area east of downtown. Over a seven-year period the Lloyd District Transportation Management Association reduced the share of drive alone trips by workers in the area from 60 percent to 41 percent. It achieved this reduction in driving alone by implementing outreach; pricing (previously free) parking; integrating existing transit; improving

¹²¹ Victoria Transport Policy Institute, "Transportation Management Associations," TDM Encyclopedia, Apr. 23 2018, https://www.vtpi.org/tdm/tdm44.htm.

¹²² Arlington, "Reduction in SOV Trips."

¹²³ 2010 data based on 2006-2010 average.

¹²⁴ Cook, "2006-2010 Cambridge Journey to Work."

bicycle, pedestrian, and transit infrastructure; and establishing incentives such as reduced-cost transit passes.¹²⁵

Locating a building in a dense area with diverse land uses will generate less drive alone trips than locating the same building in a lower-density, more homogenous area. The City's Mobility Plan 2035, the Transportation Element of the City's General Plan, acknowledges this principle, stating that "Locating uses that better serve the needs of the population closer to where they work and live reduces the number and distance of vehicle trips and decreases the amount of pollution from mobile sources."¹²⁶ This principle of location efficiency is central to the City's proposed California Environmental Quality Act (CEQA) revisions, which divides the City into travel behavior zones (TBZs) where greater density and more land use diversity are associated with more transit use and lower auto travel. Even in more location-efficient travel settings, new development can generate traffic, often on streets that are already congested, especially if they build an abundance of off-street parking that is offered at no cost to building occupants and/or visitors, which can negatively impact already congested urban streets. Additionally, people that live in location efficient TBZs may opt to drive if they feel that choosing other ways to get around like biking or transit are unsafe or inconvenient. While location can play an important role in demand management, the City's TDM Program will ensure land use developments implement TDM strategies to address congestion and drive alone trips. The Program offers strategies that can be applied to various different land use and transportation contexts to meet that goal.

¹²⁵ Lloyd District Transportation Management Association, "Lloyd District Partnership Plan: A Case Study in Transportation Efficiency," May 5, 2007,

http://www.wsdot.wa.gov/NR/rdonlyres/F9571913-97CC-4891-8B0E-8F2685F914AF/0/Lloyd_District_Parking_man agement.pdf.

¹²⁶ Los Angeles Department of City Planning, "Mobility Plan 2035: An Element of the General Plan," Sept. 7, 2016, <u>https://planning.lacity.org/documents/policy/mobilityplnmemo.pdf</u>, 17.

Appendix C: Summary of TDM Strategies

TDM Strategies	TDM Strategy Description	TDM Point Value	Non-Applicable Land Use
AFFORDABLE HOUSING ¹			
Affordable Housing 1: 20% of State Density Bonus	Projects that receive 20% of California's Density Bonus and provide a minimum of: • 10% Low Income; or • 5% Very Low Income.	2 Points	Employment Retail
Affordable Housing 2: TOC Tier 1, 2, 3 or equivalent	Projects that provide the following Affordable Housing percentages or commensurate Tier 1 percentages in the most recent TOC guidelines: • 20% Low Income; • 11% Very Low Income; or • 8% Extremely Low Income.	4 Points	Employment Retail
Affordable Housing 3: TOC Tier 4 or equivalent	 Projects that provide the following Affordable Housing percentages or commensurate Tier 4 percentages in the most recent TOC guidelines: 25% Low Income; 15% Very Low Income; or 11% Extremely Low Income. 	6 Points	Employment Retail
Affordable Housing 4: 100% Affordable	Projects in which 100% of the housing units (exclusive of any manager's units) are restricted affordable dwelling units.	10 Points	Employment Retail

¹ Projects may be eligible for a maximum of one (1) Affordable Housing Strategy.

BICYCLE FACILITIES			
Bicycle Facilities 1: Locate near a Bike Share Station*	Project is located within 600 feet of an existing bike share station - <u>Bike Share Location Map</u> . *LADOT shall pre-approve the selection of this TDM Strategy.	2 Points	
	May not be combined with Bicycle Facilities 2		
Bicycle Facilities 2: Install Bike Share Station*	Install a publicly accessible bike share station. Must be pre-approved by Metro and may require and agreement.	5 Points	
	May not be combined with Bicycle Facilities 1		
Bicycle Facilities 3: Bike Share Memberships*	Offer bike share membership passes to employees and/or residents In accordance with available pass options (applicable for locations within 0.25 miles from an existing or planned bike share station - <u>Bike Share</u> <u>Location Map</u>).	- 5 Points (See <u>https://bikeshare.metro.net/for-</u> <u>business/)</u>	
	*LADOT shall pre-approve the selection of this TDM Strategy that the project is within an eligible location.		
Bicycle Facilities 4: Bicycle Parking	Install and maintain on-site bicycle parking at or above ratios as determined in Sections 12.03, 12.21, and 12.21.1 of the L.A.M.C.	2 Points	
Bicycle Facilities 5: Changing and Shower Facilities	Provide clothes changing and/or shower facilities for employees or students at or above ratios as determined in Section 91.6307 of the L.A.M.C.	Privately Accessible = 2 Points Publicly Accessible = 4 Points Publicly Accessible and in a Disadvantaged Area = 5 Points	Housing
Bicycle Facilities Bonus	Implementation of three or more Bicycle Facilities strategies for bonus points.	3 Strategies = 1 Point 4 Strategies = 2 Points	
CAR SHARING			

Car Sharing 1: Car Share Parking	Provide at least one car share space per 25 employees/dwelling units, with a minimum of two car-share parking spaces. Requires cooperation with a car share service provider.	Private = 3 Points Publicly Accessible = 4 Points	School
Car Sharing 2: Car Share Memberships	Offer an annual car share membership, not including trip fees (through a third-party car share service operator) for at least 50% of residents or employees (applicable for locations within 0.25 miles of an existing service area). If the applicant selects BlueLA as the provider, the TDM point total from this measure is 4 points. Eligible projects must be located within 0.25 miles of existing BlueLA vehicle spaces.	3 Points Membership to Blue LA program or in a disadvantaged area = 4 points*	School
	*LADOT shall pre-approve the BlueLA partnership		
Car Sharing 3: Private Car Share Fleet	Provide a car share fleet available to all building occupants. Minimum of 2 cars per project site.	5 Points	School
Car Sharing Bonus	Implementation of two or more Car Share strategies for bonus points.	2 Points	School
Electric Vehicle Bonus	Provide 100% electric vehicle fleet or membership to electric vehicle car share program for a bonus point.	1 Point	School
CHILD CARE			
Child Care 1: On-Site Child Care	On-site child care provided by a licensed childcare provider.	2 Points	Housing
HIGH OCCUPANCY VEHICLES			
High-Occupancy Vehicles 1: Guaranteed Return Trip	Provide at least six taxi or Transportation Network Companies (TNC) fare vouchers or reimbursements for	2 Points	Housing

	at least 50% of employees who travel by non-drive alone trips		
High-Occupancy Vehicles 2: HOV Parking	Provide free, reserved HOV parking spaces (carpool, vanpool, etc.). Should be closer to the building entrance than other non-HOV parking spaces (excluding ADA stalls). Minimum 2 parking spaces.	2 Points	Housing
High-Occupancy Vehicles 3: HOV Program	HOV Program where school administrators, employers, residential property managers, or homeowners associations coordinate a HOV program to match individuals, groups, parents and/or families available to share rides on a regular basis	2 Points	Retail
High-Occupancy Vehicles 4: Mandatory Trip-reduction Program	Deploy an employee-focused travel behavior change program that targets individual attitudes, goals, and travel behaviors, educating participants on the impacts of travel choices and opportunities to alter their habits. The program typically includes a coordinated ride-sharing, vanpool and/or carpooling program, requires a program coordinator, and includes program monitoring, reporting and evaluation. A minimum of 50% of all employees on site should be eligible for the trip reduction program. May not be combined with Information 3 or 4.	8 Points	Housing
INFORMATION			
Information 1: Transit Displays	Provide real-time transit arrival displays at each major entrance of the project site. Display should capture transit options within 0.25 miles.	Internally visible = 2 Points Publicly visible = 3 points	
Information 2: Wayfinding	Post wayfinding signage near major entrances directing building users to rail stations, bus stops, bicycle facilities, bicycle parking, car sharing kiosks, and other sustainable	1 Point	

	(non-drive alone) travel options, provided inside and/or outside of the building.		
Information 3: Education, Marketing, and Outreach	Offer new employees and residents a packet of materials and/or provide personal consultation detailing sustainable (non-SOV) travel options. These materials or consultations must be available on an ongoing basis and/or on permanent online channels. Packet must include the distribution of one Metro TAP card preloaded with a day pass or equivalent value, to each employee or residential unit. May not be combined with High-Occupancy Vehicles 4 or Information 4.	4 Points	
Information 4: Travel Behavior Change Program	A multi-faceted program involving two-way communication campaigns and travel feedback that actively engages participants to target individual attitudes, goals, and travel behaviors to alter their travel choices and habits. Program must include the distribution of one Metro TAP card preloaded with a day pass or equivalent value, to each employee or residential unit. Selection of this strategy requires a coordinator to manage the program, and ensure communication is available to all regular occupants of a site with a special focus on new occupants and/or employees. Must include participation from 20% of the project site's tenants/users to qualify for this TDM strategy. This strategy pairs well with a TMO. It may not be combined with Information 3 or High-Occupancy Vehicles 4.	6 Points	
Information 5: School Safety Campaign	The yearlong Safety Campaign targets the school's parents and students to heighten their awareness of the importance of traffic safety. This campaign also integrates TDM strategies to bring awareness to how parents and students can reduce congestion.	4 Points	Employment Retail Housing

MIXED-USE			
Mixed-Use 1	Projects that are mixed-use and provide no more than 85% of floor area for a single land use.	5 Points	
MOBILITY INVESTMENT			
Mobility Investment 1: Access Improvements	Install or make contributions to new or improved facilities in the public right-of-way (PROW) that support greater access to the project by people that bicycle, walk, and take transit. All PROW investment shall be consistent with the Mobility Plan 2035, and may include, but are not limited to, curb extensions, leading pedestrian intervals, controlled mid-block crosswalks, pedestrian refuge islands, protected bicycle lanes, bike boxes, exclusive bicycle signal phases, street trees, etc. LADOT shall be consulted to verify the opportunity and feasibility of access improvements near the project site. The point values are relative to the improvement and location, and shall be determined in coordination with LADOT staff. *LADOT shall pre-approve the selection of this TDM Strategy to confirm availability of a mobility investment solution that meets the needs of people that bicycle, walk, and take transit in the project area and can be addressed by the proposed funding.	 4 points for incorporating access to project site from a bicycle or multi-use path 4 points for improvements to 25-49 percent of ¼ mile walkshed or commensurate value 6 points for improvements to 50-74 percent of ¼ mile walkshed or commensurate value 8 points for improvements to 75-99 percent of ¼ mile walkshed or commensurate value 10 points for 100 percent of improvements of ¼ mile walkshed or commensurate value 	
Mobility Investment 2: Mobility Management	Funds capital expansion, operations, and maintenance for existing sustainable mobility programs (Metro Bike Share, carshare, etc.).	2 Points for \$50,000-\$199,999 4 points for \$200,000-\$499,999 6 points for \$500,000 and above	

PARKING			
Parking 1: Pricing and Unbundling Parking	Pricing of parking encourages sustainable modes of travel (non-drive alone) and can be accomplished in several ways. Property managers and homeowner associations can unbundle the price of parking from rents or sale of units. ² The parking cost is set by the project applicant and paid by the vehicle owners/drivers. This strategy may not be combined with Parking 2: Parking Cash Out	 1 point - the cost of each parking space is at least \$25/mo. 4 points - the cost of each parking space is at least \$110/mo. 8 Points - the cost of each parking space is at least \$220/mo. 	Retail
Parking 2: Parking Cash Out	Implement a "cash out" program, where all full or part-time employees who do not use a parking space are paid the value of the space instead in time increments that the parking is leased. The value of a space shall be the leased value, if leased, and shall be the market value of a parking space if owned by the property owner.	4 Points	Housing Retail
Parking 3: Shared Parking	Share parking among different land uses or properties. A notarized agreement among tenants or property owners is required to receive points.	1 - 4 Points (1 point for every 25% of parking stalls available to occupants during effective hours of shared parking)	
Parking 4: Public Parking	Provide public access to the property's parking. Must be coupled with on-demand parking availability publicized through public signage and/or approved mobile application. This strategy is especially encouraged for properties that provide parking supply at rates above L.A.M.C. or Specific Plan requirements. To earn points for this strategy, a project must provide the number of	4 Points	

² For projects that are using incentives pursuant to the City's density bonus ordinance, the separate sale or rental of a dwelling unit and a parking space shall not cause the rent or purchase price of a Restricted Affordable Unit, including the parking space to be greater than it would otherwise have been.

Parking 5: Reduced Parking Supply	parking spaces available for public use. That supply must be, at a minimum, 25% of the total parking supply rounded up to the next whole number. Reduction in parking supply below the generalized citywide parking baseline (See Glossary), using parking reduction mechanisms, including, but not limited to, TOC, Density Bonus, Bicycle Parking ordinance, locating in an Enterprise Zone or Specific Plan area, or compliance with zoning regulations that require less parking than the generalized citywide parking baseline. Points are also awarded for projects providing a reduced supply of parking as allowed by an approved variance.	 2 Points - reduces 10%-24% of the parking spaces available relative to the parking baseline. 4 Points - reduces 25%-49% of the parking spaces available relative to the parking baseline. 8 Points - reduces 50%-89% of the parking spaces available relative to the parking baseline. 12 Points - reduces 90%-100% of the parking spaces available relative to the parking baseline. 	
SHARED MICRO-MOBILITY			
Shared Mobility 1: Service Membership	Partner with a shared micro-mobility company to provide discounted membership fees for building occupants (e.g. residents and employees). Make shared micro-mobility fleet devices accessible for easy identification and use.	1 Point	
Shared Mobility 2: Local Shared Fleet	Purchase and operate a shared micro-mobility fleet that is available on-site for use or rent for building occupants (e.g. residents and employees). The fleet size shall be determined to ensure a shared device is available 90 percent of the time it is requested.	1 Point	
TELECOMMUTE			

Telecommute 1: Telecommute	Offer employees a telecommute option for at least 1 day a week, which would allow employees to work from home rather than commute to the office. This telecommute option must be available to at least 50% of employees assigned to the project site.	2 - 6 Points (one additional point for each additional day an employee is allowed to work from home)	Housing, Retail, School
Telecommute 2: Televisits	Offer visitors virtual visitation options including telehealth, virtual meetings, remote learning, and conferencing.	3 Points	Housing, Retail
TRANSIT ACCESS			
Transit Access 1: Neighborhood Shuttles/Microtransit*	Operate a neighborhood-serving transit service (shuttle/ microtransit etc.). *LADOT shall pre-approve the selection of this TDM Strategy to ensure that the neighborhood-serving transit service is complementing and not substituting existing transit services.	Service that connects within the neighborhood but does not connect to high-quality transit stations = 3 Points Along a route that connects to high-quality transit station(s) = 5 points. Publicly available = +3 points Publicly available and in a disadvantaged area = +4 points	
Transit Access 2: Transit Passes	Provide employees/residential units transit subsidies. Points awarded vary based on the amount of transit subsidy provided per employee or residential unit.	Subsidy per passenger for Metro TAP card monthly fare: 25% of monthly fare = 7 Points; 50% of monthly fare = 10 Points; 75% of monthly fare = 12 Points	

		100% of monthly fare = 14 Points	
Transit Access 3: Improve Transit Service*	Provide funding to a local transit provider for improvements that improve service quality (reduce headways, etc.) at transit stops within ¼ mile radius of the project site. Funds could also contribute to an existing shuttle or microtransit service (e.g. DASH) in consultation with LADOT if this option is available near the project site. *LADOT shall pre-approve the selection of this TDM Strategy to ensure the availability of qualifying transit service that serves the property.	2 Points for \$50,000-\$199,999 4 Points for \$200,000-\$499,999 6 Points for \$500,000 and above	
Electric Transit Vehicle Bonus	Provide 100% electric vehicle or bus for a bonus point.	1 Point	
TRANSPORTATION MANAGEMENT O	RGANIZATIONS		
TMO 1: Join a TMO*	Join an existing TMO. *LADOT shall pre-approve the selection of this TDM Strategy to verify the availability of a qualifying TMO that could serve the property. For a reference of criteria that is considered in pre-qualifying a TMO, see Appendix E: Transportation Management Organization (TMO) Certification Guidelines.	2 Point	
TMO 2: Create a new TMO*	Create a new TMO in an area where there is not already an existing TMO service. Should a project select to start a new TMO, the project must not be within an existing TMO service area and commit to a two-year membership to be awarded points.	4 Points	

	*LADOT shall pre-approve the selection of this TDM Strategy to verify the feasibility of establishing a TMO that could serve the property. For a reference of criteria that is considered in pre-qualifying a TMO, see Appendix E: Transportation Management Organization (TMO) Certification Guidelines.		
USER-DEFINED TDM STRATEGIES			
User-defined strategies*	Implement a strategy in coordination with LADOT that is not included in this table. *Consult LADOT before submitting a TDM Plan. User-defined strategies must have approval from LADOT before the TDM Plan is accepted.	Point value may vary.	

Appendix D1.1: TDM Plan Compliance Documentation Checklist Form

This form is for property owners or managers who are required to complete TDM Plan Compliance Documentation on an annual basis. Each TDM strategy listed below contains documents required to verify that a property owner or manager is maintaining all required TDM Strategies that are included in the approved TDM Plan.

Affordable Housing

- HCID Letter/TOC Tier Verification Form/Clearance Form
- Covenant and Agreement that specifies the number of units reserved for low income households

Bicycle Facilities 1: Locate Near Bike Share Station

☐ Map depicting main entrance within 600 feet of Metro Bike Share station (if the Bike Share station location has changed, property owner must contact LADOT to amend the TDM plan)

Bicycle Facilities 2: Install Bike Share Station (requires pre-approval)

Photos of installed bike share station (if Bike Share station location has changed, property owner must contact LADOT to amend the TDM plan)

Bicycle Facilities 3: Bike Share Memberships (requires pre-approval)

Receipts from bike share provider of total memberships purchased and fare value

Bicycle Facilities 4: Bike Parking

Photographs of short-term and long-term bike racks

Bicycle Facilities 5: Changing, Shower, and Locker Facilities

Photographs of changing, shower, and locker facilities

Car Sharing 1: Car Share Parking

- Signed contract with a car share service provider (minimum 1-year length)
- Photographs of car share parking area

Car Sharing 2: Car Share Memberships

Signed contract with a car share service provider (minimum 1-year length)

Car Sharing 3: Private Car Share Fleet

Executed contract between property owner(s) and operator, which includes terms of service and expected vehicle availability

Childcare

Signed contract (minimum 1-year term) with a licensed childcare provider

High Occupancy Vehicles 1: Guaranteed Return Trip

□ Number of rideshare/taxi rides given out per month in the reporting period

High Occupancy Vehicles 2: HOV Parking

- Photographs of parking that is reserved for HOV
- A diagram that shows the location of spaces designated for HOV parking relative to building entrances.

High Occupancy Vehicles 3: HOV Program

- Documentation of means the HOV program is promoted to on-site occupants
- □ Signed contract with an HOV program provider (minimum 1-year contract) if applicable
- □ Number of on-site participants per month in the annual reporting period

High Occupancy Vehicles 4: Mandatory Commute Trip Reduction Program

- Detailed plan of strategies in the Program
- Contracts with service providers participating in the Program if applicable

A summary of the campaign feedback or aggregated survey responses that includes how many total occupants(s) were engaged, a percent of total occupants engaged, attitudes of TDM, and ways the program shifted to respond to the needs and preferences for non-SOV travel of onsite occupants and visitors (if applicable)

Information 1: Transit Displays

Photographs of installed transit displays

Information 2: Wayfinding

Photographs of installed wayfinding signs

Information 3: Encouragement Program

- Pdf copies of advertising materials to be distributed to new residents or employees
- Receipt of Metro TAP passes that were included in information packets
- Signed contract(s) with service provider(s) if TDM marketing services are contracted out to a third party (minimum 1-year contract)

Information 4: Travel Behavior Change Program

- Pdf copies of campaign materials and emails that were distributed to building occupants
- Receipt of Metro TAP passes that were included in information packets
- A summary of the campaign feedback or aggregated survey responses that includes how many total occupants(s) were engaged, a percent of total occupants engaged, attitudes of TDM, and ways the campaign shifted to respond to the needs and preferences for non-SOV travel of onsite occupants and visitors (if applicable)

Information 5: School Safety Campaign

Photographs, lesson plans and/or slide decks from safety campaign events

Mixed Use

Lease agreements and/or certificate of occupancy of occupied uses and their square footages

Mobility Management 1: Access Improvements

- Finalized plans of mobility access improvements
- Photographs of installed Access Improvements, once installed

Mobility Management 2: Mobility Management

Documentation of one-time payment to LADOT

Parking 1: Pricing/Unbundling Parking

- Evidence of compliance with the requirements of parking provision as stated in the lease or deed.
- Evidence of parking price structure and revenues from the lease or charge for parking spaces.

Parking 2: Parking Cash-Out

- Documentation of cash value provided to employees that participate in the program
- Number and percentage of employees making use of the parking cash-out

Parking 3: Shared Parking

Provide executed notarized agreement from the LADOT template between properties that assign a number of spaces or portions of the parking facility that is accessible to their respective occupants and visitors including available times that parking is accessible.

Parking 4: Public Parking

- Covenant agreement that guarantees that at least 25% of parking spaces will be available for general public use.
- Documentation (e.g. photographs, web application link, or other user-interface portal) that demonstrates how public parking is promoted to the general public.

Shared Micro-Mobility 1: Existing Provider

Signed contract (minimum 1-year length) with a micro-mobility service to provide discounted memberships to residents/employees

Shared Micro-Mobility 2: Local Shared Fleet

- Photographs of shared mobility fleet
- Annual report of monthly ridership statistics and percentage of time that a device is available on-site.

Telecommute 1: Telecommute

Annual report detailing how many employees make use of telecommuting regularly, how many days are cumulatively taken

Telecommute 2: Televisits

- Provide documentation, such as a service plan, website, or brochure that verifies that appointment requests can be made by televisit.
- Annual report detailing how many visitors make use of telecommuting regularly and how many appointments where services were cumulatively accessed

Transit Access 1: Neighborhood Shuttle

- □ Map of route with service frequency, schedules, and span
- Link to public/user facing service platform where users access route information and fare payment (if applicable)
- Monthly ridership statistics (reported annually)

Transit Access 2: Transit Passes

- Receipts and/or invoices from the transit agencies that documents the purchase of the TAP cards OR
- Receipts and/or invoices from the transit agencies that documents loaded value subsidy of the TAP cards

Transit Access 3: Improved Transit

Documentation of payment to transit agency

Electric Transit Vehicle Bonus

- Documentation of electric vehicle(s) planned to be put in use
- □ Photographs of electric shuttle being used for shuttle service

TMO 1: Join a TMO

Letter of agreement with a TMO indicating that the development's employers will join

TMO 2: Create a TMO

Document with covenant agreement language detailing the creation of the new TMO

Residential Weekly Travel Survey

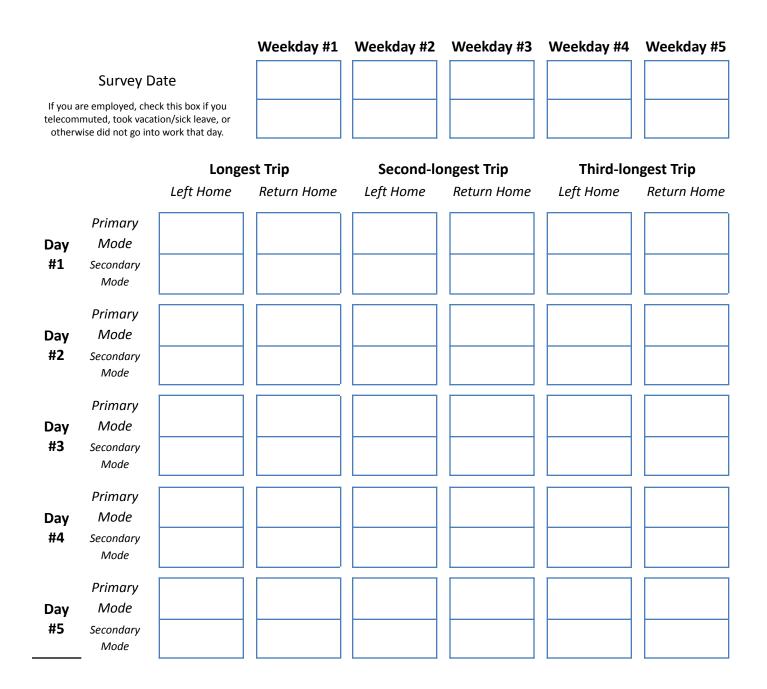
Name		
Apartment #	Work ZIP Code	

- 1. In the table on the following page, record the date of the past five *weekdays* (not counting weekends nor today).
- 2. Recall the three longest trips, by distance, you took each day. A trip is *any* time you left and returned home, including work, meals, errands, social events, etc. If you took fewer than three trips, leave those columns blank.
- 3. On the last page, look up the code that best matches how you traveled for each of those trips.
- 4. Write a code in the "Primary Mode" box for each trip, in each direction.
- 5. If you traveled by two modes (e.g., biked to a train), write the one that covered more distance in the "Primary Mode" box and lesser distance in the "Secondary Mode" box. Otherwise, leave the "Secondary Mode" box blank.





Residential Weekly Travel Survey





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Page 2 of 3

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	A	Zero-emission Vehicle	Drove in a zero-emission vehicle with any number of passengers (Hybrids do NOT count, unless they can reach work on electric power alone.)				
	В	Bus	Took a bus				
Driving	С	Train	Rode a train, subway, light rail, etc. (also includes plane)				
Driving, Transit,	D	Walk	Walked or traveled by wheelchair, etc.				
etc.	Ε	Bicycle	Biked (also includes scooter, skateboard, etc.)				
	E E	Bike Share	Biked via bike share (also includes scooter share, etc.)				
	Н	Driving Alone	Drove a car with no other people (except for zero-emission vehicles)				
	I	Motorcycle	Drove a motorcycle				
	J	2-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with two people in the car				
	К	3-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with three people in the car				
	L	4-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with four people in the car				
	N	5-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with five people in the car				
	Ν	6-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with six people in the car				
	0	7-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with seven people in the car				
Carpool, Vanpool,	Ρ	8-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with eight people in the car				
Rideshare	Q	9-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with nine people in the car				
	R	10-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with ten people in the car				
	S	11-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with eleven people in the car				
	т	12-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with twelve people in the car				
	U	13-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with thirteen people in the car				
	V	14-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with fourteen people in the car				
	Ν	15-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with fifteen people in the car				

Codes and Mode of Travel





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Employee Weekly Commute Survey

Employee Information



Instructions

- 1. On the next page, look up the code that best matches how you traveled to and from work each day.
- 2. Write a code in the "Primary Mode" box for each day, for both morning and evening commutes.
- 3. Do not leave any "Primary Mode" box blank. There are codes for days off and other non-travel situations.
- If you traveled by two modes (e.g., biked to a train), write the one that covered more distance in the "Primary Mode" box and lesser distance in the "Secondary Mode" box. Otherwise, leave the "Secondary Mode" box blank.

Morning Commute (6 A.M. to 10 A.M.)

In the boxes below, write the code indicating how you traveled to or from work.

If you arrived or departed outside of this time period, use the code CC.

	Monday	Tuesday	Wednesday	Thursday	Friday
Primary Mode How you traveled most or all of the way					
Secondary Mode Leave blank if none					

Evening Commute (3 P.M. to 7 P.M.)

In the boxes below, write the code indicating how you traveled to or from work.

If you arrived or departed outside of this time period, use the code CC.

	Monday	Tuesday	Wednesday	Thursday	Friday
Primary Mode How you traveled most or all of the way					
Secondary Mode Leave blank if none					

Codes for the boxes above can be found on the following page.



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Codes and Mode of Travel

	Α	Zero-emission Vehicle	Drove in a zero-emission vehicle with any number of passengers (Hybrids do NOT count, unless they can reach work on electric power alone.)			
Drivi	В	Bus	Took a bus			
ng,	С	Train	Rode a train, subway, light rail, etc. (also includes plane)			
Trans	D	Walk	Walked or traveled by wheelchair, etc.			
it,	Ε	Bicycle	Biked (also includes scooter, skateboard, etc.)			
Rem ote	EE	Bike Share	Biked via bike share (also includes scooter share, etc.)			
Work	F	Telecommute	Worked from home or from a satellite location			
<i>,</i> etc.	G	Non-commute	Took an out-of-town business trip or slept at the workplace			
	Н	Driving Alone	Drove a car with no other people (except for zero-emission vehicles)			
	I	Motorcycle	Drove a motorcycle			
	J	2-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with two people in the car			
	К	3-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with three people in the car			
	L	4-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with four people in the car			
	М	5-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with five people in the car			
Com	Ν	6-person Carpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with six people in the car			
Carp ools/	0	7-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with seven people in the car			
Vanp	Ρ	8-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with eight people in the car			
ools/	Q	9-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with nine people in the car			
Rides	R	10-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with ten people in the car			
hare	S	11-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with eleven people in the car			
	т	12-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with twelve people in the car			
	U	13-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with thirteen people in the car			
	V	14-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with fourteen people in the car			
	W	15-person Vanpool/Rideshare	Took a carpool, vanpool, Uber, Lyft, taxi, etc. with fifteen people in the car			
Com press	х	Day Off during 3/36 Work Week	Took a day off as part of a regular compressed schedule of three 12-hour workdays every week			
ed Work	Y	Day Off during 4/40 Work Week	Took a day off as part of a regular compressed schedule of four 10-hour workdays every week			
Sche dule	z	Day Off during 9/80 Work Week	Took a day off as part of a regular compressed schedule of nine 9-hour workdays every two weeks			
Othe	AA	Vacation	Took a vacation day and did not work at all that day			
r Days	BB	Sick	Took sick leave and did not work at all that day			



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Employee Weekly Commute Survey

Off

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Travel outside of Commute Window or Other Includes travel outside of the morning (6 A.M. to 10 A.M.) or evening (3 P.M. to 7 P.M.) commute periods, days off that are not part of compressed schedule, jury duty, military service, bereavement, maternity leave, medical/disability leave, leaves of absence, etc.



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Parking Hour Utilization

Land Use Code					Transit			
Name of Site					Area			
Description of Site					тмр			
					Parking Price			
	Location							
Site Size			Units			Occupancy		Land Use
Site Size			Units			Occupancy		
Site Size			Units			Occupancy		
Site Size			Units			Occupancy		
Number of parking spaces provided at site								

Highest observed parking demand the following hours of the day (hour beginning)

Date				
Day				
12 MID				
1:00 AM				
2:00 AM				
3:00 AM				
4:00 AM				
5:00 AM				
6:00 AM				
7:00 AM				
8:00 AM				
9:00 AM				
10:00 AM				
11:00 AM				
12:00 NON				
1:00 PM				
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM				
6:00 PM				
7:00 PM				
8:00 PM				
9:00 PM				
10:00 PM				
11:00 PM				
Name				
Contact Information				



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Page 1 of 1

Appendix E: Transportation Management Organization (TMO) Certification Guidelines

Process

Employers and Developers may rely on the services of a Transportation Management Organization (TMO) to implement their TDM Plans. TMO membership consists of organizations and businesses who remit annual dues for access to trip reduction services at amounts set forth by the TMO.

Requirements

The City may recognize TMOs that submit the following documentation to the City of Los Angeles Department of Transportation (LADOT) for review and approval to obtain certification:

- The list of current Board members and the time, frequency, and location of Board meetings.
- A mission statement that describes the reasons for the organization's existence and the fundamental goals of the TMO. The mission statement must support the goals of the City's Mobility Plan 2035, Sustainable City pLAn, and the LADOT Strategic Plan
- A list of goals and objectives focusing on supporting the mission statement. Specific activities, services, and tasks shall be listed to show how the members will be served by the TMO and how the TMO will help meet the area and regional transportation and air quality goals.
- A list of services to be provided by the TMO to its members, including the multimodal transportation infrastructure and services to be provided and promoted, the advocacy and marketing activities planned including in-person, on-site outreach to employees, TMO staff roles providing the services offered.
- A first year plan including the following components:
 - A marketing plan that presents a brand and identity for the TMO as well as describes how the TMO's planned services will be marketed to member employers and/or developers and their tenants and/or employees.
 - A data collection and evaluation strategy or plan to analyze baseline data gathered via survey to the TMO membership on existing travel characteristics and attitudes of commuters towards traffic and the use of multimodal transportation infrastructure and services. The annual survey shall survey each employer and/or resident's mobility choices and attitudes toward the existing services and developing new programs.
 - A monitoring and evaluation plan which utilizes data gathered in the annual survey to measure progress against the TMO mission statement, goals and objectives, including results of the TMO's activities within the service area provided to the membership. This plan will include the annual report information required by the City.
- An annual budget including expenditures and also discloses public and private financing.

- A signed agreement committing the TMO submit an annual report to the City for TMO certification. The annual report shall include the same elements as the first year plan with the following exceptions:
 - The mission statement shall be revised based on changes in the goals and objectives of the TMO, if any.
 - The goals and objectives shall be updated to reflect progress and any changes in the TMO services.
 - The baseline survey need not be repeated, however, the annual report shall include any follow-up survey efforts and evaluation activities to measure against the baseline survey.
 Follow-up surveys are encouraged to ensure the TMO is engaged with its membership and understands its needs.
 - Follow-up survey evaluation and results can be used to promote next year's planned activities and receive feedback about services.

Performance Measures

The City recognizes TMOs that demonstrate their effectiveness in providing public benefits generated by their services. The City requires TMOs to demonstrate their effectiveness by reporting on performance measures of their choosing in their annual report. Effectiveness can be measured using a variety of performance measures, which include but are not limited to the examples described below. :

Performance Measure Type	Purpose	Example
Activities	Measures the level of effort and engagement by the organization with quantitative data on activities. Refers to actions or activities promoting or advancing the TMO's mission and goals.	 Number of stakeholder outreach events held
		 Number of stakeholders attended outreach events
		 Number of marketing presentations delivered
		 Number of brochures distributed (i.e. by mail, in hand)
		 Number of calls made by membership services to enroll members
		 Number of innovative partnerships to promote new technologies or incentive programs (i.e. Metro Micro, Waze Carpool, etc.)
		 Number of awards/recognition programs for members (i.e. annual

			Employee Transportation Coordinator
			awards)
Impressions	Demonstrates the response to activities or outcomes initiated by the TMO. Refers to actions the client or customer took to demonstrate interest in organization.		Total number of active paying member companies and/or property developments
			Number of calls for information received
			Number of membership applications received
			Number of people reached (website or social media site visits, advertising views)
			Average time users spent on website or social media sites
			Number of individual mobile trip planning application downloads
			Average time users spent on mobile application
			Number of individual newsletter subscriptions
			Rate or change in enrollment following the marketing activities
Results/Direct Effects	Measures the effects of combining the organization's input activities and impressions on individuals. Data is gathered by the organization to demonstrate the benefits of its services to members, regulatory agencies, and other stakeholders.		Number of employees, residents and visitors served
			Average Vehicle Ridership (AVR) across all properties served
			Number of single occupant vehicle (SOV) trips reduced
			Number of SOV trips shifted to other modes
		•	Number of new transit riders
			Vehicle miles traveled (VMT) reduced (i.e. per person, per site, per service area)
		•	Change in parking use/occupancy
		٠	Greenhouse gasses reduced

		•	Calories burned
Cost Effectiveness	Assesses the relationship between a dollar amount invested in each	•	Cost per SOV trip reduced
	activity and/or impression to demonstrate the return on investment of an activity or	•	Cost per individual shared ride coordination
	strategy.	•	Cost per employer membership secured

- Cost per VMT reduced
- Cost per new carpool or vanpool
- Gas, parking, driving costs saved