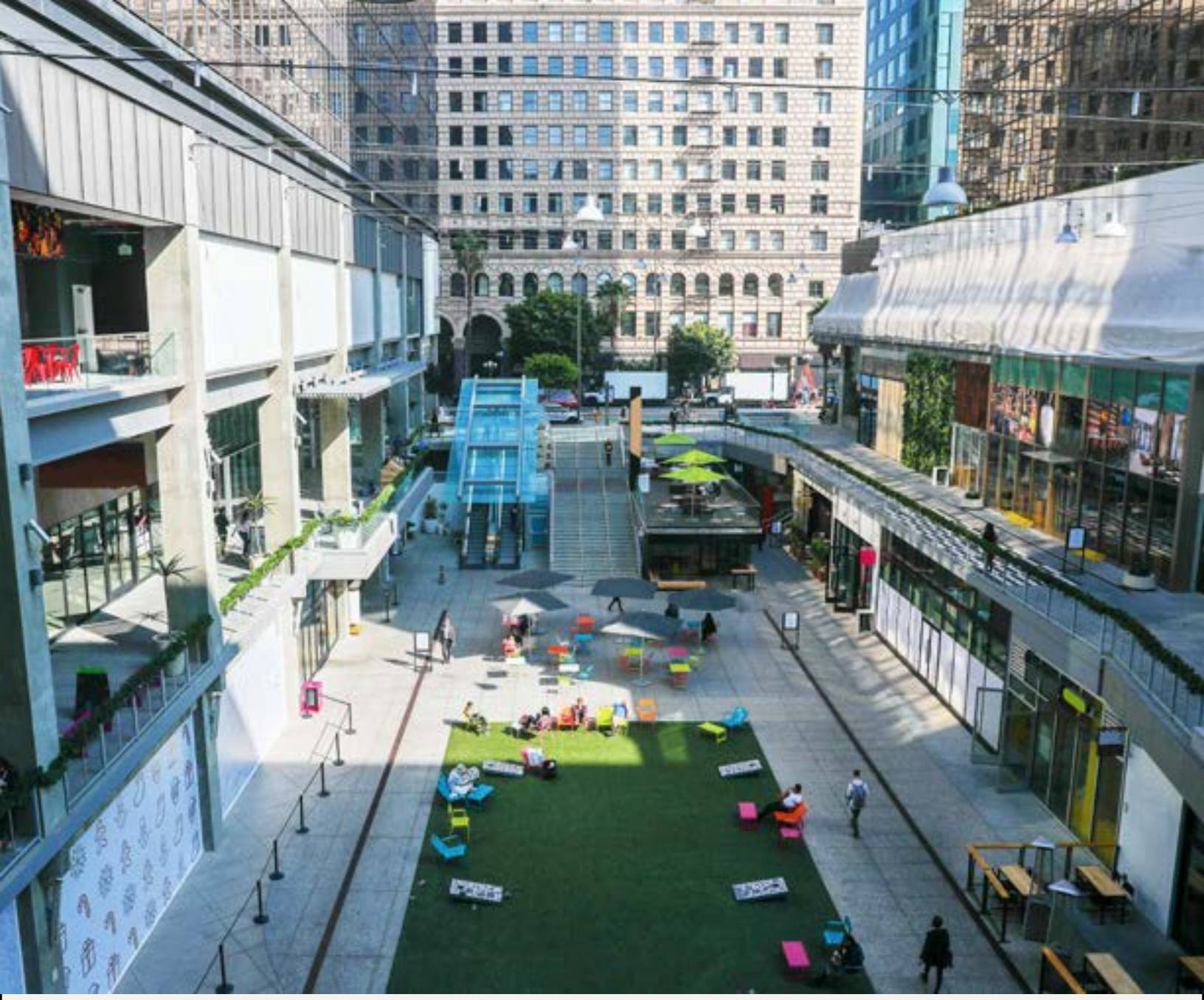

LADOT

Transportation Assesment Guidelines

August 2022

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SECTION 1:

Overview of Process & Procedures

1.1 BACKGROUND & CONTEXT

In compliance with the California Environmental Quality Act (CEQA) and/or in accordance with City regulations, the City of Los Angeles Department of Transportation (LADOT) may require Applicants to analyze and assess project-specific transportation impacts. The City of Los Angeles Transportation Assessment Guidelines[1] (TAG) establishes criteria for project review objectives and requirements, provides instructions and sets standards for preparation of a transportation assessment in the City of Los Angeles.

In August 2019, LADOT published an update to the TAG to conform to the requirements of Senate Bill 743; incorporate updates to the CEQA guidelines proposed by the Governor's Office of Planning and Research (OPR) and further guidance provided in OPR's corresponding Technical Advisory[2]; and to be consistent with and implement the City of Los Angeles CEQA Thresholds Guide update. As part of the preparation of this version of the City's TAG, the City updated its Travel Demand Forecasting (TDF) Model and transportation impact thresholds to be consistent with the vehicle miles traveled (VMT) impact methodology. This updated version of the City's TAG, further refines and clarifies analysis methodologies that were introduced in the last update in August 2019.

Senate Bill 743 tasked the Office of Planning and Research (OPR) with developing new guidelines for evaluating transportation impacts under CEQA using methods that no longer focus on measuring automobile delay and level of service (LOS). Senate Bill 743 directed lead agencies to revise transportation assessment guidelines to include a transportation performance metric that promotes: the reduction of greenhouse gas emissions, the development of multi modal networks, and access to diverse land uses. OPR's proposed updates to the CEQA guidelines in support of these goals[3] established VMT as the primary metric for evaluating a project's impacts on the environment and transportation system. Another proposed update to the CEQA guidelines clarified how a project's environmental assessment must assess and disclose whether the proposed project conflicts or is inconsistent with local plans or policies. The California Natural Resources Agency certified and adopted the updated CEQA Guidelines implementing Senate Bill 743 (Section 15064.3) in December 2018, and these guidelines are now in effect.[4]

1.2 PURPOSE

Safety, sustainability, smart growth, and the reduction of greenhouse gas emissions - in addition to traditional mobility considerations - are prime concerns for the City of Los Angeles. The City establishes the TAG to effectuate a review process that advances the City's vision of developing a safe, accessible, well-maintained, and well-connected multi modal transportation network. The TAG has been developed to identify land use development and transportation projects that may impact the transportation system; to ensure proposed land use development projects achieve site

1 Formerly referred to as the Transportation Impact Study (TIS) Guidelines. Wherever any ordinance, or policy refers to LADOT's TIS Guidelines or the Traffic Study Policies and Procedures, it shall be inferred to mean the Transportation Assessment Guidelines (TAG) as its successor document.

2 State of California, Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

3 State of California, Governor's Office of Planning and Research, Proposed Updates to the CEQA Guidelines, Final, November 2017.

4 State of California, Natural Resources Agency, Final Adopted Text, December 2018. https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

access design requirements and on-site circulation best practices; to define whether off-site improvements are needed; and to provide step-by-step guidance for assessing impacts and preparing Transportation Assessment Studies.

Project applicants and consultants must follow the procedures and standards set forth in this document when preparing and submitting a transportation assessment to ensure a timely review by LADOT. However, the TAG requirements may differ in certain areas of the City where specific plans or similar area-specific ordinances establish distinct guidelines. The City strongly recommends that the Project Applicant and/or consultants contact LADOT staff early in the design phase of the project to verify traffic access, circulation and safety issues that must be addressed, and to establish the scope and basic assumptions of the transportation assessment. Applicable fees for the various submittals and reviews described in the TAG are listed in the Los Angeles Municipal Code (LAMC) Section 19.15 (Planning and Zoning Code) (see **Attachment A**).

1.3 INITIAL STEPS

Upon receipt of an application for discretionary action, LADOT will prepare an initial assessment of the development project to determine if a transportation assessment is required. A Development Project is defined as any proposed land use project that changes the use within an existing structure, creates an addition to an existing structure, or new construction, which includes any occupied floor area. For transportation infrastructure projects for which a transportation analysis is required (e.g., lane reconfiguration, roadway improvement, transit project, etc.), v to Sections **2.3**, **3.3**, and **3.5** of these Guidelines for recommended transportation analysis methods.

The City requires the preparation and submission of a transportation assessment for Development Projects or Transportation Projects that meet the following criteria:

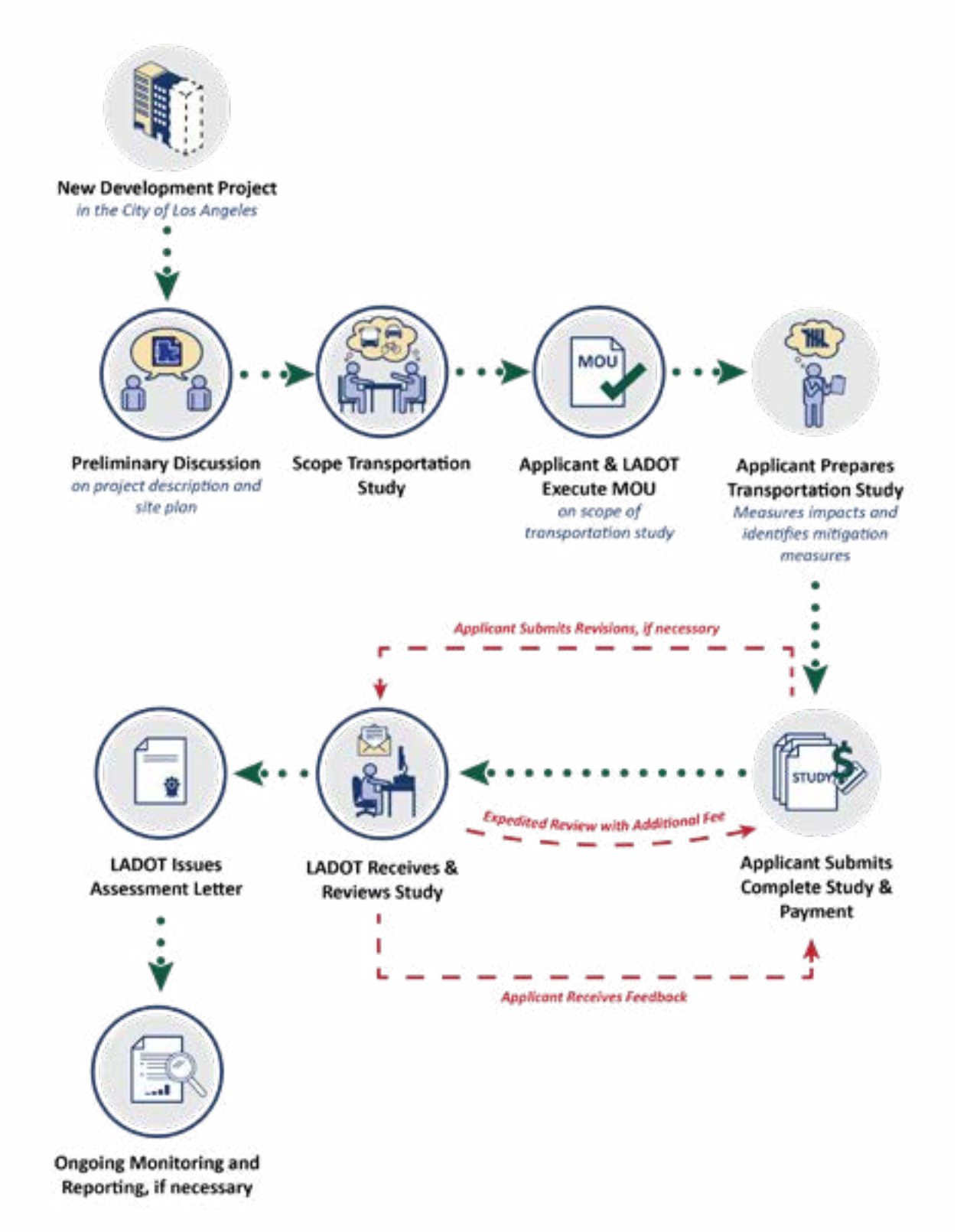
- If the Development Project is estimated to generate a net increase of 250 or more daily vehicle trips and requires discretionary action, a transportation assessment for a Development Project is required.
- If a Transportation Project is likely to either: (1) induce additional vehicle miles traveled by increasing vehicle capacity; or (2) reduce roadway through-lane capacity on a street that exceeds 750 vehicles per hour per lane for at least two (2) consecutive hours in a 24-hour period after the project is completed, a transportation assessment is generally required.
- A transportation assessment is required by City ordinance or regulation.

The preparation of a transportation assessment requires analysis and prediction of impacts or deficiencies to the circulation system generated by Development or Transportation Projects as well as the identification of feasible measures or corrective conditions to offset any impacts or deficiencies identified through a transportation assessment. The criteria, guidelines, objectives, and standards described herein shall be used by the public, private consultants, and City staff in the preparation and review of a transportation assessment in the City of Los Angeles. The preparation of a transportation assessment must follow the guidelines as described herein, and must be prepared under the direction of, and signed by, a Professional Engineer, registered in the State of California to practice either Traffic or Civil Engineering. Further, the Consultant hired by a project applicant to complete the transportation assessment must have an active and valid Los Angeles City Business Tax Registration Certificate.

1.4 PROCESS

Any project applicant or their designated representative (e.g., transportation consultant) required to prepare a transportation assessment for a Development Project, must follow the steps summarized in **Figure 1.4 1** and described below.

Figure 1.4-1: Overall Review Process for Transportation Impact Study



Step 1. Complete the Transportation Study Assessment Referral Form (CP-2151.1) with the Department of City Planning. Contact LADOT with a request to prepare a new transportation assessment. During this initial communication, the following information must be provided:

A. Project Description – Provide a general description of the proposed Project, including size (defined by square footage per use and/or number of dwelling units), uses, and heights of proposed new buildings and other structures to be remodeled and/or removed. The Project description should include information on any sequence of phased construction and any unusual conditions. Specify a building address, legal description and project title.

   For Projects that require the preparation of an EIR, the transportation analysis may include Project alternatives. For such Projects, the LADOT assessment letter will be limited to summarizing the findings and requirements for the preferred Project alternative or the alternative that generates the highest VMT. Should the Project Applicant request separate assessments for each alternative, then additional review fees may be required.

B. Proposed Study Assumptions and Content – Present the assumptions and contents of the transportation assessment in accordance with:

   a. California Environmental Quality Act guidelines (see the current City of Los Angeles CEQA Thresholds Guide),
   b. Any applicable Transportation Specific Plan (TSP), and
   c. Other applicable plans, laws, or ordinances (see **Section 2.1** for guidance).

C. Project Site Plan –Submit the proposed project site plan, which must clearly identify driveway or access location(s), loading/unloading areas, and parking design and circulation to help define the distribution of project trips according to any necessary turn prohibitions at the proposed driveways. Considerations for traffic flow and movement must be designed and incorporated early in building and parking layout plans. In order to minimize and prevent last minute building design changes, Project applicants should contact LADOT for driveway width and internal circulation requirements before finalizing the building and parking layout design.

   Additionally, the project applicant, or their consultant, must address the following considerations and recommendations in the project's site design and circulation:

   a. Project site access and circulation should integrate existing alleys, if available.
   b. While existing alleys may be prioritized for vehicular access, loading, and service access to the project site, in some contexts, alleys should be considered for mid-block paseos and paths for pedestrians and bicyclists.
   c. Projects should consider reducing the number of existing driveways and avoid creating new driveways along streets included in the City's High Injury Network or the Bicycle Enhanced Network, where protected bicycle lanes are planned.
   d. Project site access, circulation, and parking plans must be compliant with the transportation and public accommodation provisions of the Americans with Disabilities Act (ADA). Proposed development

projects that are not able to meet parking-code requirements and cannot provide accessible parking on-site may be required to install universally accessible on-street parking space(s) with the complementary ADA access ramp(s). Additionally, the design of driveways requires approval by LADOT and the Bureau of Engineering. Please refer to the LADOT "Driveway Design" Guidelines for additional information.

e. If a Development Project requires the permanent or temporary removal of any metered parking spaces, payment to LADOT for lost parking meter revenue is required. See Section 4.4.2.b for further discussion regarding the Calculation of the Meter Revenue Recovery Fee (MRRF).

f. Where the project exceeds the screening criteria in Section 3.2.2, the applicant may need to submit additional exhibits that characterize the neighborhood land use context and nearby infrastructure conditions as described in Section 3.2.4.

Generally, final recommendations of driveway location(s) and parking scheme will be issued at LADOT's Citywide One-Stop Counter, the Valley Development Review Office, or West Los Angeles Development Review Office (see **Section 5** for contact information) as a clearance on the Project's building permit.

Step 2. Consult with other agencies or adjacent jurisdictions (i.e., California Department of Transportation (Caltrans), Los Angeles County Public Works, other cities, transit agencies, etc.) that may be affected by access demands and travel generated by the Project to ensure those agencies' transportation-related concerns and issues are properly addressed in the transportation assessment. If, as part of site access and circulation evaluation (see **Section 3.3**), a transportation assessment includes the evaluation of an intersection or intersections in a neighboring local jurisdiction, then any corrective actions deemed necessary to address circulation concerns should be reviewed by that jurisdiction. Projects proposed adjacent to Los Angeles County Metropolitan Transportation Authority (Metro) right-of-way (i.e., Metro Rail alignment) shall refer to the Metro Adjacent Development Handbook and should initiate a separate but consistent development review process with Metro.

Step 3. Consult with the Bureau of Engineering and LADOT to determine any highway dedication and street improvement requirements (see **Attachment B**), as well as requirements under the Americans with Disabilities Act (ADA) for the Project. The transportation assessment should identify the street classifications and designations, and roadway and right-of-way standard dimensions of any streets that front the proposed Project as identified in the Mobility Plan 2035 or subsequent, relevant Community Plan.

Step 4. Submit payment of necessary fees per LAMC Section 19.15 (see **Attachment A**).

Step 5. Prepare and execute a study scoping Memorandum of Understanding (MOU) (see **Attachment C**) with LADOT. The MOU describes the assumptions and parameters that must be included in the transportation assessment, including approach to estimate project VMT; study area for pedestrian, bicycle, and transit facilities assessment; number and location of street intersections and residential street segments for analyses; related projects to be included in the analysis; trip generation rates; ambient growth rate; trip distribution pattern and trip assignments; trip credits for existing active or qualified previous land use; projected buildout year; estimating cumulative impact with reliance on the City's Travel Demand Forecasting (TDF) Model, if necessary, and study methodology.

Step 6. Gather all qualitative and quantitative data needed to address all required analyses and components of the transportation assessment. Collect traffic count data in accordance with standards and methods established in **Section 3.3** and at LADOT's discretion

Step 7. Inform LADOT on the progress made in completing the transportation assessment. LADOT approval is required for any deviations from the assumptions and parameters described in the executed MOU or any other changes made to the analysis without LADOT's knowledge and consent, before the final report is prepared.

Step 8. Submit the complete transportation assessment comprised of all components listed in **Section 4** of these Guidelines and payment of the required fees to initiate LADOT's review. The consultant must also submit proof of possessing a valid Los Angeles City Business Tax Certificate.

Step 9. After reviewing the submittal, LADOT will prepare and distribute a Project assessment report. LADOT will not prepare their Project assessment report until all necessary review fees are received and the complete and final electronic version of the transportation assessment in portable document format (PDF) has been submitted.

Step 10. Depending upon the nature of the mitigation measures and corrective actions to be implemented by the Project, ongoing reporting by the Project Applicant or other qualified representative and monitoring and review by the City may be required. Reporting on and monitoring of Transportation Demand Management (TDM) measures implemented by the Project to improve mobility options at and around a project site may also be required, in accordance with the City's TDM ordinance (LAMC 12.26J).

1.5 STUDY HIATUS AND INTERRUPTIONS

Occasionally, LADOT reviews a transportation assessment for a Project that is modified after the transportation assessment has been finalized. If LADOT determines that the description or scope of the Project has changed such that extensive and major revisions to the transportation assessment are required, then LADOT shall consider the revised Project a new Project, which will require a new transportation assessment and payment of the applicable review fees. If LADOT determines that revisions to the transportation assessment can be accomplished without the preparation of a new transportation assessment, then LADOT may require the preparation of a supplemental analysis and payment of any necessary review fees.

Similarly, if, after LADOT has commented on a transportation assessment, LADOT staff does not receive written communication from the Project Applicant or the Consultant on the status of the Project for one year or more, then LADOT may assume that the Project is no longer being pursued. To reinstate the Project after this time, a new transportation assessment and traffic review fee may be required and the timeline for transportation assessment processing could begin again.

1.6 MINISTERIAL PROJECTS NOT REQUIRING CEQA REVIEW

For those projects that do not require CEQA review, either because they are ministerial or are otherwise exempt, but a transportation assessment is required pursuant to a transportation specific plan (e.g., WLA TIMP), the analysis under **Section 2** and **Section 3**, with the exception of **Section 3.4**, shall not apply. For these projects, the transportation assessment must focus on whether impacts are identified under **Section 3.4** and, if so, LADOT will review for impacts based on the standards therein, relying on professional traffic engineering standards and practices. If the Project is expected to result in impacts, measures must be required to ensure the access needs of all roadway users are accommodated during the construction phase of the projects.

SECTION 2:

CEQA Analysis of Transportation Impacts

2.1 CONFLICTING WITH PLANS, PROGRAMS, ORDINANCES, OR POLICIES (THRESHOLD T-1)

2.1.1 INTRODUCTION

The City of Los Angeles aims to achieve an accessible and sustainable transportation system that meets the needs of all users. The City's adopted transportation-related plans and policies affirm that streets should be safe and convenient for all users of the transportation system, including pedestrians, bicyclists, motorists, public transit riders, disabled persons, senior citizens, children, and movers of commercial goods. Therefore, the transportation requirements and mitigations for proposed developments should be consistent with the City's transportation goals and policies.

Specifically, proposed projects shall be analyzed to identify potential conflicts with adopted City plans and policies. If there is a conflict, improvements that prioritize access for and improve the comfort of people walking, bicycling, and riding transit in order to provide safe and convenient streets for all users should be identified. Projects designed to encourage sustainable travel help to reduce vehicle miles traveled. This section provides project criteria to identify which projects must check for consistency with major City plans and policies and provides updated references that should be consulted to evaluate how proposed projects and plans relate to adopted City projects and plans.

2.1.2 SCREENING CRITERIA

If the project requires a discretionary action, and the answer is yes to any of the following questions, further analysis will be required to assess whether the proposed project would conflict with plans, programs, ordinances, or policies:

- Does the project require a discretionary action that requires the decision maker to find that the decision substantially conforms to the purpose, intent and provisions of the General Plan?
- Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?
- Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?

For the purpose of the screening for projects that are making physical changes to the public right-of-way, determine the street designation and improvement standard for the project frontage along streets classified as an Avenue or Boulevard (as designated in the City's General Plan) using the Mobility Plan 2035, or NavigateLA. If any street fronting the project site is an Avenue or Boulevard and it is determined that additional dedication, or physical modifications to the public right-of-way are proposed or required, the answer to this question is yes. For projects not subject to dedication and improvement requirements under the Los Angeles Municipal Code, though the project does propose dedications or physical modifications to the public right-of-way, the answer to this question is yes.

2.1.3 IMPACT CRITERIA

Threshold T-1: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system,

including transit, roadways, bicycle, and pedestrian facilities?

The City of Los Angeles has adopted programs, plans, ordinances and policies that establish the transportation planning framework for all travel modes. The overall goals of these policies are to achieve a safe, accessible and sustainable transportation system for all users. The Transportation Element of the City's General Plan, the "Mobility Plan 2035," offers a comprehensive vision and set of policies and programs the City aims to achieve to provide streets that are safe and convenient for all users. Vision Zero implements the Safety First goal of the Mobility Plan 2035, and aims to reduce transportation fatalities to zero by using extensive crash data analysis to identify priority corridors and intersections, and applying safety countermeasures.

The titles of key City plans and policies, and their web links, that should be reviewed are listed in **Table 2.1-1**. These documents are subject to revision over time, and new plans may be adopted that are relevant to this threshold. The Los Angeles Department of City Planning (LADCP) will periodically review and revise this list to ensure that it reflects the City's current priorities on the safety and performance of the transportation system. This list should be consulted in order to identify potential conflicts with projects and plans in the CEQA review process.

The threshold test is to assess whether a project would conflict with an adopted program, policy, plan, or ordinance that is adopted to protect the environment. In general, transportation policies or standards adopted to protect the environment are those that support multi modal transportation options and a reduction in VMT. Conversely, a project would not be shown to result in an impact merely based on whether a project would not implement a particular program, plan, policy, or ordinance. Many of these programs must be implemented by the City itself over time, and over a broad area, and it is the intention of this threshold test to ensure that proposed development projects and plans do not preclude the City from implementing adopted programs, plans and policies. This determination may require consultation with LADCP and LADOT.

2.1.4 METHODOLOGY

Project Impacts

- A project that generally conforms with and does not obstruct the City's development policies and standards will generally be considered to be consistent. The Project Applicant should review the documents and ordinances listed in **Table 2.1-1** for City plans, policies, programs, ordinances and standards relevant to determining project consistency. **Attachment D**: Plan Consistency Worksheet provides questions that must be answered in order to help guide whether the project conflicts with City circulation system policies. A 'yes' or 'no' answer to these questions does not automatically determine a conflict. Rather, as indicated in **Attachment D**, the Project Applicant must provide substantiating information to help determine whether the proposed project precludes the City's implementation of any adopted policy and/or program that was adopted to protect the environment. A mere conflict with adopted transportation related policies, or standards that requires administrative relief or legislative change does not in itself constitute an impact.
- If vacation of a public right-of-way, or relief from a required street dedication is sought as part of a proposed project, an assessment should be made as to whether the right-of-way in question is necessary to serve a long-term mobility need, as defined in the Mobility Plan 2035, transportation specific plan, or other planned improvement in the future.

Table 2.1-1: City Documents that Establish the Regulatory Framework[5]

	PLAN OR POLICY	WEBLINK
1	Los Angeles Mobility Plan 2035	https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf
2	Plan for Healthy LA	https://planning.lacity.org/odocument/7f065983-ff10-4e76-81e5-e166c9b78a9e/Plan_for_a_Healthy_Los_Angeles.pdf
3	Specific Plans	https://planning.lacity.org/plans-policies/overlays
4	LAMC Section 12.21 A.16 (Bicycle Parking)	https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-113040
5	LAMC Section 12.26J (TDM Ordinance)	
6	Vision Zero Action Plan	https://ladotlivablestreets.org/content-landing/Vision-Zero-Document-Library
7	Vision Zero Corridor Plans	https://ladotlivablestreets.org
8	Streetscape Plans	List of relevant Streetscape Plans (this list may not be all inclusive): https://planning.lacity.org/plans-policies/overlays
9	Citywide Design Guidelines Guideline 1: Promote a safe, comfortable and accessible pedestrian experience for all. Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience. Guideline 3: Design projects to actively engage with streets and public space and maintain human scale	https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

Cumulative Impacts

The analysis of cumulative impacts may be quantitative or qualitative. Each of the plans, ordinances and policies reviewed to assess potential conflicts with proposed projects should be reviewed to assess cumulative impacts that may result from the proposed project in combination with other development projects in the study area.

Related projects considered in the cumulative analysis should include known development projects within a one-half mile (2,640 foot) radius of the project site. Consultation with LADCP and LADOT may be required to compile the related projects list. The City's ZIMAS database can be used to assist in identifying development projects that have submitted applications to the City of Los Angeles. In consultation with LADOT, the analysis should also consider planned transportation system improvements within the study area.

Analyses should consider whether there would be a significant impact to which both the proposed project and other projects contribute. For instance, a cumulative impact could occur if the project as well as other future development

5 For a description of the relevant planning documents, see **Attachment D.1**.

projects located on the same block were to preclude the City's ability to serve transportation user needs as defined by the City's transportation policy framework.

2.1.5 MITIGATION

Identify changes to the proposed project as mitigation measures that could reduce or eliminate identified inconsistencies with applicable programs, plans, ordinances, and policies and then determine the level of significance after mitigation. The applicant should reference the Citywide Design Guidelines[6] in identifying mitigation measures that will help address potential conflicts with the City's transportation policy framework. The following sections of the Citywide Design Guidelines are most relevant when addressing the City's transportation goals and policies to promote pedestrian safety and comfort and ensuring best design principles are followed in developing a site plan.

- **Guideline 1: Promote a safe, comfortable and accessible pedestrian experience for all.**
- **Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.**
- **Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.**

2.2 CAUSING SUBSTANTIAL VEHICLE MILES TRAVELED (THRESHOLD T-2.1)

2.2.1 INTRODUCTION

The Los Angeles Mobility Plan 2035 sets forth the following objective, regarding vehicle miles traveled (VMT):

- Decrease VMT per capita by 5% every five years [from 2015 baseline conditions], to 20% by 2035.[7]

To achieve this objective, the Mobility Plan 2035 includes associated policies related to: land use objectives aimed at shortening the distance between housing, jobs, and services; increasing the availability of affordable housing options with proximity to transit; offering more attractive non-vehicle alternatives; implementing transportation demand management (TDM) programs to encourage ridesharing and reduce vehicular trip making; congestion or cordon pricing mechanisms to encourage alternatives to driving alone; and providing community assets (e.g., locally-serving land uses) adjacent to residential areas to promote local walking and biking trips that reduce VMT. The Mobility Plan 2035 also suggests that pursuing a specific vehicle level of service (LOS) standard can lead to wider roads resulting in adverse environmental, public health, and fiscal impacts.

The Governor's Office of Planning and Research (OPR) issued proposed updates to the CEQA guidelines in November 2017[8] and an accompanying technical advisory guidance finalized in December 2018[9] that amends the Appendix G question for transportation impacts to delete reference to vehicle delay and level of service and instead refer to Section 15064.3, subdivision (b)(1) of the CEQA Guidelines asking if the project will result in a substantial increase in VMT. The California Natural Resources Agency certified and adopted the updated CEQA Guidelines in December of 2018, and these guidelines are now in effect.[10]

Accordingly, the City of Los Angeles recognizes the need to set new significance criteria for transportation impacts

6 City of Los Angeles Citywide Design Guidelines. https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

7 City of Los Angeles, Mobility Plan 2035, An Element of the General Plan, adopted September 7, 2016, page 124.

8 State of California, Governor's Office of Planning and Research, Proposed Updates to the CEQA Guidelines, Final, November 2017.

9 State of California, Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018

10 See Footnote 4.

based on VMT for land use projects and plans in accordance with the amended Appendix G question:

***THRESHOLD T-2.1*:** For a land use project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

For land use projects, the intent of this threshold is to assess whether a land use project or plan causes substantial vehicle miles traveled. The City has developed the following screening and impact criteria to address this question. The criteria below is based on the OPR technical advisory but reflects local considerations.

2.2.2 SCREENING CRITERIA

If the project requires a discretionary action, and the answer is no to either T-2.1-1 or T-2.1-2, further analysis will not be required for Threshold T-2.1, and a "no impact" determination can be made for that threshold:

- ***T-2.1-1***: Would the land use project[11] generate a net increase of 250 or more daily vehicle trips?

For the purpose of screening for daily vehicle trips, a proposed project's daily vehicle trips should be estimated using the VMT Calculator tool or the most recent edition of the ITE Trip Generation Manual. A user's guide for the VMT Calculator can be found here (See **Attachment E**).[12] TDM strategies that are to be applied as mitigation measures should not be considered for the purpose of screening. If existing land uses are present on the project site or there were previously terminated land uses that meet the criteria for trip credits described in the trip generation methodology discussion in **Section 3.3**, the daily vehicle trips generated by the existing or qualified terminated land uses can be estimated using the VMT Calculator tool and subtracted from the Project's daily vehicle trips to determine the increase in daily vehicle trips. For mixed-use projects, daily trips associated with local serving retail use of the project can be removed in determining if the project's daily vehicle trips are calculated for screening purposes. For uses that generate trip activity that is infrequent, sporadic, or seasonal, the estimated trips can be summed across the year and averaged by calendar day to provide an effective daily rate for screening purposes.

T-2.1-2: Would the project generate a net increase in daily VMT?

For the purpose of screening for VMT, a project's daily VMT should be estimated using the VMT Calculator tool or the City's Travel Demand Forecasting (TDF) model. A user's guide for the VMT Calculator can be found here .[13] TDM strategies should not be considered for the purpose of screening. If existing land uses are present on the project site or there were previously terminated land uses that meet the criteria for trip credits described in the trip generation methodology discussion in **Section 3.3**, the daily VMT generated by the existing or qualified terminated land uses can be estimated using the VMT Calculator tool and subtracted from the Project's daily VMT to determine the increase in daily VMT.

In addition to the above screening criteria, the portion of, or the entirety of a project that contains small-scale or local

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11 Land use projects include any discretionary action that changes development capacity (such as a zone change or re-designation of a general plan land use) or results in new construction, additions or change of use. Projects that require only ministerial approvals, such as building, use and demolition permits shall not be subject to Section 2 of the Transportation Assessment Guidelines (TAG). See Section 1.6 of these Guidelines for additional background on what projects are subject to review of the TAG.

12 LADOT Website. https://ladot.lacity.org/documents/transportation-assessment

13 See footnote 12.

serving retail uses[14] are assumed to have less than significant VMT impacts.[15] If the answer to the following question is no, then that portion of the project meets the screening criteria and a no impact determination can be made for the portion of the project that contains retail uses. However, if the retail project is part of a larger mixed-use project, then the remaining portion of the project may be subject to further analysis in accordance with the above screening criteria. Projects that include retail uses in excess of the screening criteria[16] may need to evaluate the entirety of the project's vehicle miles traveled, as specified in **Section 2.2.4**.

- If the project includes retail uses, does the portion of the project that contain retail uses exceed a net 50,000 square feet?[17]

Independent of the above screening criteria, and the project requires a discretionary action, further analysis will be required if the answer to the following statement is yes:

- Would the Project or Plan located within a one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units?

For the purpose of screening for proposed change in housing units located near fixed-rail or fixed-guideway transit for development projects, the total number of housing units that exist on the project site should be counted and compared to the total number of housing units as proposed by the project to determine if the project would result in a net decrease in housing units. For the purposes of screening for proposed change in housing units that are in proximity to transit for land use plans, the total number of existing housing units within a one-half mile of a fixed-rail transit station that fall within the land use plan area should be counted and compared to the total housing capacity within the same area that could be built as a result of the land use plan to determine if the plan could result in a net decrease in housing.

2.2.3 IMPACT CRITERIA

Development Projects

The development project will have a potential impact if the project meets the following:

- For residential projects, the project would generate household VMT per capita exceeding 15% below the existing average household VMT per capita for the Area Planning Commission (APC) area in which the project is located. (See **Table 2.2-1**)
- For office projects, the project would generate work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located. (See **Table 2.2-1**)
- For regional serving projects including retail projects, entertainment projects, and/or event centers, the project would result in a net increase in VMT.
- For other land use types where the threshold is not further specified below, measure VMT impacts for the work trip element using the criteria for office projects above. (see **Table 2.2-1**)

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14 Retail projects that fall under 50,000 square feet are considered local serving. New retail uses that are above 50,000 square feet may also be considered locally serving, if an applicant provides documentation that most of the vehicle trips will be originating from the project area.The definition of retail for this purpose includes restaurants.

15 For the purposes of answering question T-2.1-1, the local serving retail uses that are part of a mixed-use project should not determine if the project in its entirety exceeds 250 daily trips.

16 See Footnote 14.

17 See Footnote 14.

Table 2.2-1: VMT Impact Criteria (15% Below APC Average)

AREA PLANNING COMMISSION	DAILY HOUSEHOLD VMT PER CAPITA	DAILY WORK VMT PER EMPLOYEE
Central	6.0	7.6
East LA	7.2	12.7
Harbor	9.2	12.3
North Valley	9.2	15.0
South LA	6.0	11.6
South Valley	9.4	11.6
West LA	7.4	11.1

Land Use Plans

The land use plan will have a potential impact if:

- The anticipated land use growth under the proposed plan would result in an average total VMT per service population in the horizon year that exceeds 15% below the regional average total VMT per service population[18] for the baseline year from the most recent SCAG Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS).
- The land use growth anticipated under the plan would result in an average total VMT per service population in the plan horizon year that exceeds the average total VMT per service population in the plan area[19] for the baseline year from the most recent locally validated travel demand forecasting model.

2.2.4 METHODOLOGY

Development Projects

The screening and impact evaluation should be conducted for the following types of development projects:

- Residential. Single-family housing, multi-family housing, and affordable housing.
- Office. General office and medical office. Light industrial, manufacturing, and warehousing/ self-storage, land uses should be treated as office for screening and analysis.
- Retail. General retail, furniture store, pharmacy/drugstore, supermarket, bank, health club, restaurant, auto repair, home improvement superstore, discount store, and movie theater.

The following identifies screening criteria and thresholds of significance used to determine if other types of land uses occasionally reviewed by LADOT would result in significant impacts as it relates to VMT:

- Hotel and Motel Uses. VMT impacts of hotel and motel uses should evaluate the VMT impacts of both employee trips and visitor/guest trips, and apply a separate impact threshold to each trip type. The employee trips should be treated similar to those for office uses where the hotel/motel project would result in an impact if it generates work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located.

18 Service population is defined as all of the people living and working within the plan or project area

19 The plan area in this threshold will be defined by the area directly affected by the proposed plan, which is generally a community plan area for community plans, a specific plan area for specific plans, and citywide area for citywide plans, policies, and ordinances

To evaluate potential VMT impacts of visitor/guest trips, the analysis should screen out visitor/guest trips from a quantitative analysis where those hotels/motels would be considered to meet a localized demand for visitor/guest travel. Hotel and motel uses could be shown to not contribute to significant visitor/guest trips if they are proposed in locations that are closer to common or desired destinations for guests and visitors than other existing hotel and motel uses, and therefore result in shorter overall visitor trips that are expected without the project. The conclusion that hotel and motel uses would not result in a significant VMT impact from visitor/guest trips would be more substantiated where the hotel/motel project includes TDM measures that actively promote transit and bike share services to the hotel/motel patrons.

Where it can not be qualitatively demonstrated that hotel and motel uses would not result in lower guest/visitor trip distances as compared to "without project" conditions, the analysis should quantify the VMT of visitor/guest trips and either evaluate if the visitor/guest trips would lead to a net increase in daily VMT of those trips as compared to without the project or, if technically feasible, would generate VMT per visitor/guest that exceed 15% below the existing average citywide VMT per visitor/guest.

- Public Services. Public services (e.g., police, fire stations, public utilities, local serving parks and recreation facilities) do not generally generate substantial VMT. Instead, these land uses are often built in response to development from other land uses (e.g., office and residential). Therefore, these land uses can be presumed to have less-than-significant impacts on VMT.
- Schools and Religious Uses. VMT impacts of religious and school uses will be determined on a case by case basis while more formal methodology is developed. Religious and school uses that are small in scale and are shown to primarily serve the immediate community can be considered local serving uses, and therefore can be potentially screened out from further VMT analysis. For school and religious uses that are large in scale and are expected to attract people from a broader area, impacts would need to be further evaluated using a market study, or a travel survey of the church congregants. The project would be shown to result in a significant VMT impact if the project is not screened out from analysis, and the project is expected to result in a net increase in daily VMT.
- Event Centers and Regional-Serving Entertainment Venues. Trips associated with these land uses are typically discretionary trips made by individuals, which may be substitute or new trips. For these land uses, a detailed customized VMT analysis would most likely be required to determine if the project would attract regional trips. Therefore, no screening criterion is provided. For uses that are considered to attract regional trips, the project should evaluate if the project would result in a net increase in total VMT.

The land uses described above are not intended to be inclusive of every land use reviewed by LADOT for projects subject to CEQA. For other land uses, the analysis should be consistent with one of the screening criteria and thresholds of significance described above.

Impact Methodology

- Residential Projects. Daily vehicle trips, daily VMT, and daily household VMT per capita for residential projects should be estimated using the VMT Calculator tool. A guide to using the tool can be found here. Transportation demand management strategies to be included as project design features should be considered in the estimation of a project's daily vehicle trips and VMT.
- Redevelopment Projects Near Transit that Reduce Total Housing Supply. For projects that are located within a one-half mile of a fixed-rail transit station and result in a net decrease of housing units, the project should be evaluated to determine if aggregate VMT impacts may result from existing residents that are displaced to higher VMT areas.

While conclusive findings of displacement impact on VMT is uncertain, methodologies will continue to evolve. The analysis should indicate if there is available housing supply near the project to meet the needs of existing residents. If replacement housing is shown to not be available within the project area, the VMT analysis should include the additional average daily VMT of the existing residents that would be expected to be displaced in the numerator of the total VMT per capita assessed for the project.

Office Projects. Daily vehicle trips, daily VMT, and daily work VMT per employee for office projects should be estimated using the VMT Calculator tool. A guide to using the tool and be found here. Transportation demand management strategies to be included as project design features should be considered in the estimation of a project's daily vehicle trips and VMT.

Regional Serving Retail Projects.[20] Retail projects should be evaluated to determine whether the project would result in a net increase in total VMT. Local-serving retail[21] development tends to shorten trips and reduce VMT whereas regional-serving retail development can lead to substitution of longer trips for shorter ones and could increase VMT. One of the following methods would be necessary for retail projects subject to analysis:

- Preparation of a market-study-based transportation analysis submitted by the Project Applicant that demonstrates to LADOT staff that the project area is underserved for the proposed retail use and that the project will shorten existing shopping trips by creating an intervening location between trip origins and current retail destinations.
- Run the City's Travel Demand Forecasting model with and without the project. Since the overall number of trips in the model is based on home-based trips and is balanced to home-trip productions, the total number of trips will not be influenced materially by the introduction of the additional retail space but rather the model will redistribute home-shopping trips from other retail destinations to the proposed retail destination.
  - » If the project is entirely retail, this entails the following steps:
    - Determine the traffic analysis zone (TAZ) in which the project is located.Create a new TAZ at the same location within the model network to be used solely to represent the project's retail land uses.
    - Convert the project retail land uses into the appropriate employment categories utilized in the model. Adjust the socioeconomic parameters in the TAZ appropriately to reflect removal of the existing land uses from the original TAZ and addition of the project's retail uses to the new TAZ.
    - Run the four-step model process for the model existing base year for the four time periods in the model (AM peak period, midday period, PM peak period, nighttime period) for the base ("no project") scenario and for the "plus project" scenario
    - Define the study area for the retail analysis as the radius from the project site that captures at least 90% of the retail-related trips generated by the project. (The entire model network should not be used as the study area for this analysis.)
    - Calculate total link-based VMT on the model network over the study area for each time period and sum to determine daily VMT for each scenario. The total VMT should capture both employee and home-shopping trips. Subtract the daily VMT for the base scenario from the daily VMT for the "plus project" scenario to determine the net change in daily VMT.

20 Regional Serving Retail Projects are generally defined as retail projects where any single retail use exceeds 50,000 square feet in floor area. However, an accumulation of retail uses that are individually under 50,000 square feet may still be considered regional serving in circumstances that the individual retail uses are part of a project that is considered a regional attracting destination. Retail projects that include retail uses that fall under 50,000 square feet are considered local serving. Individual retail uses that exceed 50,000 square feet in area may still be considered locally serving, though further information will be needed to support conclusions that most of the vehicle trips will be originating from the project area.

21 See footnote 16 for definition of local serving retail.

» If the proposed project is a mixed-use development including more than 50,000 square feet of retail, conduct steps similar to those described above. However, first create a "without retail" model scenario that includes the rest of the project's proposed land uses and then create and run the four-step model for this "with retail" scenario. Subtract the daily VMT for the "without retail" scenario from the daily VMT for the "with retail" scenario to determine the net change in daily VMT

Event Centers and Regional-Serving Entertainment Venues. Event centers and regional-serving entertainment projects should be evaluated to determine whether the project would result in a net increase in total VMT. A project-specific customized approach will be required to estimate VMT for such projects. The methodology should be developed in consultation with and approved by LADOT staff at the outset of the study.

Hotel and Motel Uses. VMT impacts of hotel and motel uses should evaluate the VMT impacts of both employee trips and visitor/guest trips, and apply a separate impact threshold to each trip type. The employee trips should be treated as similar to those for office uses where the hotel/motel project would result in an impact if it generates work VMT per employee exceeding 15% below the existing average work VMT per employee for the APC in which the project is located.

Where it can not be qualitatively demonstrated that hotel and motel uses would not result in lower guest/visitor trip distances as compared to without the project, the analysis should quantify the VMT of visitor/guest trips and either evaluate if the visitor/guest trips would lead to a net increase in daily VMT of those trips as compared to without the project or, if technically feasible, would generate VMT per visitor/guest that exceed 15% below the existing average citywide VMT per visitor/guest.

Regional Serving Schools and Religious Uses. Schools and religious uses that are considered regional serving should be evaluated to determine whether the project would result in a net increase in total VMT. The methodology should be developed in consultation with and approved by LADOT staff at the outset of the study.

Mixed-Use Projects. The project VMT impact should be considered significant if, after taking credit for internal capture and screening out local serving retail uses (if applicable), the project exceeds the impact criteria for any one (or all) of a particular project land use(s). However, in circumstances where the total VMT of the combined uses before mitigation would be lower than the combined VMT that results from adding each of the project uses' trips multiplied by the VMT thresholds that apply to the respective use, the analysis need only consider the impacts of the dominant use as defined as the use that generates the highest amount of daily trips.

For example, a total project's VMT after mitigation (Total-VMT-Project) of a residential and office use would be the sum of the total residential VMT (R-VMT-Project) and a total VMT per employee VMT of (E-VMT-Project), where:

(Residential Trips)*(VMT per capita) = R-VMT-Project

(Employee Trips)*(VMT per employee) = E-VMT-Project

R-VMT-Project + E-VMT-Project = Total-VMT-Project

The Screening Mixed-Use VMT Threshold (Total-VMT-Screening) of the same project would be the sum of the projects trips for

(Residential Trips)*(VMT per capita impact threshold) = R-VMT-Screening

(Employee Trips)*(VMT per employee impact threshold) = E-VMT-Screening

R-VMT-Screening + E-VMT-Screening = Total-VMT-Screening

Evaluate only the dominant use where (Total-VMT-Project) < (Total-VMT-Screening)

The purpose of focusing on the VMT of the dominant land use for projects that have overall lower combined VMT when considering all the project uses is to focus only on mitigating the impacts of uses that substantially contribute to VMT impacts as opposed to the uses of a mixed-use project that generate a small amount of trips. The mitigation options that reduce the VMT generated by any or all of the land uses could be considered.

Multiple-Phased Projects. Multiple-phased projects should apply the VMT methodology that aligns with the land use components. More than one analysis method and project threshold should be applied depending on whether the multiple-phased projects include a mixture of uses. The VMT analysis must evaluate the project impact of all project phases if there are reasonable assumptions.

Unique Land Uses. Some projects will not fit into one of the above categories. In such cases, with the concurrence of LADOT, a customized approach can be used to estimate daily trips and VMT. This can be done using the custom land use feature of the VMT Calculator or, if determined to be appropriate, independent of the VMT Calculator. The methodology and thresholds to be used in such cases should be developed in consultation with and approved by LADOT staff at the outset of the study.

Land Use Plans/Community Plans. The City of Los Angeles's land use elements are generally divided into 35 community plans. Community plans should be evaluated using modified versions of the City's Travel Demand Forecasting (TDF) model to determine if the proposed VMT per service population in the future with project scenario will exceed the two-part thresholds described in **Section 2.2.3**. In preparing an analysis for each community plan, the City's TDF model will need to be refined to create a sub-area TDF model with the adequate level of detail within the respective community plan area for improved sensitivity in measuring the effect of land use development and transportation network changes. The assessment should cover the full area in which the plan may substantially affect travel patterns.

To determine whether the land use changes and transportation system measures that are included in a proposed land use plan would have an impact on VMT, run the community plan's sub-area TDF model for the baseline year "no project" scenario and the future "plus project" scenario. The future "no project" scenario should represent the adopted RTP/SCS cumulative year conditions as incorporated into the City's model (SCAG's horizon year socioeconomic forecast for the plan area and the remainder of the City and base transportation networks not including the Mobility Plan 2035). The future cumulative "plus project" scenario should represent the reallocation of the population and/or employment growth based on the land supply changes associated with the proposed plan and the transportation system measures included in the proposed plan (including transportation system measures included in the Mobility Plan 2035 within the plan area and incorporated into the plan). Total VMT per service population would be calculated for all scenarios generated by land use within the project area, which is generally the plan area.

Cumulative Impacts

Analyses should consider both short- and long-term project effects on VMT. Short-term effects will be evaluated in the detailed project-level VMT analysis described above. Long-term, or cumulative, effects will be determined through a consistency check with the SCAG RTP/SCS. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and GHG reduction targets. As such, projects and land use plans that are consistent with this plan in terms of development location, density, and intensity, are part of the regional solution for meeting air pollution and GHG reduction goals. Projects and land use plans that are deemed to be consistent would have a less than significant cumulative impact on VMT. Development in a location where the RTP/SCS does not specify any development may indicate a significant impact on transportation. However, for projects and land use plans that do

not demonstrate a project impact by applying an efficiency-based impact threshold (i.e., VMT per capita, VMT per employee, or VMT per service population) in the impact analysis, a less than significant project impact conclusion is sufficient in demonstrating there is no cumulative VMT impact. Projects and land use plans that fall under the City's efficiency-based impact thresholds are already shown to align with the long-term VMT and GHG reduction goals of SCAG's RTP/SCS.

Projects and land use plans that both (1) demonstrate a project impact by applying an efficiency based VMT threshold or a net increase VMT threshold for regional retail and (2) are deemed to be inconsistent with the SCAG RTP/SCS could have a significant cumulative impact on VMT. Further evaluation would be necessary to determine whether such a project or land use plan's cumulative impact on VMT is significant. This analysis could be conducted by running the SCAG RTP/SCS Travel Demand Forecasting model with the cumulative "no project" scenario representing the adopted RTP/SCS horizon year conditions and the cumulative "plus project" scenario representing the reallocation of the population and/or employment growth based on the land supply changes associated with the proposed project. Citywide VMT, household VMT per capita, work VMT per employee, or VMT per service population (depending on project type) would be calculated for both scenarios, and any increase in VMT, household VMT per capita, work VMT per employee, or VMT per service population (depending on project type) above that which was forecast in the adopted RTP/SCS would constitute a significant impact because it could jeopardize regional air quality conformity or GHG reduction findings.

When specifically evaluating the VMT impacts of regional-serving retail, entertainment projects, and/or event centers, the cumulative analysis would include additional steps to that described above under the Project Impact methodology to compare a cumulative "plus project" scenario with the cumulative "no project" scenario representing the adopted RTP/SCS cumulative year conditions. This would involve the following additional steps:

- Convert the project land uses into the appropriate employment categories utilized in the adopted RTP/SCS horizon year model. Adjust the socioeconomic parameters in the TAZ appropriately to reflect the removal of the existing land uses and addition of the project.
- Run the SCAG RTP/SCS four-step model process for the model cumulative "no project" for the four time periods in the model (AM peak period, midday period, PM peak period, nighttime period) for the base cumulative "no project" scenario and for the cumulative "plus project" scenario.
- Calculate total VMT on the model network for each time period and sum to determine daily VMT for each scenario. Subtract the daily VMT for the base cumulative "no project" scenario from the daily VMT for the cumulative "plus project" scenario to determine the net change in daily VMT.

2.2.5 MITIGATION

Development Projects

Potential mitigation measures for development project VMT impacts can include:

- Transportation demand management strategies including and in addition to those required by the City's TDM Ordinance and/or beyond those to be included as project design features that have been demonstrated to reduce VMT. TDM strategies that have been shown to reduce VMT include, but are not limited to, the following described in **Table 2.2-2** below.

Table 2.2-2: TDM Strategies

CATEGORY	MEASURE
Parking	• Reduce parking supply • Unbundle parking • Parking cash-out • Price workplace parking
Transit	• Reduce transit headways • Implement neighborhood shuttle • Transit subsidies
Education & Encouragement	• Voluntary travel behavior change program • Promotions and marketing
Commute Trip Reductions	• Required commute trip reduction program • Alternative work schedules and telecommute program • Employer or association-sponsored vanpool, circulator or shuttle • Rideshare program
Shared Mobility	• Car share • Bike share • Other shared mobility devices • School carpool program
Bicycle Infrastructure	• Implement/improve on-street bicycle facility • Include outdoor bike parking • Include secure bike parking and showers
Neighborhood enhancement	• Traffic calming improvements • Pedestrian network improvements • Shared use paths, paseos

Further details regarding the definitions, benefits and applicability of the TDM measures listed above are provided in **Attachment G**.

- Additional TDM strategies beyond those listed above. If additional TDM strategies beyond those listed above are used to quantitatively reduce a project's VMT estimate, substantial evidence should be provided to LADOT to support the claimed effectiveness of the strategy(ies).
- Additional off-site or area-wide strategies that would be included in a VMT Exchange or VMT Mitigation Bank. Substantial evidence should be provided to LADOT to support the claimed effectiveness of the strategy(ies) as well as verifying that the strategy(ies) would be additional to fully funded projects such as those that are included in a constrained funded regional transportation improvement plan.
- Enhancements to the public transit system.
- For a single-use project, introducing compatible additional land uses to allow for internalization of trips.
- For a mixed-use project, modifying the project's land use mix to increase internalization of trips, reduce external trip generation, and serve the local community.
- Some TDM strategies may be classified as project design features if the strategies are required by a City ordinance or state law and documentation of the requirement is submitted by an applicant. Examples of TDM strategies that can be counted as project design features include:
    - bicycle parking as required in the Bicycle Parking Ordinance (LAMC 12.21),

- parking 'cash-out' incentives to reduce parking for office projects that are needed to comply with the State's Parking Cash-Out law, and
- reduced vehicle parking incentives as permitted in the Bicycle Parking Ordinance (LAMC 12.21), Citywide Density Bonus Ordinance (LAMC 12.22), and/or the Transit Oriented Communities (TOC) Ordinance (LAMC 12.22), and/or any specific plan.
- Any TDM strategies that are necessary to comply with Rule 2202 of the South Coast Air Quality Management District (SCAQMD), the existing City's TDM Ordinance (LAMC 12.26 J), and/or any specific plan.

Land Use Plans

Potential mitigation measures for land use plan VMT impacts can include:

- Reallocation of future land use development to concentrate jobs, housing, and neighborhood supporting uses in transportation-efficient locations (e.g., proximity to transit, proximity to services).
- Strategies to enhance the public transit system. Strategies may include improved connections to the system through active transportation or sustainable modes, such as mobility investments, programs, and/or education and marketing.
- Strategies to encourage reduced reliance on automobile trips and encourage transit and active transportation modes.

2.3 SUBSTANTIALLY INDUCING ADDITIONAL AUTOMOBILE TRAVEL (THRESHOLD T-2.2)

2.3.1 INTRODUCTION

Transportation projects that increase vehicular capacity can lead to additional travel on the roadway network, which can include induced vehicle travel due to factors such as increased speeds and induced growth. OPR issued proposed updates to the CEQA guidelines in November 2017[22] and an accompanying technical advisory finalized in December 2018[23] that amends the Appendix G questions to refer to Section 15064.3, subdivision (b)(2) of the CEQA Guidelines, which give discretion to agencies to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. The California Natural Resources Agency certified and adopted the updated CEQA Guidelines in December of 2018, and these guidelines are now in effect.[24] To provide consistency across projects and achieve the City's sustainability policies, the City of Los Angeles has acted to consider the potential for transportation projects to increase VMT, and disclosing such impacts is subject to CEQA.

Accordingly, the City of Los Angeles recognizes the need to set new significance criteria for transportation impacts based on VMT for transportation projects in accordance with the amended Appendix G question:

THRESHOLD T-2.2: For a transportation project, would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)(2)?

For transportation projects, the intent of this threshold is to assess whether a transportation project induces substantial

22 State of California, Governor's Office of Planning and Research, *Proposed Updates to the CEQA Guidelines, Final*, November 2017.

23 State of California, Governor's Office of Planning and Research, T*echnical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

24 See Footnote 4.

additional VMT. The City has developed the following screening and impact criteria to answer this question. The criteria are supported by the OPR technical advisory.

2.3.2 SCREENING CRITERIA

If the answer is no to the following question, further analysis will not be required for Threshold T-2.2, and a no impact determination can be made for that threshold:

- ***T-2.2***: Would the project include the addition of through traffic lanes on existing or new highways, including general purpose lanes, high-occupancy vehicle (HOV) lanes, peak period lanes, auxiliary lanes, and lanes through grade-separated interchanges (except managed lanes, transit lanes, and auxiliary lanes of less than one mile in length designed to improve roadway safety)?

Transit and active transportation projects and projects that reduce roadway capacity generally reduce VMT and, therefore, are presumed to cause a less-than-significant impact. Transportation projects that are not likely to lead to a substantial or measurable increase in vehicle travel and would, therefore, not be required to prepare an induced travel analysis, are listed in **Table 2.3-1**.

Table 2.3-1: Transportation Projects Not Likely to Lead to Substantial or Measurable Increase in Vehicle Travel

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity
- Roadside safety devices or hardware installation such as median barriers and guardrails
- Roadway shoulder enhancements to provide "breakdown space" - dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Conversion of existing general-purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., high-occupancy vehicles [HOV], high-occupancy toll [HOT], or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
- Timing of signals to optimize vehicle, bicycle or pedestrian flow
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of traffic wayfinding signage
- Rehabilitation and maintenance projects that do not add motor vehicle capacity
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Adding of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor

2.3.3 IMPACT CRITERIA

For transportation projects that exceed the screening criteria in T-2.2, and are not qualified to be screened out from

further analysis by constituting activity in **Table 2.3-1**, the capacity enhancing transportation project will have a potential impact if:

- The project will increase the project area[25] VMT, as measurable by the City's base year TDF model plus an induced travel elasticity factor per lane mile.

2.3.4 METHODOLOGY

Project Impacts

The City of Los Angeles developed a citywide TDF model that is suitable for assessing change in VMT due to a given roadway project in its land use/transportation context. The model should be used to calculate the change in VMT from transportation projects that, by definition, are considered to have the potential for inducing automobile travel.

For the direct measurement of short-term project impacts, the TDF model's base year[26] network should be modified to reflect the vehicle capacity-enhancements that would result from the proposed transportation project. The base year model should be run with and without the proposed transportation project, without adjusting the model's land use inputs, in order to isolate the potential short-term change in network VMT with the project as compared to the baseline. The assessment should cover the full area in which driving patterns are expected to change and include supporting evidence for why such an area was selected.

The City's TDF model is capable of adjusting trip lengths, mode split, and route choice in response to network changes. However, the model does not include the ability to modify long-term land use changes in response to changes to the transportation system and will not increase trips to reflect latent demand. Therefore, such induced travel should be estimated by applying an induced demand elasticity factor available from appropriate academic literature. According to the OPR Technical Advisory[27], the most recent major study as of this writing[28] finds the long-term elasticity of vehicle travel by lane miles added to be 1.0, meaning that every percent increase in lane miles results in a 1.0 percent increase in vehicle travel.

Accordingly, the VMT impact of a capacity enhancing transportation project shall be calculated as the direct short-term change in VMT as estimated by the City's TDF model with and without the project plus a factor for long-term induced demand calculated as follows:

- Run the TDF model with and without the transportation project to isolate the potential direct short-term change in network VMT due to changes in trip length, mode split, and route choice.
- Using the TDF model, determine the total lane-miles over the project area[29] that fully captures travel behavior changes resulting from the project.
- Determine the percent change in total lane miles that will result from the project.
- Using the TDF model, determine the total existing VMT over that same area.

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25 The project area, for the purposes of a VMT analysis of transportation projects will be defined on a project by project basis. The area must include the transportation analysis zones that contain a non-significant amount of vehicles traveling somewhere along their journey and also along the project corridor segment.

26 The base year shall reflect the environmental setting closest to when the project analysis was initiated, such as the release of a Notice of Preparation.

27 State of California, Governor's Office of Planning and Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018

28 Duranton and Turner. The Fundamental Law of Road Congestion, Evidence from US Cities, 2011.

29 See footnote 25 for the definition of Project Area for transportation projects.

- Multiply the percent increase in lane miles by the existing VMT and then multiply that by the long-term elasticity factor of 1.0 to determine the induced VMT.

In addition, as of this publication of the Transportation Assessment Guidelines, the California Department of Transportation (Caltrans) released the First Edition of the Transportation Analysis Framework[30] (Framework) that provides a methodology to evaluate the induced travel and resulting VMT impacts of capacity enhancing projects on the State Highway System (SHS). Similar to the above analysis method, the methodology developed by Caltrans combines both an empirical based approach and a travel demand model-based approach. Caltrans seeks to streamline the empirical approach and has released an Induced Travel Calculator[31] developed by the National Center for Sustainable Transportation. According to the Framework, Caltrans recommends using the Induced Travel Calculator for all projects on the SHS within Los Angeles County that meet their functional classification of facilities, which include interstate (Class 1), freeways and expressways (Class 2), and other principal arterials (Class 3)[32]. For current approved methods to evaluate the VMT impacts of capacity enhancing transportation projects on the SHS within Los Angeles County, consult the most recent version of the Transportation Analysis Framework on the Caltrans SB 743 program website.[33]

Cumulative Impacts

Analyses of capacity enhancing transportation projects should consider both short- and long-term project effects on VMT. Short-term effects will be evaluated in the project-level VMT analysis described above. Long-term, or cumulative, effects will be determined through a consistency check with the SCAG RTP/SCS. The RTP/SCS is the regional plan that demonstrates compliance with air quality conformity requirements and greenhouse gas (GHG) reduction targets. As such, transportation projects that are included in this plan are part of the regional solution for meeting air pollution and GHG reduction goals. Transportation projects that are deemed to be consistent would have a less than significant cumulative impact on VMT. Cumulative impact analysis is not necessary for transportation projects listed in **Table 2.3-1**, regardless if they are not included in SCAG's RTP/SCS, since they are presumed to not likely to lead to substantial or measurable increase in vehicle travel.

Transportation projects that are deemed to be inconsistent with the RTP/SCS could have a significant cumulative impact on VMT. Further evaluation would be necessary to determine whether such a project's cumulative impact on VMT is significant. This analysis would be conducted by running the City's TDF model with the cumulative "no project" scenario representing the adopted RTP/SCS cumulative year conditions (as incorporated into the City's model) and the cumulative "plus project" scenario incorporating the network changes due to the proposed transportation project. An induced demand elasticity factor should be applied to any increase in VMT thus determined, and any increase in VMT would constitute a significant impact because it could jeopardize regional air quality conformity or GHG reduction findings.

2.3.5 MITIGATION

Mitigation measures that could reduce the amount of increased vehicle travel induced by capacity increases could include, but not be limited to, the following measures:

- Tolling new lanes to encourage carpools and fund transit improvements.

30 Caltrans. Transportation Analysis Framework First Edition: Evaluating Transportation Impacts of State Highway System Projects September 2020. https://dot.ca.gov/programs/sustainability/sb-743. Accessed on April 11, 2022.

31 Induced Travel Calculator. National Center for Sustainable Transportation. https://blinktag.com/induced-travel-calculator.

32 Caltrans. Transportation Analysis Framework First Edition: Evaluating Transportation Impacts of State Highway System Projects: September 2020. See Appendix A of FHWA Functional Classification System.

33 https://dot.ca.gov/programs/sustainability/sb-743

- Converting existing general-purpose lanes to HOV lanes, high occupancy toll (HOT) lanes, or bus lanes.
- Cordon or congestion pricing to encourage sustainable travel behavior and fund district-wide mobility improvements.
- Implementing or funding off-site mobility improvements, including the initiation of transportation management organizations (TMOs).
- Implementing intelligent transportation systems (ITS) strategies to improve passenger throughput on existing lanes.

2.4 SUBSTANTIALLY INCREASING HAZARDS DUE TO A GEOMETRIC DESIGN FEATURE OR INCOMPATIBLE USE (THRESHOLD T-3)

2.4.1 INTRODUCTION

Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from the project site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle, vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a project site. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections. Evaluation of access impacts require details relative to project land use, size, design, location of access points, etc. These impacts are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction.

Project access can be analyzed in qualitative and/or quantitative terms, and in conjunction with the review of internal site circulation and access to parking areas. All proposed site access points should be evaluated.

Conversely, vehicle/vehicle conflicts may be created if the land use project would generate substantial demand that would result in additional vehicle queues on to a freeway off-ramp that would further lead to unsafe differentials of travel speed between cars attempting to exit and cars traveling at higher speeds. The potential for freeway safety impacts can be analyzed quantitatively by simulation models and collecting information on existing prevailing travel speeds pursuant to the methodology described herein.

2.4.2 SCREENING CRITERIA

If the project requires a discretionary action, and the answer is “yes” to either of the following questions, further analysis will be required to assess whether the project would result in impacts due to geometric design hazards or incompatible uses:

- Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?
- Is the project proposing to make any voluntary or required modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?

For the purpose of the screening for projects that are making physical changes to the public right-of-way, determine the street designation and improvement standard for any project frontage along streets classified as an Avenue or Boulevard (as designated in the City’s General Plan) using the Mobility Plan 2035, or NavigateLA. If any street fronting

the project site is an Avenue or Boulevard and it is determined that additional dedication, or physical modifications to the public right-of-way are proposed or required, the answer to this question is yes. For projects not subject to dedication and improvement requirements under the Los Angeles Municipal Code, though the project does propose dedications or physical modifications to the public right-of-way, which may also include new physical modifications along streets classified as either Collectors or Locals, the answer to this question is yes.

In addition to the screening questions above, if the answer is "yes" to all of the following questions, further analysis will be required to assess whether the project would result in impacts due to queuing from a freeway off-ramp that could lead to unsafe differential travel speeds:

- Does the land use project involve a discretionary action that would be under review by the Department of City Planning?
- Would the land use project generate a net increase of 250 or more daily vehicle trips?
- Would the land use project add 25 or more trips to any off ramp in either the morning or afternoon peak hour?

2.4.3 IMPACT CRITERIA

Threshold T-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Preliminary project access plans are to be reviewed in light of commonly accepted traffic engineering design standards [34] to ascertain whether any deficiencies are apparent in the site access plans which would be considered significant. The determination of significance shall be on a case-by-case basis, considering the following factors:

- The relative amount of pedestrian activity at project access points.
- Design features/physical configurations that the project introduces that affect the visibility of pedestrians and bicyclists to drivers entering and exiting the site, and the visibility of cars to pedestrians and bicyclists.
- The type of bicycle facilities the project driveway(s) crosses and the relative level of utilization.
- The physical conditions of the site and surrounding area, such as curves, slopes, walks, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle, or vehicle/vehicle safety hazards.
- The project location, or project-related changes to the public right-of-way, relative to proximity to the High Injury Network or a Safe Routes to School program area.
- Any other conditions, including the approximate location of incompatible uses that would substantially increase a transportation hazard.

To assess potential vehicle impacts that may result in unsafe vehicle queues from a freeway off ramp, if the project is forecasted to add two or more car lengths to the ramp backup that extends to the freeway mainline, and the speed differential is 30 mph or more, then there is a potentially significant safety impact.

2.4.4 METHODOLOGY

34 One example of traffic engineering design standards includes but is not limited to Section 321 of LADOT's Manual of Policies and Procedures, which provides guidance on driveway design.

Project Impacts

For vehicle, bicycle and pedestrian safety impacts, review all project access points, internal circulation, and parking access from an operational and safety perspective (for example, turning radii, driveway queuing, line of sight for turns into and out of project driveway[s]). Where project driveways would cross pedestrian facilities or bicycle facilities (bike lanes or bike paths), consider operational and safety issues related to the potential for vehicle/pedestrian and vehicle/bicycle conflicts and the severity of consequences that could result. In areas with moderate to high levels of pedestrian or bicycle activity, the collection of pedestrian or bicycle count data is required.

To assess potential vehicle to vehicle impacts that may result in unsafe vehicle queues from a freeway off ramp, projects that are expected to add 25 or more trips to any off ramp in either the morning or afternoon peak hour, then that ramp should be studied for potential freeway off-ramp queueing impacts following the steps below.

1. Using Synchro analysis software, or similar tools, prepare a queuing study for the "Future with Project" conditions for the proposed project build-out year. Follow the recommended steps in Section 3.3.4.1 to forecast future traffic volumes.

2. To evaluate the adequacy of the existing and future storage lengths, use the 95th percentile queue provided from the Synchro results worksheet, and use 100% of the storage length on each lane of the ramp from the stop line to the gore point. If an Auxiliary Lane exists, add 50% of the length of the auxiliary lane to the ramp storage area.

If the Project traffic is expected to cause or add to a queue extending onto the freeway mainline by less than two car lengths, the project would cause a less-than-significant safety impact. If the queue is already extending or projected to extend onto the freeway mainline, and the Project increases the overflow onto the mainline lanes by less than two car lengths, the project would cause a less-than-significant safety impact.

If the Project adds two or more car lengths to the ramp backup that extends to the freeway mainline, then the location must be tested for safety issues which include a test for speed differential between the off-ramp queue and the mainline of the freeway during the particular peak hour. The speed differential would identify the operating speed of the freeway mainline lanes during the peak hour that corresponds to the peak hour during which the ramp is expected to experience project-related queue overflow. Caltrans Performance Measurement System (PeMS) data should be used to identify freeway operating speed(s) during the peak hour being analyzed. If reliable PeMS data are not available at the subject location, other sources of speed data including location-based services data from available sources could be used. If the speed differential is 30 mph or more, then there is a potential safety issue.

Review project site access plans for related projects with access points proposed along the same block(s) as the proposed project. Determine the combined impact and the project's contribution.

2.4.5 MITIGATION

Potential mitigation measures for project impacts due to geometric design hazards can include, but not be limited to:

- Installation of a traffic signal, stop signs or electronic warning devices at site access points
- Redesign, reduction, and/or relocation of project access points, including driveways
- Redesign of the internal (on-site) circulation system
- Installation of stop-signs and pavement markings internal to the site

- Restricting or prohibiting turns at site access points
- Pavement markings that highlight potential conflict points including marking/striping through bike lane
- Widened sidewalk and/or curb extensions
- Augment driver/pedestrian sight lines
- Manage vehicle/parking demand

To offset project impacts due to unsafe queuing from a freeway offramp, the project should consider the following preferred mitigation measures:

Transportation demand management program(s) to reduce the project's trip generation,

Investments to active transportation infrastructure, or transit system amenities (or expansion) to reduce the project's trip generation, and/or

Potential operational change(s) to the ramp terminal operations including, but not limited to, lane reassignment, traffic signalization, signal phasing or timing modifications, etc. This option requires coordination with Caltrans and LADOT to assess feasibility and for approval of the proposed measure(s).

Mitigation is not required under conditions where queuing already exists on a freeway exit ramp. This includes:

- where freeway exit-ramp queuing currently spills back onto the mainline;
- where queuing currently exceeds a freeway auxiliary lane length; or
- where freeway traffic volumes currently cause freeway exit ramp turning lanes to exceed capacity.

A physical change to the ramp itself (addition of auxiliary lane, ramp widening, etc.) may be considered. However, this change would have to demonstrate substantial safety benefits, not be a VMT-inducing improvement, and not result in other environmental issues. If the cost of the physical change to the ramp is substantial, then a fair-share contribution to the improvement may be required if necessary requirements are met, including, but not limited to, Caltrans defining the improvement cost, and opening a Project File/Project Account to accept a financial contribution for the improvement. If required, the Applicant would pay the Project's fair-share of the improvement cost, and the fair-share contribution.

SECTION 3:

Non-CEQA Transportation Analysis

3.1 AUTHORITY FOR REQUIRING NON-CEQA TRANSPORTATION ANALYSIS

The authority for requiring non-CEQA transportation analysis and potentially requiring improvements to address identified deficiencies lies in the City of Los Angeles' police powers to regulate the use of land. In certain applications, the City is required to make specific findings in order to exercise its discretionary authority to approve a land use development project. The City's Site Plan Review approval process establishes discretionary authority in Section 16.05 of the Los Angeles Municipal Code (LAMC) to review and correct for transportation deficiencies that may result from a development project:

> "The purposes of site plan review are to promote orderly development, evaluate and mitigate significant environmental impacts, and promote public safety and the general welfare by ensuring that development projects are properly related to their sites, surrounding properties, traffic circulation, sewers, other infrastructure and environmental setting; and to control or mitigate the development of projects which are likely to have a significant adverse effect on the environment as identified in the City's environmental review process, or on surrounding properties by reason of inadequate site planning or improvements."

Additional authority is found in other discretionary processes (e.g., conditional use permits) where the City is required to make findings to support approval of a land use development project. Examples of such findings that may help correct for transportation deficiencies include that a project must enhance the built environment and that it not further degrade the surrounding neighborhood; that it not further degrade the public health, welfare, and safety; and that a project must substantially conform to the purpose, intent and provisions of the General Plan. Discretionary authority to impose transportation-related conditions is also established by other City ordinances, such as certain Transportation Specific Plans, for example, the West Los Angeles Transportation Improvement and Mitigation Specific Plan (WLA TIMP).

The impacts, also referred to as deficiencies, discussed in **Section 3** are not intended to be interpreted as thresholds of significance, or significance criteria for purposes of CEQA review unless otherwise specifically identified in **Section 2**.

3.2 PEDESTRIAN, BICYCLE, AND TRANSIT ACCESS ASSESSMENT

3.2.1 INTRODUCTION

The pedestrian, bicycle, and transit facilities assessment is intended to determine a project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. The deficiencies could be physical (through removal, modification, or degradation of facilities) or demand-based (by adding pedestrian or bicycle demand to inadequate facilities).

3.2.2 SCREENING CRITERIA

If the answer is yes to all the following questions, further analysis will be required to assess whether the project would

negatively affect existing pedestrian, bicycle, or transit facilities:

- Does the land use project involve a discretionary action that would be under review by the Department of City Planning?
- Does the land use project include the construction, or addition of:
    - 50 (or more) dwelling units or guest rooms or combination thereof, or
    - 50,000 square feet (or more) of non-residential space?
- Would the project generate a net increase of 1,000 or more daily vehicle trips, or is the project's frontage along an Avenue, Boulevard, or Collector (as designated in the City's General Plan) 250 linear feet or more, or is the project's building frontage encompassing an entire block along an Avenue or Boulevard (as designated in the City's General Plan)?

For the purpose of screening for daily vehicle trips, a proposed project's daily vehicle trips should be estimated using the VMT Calculator tool or the most recent edition of the ITE Trip Generation Manual, as described in **Section 2.2**. A user's guide for the VMT Calculator can be found here. If existing land uses are present on the project site or there were previously terminated land uses that meet the criteria for trip credits described in the trip generation methodology discussion in **Section 3.3**, the daily vehicle trips generated by the existing or qualified terminated land uses can be estimated using the VMT Calculator tool and subtracted from the Project's daily vehicle trips to determine the net increase in daily vehicle trips.

3.2.3 EVALUATION CRITERIA

Factors to consider when assessing a project's potential effect on pedestrian, bicycle and transit facilities, include, but are not limited to, the following:

Would a project directly or indirectly result in a permanent removal or modification that would lead to the degradation of pedestrian, bicycle, or transit facilities, including but not limited to:

- ☐ Removal or degradation of existing bikeways and/or supporting facilities (e.g., bikeshare stations, on-street bike racks/parking, bike corrals, etc.)
- ☐ Removal or degradation of existing transit and/or local circulator facilities including stop, bench, shelter, concrete pad, bus lane, or other amenities
- ☐ Removal of other existing transportation system elements supporting sustainable mobility
- ☐ Increase street crossing distance for pedestrians; increase in number of travel/turning lanes; increase in turning radius or turning speeds
- ☐ Removal, degradation, or narrowing of an existing sidewalk, path, crossing, or pedestrian access way
- ☐ Removal or narrowing of existing sidewalk-street buffering elements (e.g., curb extension, parkway, planting strip, street trees, etc.)

Would a project intensify use of existing pedestrian, bicycle, or transit facilities, including but not limited to:

- ☐ Increase in pedestrian or vehicle volume, and thereby increase the need or attraction to cross a street at unmarked pedestrian crossings or unsignalized or uncontrolled intersections where a crossing is not available without significant rerouting. Refer to the Guidelines for Marked Crosswalks Across Uncontrolled Locations, in LADOT's Manual of Policies and Procedures (MPP) Section 344, or Guidelines for Traffic Signals in MPP Section 353 to determine approval and warrant criteria for an additional crossing.

- Result in new pedestrian demand between project site entries/exits and major destinations or transit stops expected to serve the development where there are missing pedestrian facilities (e.g., gaps in the sidewalk network) or substandard pedestrian facilities (e.g., narrow or uneven sidewalks, no crosswalks at intersections or mid-block, no marked crossing, or push button crossing rather than actuated, etc.).
- Increase transit demand at bus stops that lack marked crossings, with insufficient sidewalks, or are in isolated, unshaded, or unlit areas.

3.2.4 METHODOLOGY

The Existing Conditions/Setting section of the Transportation Assessment should provide maps or diagrams illustrating an inventory of pedestrian, bicycle and transit facilities, and potential pedestrian destinations within 1,320 feet of the edge of a project site. A map should include, at a minimum, existing or planned pedestrian, bicycle and transit facilities that could be affected by project-related traffic or users traveling between the project and surrounding destinations. An inventory of the facilities shown should include sidewalks and sidewalk widths, marked and unmarked crosswalks, crosswalk marking design (continental, traditional parallel, yellow school crossing, etc.), pedestrian push-buttons, pedestrian signals, curb access ramps, tactile warning strips, curb extensions, pedestrian amenities (bus benches, street trees) and other active transportation-supportive infrastructure. This inventory should include a general assessment of the quality of these facilities (adequate or substandard). The map must also measure the distance between all of the crossing control devices (e.g., signalized crosswalk, or controlled mid-block crossing) along any arterial within 1,320 feet of the property. Complete Attachment C.1 to complete this analysis.

Another map(s) should include the destinations such as transit stops, schools, government offices with a public counter or meeting room, senior citizen centers, recreation centers or playgrounds, public libraries, medical centers or clinics, child care facilities, post offices, places of worship, and other facilities that attract pedestrian trips. The map(s) should indicate the peak destination hours of operations that may create demand for infrastructure in different periods.

Removal or Degredation of Facilities

Review the proposed project in the context of the facilities inventory and the evaluation criteria to determine whether the project would result in the removal or degradation of facilities.

Intensification of Use

If the project is expected to add pedestrians to an existing unmarked crossing or an uncontrolled crosswalk, data on pedestrian and bicycle volumes[35], traffic counts[36], and transit boarding and alighting information should be collected to determine the baseline level of activity at the location. The total future estimated traffic and pedestrian growth, including related projects plus project-generated growth, should be included. Additional locations for pedestrian and bicycle counts shall be collected as specified in Section 3.3.4 of these Guidelines.

The potential need for a marked crosswalk or protected crossing should be evaluated using NACTO Guidelines and LADOT policies, guidelines, and warrants set forth in ATTACHMENT H: LADOT Marked Crosswalks Guidelines and ATTACHMENT I: LADOT Traffic Signal Warrants Worksheet , or any of the successor policies, guidelines, and warrants. Protected crossings at high demand locations along major arterials (streets designated as Avenues or Boulevards) should be available at a frequency that would not require pedestrians to make substantial detours to access a desired destination. Some agencies suggest a 300-foot minimum spacing from the next available protected crossing and potentially 120-200 feet depending

35 The bicycle and pedestrian count forms included in Attachment L should be used.

36 The traffic count forms included in Attachment K should be used.

on the conditions[37] [38]. LADOT guidance qualifies the approval for placing crosswalks where there is no intersection with a legal crossing or marked mid-block crosswalk within 315 feet of the proposed location [39] NACTO guidance suggests that people may decide to cross along a more direct, though unsafe route if delays to a journey exceed three minutes as a result of re-routing to access protected locations to cross a street. [40]

High Injury Network

For projects that would result in increased pedestrian demand of streets on the High Injury Network (HIN), LADOT Development Review staff will coordinate internal review with the Vision Zero Programs Bureau to determine if safety-related countermeasures are needed to support safe access to/or from the development site for vulnerable road users.[41] Since the City's Vision Zero Initiative aims to address safety concerns for vulnerable road users, such as those that may travel by foot or bicycle, a project-related assessment should identify specific challenges to active transportation and the safety of people traveling from the site by walking, biking, or taking transit.

3.2.5 RECOMMENDED ACTIONS

Development projects should fully improve sidewalks along the project frontage to current standards.

Development projects may be required to install or make contributions to new or improved facilities in the public right-of-way based on the location of those facilities relative to the project and its contribution to the need for them. If deficiencies are identified in the pedestrian pathways between the proposed project and proximate destinations or transit stops, consult with LADOT to determine the feasibility of making off-site improvements to remedy those deficiencies. The analysis will need to verify to the extent that the street right-of-way and roadway widths of the streets under consideration are consistent with the street designations within the Mobility Plan 2035. If the analysis reveals inconsistencies, additional review is necessary to determine if exceptions are warranted to complete any identified street improvements. Such exceptions may need to be initiated through a waiver application with the Department of City Planning as outlined in LAMC 12.37.

If the site of the proposed project is located along the HIN, consult with LADOT to identify countermeasures that may enhance access and safety at the project site. Counter-measures that have proven to enhance safety of vulnerable road users and/or lower vehicle design speeds 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, protected left-turn phases, etc. Additionally, site access plans for proposed projects on roadways identified within the HIN should avoid or minimize the number of proposed driveways on that street.

According to the LADOT Vision Zero Safety Toolkit, protected left turn signals have been shown to reduce collisions between people walking and driving by 99%. Left-turn phasing should be considered at signalized intersections where there are conflicts between cars turning left, opposing traffic, and people crossing the intersection. To assess the potential for left-turn phasing, projects should conduct a left-turn warrant analysis at any signalized study intersection. Please reach out to LADOT staff for a copy of the most recent version of the warrant analysis worksheet.

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37 NACTO Urban Street Design Guidelines. https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/

38 Federal Highway Administration (FHWA). 2016. Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts. pp35

39 LADOT Marked Crosswalk Guidelines

40 NACTO Urban Street Design Guidelines. https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/

41 To determine whether a project is on the HIN, visit the interactive map on www.navigatela.lacity.org and/or download the most recent street dataset available on the City's Vision Zero website https://ladotlivablestreets.org/programs/vision-zero/maps

Where a project proposes to alter existing public facilities on streets in its proximity, such alterations should be consistent with LADOT's MPP. Exceptions to design guidance may be allowed but will be decided on a case-by-case basis.

3.3 PROJECT ACCESS SAFETY AND CIRCULATION EVALUATION

3.3.1 INTRODUCTION

Project access and circulation constraints relate to the provision of access to and from the project site, and may include operational, or capacity constraints. Constraints can be related to vehicular/vehicular, vehicular/bicycle, or vehicular/pedestrian constraints as well as to operational delays. These conflicts may be created by the driveway configuration or through the placement of project driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to an intersection or crosswalk. Evaluation of access constraints require details relative to project land use, size, design, location of access points, etc. These constraints are typically evaluated for permanent conditions after project completion but can also be evaluated for temporary conditions during project construction.

Potential hazards related to project access design features are evaluated in **Section 2.4**. Also, if determined to be necessary in consultation with LADOT and the guidelines below, operational performance may be quantified for primary site access points, unsignalized intersections integral to the project's site access, and signalized intersections in the vicinity of the project site. However, as required by Section 15064.3 of the California Code of Regulations, a project's effect on automobile delay shall not constitute a significant environmental impact under CEQA. Finally, the analysis can also include evaluation of the adequacy of passenger loading facilities.

3.3.2 SCREENING CRITERIA

For land use projects, if the answer is yes to all of the following questions, further analysis will be required to assess whether the project would negatively affect project access and circulation:

- Does the land use project involve a discretionary action that would be under review by the Department of City Planning?
- Would the land use project generate a net increase of 500 or more daily vehicle trips?

For the purpose of screening for daily vehicle trips, a proposed project's daily vehicle trips should be estimated using the VMT Calculator tool or the most recent edition of the ITE Trip Generation Manual, as described in **Section 2.2**. A user's guide for the VMT Calculator can be found here. If existing land uses are present on the project site or there were previously terminated land uses that meet the criteria for trip credits described in the trip generation methodology discussion below, the daily vehicle trips generated by the existing or qualified terminated land uses can be estimated using the VMT calculator and subtracted from the Project's daily vehicle trips to determine the net increase in daily vehicle trips.

For transportation projects, if the answer is yes to the following question, further analysis will be required to assess how the project would affect project access and circulation:

- Does the transportation project reduce travel lane capacity on a road that would be expected to carry more than 750 vehicles per hour per lane for at least two (2) consecutive hours in a 24-hour period after the project is completed?

3.3.3 EVALUATION CRITERIA

Operational Evaluation

For land use and transportation projects, the Transportation Assessment should include a quantitative evaluation of the project's expected access and circulation operations. Project access is considered constrained if the project's traffic would contribute to unacceptable queuing on an Avenue or Boulevard (as designated in the Mobility Plan 2035) at project driveway(s) or would cause or substantially extend queuing at nearby signalized intersections. Unacceptable or extended queuing may be defined as follows:

- Additional queue along through lanes and either of the following conditions are expected:
    - the projected peak hour intersection LOS is D and the through lane queue increases by greater than 75 feet on any approach with the directional approach LOS at E or F, or
    - the projected peak hour intersection LOS is E or F and the through lane queue increases by greater than 50 feet on any approach with the directional approach LOS at E or F.
- Spill over from turn pockets into through lanes.
- Block cross streets or alleys.
- Spill over from drive-throughs into streets.
- Contribute to "gridlock" congestion. For the purposes of this section, "gridlock" is defined as the condition where traffic queues between closely-spaced intersections and impedes the flow of traffic through upstream intersections.

For land use and transportation projects, the Transportation Assessment should identify if project-related traffic queuing is expected to increase traffic diversion so as to burden neighborhood streets (See **Section 3.5**).

Safety Evaluation

For transportation projects, the Transportation Assessment should identify if the project would result in changes to the operations of the roadway that would be expected to improve or reduce safety for vulnerable road users.

Passenger Loading Evaluation

The demand for curbside space has substantially increased due to the continued expansion of driver-for-hire transportation network companies (TNCs) and shared mobility services. The Transportation Assessment should characterize the on-site loading demand of the project frontage and answer these questions: Would the project result in passenger loading demand that could not be accommodated within any proposed on-site passenger loading facility? Would accommodating the passenger loading demand create pedestrian or bicycle conflicts? Which curbside management options should be explored to better address passenger loading needs in the public right-of-way?

3.3.4 METHODOLOGY

Operational Evaluation

Delay/Queuing Methodology

Intersection level of service (LOS) methodologies from the latest edition of the Transportation Research Board Highway Capacity Manual (HCM) should be used to evaluate the operation of the project driveways and nearby intersections. For individual isolated intersection analysis, the use of software packages such as Synchro, Vistro, or HCS that implement the HCM methodologies is acceptable.

Where oversaturated conditions currently exist, the operational analysis should be conducted using Synchro/SimTraffic or VISSIM simulation models to more accurately reflect the effect of downstream congestion on intersection operations. VISSIM should be used in areas with transit lanes or with high levels of pedestrians conflicting with vehicle turning movements.

In determining the lane assignments for an intersection with an unmarked curb lane, the delay calculations may assume the capacity of a functional right-turn only lane, provided that the lane width is a minimum of 18 feet wide, there are no bus stops at the approach, on-street parking would not impede vehicles turning right, the pedestrian volumes are low during the vehicular peak hour, and this de-facto right-turn operation has been verified in the field.

Study Area and Time Periods for Analysis

Study locations should be determined in consultation with LADOT and should include:

- All primary project driveway(s).
- At a minimum, intersections at either end of the block(s) on which the project is located or up to 600 feet from primary project driveway(s), whichever is closer.
- Unsignalized intersections that are adjacent to the project or that are expected to be integral to the project's site access and circulation plan.
- All signalized intersections in proximity to the project to where 100 or more net new peak hour trips would be added by the project.
- When oversaturated conditions are to be simulated, additional intersections may be necessary to appropriately simulate the extent of the oversaturation.[42]

For most projects, analyze traffic for both the a.m. and p.m. weekday peak hours. For some projects, expanding the analysis to include midday or weekend periods may be appropriate if these are expected to be the prime periods of trip generation for the project.

Traffic Counts

The LADOT traffic count database should be searched for any recent traffic counts at the study intersections. The Transportation Assessment should not use any traffic counts that are more than two years old. If recent LADOT traffic counts are not available, then new traffic counts must be collected by a qualified data collection firm. Turning movement data at the study intersections should be collected in 15-minute intervals during the hours of 7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 6:00 p.m., unless LADOT specifies other hours (e.g., for a signal warrant determination or weekend analysis). Unless otherwise required, all traffic counts should generally be conducted when local schools or colleges are in session, on days of good weather, on Tuesdays through Thursdays during non-Summer months, and should avoid being taken on weeks with a holiday. New counts should also be avoided during times that are unrepresentative of prevailing traffic conditions, such as the 2028 Olympic games, disaster response from earthquakes, or the 2020 COVID-19 response crises. If unrepresentative periods are prolonged, older counts may be relied on a case-by-case basis if they can be adjusted and validated using archival loop detector data, such as through the Automated Traffic Surveillance and Control

42 According to the Federal Highway Administration, Volume III – Guidelines for Applying Traffic Microsimulation Modeling Software (August 2003), "The analyst should try to design the model to geographically and temporally encompass all significant congestion to ensure that the model is evaluating demands rather than capacity; however, the extent of the congestion in many urban areas and resource limitations may preclude 100 percent achievement of this goal. If this goal cannot be achieved 100 percent, then the analyst should attempt to encompass as much of the congestion as is feasible within the resource constraints and be prepared to post-process the model's results to compensate for the portion of congestion not included in the model."

(ATSAC) System, or the Regional Integrated Intelligent Transportation System (RIITS). Relative to the proposed Project description, the transportation assessment may be required to collect and evaluate traffic data on the following special circumstances:

- Summer weekend activity in recreational areas
- Evening hours
- Holidays or special events
- Alternative Project scenarios if required by another City Department or adjacent jurisdiction

Traffic counts shall include vehicle classifications, pedestrian volume counts, and bicycle counts. Where simulation analysis is to be conducted, counts should be conducted using video monitoring and summarized to capture existing operational issues and constraints in addition to the count.

If vehicle count data is collected utilizing video technology equipment that is left unattended in the public right-of-way, the video equipment should be clearly labeled as vehicle counting equipment and should include the name and contact information of the company conducting the count, as shown in **Figure 3.3 1**.

Figure 3.3.-1: Sample Label for Traffic Counting Equipment

TRAFFIC COUNTING EQUIPMENT

For Information Contact

(xxx) xxx-xxxx (Company Name)

All traffic data collected should be summarized and presented in the standard 15-minute interval format depicting turning movement volumes for all required modes as shown in **Attachment K** and submitted in digital formats.

The Transportation Assessment should include map(s) showing the "existing" (specify base year) traffic volumes for both the AM and PM peak hours at the study intersections and the average daily traffic (ADT) on any analyzed street segments. Additionally, the Transportation Assessment should include map(s) showing future traffic volumes with ambient growth without project at the study intersections and street segments. This map should specify the future year used in the analysis and should be based on the expected date of project buildout. The future year identified in this step must remain consistent for all other analyses and maps used to illustrate future traffic projections.

When simulation analysis is to be conducted, obtain traffic speed and/or travel time data during peak periods to aid in calibration of the simulation model.

Pedestrian and Bicycle Counts

Pedestrian and bicycle counts shall be collected for all projects that are required to conduct a pedestrian, bicycle, and transit facilities assessment as part of their transportation assessment (see Section 3.2.2 for the screening criteria to perform a pedestrian, bicycle, and transit facilities assessment). The scope of analysis should include collecting baseline pedestrian and bicycle counts in the following locations that are within 1,320 feet of the edge of a project site:

- any location where the project is expected to add pedestrians to an existing unmarked crossing or an uncontrolled crosswalk; and
- a screenline location along a local or collector street that is on the Neighborhood Enhanced Network (NEN) as shown on Map C1 through C5 on the Mobility Plan 2035 near where the street crosses an arterial (designated as an

Avenue or Boulevard)

In addition to the count locations described above, LADOT may recommend including screenline count locations at defined locations along streets designated as either Avenue I, II, or III or Boulevard I and II that are within 1,320 feet of the edge of a project site. LADOT's Project Coordination Division should be consulted to determine if screenline counts should be collected to supplement LADOT's biannual pedestrian and bicycle counts.

For all pedestrian and bicycle count data collected, the consultant shall follow the standardized methodology for pre and post counts collected as required by Caltrans Active Transportation Program (ATP)[43] and shall upload all collected pedestrian and bicycle count data to SCAG's Active Transportation Database (ATDB)[44]. See Attachment L for reference bicycle and pedestrian count summary worksheets. For specific locations where mobility investments are planned in the scoping area, a data collection plan can be reviewed and accepted at LADOT's discretion that proposes alternative locations and data collection methods that are different than that described above. For instance, it may be preferred to collect data over a longer defined period to generate a larger sample of counts using bicycle counters installed at just one or several desired locations as opposed to collecting counts over a shorter time at locations defined above. The Transportation Planning and Policy Division should be consulted to review the data collection plan.

3.3.4.1 Land Use Development Projects

Project Trip Generation

A land use project's daily vehicle trips and trip generation may be estimated using the VMT Calculator tool or information from the most recent edition of the ITE Trip Generation Manual. However, if the project is in a Transportation Specific Plan (TSP) area, then the procedures and trip rates identified in the TSP should be applied. If other rates are proposed, then these rates must first be submitted with the appropriate background survey data for approval by LADOT. A table presenting the estimated number of daily trips and AM and PM peak-hour trips generated by the proposed project entering and exiting the site must be included.

The following adjustments may apply to some projects (any trip generation rate adjustments must be approved by LADOT during the scoping process):

- The most recent edition of the ITE Trip Generation Handbook – The 10th Edition of the ITE Trip Generation manual, released in September 2017 introduces trip generation rates for select land uses categorized by area type: Rural, General Urban/Suburban, Dense Multi-Use Urban, and City Core. The manual provides descriptions of the area types and guidance on how these rates should be applied. As part of the MOU process, LADOT should be consulted to confirm the appropriate ITE area type for the project location. If Dense Multi-Use Urban or City Core rates are to be used, care should be taken to ensure that the sample size within the ITE database is appropriate, in accordance with guidance in the *ITE Trip Generation Handbook*.

In addition, locally available trip generation rates developed from counts conducted at market-rate residential properties in the City of Los Angeles are higher than the ITE 10th Edition rates for mid-rise and high-rise multifamily uses in dense multi-use urban areas. The empirical rates presented in **Table 3.3-1** should be used for these uses.

Table 3.3-1: Local Trip Generation Rates for Multifamily Mid-Rise and High-Rise Residential Land Uses in Dense Multi-Use Urban Areas

43 Caltrans. Interim Count Methodology Guidance for Active Transportation Program (ATP). Revised September 2019. https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/ob/2019/ob19-02-attachment.pdf

44 SCAG. Active Transportation Database (ATDB) website. https://atdb.scag.ca.gov/Pages/About.aspx

LAND USE	AM PEAK HOUR (trips per DU)	PM PEAK HOUR (trips per DU)
Multifamily Mid-Rise	0.31	0.30
Multifamily High-Rise	0.23	0.30

- Unique Developments – Unique types of development may require trip generation studies of similar facilities in order to establish a trip rate for use in the analysis. These developments may include land uses for which trip generation rates are not available in the ITE Trip Generation manual, or land uses for which the rates in the ITE Trip Generation manual are based on a small sample of surveyed sites. The procedures and the results of the trip generation studies must be approved by LADOT.
- Existing or Qualified Terminated Use – When estimating the Project's net new trips either when evaluating a land use project's deficiencies toward access and circulation, or for screening a project from VMT analysis, any claim for trip credits for an existing or terminated land use generally requires that the use of land must have been active for at least 6 consecutive months during the past 2 years from the time of the base year vehicle trip counts. To fully ensure that trip credit claims are validated by LADOT, appropriate supporting documentation must be submitted, such as copies of any building permit, certificate of occupancy, business license, lease agreement, affidavits, utility bills, or photographs, as well as documentation as to when the previous land use was terminated, if applicable. Documentation of any previous environmental review should be included in this submittal. The absence of documentation of previous environmental review may result in denial of the claim for trip credits. Note that some TSP ordinances allow different time frames for the determination of existing use trip credits and of any applicable trip fees.
- Mixed-Use Internalization – Internal trip credits are a reduction to the trip generation estimates for individual land uses within a mixed-use development to account for trips internal to the site. Methods for determining internalization are provided in the Institute of Transportation Engineers Trip Generation Handbook, Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments, and the United States Environmental Protection Agency's Mixed-Use Trip Generation Tool (MXD).
- Pass-by Trips[45] – Any claim for "pass-by" trip generation adjustments must use the trip rates summarized in **Attachment H** titled "Pass-By Trip Rates," which are based on rates published by ITE. However, these rates may be superseded by additional guidelines provided in specific plans. For the purpose of analyzing project driveways, the pass-by trip adjustment does not apply to the project driveway trips.
- Transit-friendly Projects – LADOT encourages project applicants to design and construct transit-friendly Projects that create safe and walkable site design and facilities that connect Project patrons to and from transit stations and stops. Consistent with City policy goals to promote the use of transit and walking, LADOT, at its discretion, may allow up to a 25% transit/walk trip generation reduction, subject to the following guidelines, on a case by case basis:
    - Developments above or adjacent to a Metro Rail, Metrolink, or Orange Line station, or to a similar dedicated transit line station with convenient pedestrian access to the station may qualify for a maximum 25% trip generation adjustment. The actual adjustment provided should be determined by an analysis of the transit service frequency and density at the specified transit station.

45 Pass-by trips are defined as patrons already traveling from an origin to a primary trip destination who make an intermediate stop at the project site without a route diversion.

- Developments within a 1/4-mile walking distance of a transit station, or of a stop serving a Metro Next Gen Tier 1 service line, may qualify for up to a 15% trip generation adjustment. The actual adjustment provided will be determined by an analysis of the transit service frequency and density at the specified transit station or a stop serving a Metro Next Gen Tier 1 service line.
- If the development project is not within ¼-mile walking distance of a transit station or a stop serving a Metro Next Gen Tier 1 service line but is within a ¼-mile walking distance of other public bus stops, the project may still qualify for up to 10% trip generation adjustment. The actual adjustment provided will be determined by an analysis of the transit service frequency and density at the nearby bus stop(s).

Transit trip adjustment will not be automatically granted to development projects located in an area with infrequent transit service. However, all reasonable efforts by the developer to promote the use of public transit or walking will be considered for transit adjustments on a case-by-case basis. Refer to **Section 2.2** of these Guidelines for transit-related mitigation measures.

Since the Dense Multi-Use Urban and City Core trip generation rates discussed previously were derived from data collected in dense urban areas with convenient and frequent transit service and the ability to walk to complementary land uses, etc., these effects are inherent in the rates. If Dense Multi-Use Urban or City Core rates are being used for land uses in a project, care should therefore be taken to avoid overestimating these effects by taking additional transit or walk credits.

- TDM Trip Reduction – Features and amenities that may qualify a project for this adjustment include the TDM measures to achieve the minimum point value in the TDM Program Description and TDM measures in the VMT Calculator (see **Attachment G**).
- Affordable Housing Projects – Residential or mixed-use developments that include Affordable Housing Units [as defined in LAMC 12.22-A.25(b)] are eligible to use the locally-collected trip generation rates presented in **Table 3.3-2**, which are based on the total number and type of dwelling units reserved as affordable. These trip generation rates are based on vehicle trip count data collected at affordable housing sites in the City of Los Angeles in 2016.

Table 3.3-2: Trip Generation Rates for Affordable Housing Projects

AFFORDABLE HOUSING TYPES		*DAILY RATE* (Trips per DU)	*AM PEAK HOUR RATE* (Trips per DU)	*% AM TRIPS IN*	*% AM TRIPS OUT*	*PM PEAK HOUR RATE* (Trips per DU)	*% PM TRIPS IN*	*% PM TRIPS OUT*
Average	Family	4.16	0.52	38%	62%	0.38	55%	45%
	Seniors	1.72	0.12	38%	62%	0.15	52%	48%
	Special Needs	1.49	0.17	43%	57%	0.11	54%	46%
	Permanent Supportive	1.23	0.08	67%	33%	0.13	53%	47%
Inside TPA Area	Family	4.16	0.49	37%	63%	0.35	56%	44%
	Seniors	1.31	0.13	38%	62%	0.13	47%	53%
	Special Needs	1.00	0.10	30%	70%	0.05	67%	33%
	Permanent Supportive	0.87	0.08	62%	38%	0.09	59%	41%

Outside TPA Area	Family	4.15	0.55	40%	60%	0.43	55%	45%
	Seniors	1.97	0.11	38%	62%	0.17	55%	45%
	Special Needs	1.98	0.24	54%	46%	0.16	44%	56%
	Permanent Supportive	1.50	0.09	71%	29%	0.16	49%	51%

Family affordable housing offers affordable dwelling units designed for lower income households with children, or lower income households with single or multiple adults without children. Senior affordable housing provides affordable dwelling units designed for mature residents. The category of special needs housing includes facilities serving a variety of populations, including foster youth, disabled, mentally ill, and HIV/AIDs. Permanent supportive housing provides long-term housing with supportive services designed to enable homeless persons and individuals/families at risk of homelessness to ensure that they remain housed and live as independently as possible.

Project Trip Distribution

The estimation of distribution patterns for project trips should consider a number of factors including, but not limited to, the following: the characteristics of the street system serving the project site; the level of accessibility of routes to and from the proposed project site; locations of employment and commercial centers to which residents of a residential project would be drawn; and residential areas from which the commercial patrons, employees, or school students would be drawn. The distribution analysis can be supported by data from the City of Los Angeles TDF model, empirical data, or economic studies for the project.

The Transportation Assessment must include map(s) showing Project trip distribution percentages (inbound and outbound) at the study intersections, freeway locations and project driveway(s). This map must be pre-approved by LADOT and included in the Transportation Assessment scoping MOU.

Traffic Forecasts

The Transportation Assessment must estimate ambient traffic conditions for the study horizon year selected during the scoping phase and recorded in the executed MOU. The study must clearly identify the horizon year and annual ambient growth rate used for the study. The horizon year should align with the development project's expected completion year. For development projects constructed in phases over several years, the Transportation Assessment should analyze intermediary milestones before the buildout and completion of the project. The annual ambient growth rate shall be determined by LADOT staff during the scoping process and can be based on an adopted TSP, the most recent SCAG regional transportation model, the citywide transportation model, or other empirical information approved by LADOT.

The Transportation Assessment must consider related projects. For related development projects, this should include the associated trip generation for known development projects within one-half mile (2,640 foot) radius of the project site and one-quarter mile (1,320 foot) radius of the farthest outlying study intersections. Consultation with the Department of City Planning and LADOT may be required to compile the related projects list. The City's ZIMAS database can be used to assist in identifying development projects that have submitted applications to the City of Los Angeles. Project access and circulation constraints would be determined by adding project-generated trips to future base traffic volumes including ambient growth and related projects and conducting the operational analysis.

Also, any programmed and funded transportation system improvements that are expected to be implemented on or before the project buildout year should be identified in the study, in consultation with LADOT. Should these programmed improvements include a modification to the existing lane configuration at any of the study intersections, then the study should identify these changes and include the revised lane configuration in the delay calculations for all future scenarios.

Simulation Modeling

When simulation analysis is to be conducted, the simulation model should be developed, calibrated, and validated and the analysis should be conducted in accordance with the Federal Highway Administration traffic microsimulation modeling guidelines.[46]

Passenger Loading Evaluation

If the estimated peak hour passenger loading demand can be accommodated within the proposed supply of off-street loading spaces, then no additional constraints are expected.

If passenger loading cannot be accommodated, consider the context where the queuing would occur (such as street classification, availability of on-street queuing space, level of traffic and other activity) to determine whether this situation would potentially create conflicts with traffic, transit, bicycles, or pedestrians. Consider the extent to which passenger loading can be better accommodated through improved management of curb space.

Drive-through Storage and Queuing Evaluation

For any project that exceeds the screening criteria and proposes a drive-through must evaluate potential queuing on to the street and the storage capacity onsite to accommodate potential queuing conditions and identify if the drive-through would result in turning movement conflicts. The evaluation must include driveway and site plan and calculate trip generation rates that would reflect unique travel demand of the drive-through use, including comparison studies of the same or most similar establishment to base the trip generation estimate.

A proposed drive-through establishment that would not be demonstrated to accommodate 85 percentile of the queue on-site will need to prepare an operations plan. The operations plan should prioritize on-site redesign and operational strategies to reduce the queue to below the 85 percentile and should avoid strategies that involve the removal of on-street parking spaces. If the operation plan is not expected to accommodate 85 percentile of the queue on-site, then the project would likely result in a queuing deficiency that could further exacerbate safety concerns.

The evaluation should include a site access plan and identify potential turning movement conflicts. A turning movement analysis shall also be included to address the potential for geometric design hazards in the transportation assessment (See Section 2.4 of these Guidelines). The analysis should identify any turn restrictions needed to avoid conflicts, especially for properties located at an intersection, and determine if such conflicts would likely continue to persist based on site constraints.

3.3.4.2 Transportation Projects

<u>Delay Analysis</u>

For transportation projects that exceed the travel volume screening criteria for Boulevards and Avenues in **Section 3.3.2**, further analysis is required to estimate the travel delay at each major signalized intersection[47] where the capacity will be altered by the project. The assessment should develop and compare a future peak hour “without project” traffic scenario with a future peak hour “with project” traffic scenario for the time period that the project is anticipated to be completed.

For near-term lane reconfiguration projects where striping is expected to be installed within one year of the analysis, the assessment could rely on an existing model simulation for both “with project” and “without project” scenarios. An existing-base model simulation should be developed that includes the existing AM and PM peak-hour “without project”

46 Federal Highway Administration, Volume III – Guidelines for Applying Traffic Microsimulation Modeling Software, August 2003.

47 Major signalized intersections refers to intersections where streets designated as either a Boulevard or Avenue intersect with another street designated as a Boulevard, Avenue, or Collector

traffic conditions for major signalized intersections along the Boulevard or Avenue, referencing the most recent signal timing charts. LADOT ATSAC Operations Division will provide updated signal timing charts to inform the signal phasing settings in the simulation model. A "with project" model simulation should be developed that includes the revised lane reconfigurations as proposed under the project, and any changes in signal timing phasing that are included as part of the project's corrective conditions, including but not limited to new signal phasing for protected bicycle crossings. The analysis should run the "with project" model simulation analyzing intersection operations using the procedures described above under Delay/Queuing Methodology. The analysis should indicate the peak delay in seconds or minutes per each direction at the study intersection to accurately reflect the critical movements affected by the project.

For longer-term lane reconfiguration projects that are expected to be completed over a year of the analysis, future traffic model simulations should be developed to capture ambient growth. Future peak hour "without project" traffic conditions for major signalized intersections along the Boulevard or Avenue should be developed adding an ambient growth rate to the study horizon year, adding traffic generated by related projects, and analyzing intersection operations using the procedures described above under Delay/Queuing Methodology. Determine the configurations with the reduced vehicle capacity caused by the project at key intersections along the Boulevard or Avenue and calculate future intersection peak hour delay with the reduced capacity using the intersection analysis.

To help the public understand the net delay forecasted under the future "with project" as compared to the future "without project" scenario, the net increase in peak hour delay at each intersection can be summed per each direction across the project corridor and expressed as cumulative increased delay across studied intersections. As a supplement to methodology prescribed, archival travel speed data as available through location-based service data (LBS) and/or from global positioning systems (GPS) can be integrated with the simulated intersection delay to estimate anticipated changes in total travel times along the project corridor under the future "with project" scenario.

Safety Evaluation

For transportation projects that exceed the travel volume screening criteria for Boulevards and Avenues in **Section 3.3.2**, further analysis is required to estimate how the project would be expected to improve or reduce safety for vulnerable road users. The analysis should collect available collision data over at least the most recently available five-year period and organize the collisions by number of severe injuries and fatalities, by mode, and by segment or intersections. The analysis should then reference the latest guidance published by the Federal Highway Administration to assign the appropriate crash modification factors (CMF)[48] for the countermeasures that are included in the project description. Appropriate CMFs should be assigned that reflect the project context, features and conditions to reflect the expected safety outcomes as demonstrated in peer review research and/or similar project performance evaluations.

3.3.5 RECOMMENDED ACTIONS

Potential corrective actions for project access and circulation constraints can include:

- TDM Strategies that reduce trips above and beyond those required in **Section 2.2**
- Installation of a traffic signal or stop signs or electronic warning devices at site access points.
- Redesign and/or relocation of project access points.
- Redesign of the internal access and circulation system.
- Installation of stop-signs and pavement markings internal to the site.
- Restrict or prohibit turns at site access points.
- Repurpose existing curb space to better accommodate passenger loading.

48 Refer to the Metro Adjacent Development Handbook: A Guide for Cities and Developers. May 2018. https://media.metro.net/projects_studies/joint_development/images/mad_handbook_2018-0326.pdf

- New traffic signal installation, left-turn signal phasing, or other vehicle flow enhancements (e.g., ATSAC system upgrades) at nearby intersections.
- Intersection reconfiguration that reduces gridlock and unsafe conflict points.
- Provide continuous paved sidewalks, walkways or shared use paths to off-site pedestrians and bicyclists to adjacent or nearby transit facilities.
- Fair share contribution to planned LADOT capital project that accomplishes one or more of the above.

Corrective Conditions that address queuing deficiency at a drive-through use could include:

- Offsite conditions such as but not limited to new signals, signal timing modifications, left-turn phasing, and elimination of street parking to accommodate queuing, etc.
- Onsite conditions such as but not limited to dual drive-thru lines, taking orders along the queue and not just at the drive-thru window, on-line orders by appointment only, etc.

3.4 PROJECT CONSTRUCTION

3.4.1 INTRODUCTION

This category addresses activities associated with project construction and major in-street construction of infrastructure projects.

3.4.2 SCREENING CRITERIA

If the answer is yes to any of the following questions, further analysis will be required to assess if the project could negatively affect existing pedestrian, bicycle, transit, or vehicle circulation:

- Would the project require construction activities to take place within the right-of-way of a Boulevard or Avenue (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than one day (including day and evening hours, and overnight closures if on a residential street)?
- Would the project require construction activities to take place within the right-of-way of a Collector or Local Street (as designated in the Mobility Plan 2035) which would necessitate temporary lane, alley, or street closures for more than seven days (including day and evening hours, and including overnight closures if on a residential street)?
- Would in-street construction activities result in the loss of regular vehicle, bicycle, or pedestrian access, including loss of bicycle parking to an existing land use for more than one day, including day and evening hours and overnight closures if access is lost to residential units?
- Would in-street construction activities result in the loss of regular ADA pedestrian access to an existing transit station, stop, or facility (e.g., layover zone) during revenue hours?
- Would in-street construction activities result in the temporary loss for more than one day of an existing bus stop or rerouting of a bus route that serves the project site?
- Would construction activities result in the temporary removal and/or loss of on-street metered parking for more than 30 days?
- Would the project involve a discretionary action to construct new buildings or additions of more than 1,000 square feet that require access for hauling construction materials and equipment from streets of less than 24-feet wide in a hillside area?

3.4.3 EVALUATION CRITERIA

Would construction of a project substantially interfere with pedestrian, bicycle, transit, or vehicle circulation and accessibility to adjoining areas? Factors to be considered are the location of the project site, the functional classification of the adjacent street, the availability of alternate routes or additional capacity, temporary loss of bicycle parking, temporary loss of bus stops or rerouting of transit lines, the duration of temporary loss of access, the operational constraints of the streets needed to access the construction sites in hillside areas that inhibit access by other residents and emergency service responders, the affected land uses, and the magnitude of the temporary construction activities.

- Temporary transportation constraints:
    - The length of time of temporary street closures or closures of two or more travel lanes;
    - The classification of the street (major arterial, state highway, substandard hillside local or collector, etc.) affected;
    - The existing congestion levels on the affected street segments and intersections;
    - The operational constraints of substandard hillside streets needing to access construction sites;
    - Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
    - Potential safety issues involved with street or lane closures;
    - The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.
- Temporary loss of access:
    - The length of time of any loss of pedestrian or bicycle circulation past a construction area;
    - The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area;
    - The length of time of any loss or impedance of access by emergency vehicles or area residents to hillside properties;
    - The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;
    - The availability of nearby vehicular or pedestrian access within ¼ mile of the lost access;
    - The type of land uses affected, and related safety, convenience, and/or economic issues.
- Temporary Loss of Bus Stops or Rerouting of Bus Lines[49]:
    - The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;
    - The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;
    - The existence of other bus stops or routes with similar routes/destinations within a ¼-mile radius of the affected stops or routes;
    - Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).

49 Refer to the Metro Adjacent Development Handbook: A Guide for Cities and Developers. May 2018. http://media.metro.net/projects_studies/joint_development/images/mad_handbook_2018-0326.pdf

3.4.4 METHODOLOGY

Describe the physical setting, including the classification of adjacent streets, on-street parking conditions, including bicycle parking, in the immediate vicinity of the construction project, a description of the land uses potentially affected by construction, and an inventory of existing transit lines, bus stops, transit stations, and transit facilities within a ¼ mile radius of the construction site.

Review proposed construction procedures/plans to determine whether construction activity within the street right-of-way would require any of the following:

- Street, sidewalk, or lane closures.
- Block existing vehicle, bicycle, or pedestrian access along a street or to parcels fronting the street.
- Modification of access to transit stations, stops, or facilities during revenue hours.
- Closure or movement of an existing bus stop or rerouting of an existing bus line.
- Permanent or temporary removal or parking meters.
- Creation of transportation hazards.

For construction on hillside properties that exceed the screening criteria, review the hillside streets needing to access the property for hauling materials and equipment to determine if temporary access would be constrained during project construction. The assessment should:

- Map the full extent of routes within hillside areas used for hauling materials and equipment that need to access the property from non-hillside areas.
- Identify any portion of a street along those routes that are less than 24 feet in width curb-to-curb.
- Identify the portion of routes used for hauling that are less than 24 feet in width and are in a Very High Fire Severity Hazard Zone.
- Identify the availability, regulatory limits, and the existing use of on-street parking supply along those routes that are less than 24 feet in width.
- Collect the existing peak hour volumes from between 8 AM to 6 PM along those routes that are less than 24 feet in width that would be relied on to access the hillside property for hauling materials and equipment.
- Evaluate the cumulative effects on emergency access, deliveries, residential circulation, and street parking from other construction activity from both ministerial and other discretionary projects (related projects) with overlapping construction schedules and that are located within a ½ mile radius from the project site.

Compare the results to the evaluation criteria to determine the level of impact.

3.4.5 RECOOMMENDED ACTIONS

Potential corrective conditions for project construction constraints can include:

- Traffic management plan. Consult with LADOT if temporary closure of a travel lane may be necessary to stage equipment in the public right-of-way.
- Detour plan
- Modification of construction procedures
- Limit major road obstructions to off-peak hours

- Coordinate with emergency service and public transit providers.
- Provide alternative vehicular, bicycle, and/or pedestrian access to affected parcels. Consult with LADOT if temporary closure of a travel lane may be necessary to maintain adequate pedestrian and bicycle access as part of the traffic management plan.
- Consult LADOT's Parking Meters Division regarding revenue recovery costs for the removal of parking meter spaces, if applicable. [See Section 4.4.2.b for discussion of recovery cost.] In any areas where parking meters are to be maintained for continued use, a 4'x4' concrete landing area or similar must be installed to provide safe access at each impacted meter.
- Coordinate access with adjacent property owners and tenants.
- Coordinate with Metro regarding maintenance of ADA access to Metro stations, stops, and transit facilities (e.g., layover zones) during revenue hours.
- Coordinate with transit providers regarding the need to temporarily close or relocate bus stops or reroute service.

For projects that result in constraints in access to hillside properties during project construction, the applicant must develop a Traffic Management Plan that identifies measures to offset access, circulation, and parking issues for LADOT review and approval. The Plan should identify measures that will be implemented by the applicant to minimize the hours of construction impacts. Additionally, when considering the cumulative effects of other known construction activities in the neighborhood, the Traffic Management Plan should include, but not be limited to, the following design elements and measures:

- safety features (warning & regulatory signs, channelizing devices like cones or other delineators, guard rails, barriers, changeable message signs, etc.)
- flagger control
- temporary parking restrictions
- reduction in the construction duration
- minimize the time that construction vehicles are parked in the public right-of-way
- detours
- sidewalk and street lighting needs
- designing for appropriate vehicular speeds and sight lines
- employee staging (off-site parking) and shuttles
- on-site parking
- coordination with other construction sites in the area
- consideration of additional measures in Very High Fire Severity Hazard Zones

3.5 RESIDENTIAL STREET CUT-THROUGH ANALYSIS

3.5.1 INTRODUCTION

Development and transportation projects may be required to conduct a Local Residential Street Cut-Through Analysis. The objective of this analysis is to determine potential increases in average daily traffic (ADT) volumes on designated

Local Streets near a project that can be classified as cut-through trips generated by the Project, and that can adversely affect the character and function of those streets. Cut-through trips are defined as those which feature travel along a street classified as a Local Street in the City's General Plan, with residential land-use frontage, as an alternative to a higher classification street segment (e.g., Collector, Avenue, or Boulevard as designated in the City's General Plan) to access a destination that is not within the neighborhood within which the Local Street is located.

Cut-through traffic can be exacerbated by development projects that add vehicle trips to congested arterial street segments, or by transportation projects that reduce vehicular capacity on arterial street segments. To alleviate the potential increase in cut-through traffic (e.g., congestion, access issues, and speeding on Local Streets), traffic calming and diverting features should be considered and, if deemed necessary by LADOT, implemented to offset any anticipated cut-through traffic. Where a local street is located on the Neighborhood Enhanced Network (NEN) as shown on Map C1 through C5 on the Mobility Plan 2035, LADOT Division of Transportation Planning and Policy (TPP) shall be consulted to identify solutions that would promote safe and comfortable access by walking and biking, while also reducing the incentive for cut-through traffic.

Where applicable, it is City policy to locate new project driveways on lower-volume side streets and not on arterials. Therefore, trips to and from new development projects with driveways located on neighborhood streets are not considered "cut-through" traffic.

3.5.2 SCREENING CRITERIA

Land Use Development Projects

If the answer is yes to all of the following questions, further analysis may be required to assess whether the project would negatively affect residential streets:

- Would the project generate a net increase of 250 or more daily vehicle trips?
- Does the land use project include a discretionary action that would be under review by the Department of City Planning?

In addition, for development projects, when selecting residential street segments for analyses during the Transportation Assessment scoping process, all of the following conditions must be present:

- The project is located along a currently congested Boulevard or Avenue and adds trips that may lead to trip diversion to parallel routes along residential Local Streets. The congestion level of the Boulevard or Avenue can be determined based on the estimated peak hour LOS under project conditions of the study intersection(s) (as determined in **Section 3.3**). LOS E and F are considered to represent congested conditions;
- The project is projected to add a substantial amount of automobile traffic to the congested Boulevard(s), Avenue(s), or Collector(s) that could potentially cause a shift to alternative route(s); and
- Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc.

For the purpose of screening for daily vehicle trips, a proposed project's daily vehicle trips should be estimated using the VMT Calculator tool or the most recent edition of the ITE Trip Generation Manual, as described in **Section 2.2**. A

user's guide for the VMT Calculator can be found here. If existing land uses are present on the project site or there were previously terminated land uses that meet the criteria for trip credits described in the trip generation methodology discussion in **Section 3.3**, the daily vehicle trips generated by the existing or qualified terminated land uses can be estimated using the VMT Calculator tool and subtracted from the Project's daily vehicle trips to determine the net increase in daily vehicle trips.

Transportation Projects

For transportation projects, if the answer is yes to the following question, further analysis may be required to assess whether the project would negatively affect project access and circulation:

- Does the transportation project reduce travel lane capacity on a road that would be expected to carry more than 750 vehicles per hour per lane for at least two (2) consecutive hours in a 24-hour period after the project is completed?

In addition, for transportation projects, when selecting residential street segments for analyses during the Transportation Assessment study scoping process, all of the following conditions must be present:

- The transportation project will reduce automobile capacity on a Boulevard, Avenue, or Collector (as designated in the City's General Plan) such that motorists traveling on the Boulevard, Avenue, or Collector may opt to divert to a parallel route through a Local Street,
- The project is projected to cause a shift of a substantial amount of traffic to alternative route(s), and
- Nearby local residential street(s) (defined as Local streets as designated in the City's General Plan passing through a residential neighborhood) provide motorists with a viable alternative route. A viable alternative route is defined as one which is parallel and reasonably adjacent to the primary route as to make it attractive as an alternative to the primary route. LADOT has discretion to define which routes are viable alternative routes, based on, but not limited to, features such as geography and presence of existing traffic control devices, etc.

3.5.3 EVALUATION CRITERIA

A local residential street must be deemed excessively burdened based on an increase in the projected average daily traffic (ADT) volumes as shown in **Table 3.5-1**.

Table 3.5-1: Substantial Residential Local Street Diversion Criteria

PROJECT ADT WITH PROJECT (Final ADT)	***PROJECT-RELATED INCREASE IN ADT***
1 to 999	120 or more
1,000 to 1,999	12 percent or more of final ADT
2,000 to 2,999	10 percent or more of final ADT
3,000 or more	8 percent or more of final ADT

3.5.4 METHODOLOGY

Development Projects

Future peak hour "without project" traffic conditions for the study intersections in the vicinity of the project identified in **Section 3.3** should be developed using the intersection analysis methodologies, including an ambient growth rate to the study horizon year and adding traffic generated by related projects. Future "without project" daily traffic volumes

for the local residential streets included in the analysis should be developed by collecting daily traffic counts for the subject streets, adding an ambient growth rate to the study horizon year, and adding traffic generated by related projects, also using methodologies described in **Section 3.3**.

The methodologies described in **Section 3.3** should be applied to estimate the daily and peak hour trip generation of the project and distribute the project trips to the street system to forecast the amount of project traffic that may be added to nearby congested Boulevard(s) and/or Avenue(s). If the nearby study intersections are projected to operate at LOS E or F, estimate the amount of peak hour project traffic that may instead shift away from the congested facilities to local residential streets. Also estimate the amount of daily project traffic that may shift to local residential streets, considering that the street system is less congested during non-peak hours than during peak hours. Compare to the evaluation criteria in **Section 3.5.3** to determine if the project would be expected to result in substantial diversion.

Transportation Projects

Future peak hour "without project" traffic conditions for key intersections along the Boulevard or Avenue should be developed by collecting peak period turning movement counts, adding an ambient growth rate to the study horizon year, adding traffic generated by related projects, and analyzing intersection operations using the methodologies described in **Section 3.3**. Future "without project" daily traffic volumes for the local residential streets included in the analysis should be developed by collecting daily traffic counts for the local residential streets included in the analysis, including an ambient growth rate to the study horizon year, and adding traffic generated by related projects, using methodologies described in **Section 3.3.**

Determine the configurations with the reduced vehicle capacity caused by the project at key intersections along the Boulevard or Avenue and calculate future intersection peak hour LOS with the reduced capacity using the intersection analysis methodologies described in **Section 3.3**. If the affected intersections are projected to operate at LOS E or F, estimate the amount of peak hour traffic that may shift away from the congested facilities to local residential streets. Also estimate the amount of daily project traffic that may shift to local residential streets, considering that the street system is less congested during non-peak hours than during peak hours. Compare to the evaluation criteria in **Section 3.5.3** to determine if the project would be expected to result in substantial diversion.

3.5.5 RECOMMENDED ACTION

Potential corrective measures for neighborhood street diversion can include:

- Contribution to Traffic Calming Program – If the analysis indicates that the Project may result in residential street diversion that can be addressed by traffic calming measures, the Project Applicant may be required to contribute to pre-existing application-based neighborhood traffic calming program(s) managed by LADOT (e.g., the existing Speed Humps program, LADOT's Stress Free Connections initiative, or other future programs including added traffic calming, wayfinding and diversion countermeasures to support areawide low-stress travel network connectivity by active transportation modes).
- Neighborhood Traffic Management Plan – If the analysis indicates that the Project may result in residential street diversion that could not be addressed by traffic calming measures, the Project Applicant may be required to develop a plan to reduce the amount of cut-through traffic traveling through nearby residential areas as part of the corrective conditions for the project. If Neighborhood Traffic Management (NTM) measures are required to offset potential residential street diversion, then the Project Applicant must conduct public outreach and develop a NTM Plan. The Project Applicant must consult with LADOT, the affected City

Council District office, and neighborhood stakeholders to collaboratively prepare the NTM Plan. Coordination with the appropriate City Council District office may be necessary to designate the stakeholders that should facilitate the public outreach.

The Project Applicant should first identify key milestones, summarize the proposed process in developing a NTM plan for the local residential street segments of concern, define a public outreach and consensus-building process, propose selection and approval criteria for any evaluated traffic calming measures, and include a cost estimate and funding guarantee. The Project Applicant must lead public outreach but must also consult regularly with LADOT and the affected City Council District office. The Project Applicant shall also be responsible for conducting the engineering evaluation of the potential measures to determine the feasibility in regard to drainage, constructability, street design, etc. The applicant shall also be responsible for implementing any NTM measures identified in the plan, subject to LADOT approval. The development of the NTM plan must include the analysis of any relevant traffic data, roadway characteristics, and conditions of the local residential street segments of concern.

The NTM Plan should prioritize implementing effective traffic calming, which may include, but is not limited to: traffic circles, speed humps, roadway narrowing effects (raised medians, traffic chokers, chicanes, etc.), landscaping features, roadway striping changes, and traffic control devices (e.g. pedestrian hybrid beacons, or TOUCANS, etc.), subject to LADOT's approved guidelines and warrants. Restrictive measures such as turn restrictions, physical barriers, diverters, signal metering, etc., may be necessary to achieve the goals of the NTM Plan. However, such measures should be carefully evaluated to ensure that they do not lead to the diversion of a significant amount of traffic from one Local residential street to another. The NTM Plan should also consider and evaluate neighborhood improvements that can offset the effects of added traffic, including street trees, sidewalk repairs, landscaping, green street/stormwater features, neighborhood identification features, and pedestrian amenities. Where a local street is located on the Neighborhood Enhanced Network (NEN) as shown on Map C1 through C5 on the Mobility Plan 2035, LADOT Division of Transportation Planning and Policy (TPP) shall be consulted to identify solutions that would promote safe and comfortable access by walking and biking, while also reducing the incentive for cut-through traffic. Such traffic calming measures that support the goals of completing the NEN can support trip reduction efforts by encouraging walking, bicycling, and the use of public transit.

If the analysis indicates that the Project may result in residential street diversion, then the applicant will be required to submit an NTM Implementation Plan with a funding guarantee for LADOT approval prior to the issuance of any certificates of occupancy. The NTM Plan must be prepared in conformance with the guidelines established by LADOT and should contain, at a minimum, the following elements:

- Description of existing facilities, presence of planned networks i.e. NEN, and neighborhood traffic conditions,
- Description of proposed neighborhood traffic controls, including sketches of specific street modifications,
- Analysis of any change in existing or future traffic patterns as a result of implementation of the plan, and
- Implementation and monitoring program.

SECTION 4:

Study Preparation

Each Transportation Assessment should follow a consistent format and organization and include all of the figures, maps, and information presented in this section. The appropriate level of detail required for each Project's Transportation Assessment with respect to specific issues should be determined during the scoping process and identified in the MOU. When this version of the TAG is referenced in a Transportation Assessment, LADOT requests using "2020 LADOT Transportation Assessment Guidelines" to properly identify this reference.

4.1 PROJECT DESCRIPTION

All Transportation Assessments must include a detailed project description at the beginning of the document. The project description should include the following information:

- Project case number, as assigned by the Department of City Planning (if applicable).
- Location of the Project site, address, Assessor's Block and Lot number(s), cross streets, and City Council District.
- Existing and proposed total square footage for each type of land use and the number of units for residential, hotel/motel, and live/work projects, including the net changes for each type of use.
- Existing and proposed type and number of parking spaces.
- Transportation demand management measures proposed as part of the project.

This section must also include the following maps and figures:

- Project site plan showing driveway locations, loading/unloading area, and any proposed highway dedication.
- Site map showing study intersections and distance of the Project driveway(s) from the adjacent intersections. Include location and identification of all major buildings, driveways, parking areas, and loading docks of the Project.

4.2 PROJECT CONTEXT

The information on the locale and surroundings of the Project must be discussed following the Project description as a different section of the Transportation Assessment. This section will provide a brief but comprehensive description of the existing transportation infrastructure and conditions in the vicinity of the Project. Normally, the Project vicinity is defined as a ¼-mile radius around the Project site; however, a larger area may be required during the scoping process. The specific boundaries of the Transportation Assessment area, for both the locale and Project impact analysis, should be confirmed during the initial discussion and scoping process with LADOT. The boundaries of the Transportation Assessment area are subject to LADOT revision after initial impact analysis.

The Project context section should include the following information, with the level of detail to be directed by LADOT during the scoping process:

- Street designations, classifications, and modal priorities as identified in the Mobility Plan 2035, the Transportation Element of the Los Angeles General Plan. This street information can be found on the following maps in the Transportation Element of the General Plan: Citywide General Plan Circulation System; Transit Enhanced Network; Neighborhood Enhanced Network; Bicycle Enhanced Network; Bicycle Lane Network; Vehicle Enhanced Network; Pedestrian Analysis; and Goods Movement.

- Description of the Transportation Assessment area streets, including the number and width of lanes, direction of flow, and the presence of peak period tow-away lanes affecting roadway travel capacity, the presence of bicycle lanes, and any other significant street information.
- Description of pedestrian, bicycle, and transit facilities within 1,320 feet of the edge of the project site (per **Section 3.2**).
- Location of, distance from, and routings to and from on-ramps and off-ramps of regional highways and freeways.
- Description of public transit routes operating on the streets within the Transportation Assessment area, including hours of service, peak period headways, type of vehicle (bus, light rail vehicle, etc.), and service provider.

This section of a Transportation Assessment will also include the following maps and figures:

- Area map showing location of proposed Project and related projects.
- Street maps of the study area indicating street names, classifications, modal priorities.
- Map or diagram of potential pedestrian destinations within 1,320 feet of the edge of a project site (per **Section 3.2**).
- Table indicating location, size, name, description, and trip generation of each related project.

4.3 ANALYSIS, DISCUSSION, AND RESULTS

Following the descriptions of the Project and its surroundings, the Transportation Assessment must contain sections that detail the analyses conducted, summarize the results, and identify any impacts and mitigation measures for each of the CEQA issue areas identified in **Section 2** and any deficiencies and corrective conditions for the additional areas of analysis identified in **Section 3**. During the scoping process, LADOT staff will determine which of the transportation analyses listed in **Sections 2** and **3** of these Transportation Assessment Guidelines or other methods of assessment are required.

The Transportation Assessment should include calculations, data, and descriptions of any transportation analyses conducted to determine Project impacts on the transportation system. The Transportation Assessment should describe the results of all Project scenarios and describe all Project impacts that have been identified.

If the VMT Calculator is used to conduct the project VMT analysis pursuant to Section 2.2, the report printouts generated by the Calculator should be included in an appendix to the Transportation Assessment. Detailed delay worksheets for any intersection or driveway HCM analyses conducted in the Transportation Assessment should also be included in an appendix to the Transportation Assessment, with the results summarized in the Transportation Assessment. Maps or tables should be provided that illustrate lane configurations and volumes for each study intersection.

4.4 TRANSPORTATION MITIGATION MEASURES AND CORRECTIVE CONDITIONS

When a Project is expected to result in significant traffic impacts, as defined in Sections 2, or transportation deficiencies, as defined in Sections 3, the Project's consultant should meet with LADOT to discuss potential transportation mitigation options and corrective conditions before submitting a Transportation Assessment. Different transportation mitigation solutions should be explored when attempting to mitigate a Project's significant

transportation impact to a level of insignificance.

The adequacy and feasibility of each mitigation measure and corrective condition must be determined to the satisfaction of LADOT. The final required mitigation measures for the Project will be determined by the appropriate decision maker (e.g., the City Planning Commission, the City Council). All proposed mitigation measures and corrective conditions must be described in the Transportation Assessment.

4.4.1 TRANSPORTATION DEMAND MANAGEMENT MEASURES

Mitigation programs must primarily aim to minimize Project trips and vehicle miles traveled through transportation demand management strategies. A preliminary draft performance based TDM Program, prepared in accordance with the City of Los Angeles TDM Ordinance, must be included in the Transportation Assessment for any Project seeking trip generation amendments supported by TDM. If the TDM Program is acceptable to LADOT, the applicant will be allowed to reduce the total Project trips and VMT by an amount determined to be commensurate with the measures proposed in the TDM Program. The effectiveness of TDM measures included as choices in the VMT Calculator (as further discussed in **Attachment G** of these guidelines) on reducing Project trips and VMT should be calculated using the VMT Calculator. Trip and VMT reductions resulting from other TDM measures not included in the VMT Calculator can be used if supporting research is provided to LADOT and deemed to be acceptable by LADOT.

Further information regarding TDM Program development, implementation, monitoring, and reporting requirements can be found in the City of Los Angeles TDM Ordinance.

4.4.2 PHYSICAL MITIGATION MEASURES AND CORRECTIVE CONDITIONS

Preliminary geometric design drawings should be prepared for any proposed physical mitigation measures and corrective conditions, complying with the following requirements:

- Existing Conditions
    - Prepare preliminary geometric design drawing to a scale 1” = 40’ for each of the significantly impacted intersections for existing conditions, where lane reconfigurations are a proposed corrective condition. Conduct field investigations and illustrate all important roadway details, including adjacent land use(s), parking restrictions, sidewalks, driveways, lane dimensions, roadway striping, curb and right-of-way lines, and “footprints” of building line on the plan.
    - Use existing LADOT drawings where available and field check for accuracy to reflect current conditions.
    - Provide a copy of the current City Bureau of Engineering District Map illustrating public rights-of-way on impacted street.
- Future Conditions with Mitigation/Conditions
    - Prepare preliminary geometric design drawing to a scale of 1” = 40’ showing recommended changes in striping including additional roadway and right-of-way necessary to mitigate the significant impact(s) of the project for each location where street reconfiguration is a proposed mitigation measure or corrective condition.
    - Plans showing striping modifications should include adequate segments of the roadway (approximately 300-400 feet on each leg of the intersection) to indicate the appropriate transitions from the existing striping.
    - Plans should indicate parking restrictions (existing and proposed), bus stops (existing and relocated),

driveways, signals, streetlights, signs, trees, utility poles and catchment basins.

- Traffic Volume Diagram
    - Attach the AM and PM peak hour lane volume diagram with the geometric design plan for each intersection.
- Finalize Plans as necessary
    - Revise mitigation plans as required and resubmit the final mitigation plans to LADOT for approval.

4.4.2A PARKING INVENTORY AND DEMAND ANALYSIS

Any corrective condition or mitigation of a land use development project, or a transportation project that involve roadway reconfigurations and require the loss of on-street parking, the Transportation Assessment should include an on-street parking utilization study at the intersections and/or along the roadway where the potential improvements were identified. The study results should be presented in a parking inventory and demand analysis that summarizes that area's parking demand and supply and informs LADOT on the secondary impacts that may result from the loss of parking. This analysis should include proposed measures to address neighborhood access constraints as a result of the parking loss to the extent feasible. The scope of the parking utilization study, including study area and survey hours, must be approved by the appropriate LADOT staff prior to commencing the survey.

4.4.2B PARKING METER REVENUE LOSS

Whenever the design, condition or mitigation of a land use development project requires the permanent removal of any metered parking spaces, payment to LADOT for lost parking meter revenue is required. LADOT's Parking Meters Division is responsible for calculating the lost revenue fee, referred to as the Meter Revenue Recovery Fee (MRRF), for each parking meter requested for removal during the site plan or B-permit plan review process. LADOT will determine the amount of MRRF to be collected based on the overall revenue for each meter collected over the last twelve continuous months. The permanent removal of each on-street metered parking space will require MRRF payment to LADOT's Parking Meter Division for the calculated annual revenue amount projected over a ten-year period. Payment is required as a condition of the permit and is required of the applicant before LADOT will provide final approval. The Project applicant will also be subject to any costs incurred by LADOT during the removal of each parking meter. These charges include but are not limited to the removal and/or installation (including reinstallation and relocation) of meter posts, a 4' x 4' concrete parking meter landing area,parking sensors (if any), signs, signposts, stall markings, pavement messages, and curb paint.

When construction or project implementation associated with a Development Project requires the temporary removal of any on-street parking meter(s), the project applicant will be required to make payment to LADOT's Parking Meters Division for removal costs in advance of any meter removal. These charges will include, but are not limited to, the removal and/or installation (including reinstallation and relocation) of meter posts, a 4' x 4' concrete parking meter landing area, parking sensors (if any), signs, signposts, stall markings, pavement messages, and curb paint. In addition to the costs associated with the temporary removal of metered parking spaces, the applicant will also be required to make payment to LADOT for calculated meter revenue loss for temporary removals lasting longer than 30 days, beginning on the actual removal date of the meters. When applicable, LADOT's Parking Meters Division will determine the lost revenue for the temporary removal of any parking meters lasting over 30 days. LADOT will determine the amount of MRRF to be collected for temporary removal of each meter based on the overall daily revenue average for revenue collected over the last twelve continuous months. The applicant is required to pay the calculated MRRF to LADOT's

Parking Meters Division for the length of time the meters are out of service beyond the initial 30 days. The payment is a condition of the permit and is required of the applicant before LADOT will provide final approval.

4.4.3 GUARANTEES OF MITIGATION MEASURES AND CORRECTIVE CONDITIONS

All physical transportation mitigations/corrective conditions and associated traffic signal work within the City must be guaranteed through the B-Permit process of the Bureau of Engineering, prior to the issuance of any building permit and completed prior to the issuance of any certificate of occupancy. Temporary certificates of occupancy may be granted in the event of any delay through no fault of the applicant, provided that, in each case, the applicant has demonstrated reasonable efforts and due diligence to the satisfaction of LADOT. All improvements along state highways and freeway ramps require approval from Caltrans. An encroachment permit must be obtained from Caltrans for these improvements before the issuance of any building permits.

In the event the originally proposed mitigation measure or corrective condition becomes infeasible, a substitute mitigation measure or corrective condition may be provided subject to approval by LADOT or other governing agency with jurisdiction over the location, upon demonstration that the substitute measure is equivalent or superior to the original measure in mitigating the project's significant impact.

4.4.4 MITIGATION MONITORING AND REPORTING PROGRAM IN DRAFT EIRS

Each mitigation measure part of a Project's mitigation monitoring program should be described separately for inclusion in the Draft EIR. The following details are required for each measure:

- Identification of the responsible agency for monitoring the measure and the designated coordination for all participants.
- Qualifications, if any, of the necessary monitor(s).
- Monitoring schedule (i.e., the phase of the project during which the measure should be monitored, frequency, and completion/termination) – this should be stated for physical mitigation measures required during construction as well as those that are for the operation/life of the project (e.g., TDM program).
- Funding required and sources of funding for monitoring activities by both project and City personnel (especially for long-term monitoring activities).

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SECTION 5:

Bureau Contact Information

If you have any questions, please contact the appropriate LADOT Bureau of Transportation Planning and Development Review office based on your geographic area (see **Attachment K**).

METRO DEVELOPMENT REVIEW

Projects proposed within all areas south of Mulholland Drive, east of Robertson Boulevard and north of the San Pedro Community Plan area:

Mail: 100 S. Main Street, 9th Floor, Los Angeles, CA 90012
E-Mail: ladot.devreview.cen@lacity.org
Telephone: (213) 972-8482 or (213) 972-8481

WEST LOS ANGELES DEVELOPMENT REVIEW

Projects proposed within San Pedro and all areas south of Mulholland Drive and west of Robertson Boulevard:

Mail: 7166 W. Manchester Avenue, Los Angeles, CA 90045
E-mail: ladot.devreview.wla@lacity.org
Telephone: (213) 485-1062

VALLEY DEVELOPMENT REVIEW

Projects proposed within the entire San Fernando Valley north of Mulholland Drive:

Mail: 6262 Van Nuys Boulevard, 3rd Floor, Van Nuys, CA 91401
E-Mail: ladot.devreview.sfv@lacity.org
Telephone: (818) 374-4699

LADOT CITYWIDE ONE-STOP COUNTER

Projects proposed within the City that require early consultation on review processes and design standards, permit sign-off, condition clearance, driveway plan review, etc.:

Mail: 201 N. Figueroa Street, 5th Floor, Los Angeles, CA 90012
E-Mail: ladot.onestop@lacity.org
Telephone: (213) 482-7024

Attachment A: Development Review Fees

ORDINANCE NO. 183270

An ordinance amending Section 19.15 of Article 9 of Chapter 1 of the Los Angeles Municipal Code in its entirety to revise and update the fees paid to the Department of Transportation for the review and assessment of traffic study reports, condition clearance and permit issuance activities related to obtaining any environmental clearance for private development projects within the City of Los Angeles.

THE PEOPLE OF THE CITY OF LOS ANGELES DO ORDAIN AS FOLLOWS:

Section 1. Section 19.15 of Article 9 of Chapter 1 of the Los Angeles Municipal Code is amended in its entirety to read as follows.

SEC. 19.15. DEPARTMENT OF TRANSPORTATION TRAFFIC STUDY REVIEW, CONDITION CLEARANCE AND PERMIT ISSUANCE FEES.

(a) **Fees.** The following specific fees shall be paid to the Department of Transportation (Department) for the preparation and processing of traffic reports, clearance of conditions and permit sign-offs in connection with obtaining any environmental clearance and/or permit issuance related tasks

(1)	Building Permit Sign Offs (Note 1)	$365
(2)	Dedication & Widening Waivers	$445
(3)	Department Referral Form (Note 2)	$430
(4)	Driveway Permit Sign Offs (Note 3)	$535
(5)	Haul Route Review	$420
(6)	Master Plan / Complex Circulation Review (Note 4)	$1,595
(7)	Project Condition Clearance (Note 5)	$270
(8)	Revocable Permit	$205
(9)	Street Vacation Requests	$965
(10)	Subdivision Report	$205
(11)	TDM Compliance / Trip Monitoring Report Review	$770
(12)	Technical Study (Note 6)	$1,340

(13) Traffic Study MOU.....$1,175

(14) Traffic Study Review (Note 7).....$7,480

(15) Traffic Study Review /
Plan Review – Expedited.....See Subsection (c)

(16) Worksite Traffic Control Plan Review (non B-permit).....$1,645

Note 1: For a project with multiple addresses and permits (i.e., multi-family units), $365 should be charged per distinct site plan and not per unit. For example: if, for a 100 unit small lot subdivision condominium project, each unit falls into one of three different site plan options, then the Department review fee should be $1,110 ($370 X 3) even if there are 100 separate building permits to approve.

Note 2: The Department Referral Form may also be submitted to the Department in the form of an Initial Site Assessment Form or a Site Plan Review Form. If this is the case, the Department Referral Form fee still would apply

Note 3: When reviewing a Building Permit application that also includes a Driveway Permit Sign Off the applicant should not be charged two fees (Building Permit and Driveway Permit). Instead, the applicant should be charged only the Building Permit fee if the driveway plan does not include a new curb cut. If the driveway plan does include a new curb cut, then the applicant only should be charged the Driveway Permit Sign-Off fee

Note 4: This fee applies to Master Plan type developments or large scale projects with complicated circulation plans that require considerable staff time to help applicant arrive at an acceptable access and circulation plan.

Note 5: $270 for the first three condition clearances plus $200 for each additional condition clearance.

Note 6: A "technical study" can include technical memorandums (defined in LADOT's Traffic Study Guidelines), trip generation assessments, traffic study supplements, shared parking analyses, etc. The fee includes the cost to process a study MOU, if required.

Note 7: $7,480 for the first ten study intersections plus $400 per each additional study intersection, not to exceed a total of $25,000.

Special Note: If a project is approved by LADOT through the subdivision clearance or building permit process and the applicable fees have been paid, future approvals will not require additional fees as long as there have been no substantial changes to the approved portion of the project.

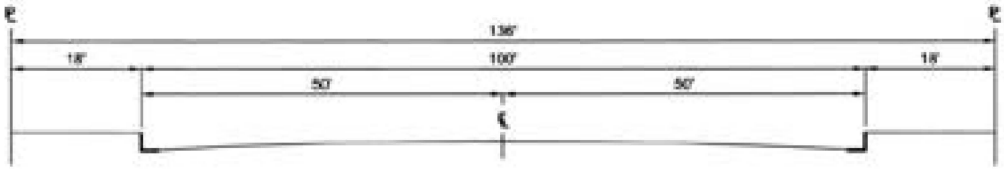
(b) **Transportation Review Fee Fund.** Each fee collected pursuant to this section shall include a five percent surcharge to be deposited into the Transportation Review Fee Fund No. 50Y. This fund shall be used exclusively by the Department to provide funding for the continual enhancement of development review related information technology systems and for procurement costs associated with equipment, software, materials, staff training and, if needed, consultant services. With the exception of the five percent surcharge deposited into the Transportation Fee Fund No. 50Y, the remaining 95 percent fees collected shall be credited to the General Fund.

(c) **Expedited Services.** The Department shall offer expedited services in the review of traffic studies or the review of B-permit design plans. Project applicants can choose to pay a higher review fee to allow Department staff to work overtime hours to expedite their review. The actual review fee to process a traffic study, which will be greater than the standard traffic study review fee, will be determined by the Department during the preparation of the Traffic Study Memorandum of Understanding executed between the Department and the applicant's representative. The fee established shall be based on the applicant's desired completion date, the availability of staff to work overtime and the affected division's case workload. During times of peak workloads, the expedited review fee may be utilized by the Department to procure an outside firm from the Department's pre-screened list of consultants to conduct the review of the study. Similarly, the actual fee to process B-permit design plans shall be established by the Department at the pre-design meeting with the applicant's representative.

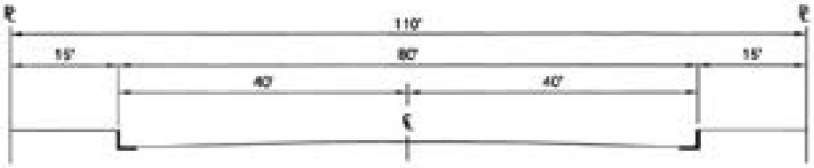
(d) **Fee Revisions.** The Department shall provide an annual review of the fees established pursuant to this section and shall submit recommendations for changes in these fees for special services to the Council. The fees shall be revised by the Department to account for any staff salary cost of living adjustments. Notice of a revision in fees shall be in accordance with California Government Code Sections 66018 and 6062a, which require that prior to adoption of a new or increased fee a public hearing be held and notice of that hearing be published in a newspaper with two publications at least five days apart over a ten-day period. The notice period begins the first day of publication, and there must be at least five days intervening between the first and second publications, not counting the dates of publication.

Attachment B: Standard Street Dimensions

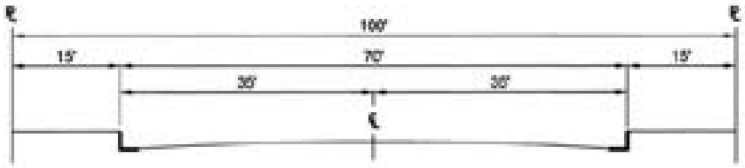
ARTERIAL STREETS



BOULEVARD I (MAJOR HIGHWAY CLASS I)

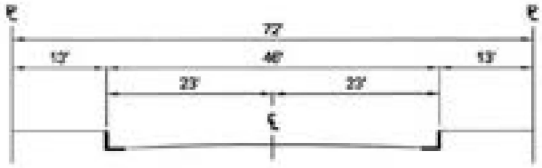


BOULEVARD II (MAJOR HIGHWAY CLASS II)



AVENUE I (SECONDARY HIGHWAY)

AVENUE II (SECONDARY HIGHWAY)



AVENUE III (SECONDARY HIGHWAY)

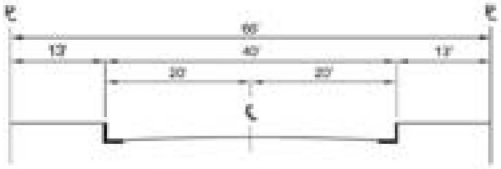
BUREAU OF ENGINEERING — DEPARTMENT OF PUBLIC WORKS — CITY OF LOS ANGELES

STANDARD STREET DIMENSIONS

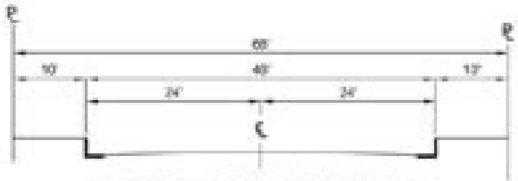
STANDARD PLAN S-470-1

PREPARED	SUBMITTED	APPROVED		SUPERSEDES	REFERENCES
KITTY SIU, P.E. BUREAU OF ENGINEERING	SAMAR ALJAHMAD, P.E. ENGINEER OF DESIGN BUREAU OF ENGINEERING 10/18/15 DATE	GARY LEE MOORE, P.E., DIV. GP. CITY ENGINEER 10-20-15 DATE	REGISTERED PROFESSIONAL ENGINEER GARY LEE MOORE No. C-49449 Exp. STATE OF CALIFORNIA CIVIL	D-22549 S-470-0	
CHECKED RAFFI MASSABNI, P.E. BUREAU OF ENGINEERING	KENNETH REED, P.E. DEPUTY CITY ENGINEER 10/21/15 DATE	DEPARTMENT OF TRANSPORTATION GENERAL MANAGER 10-21-15 DATE		VAULT INDEX NUMBER: B-4738	
		DIRECTOR OF PLANNING 10-21-15 DATE		SHEET 1 OF 4 SHEETS	

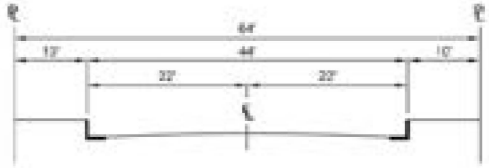
NON-ARTERIAL STREETS



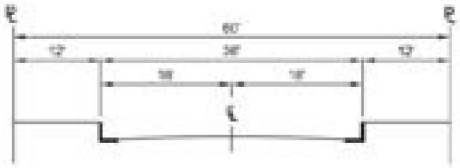
COLLECTOR STREET



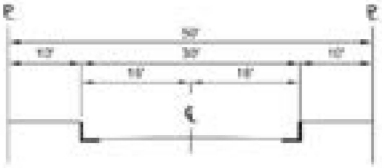
INDUSTRIAL COLLECTOR STREET



INDUSTRIAL LOCAL STREET

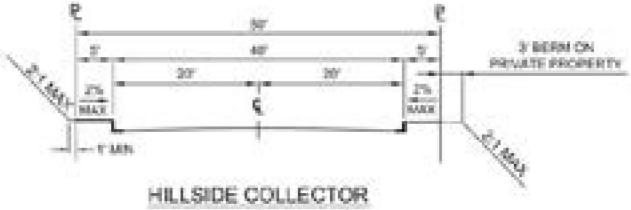


LOCAL STREET - STANDARD

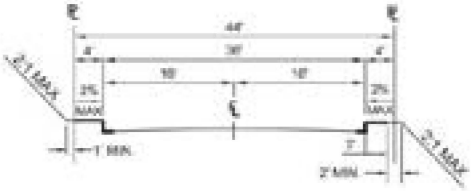


LOCAL STREET - LIMITED

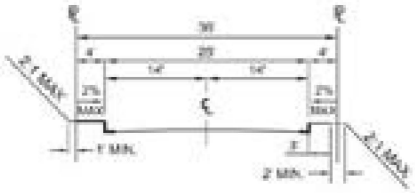
HILLSIDE STREETS



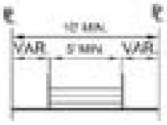
HILLSIDE COLLECTOR



HILLSIDE LOCAL



HILLSIDE LIMITED STANDARD

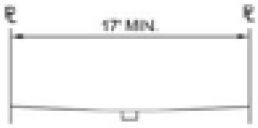


PUBLIC STAIRWAY

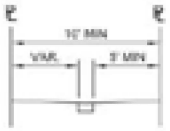
CONSTRUCTED IN ACCORDANCE WITH BUREAU OF ENGINEERING STANDARD PLANS

STANDARD PLAN NO.	S-470-1	VAULT INDEX NUMBER **B-4738**	SHEET 2 OF 4 SHEETS

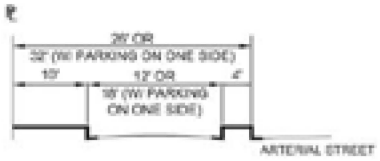
OTHER PUBLIC RIGHTS-OF-WAY



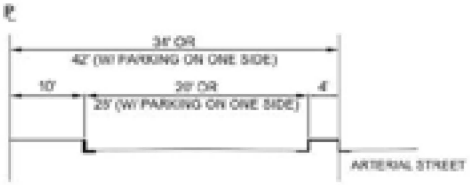
SHARED STREET



PEDESTRIAN WALKWAY

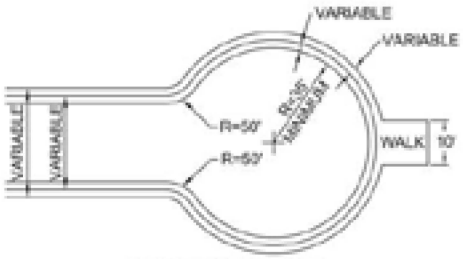


ONE-WAY SERVICE ROAD



BI-DIRECTIONAL SERVICE ROAD

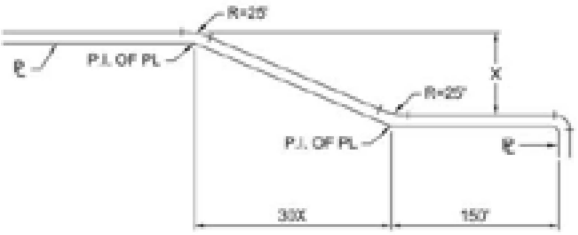
CUL-DE-SAC



MAY BE UNSYMMETRICAL
(PLAN VIEW)

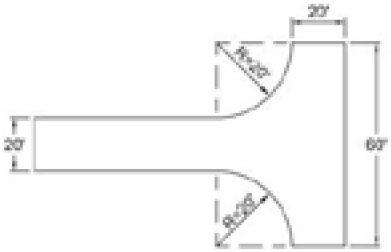
NOTE: FOR FIRE TRUCK CLEARANCE, NO OBSTRUCTION TALLER THAN 6" SHALL BE PERMITTED WITHIN 3FT. OF THE CURB. ON-STREET PARKING SHALL BE PROHIBITED.

TRANSITIONAL EXTENSIONS

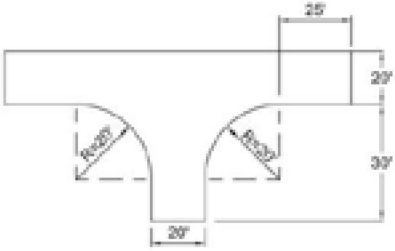


STANDARD FLARE SECTION
(PLAN VIEW)

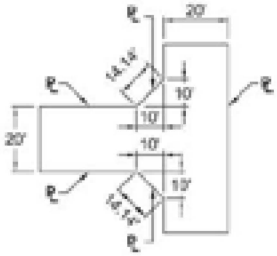
ALLEYS



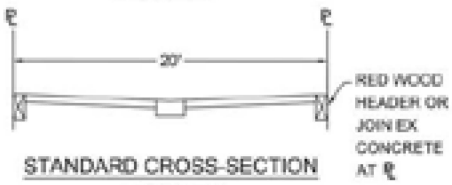
STANDARD TURNING AREA
(PLAN VIEW)



MINIMUM TURNING AREA
(PLAN VIEW)



STANDARD CUT CORNERS
FOR 90° INTERSECTION
(PLAN VIEW)



STANDARD CROSS-SECTION
(PLAN VIEW)

STANDARD PLAN NO.	S-470-1	VAULT INDEX NUMBER B-4738	SHEET 3 OF 4 SHEETS

NOTES

1. CITY COUNCIL MAY, BY ORDINANCE, ADOPT SPECIFIC STANDARDS FOR INDIVIDUAL STREETS THAT DIFFER FROM THESE OFFICIAL STANDARD STREET DIMENSIONS. COMMUNITY PLANS AND SPECIFIC PLANS SHOULD BE REVIEWED FOR FOOTNOTES, INSTRUCTIONS AND/OR MODIFIED STREET DIMENSIONS THAT WOULD REQUIRE STANDARDS DIFFERENT THAN THOSE INDICATED ON THIS STANDARD PLAN.

2. FOR ADDITIONAL GUIDANCE AS TO THE USE OF THE ROADWAY AND SIDEWALK AREA, PLEASE REFER TO THE COMPLETE STREET DESIGN GUIDE AND MANUALS.

3. FOR DISCRETIONARY PROJECTS REQUIRING ACTION FROM THE DEPARTMENT OF CITY PLANNING (PLANNING), PLANNING MAY INCLUDE SPECIFIC INFORMATION AS TO THE DESIGN AND UTILIZATION OF THE SIDEWALK AREA.

4. WHERE A DESIGNATED ARTERIAL CROSSES ANOTHER DESIGNATED ARTERIAL STREET AND THEN CHANGES IN DESIGNATION TO A STREET OF LESSER STANDARD WIDTH, THE ARTERIAL SHALL BE TAPERED IN A STANDARD FLARE SECTION ON BOTH SIDES, AS ON SHEET 3, TO MEET THE WIDTH OF LESSER DESIGNATION AND PROVIDE AN ORDERLY TRANSITION.

5. PRIVATE STREET DEVELOPMENT SHOULD CONFORM TO THE STANDARD PUBLIC STREET DIMENSIONS SHOWN ON THE SHEET, WHERE APPROPRIATE. VARIATIONS MAY BE APPROVED ON A CASE-BY-CASE BASIS BY THE CITY.

6. FIFTY-FOOT CURB RADII (INSTEAD OF THE STANDARD 35' CURB RADII) SHALL BE PROVIDED FOR CUL-DE-SACS IN INDUSTRIAL AREAS. SEE CUL-DE-SAC ILLUSTRATION FOR FURTHER DESIGN STANDARDS.

7. ALLEYS SHALL BE A MINIMUM OF 20' IN WIDTH AND INTERSECTIONS AND/OR DEAD-END TERMINUSES SHALL BE DESIGNED TO CONFORM TO THE ALLEY ILLUSTRATIONS INCLUDED HEREIN.

8. FOR INTERSECTIONS OF STREETS, THE FOLLOWING DEDICATIONS SHALL APPLY:
   A. INTERSECTIONS OF ARTERIAL STREETS WITH ANY OTHER STREET: 15' X 15' CUT CORNER OR 20' CURVED CORNER RADIUS.
   B. INTERSECTIONS ON NON-ARTERIAL AND/OR HILLSIDE STREETS: 10' X 10' CUT CORNER OR 15' CURVED CORNER RADIUS.

9. STREETS THAT ARE ACCOMPANIED BY A PARALLEL FRONTAGE AND/OR SERVICE ROAD ARE DEEMED TO MEET THE STREET STANDARDS SET FORTH HEREIN AND THE DEDICATION REQUIREMENT SHALL BE NO MORE THAN IS NECESSARY TO BRING THE ABUTTING SIDEWALK DIMENSION INTO COMPLIANCE WITH THE STREET STANDARD.

10. DUE TO THEIR UNIQUE CHARACTER AND DIMENSIONS ALL STREETS DESIGNATED AS DIVIDED ARE CONSIDERED TO HAVE MET THEIR STREET STANDARD AND THE DEDICATION SHALL BE NO MORE THAN IS NECESSARY TO BRING THE ABUTTING SIDEWALK DIMENSION COMPLIANT WITH THE STREET STANDARD.

11. THE DIMENSION OF ANY MEDIAN, DIVIDED STRIP AND/OR TRANSIT WAY SHALL BE INCLUDED WHEN DETERMINING THE RIGHT-OF-WAY DIMENSION.

12. THE LOCATION OF THE DRAINAGE GUTTER IS NOT RESTRICTED TO THE CENTER OF THE SHARED STREET AND CAN BE PLACED WHERE NECESSARY AS APPROVED BY THE CITY.

13. A SHARED STREET SHALL PROVIDE A DEDICATED PEDESTRIAN ACCESS ROUTE.

STANDARD PLAN NO. S-470-1	VAULT INDEX NUMBER B-4738	SHEET 4 OF 4 SHEETS

LADOT

Attachment C

Transportation Assessment Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Assessment for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Assessment Guidelines:

I. PROJECT INFORMATION

Project Name: _____

Project Address: _____

Project Description: _____

_____

LADOT Project Case Number: _____ Project Site Plan attached? *(Required)* ☐ Yes ☐ No

II. TRANSPORTATION DEMAND MANAGEMENT (TDM) MEASURES

Select any of the following TDM measures, which may be eligible as a Project Design Feature[1], that are being considered for this project:

	Reduced Parking Supply[2]		Bicycle Parking and Amenities		Parking Cash Out

List any other TDM measures (e.g. bike share kiosks, unbundled parking, microtransit service, etc) below that are also being considered and would require LADOT staff's determination of its eligibility as a TDM measure. LADOT staff will make the final determination of the TDM measure's eligibility for this project.

1 _____ 3 _____

2 _____ 4 _____

_____ _____

III. TRIP GENERATION

Trip Generation Rate(s) Source: ITE 10th Edition / Other _____

Trip Generation Adjustment *(Exact amount of credit subject to approval by LADOT)*	**Yes**	**No**
Transit Usage	☐	☐
Existing Active or Previous Land Use	☐	☐
Internal Trip	☐	☐
Pass-By Trip	☐	☐
Transportation Demand Management (See above)	☐	☐

Trip generation table including a description of the existing and proposed land uses, rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ☐ Yes ☐ No

	IN	OUT	TOTAL
AM Trips	_____	_____	_____
PM Trips	_____	_____	_____

NET Daily Vehicle Trips (DVT)
_____ DVT (ITE ___ ed.)
_____ DVT (VMT Calculator ver. ____)

[1] At this time Project Design Features are only those measures that are also shown to be needed to comply with a local ordinance, affordable housing incentive program, or State law.

[2] Select if reduced parking supply is pursued as a result of a parking incentive as permitted by the City's Bicycle Parking Ordinance, State Density Bonus Law, or the City's Transit Oriented Community Guidelines.

IV. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: _____ Ambient Growth Rate: _____ % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ☐ Yes ☐ No

STUDY INTERSECTIONS and/or STREET SEGMENTS:
(May be subject to LADOT revision after access, safety, and circulation evaluation.)

1 _____ 3 _____

2 _____ 4 _____

5 _____ 6 _____

Provide a separate list if more than six study intersections and/or street segments.

Is this Project located on a street within the High Injury Network? ☐ Yes ☐ No

If a study intersection is located within a ¼-mile of an adjacent municipality's jurisdiction, signature approval from said municipality is required prior to MOU approval.

V. ACCESS ASSESSMENT

a. Does the project exceed 1,000 net DVT? ☐ Yes ☐ No
b. Is the project's frontage 250 linear feet or more along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☐ No
c. Is the project's building frontage encompassing an entire block along an Avenue or Boulevard as classified by the City's General Plan? ☐ Yes ☐ No

VI. ACCESS ASSESSMENT CRITERIA

If Yes to any of the above questions a., b., or c., the Transportation Assessment must assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. Complete **Attachment C.1: Access Assessment Criteria** and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.

VII. SITE PLAN AND MAP OF STUDY AREA

Please note that the site plan should be submitted to the Department of City Planning for cursory review.

Does the attached site plan and/or map of study area show	Yes	No	Not Applicable
Each study intersection and/or street segment	☐	☐	☐
*Project Vehicle Peak Hour trips at each study intersection	☐	☐	☐
*Project Vehicle Peak Hour trips at each project access point	☐	☐	☐
*Project trip distribution percentages at each study intersection	☐	☐	☐
Project driveways designed per LADOT MPP 321 (show widths and directions or lane assignment)	☐	☐	☐
Pedestrian access points and any pedestrian paths	☐	☐	☐
Pedestrian loading zones	☐	☐	☐
Delivery loading zone or area	☐	☐	☐
Bicycle parking onsite	☐	☐	☐
Bicycle parking offsite (in public right-of-way)	☐	☐	☐

*For mixed-use projects, also show the project trips and project trip distribution by land use category.

VIII. FREEWAY SAFETY ANALYSIS SCREENING

Will the project add 25 or more trips to any freeway off-ramp in either the AM or PM peak hour? ☐ **YES** ☐ **NO**
Provide a brief explanation or graphic identifying the number of project trips expected to be added to the nearby freeway off-ramps serving the project site. If Yes to the question above, a freeway ramp analysis is required.

IX. CONTACT INFORMATION

	CONSULTANT	DEVELOPER
Name:	_____	_____
Address:	_____	_____
Phone Number:	_____	_____
E-Mail:	_____	_____

Approved by:	x				x				
		Consultant's Representative		Date		LADOT Representative		**Date	
Adjacent Municipality:				Approved by:					
				(if applicable)		Representative		Date	

**MOUs are generally valid for two years after signing. If after two years a transportation assessment has not been submitted to LADOT, the developer's representative shall check with the appropriate LADOT office to determine if the terms of this MOU are still valid or if a new MOU is needed.

Attachment C.1: Access Assessment Worksheet

LADOT

Access Assessment Worksheet

This Worksheet supports the analysis needed to assess the project's potential effect on pedestrian, bicycle, and transit facilities in the vicinity of the proposed project. If the project exceeds the screening criteria in Section V of the MOU, complete and attach to the draft Transportation Assessment to support the analysis. For the full scope of analysis, see Section 3.2 of the Transportation Assessment Guidelines.:

I. PROJECT INFORMATION

Project Name: _____

Project Address:_____

Project Description:_____

_____

LADOT Project Case Number: _____

II. PEDESTRIAN/ PERSON TRIP GENERATION

Source of Pedestrian/Person Trip Generation Rate(s)? □ ITE 10th Edition □ Other:

	Land Use	Size/Unit	Daily Person Trips
Proposed			
		Total new trips:	

Pedestrian/Person trip generation table including a description of the proposed land uses, trip credits, person trip assumptions, comparison studies used for reference, etc. attached? □ Yes □ No

III. PEDESTRIAN ATTRACTORS INVENTORY

Attach Pedestrian Map for the area (1,320 foot radius from edge of the project site) depicting:

- site pedestrian entrance(s)
- Existing or proposed passenger loading zones
- pedestrian generation/distribution values
  - Geographic Distribution: N ____ % S ____ % E ____ % W _____ %
- transit boarding and alighting of transit stops (should include Metro rail stations; Metro, DASH, and other municipal bus stops)

- Key pedestrian destinations with hours of operation:
  - schools (school times)
  - government offices with a public counter or meeting room
  - senior citizen centers
  - recreation centers or playgrounds
  - public libraries
  - medical centers or clinics
  - child care facilities
  - post offices
  - places of worship
  - grocery stores
  - other facilities that attract pedestrian trips
- pedestrian walking routes to key destinations from project site

Note: Pedestrian Count Summary, Bicycle Count Summary, Manual Traffic Count Summary will need to be attached to the Transportation Assessment

IV. FACILITIES INVENTORY

Is a High Injury Network street located within 1,320 foot radius from the edge of the project site? □ Yes □ No

If yes, list streets and include distance from the project:

_____ at _____(feet)

_____ at _____(feet)

_____ at _____(feet)

_____ at _____(feet)

Attach Radius Map for the area (1,320 foot radius from edge of the project site) depicting the following existing and proposed facilities:

- transit stops
- bike facilities
- traffic control devices for controlled crossings
- uncontrolled crosswalks
- location of any missing, damaged or substandard sidewalks

For a reference of planned facilities, see the Transportation Assessment Support Map

Crossing Distances

LADOT

City of Los Angeles Transportation Assessment MOU

Does the project property have frontage along an arterial street (designated as either an Avenue or Boulevard?)

□ Yes □ No

If yes, provide the distance between the crossing control devices (e.g. signalized crosswalk, or controlled mid-block crossing) along any arterial within 1,320 feet of the property.

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

_____(feet) at _____ _____(feet) at _____

For each street along the property frontage, provide:

the roadway configuration:

- **2-Lane**
- **3-Lane w/ striped median**
- **3-Lane w/ raised median**
- **4-Lane**
- **5-Lane w/ striped median**
- **5-Lane w/ raised median**
- **6-Lane**
- **Other:_____**

and crossing distance: _____ ft total _____ ft to median _____ ft to median

V. Project Construction

Will the project require any construction activity within the city right-of-way? □ Yes □ No

If yes, will the project require temporary closure of any of the following city facilities?

- sidewalk
- bike lane
- parking lane
- travel lane
- bus stop
- bicycle parking (racks or corrals)
- bike share or other micro-mobility station
- car share station
- parklet
- other: _____

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Attachment D: Plan, Policy, and Program Consistency Worksheet

Plans, Policies and Programs Consistency Worksheet

The worksheet provides a structured approach to evaluate the threshold T-1 question below, that asks whether a project conflicts with a program, plan, ordinance or policy addressing the circulation system. The intention of the worksheet is to streamline the project review by highlighting the most relevant plans, policies and programs when assessing potential impacts to the City's circulation system.

> ***Threshold T-1***: Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?

This worksheet does not include an exhaustive list of City policies, and does not include community plans, specific plans, or any area-specific regulatory overlays. The Department of City Planning project planner will need to be consulted to determine if the project would obstruct the City from carrying out a policy or program in a community plan, specific plan, streetscape plan, or regulatory overlay that was adopted to support multimodal transportation options or public safety. LADOT staff should be consulted if a project would lead to a conflict with a mobility investment in the Public Right of Way (PROW) that is currently undergoing planning, design, or delivery. This worksheet must be completed for all projects that meet the Section I. Screening Criteria. For description of the relevant planning documents, **see Attachment D.1.**

For any response to the following questions that checks the box in **bold text** ((i.e.□ **Yes** or □ **No**), further analysis is needed to demonstrate that the project does not conflict with a plan, policy, or program.

I. SCREENING CRITERIA FOR POLICY ANALYSIS

If the answer is 'yes' to any of the following questions, further analysis will be required:

Does the project require a discretionary action that requires the decision maker to find that the project would substantially conform to the purpose, intent and provisions of the General Plan?

□ Yes □ No

Is the project known to directly conflict with a transportation plan, policy, or program adopted to support multimodal transportation options or public safety?

□ Yes □ No

Is the project required to or proposing to make any voluntary modifications to the public right-of-way (i.e., dedications and/or improvements in the right-of-way, reconfigurations of curb line, etc.)?

□ Yes □ No

II. PLAN CONSISTENCY ANALYSIS

A. Mobility Plan 2035 PROW Classification Standards for Dedications and Improvements

These questions address potential conflict with:

LADOT

Plan, Policy, and Program Consistency Worksheet

Mobility Plan 2035 Policy 2.1 *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

Mobility Plan 2035 Policy 2.3 *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

Mobility Plan 2035 Policy 3.2 – *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

A.1 Does the project include additions or new construction along a street designated as a Boulevard I, and II, and/or Avenue I, II, or III on property zoned for R3 or less restrictive zone? ☐ Yes ☐ No

A.2 If **A.1 is yes**, is the project required to make additional dedications or improvements to the Public Right of Way as demonstrated by the street designation. ☐ Yes ☐ No ☐ N/A

A.3 If **A.2 is yes**, is the project making the dedications and improvements as necessary to meet the designated dimensions of the fronting street (Boulevard I, and II, or Avenue I, II, or III)?

☐ Yes ☐ No ☐ N/A

If the answer is to **A.1 or A.2 is NO, or to A.1, A.2 and A.3. is YES**, then the project does not conflict with the dedication and improvement requirements that are needed to comply with the Mobility Plan 2035 Street Designations and Standard Roadway Dimensions.

A.4 If the answer to **A.3. is NO**, is the project applicant asking to waive from the dedication standards?
☐ **Yes** ☐ **No** ☐ N/A

Lists any streets subject to dedications or voluntary dedications and include existing roadway and sidewalk widths, required roadway and sidewalk widths, and proposed roadway and sidewalk width or waivers.

Frontage 1 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 2 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 3 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

Frontage 4 Existing PROW'/Curb' : Existing _____Required_____Proposed_____

If the answer to **A.4 is NO**, the project is inconsistent with Mobility Plan 2035 street designations and must file for a waiver of street dedication and improvement.

If the answer to **A.4 is YES**, additional analysis is necessary to determine if the dedication and/or improvements are necessary to meet the City's mobility needs for the next 20 years. The following factors may contribute to determine if the dedication or improvement is necessary:

Is the project site along any of the following networks identified in the City's Mobility Plan?

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[1]

Is the project within the service area of Metro Bike Share, or is there demonstrated demand for micro-mobility services?

If the project dedications and improvements asking to be waived are necessary to meet the City's mobility needs, the project may be found to conflict with a plan that is adopted to protect the environment.

B. Mobility Plan 2035 PROW Policy Alignment with Project-Initiated Changes

B.1 Project-Initiated Changes to the PROW Dimensions

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.1 *– Adaptive Reuse of Streets. Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands.*

Mobility Plan 2035 Policy 2.3 *– Pedestrian Infrastructure. Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.*

Mobility Plan 2035 Policy 3.2 – *People with Disabilities. Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.*

Mobility Plan 2035 Policy 2.10 *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*

Mobility Plan 2035 Street Designations and Standard Roadway Dimensions

B.1 Does the project propose, above and beyond any PROW changes needed to comply with Section 12.37 of the LAMC as discussed in Section II.A, physically modify the curb placement or turning radius and/or physically alter the sidewalk and parkways space that changes how people access a property?

Examples of developer-initiated physical changes to the public right-of-way include:

- widening the roadway,
- narrowing the sidewalk,
- adding space for vehicle turn outs or loading areas,
- removing bicycle lanes, bike share stations, or bicycle parking

[1] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

- modifying existing bus stop, transit shelter, or other street furniture
- paving, narrowing, shifting or removing an existing parkway or tree well

□ Yes □ No

B.2 Driveway Access

These questions address potential conflict with:

Mobility Plan 2035 Policy 2.10 *– Loading Areas. Facilitate the provision of adequate on and off-site street loading areas.*

Mobility Plan 2035 Program PL.1. Driveway Access. *Require driveway access to buildings from non-arterial streets or alleys (where feasible) in order to minimize interference with pedestrian access and vehicular movement.*

Citywide Design Guidelines - Guideline 2*: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.*

Site Planning Best Practices:

- *Prioritize pedestrian access first and automobile access second. Orient parking and driveways toward the rear or side of buildings and away from the public right-of-way. On corner lots, parking should be oriented as far from the corner as possible.*
- *Minimize both the number of driveway entrances and overall driveway widths.*
- *Do not locate drop-off/pick-up areas between principal building entrances and the adjoining sidewalks.*
- *Orient vehicular access as far from street intersections as possible.*
- *Place drive-thru elements away from intersections and avoid placing them so that they create a barrier between the sidewalk and building entrance(s).*
- *Ensure that loading areas do not interfere with on-site pedestrian and vehicular circulation by separating loading areas and larger commercial vehicles from areas that are used for public parking and public entrances.*

B.2 Does the project add new driveways along a street designated as an Avenue or a Boulevard that conflict with LADOT's Driveway Design Guidelines (See Sec. 321 in the Manual of Policies and Procedures) by any of the following:

- locating new driveways for residential properties on an Avenue or Boulevard, and access is otherwise possible using an alley or a collector/local street, or
- locating new driveways for industrial or commercial properties on an Avenue or Boulevard and access is possible along a collector/local street, or
- the total number of new driveways exceeds 1 driveway per every 200 feet[2] along on the Avenue or Boulevard frontage, or
- locating new driveways on an Avenue or Boulevard within 150 feet from the intersecting street, or
- locating new driveways on a collector or local street within 75 feet from the intersecting street, or

[2] for a project frontage that exceeds 400 feet along an Avenue or Boulevard, the incremental additional driveway above 2 is more than 1 driveway for every 400 additional feet.

- locating new driveways near mid-block crosswalks, requiring relocation of the mid-block crosswalk

□ **Yes** □ No

If the answer to **B.1 and B.2 are both NO**, then the project would not conflict with a plan or policies that govern the PROW as a result of the project-initiated changes to the PROW.

Impact Analysis

If the answer to either **B.1 or B.2 are YES**, City plans and policies should be reviewed in light of the proposed physical changes to determine if the City would be obstructed from carrying out the plans and policies. The analysis should pay special consideration to substantial changes to the Public Right of Way that may either degrade existing facilities for people walking and bicycling (e.g., removing a bicycle lane), or preclude the City from completing complete street infrastructure as identified in the Mobility Plan 2035, especially if the physical changes are along streets that are on the High Injury Network (HIN). The analysis should also consider if the project is in a Transit Oriented Community (TOC) area, and would degrade or inhibit trips made by biking, walking and/ or transit ridership. The streets that need special consideration are those that are included on the following networks identified in the Mobility Plan 2035, or the HIN:

- Transit Enhanced Network
- Bicycle Enhanced Network
- Bicycle Lane Network
- Pedestrian Enhanced District
- Neighborhood Enhanced Network
- High Injury Network

To see the location of the above networks, see **Transportation Assessment Support Map**.[3]

Once the project is reviewed relevant to plans and policies, and existing facilities that may be impacted by the project, the analysis will need to answer the following two questions in concluding if there is an impact due to plan inconsistency.

B.2.1 Would the physical changes in the public right of way or new driveways that conflict with LADOT's Driveway Design Guidelines degrade the experience of vulnerable roadway users such as modify, remove, or otherwise negatively impact existing bicycle, transit, and/or pedestrian infrastructure?

□ **Yes** □ No □ N/A

B.2.2 Would the physical modifications or new driveways that conflict with LADOT's Driveway Design Guidelines preclude the City from advancing the safety of vulnerable roadway users?

□ **Yes** □ No □ N/A

If either of the answers to either **B.2.1 or B.2.2 are YES**, the project may conflict with the Mobility Plan 2035, and therefore conflict with a plan that is adopted to protect the

[3] LADOT Transportation Assessment Support Map https://arcg.is/fubbD

environment. If either of the answers to both **B.2.1. or B.2.2. are NO**, then the project would not be shown to conflict with plans or policies that govern the Public Right-of-Way.

C. Network Access

C. 1 Alley, Street and Stairway Access

These questions address potential conflict with:

> ***Mobility Plan Policy 3.9*** *Increased Network Access: Discourage the vacation of public rights-of-way.*

C.1.1 Does the project propose to vacate or otherwise restrict public access to a street, alley, or public stairway?

□ Yes □ No

C.1.2 If the answer to C.1.1 is Yes, will the project provide or maintain public access to people walking and biking on the street, alley or stairway?

□ Yes □ **No** □ N/A

C.2 New Cul-de-sacs

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 3.10*** *Cul-de-sacs: Discourage the use of cul-de-sacs that do not provide access for active transportation options.*

C.2.1 Does the project create a cul-de-sac or is the project located adjacent to an existing cul-de-sac?

□ Yes □ No

C.2.2 If yes, will the cul-de-sac maintain convenient and direct public access to people walking and biking to the adjoining street network?

□ Yes □ **No** □ N/A

If the answers to either C.1.2 or C.2.2 are YES, then the project would not conflict with a plan or policies that ensures access for all modes of travel. If the answer to either **C.1.2 or C.2.2 are NO**, the project may conflict with a plan or policies that governs multimodal access to a property. Further analysis must assess to the degree that pedestrians and bicyclists have sufficient public access to the transportation network.

D. Parking Supply and Transportation Demand Management

These questions address potential conflict with:

> ***Mobility Plan 2035 Policy 3.8*** *– Bicycle Parking, Provide bicyclists with convenient, secure and well maintained bicycle parking facilities.*

> ***Mobility Plan 2035 Policy 4.8 –*** *Transportation Demand Management Strategies. Encourage greater utilization of Transportation Demand Management Strategies to reduce dependence on single-occupancy vehicles.*

LADOT

Plan, Policy, and Program Consistency Worksheet

Mobility Plan 2035 Policy 4.13 *– Parking and Land Use Management: Balance on-street and off-street parking supply with other transportation and land use objectives.*

D.1 Would the project propose a supply of onsite parking that exceeds the baseline amount[4] as required in the Los Angeles Municipal Code or a Specific plan, whichever requirement prevails?

□ Yes □ No

D.2 If the answer to D.1. is YES, would the project propose to actively manage the demand of parking by independently pricing the supply to all users (e.g. parking cash-out), or for residential properties, unbundle the supply from the lease or sale of residential units?

□ Yes **□ No** □ N/A

If the answer to **D.2. is NO** the project may conflict with parking management policies. Further analysis is needed to demonstrate how the supply of parking above city requirements will not result in additional (induced) drive-alone trips as compared to an alternative that provided no more parking than the baseline required by the LAMC or Specific Plan. If there is potential for the supply of parking to result in induced demand for drive-alone trips, the project should further explore transportation demand management (TDM) measures to further off-set the induced demands of driving and vehicle miles travelled (VMT) that may result from higher amounts of on-site parking. The TDM measures should specifically focus on strategies that encourage dynamic and context-sensitive pricing solutions and ensure the parking is efficiently allocated, such as providing real time information. Research has demonstrated that charging a user cost for parking or providing a 'cash-out' option in return for not using it is the most effective strategy to reduce the instances of drive-alone trips and increase non-auto mode share to further reduce VMT. To ensure the parking is efficiently managed and reduce the need to build parking for future uses, further strategies should include sharing parking with other properties and/or the general public.

D.3. Would the project provide the minimum on and off-site bicycle parking spaces as required by Section 12.21 A.16 of the LAMC?

□ Yes **□ No**

D.4. Does the Project include more than 25,000 square feet of gross floor area construction of new non-residential gross floor?

□ Yes □ No

D.5 If the answer to D.4. is YES, does the project comply with the City's TDM Ordinance in Section 12.26 J of the LAMC?

□ Yes **□ No** □ N/A

If the answer to **D.3. or D.5. is NO** the project conflicts with LAMC code requirements of bicycle parking and TDM measures. If the project includes uses that require bicycle parking (Section 12.21 A.16) or TDM (Section 12.26 J), and the project does not comply with those Sections of the LAMC, further analysis is required to ensure that the project supports the intent of the two LAMC sections. To meet the intent of

[4] The baseline parking is defined here as the default parking requirements in section 12.21 A.4 of the Los Angeles Municipal Code or any applicable Specific Plan, whichever prevails, for each applicable use not taking into consideration other parking incentives to reduce the amount of required parking.

bicycle parking requirements, the analysis should identify how the project commits to providing safe access to those traveling by bicycle and accommodates storing their bicycle in locations that demonstrates priority over vehicle access.

Similarly, to meet the intent of the TDM requirements of Section 12.26 J of the LAMC, the analysis should identify how the project commits to providing effective strategies in either physical facilities or programs that encourage non-drive alone trips to and from the project site and changes in work schedule that move trips out of the peak period or eliminate them altogether (as in the case in telecommuting or compressed work weeks).

E. Consistency with Regional Plans

This section addresses potential inconsistencies with greenhouse gas (GHG) reduction targets forecasted in the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) / Sustainable Communities Strategy (SCS).

E.1 Does the Project or Plan apply one the City's efficiency-based impact thresholds (i.e. VMT per capita, VMT per employee, or VMT per service population) as discussed in **Section 2.2.3** of the TAG?

□ Yes □ No

E.2 If the Answer to **E.1 is YES**, does the Project or Plan result in a significant VMT impact?

□ **Yes** □ No □ N/A

E.3 If the Answer to **E.1 is NO**, does the Project result in a net increase in VMT?

□ **Yes** □ No □ N/A

If the Answer to **E.2 or E.3 is NO**, then the Project or Plan is shown to align with the long-term VMT and GHG reduction goals of SCAG's RTP/SCS.

E.4 If the Answer to **E.2 or E.3 is YES**, then further evaluation would be necessary to determine whether such a project or land use plan would be shown to be consistent with VMT and GHG reduction goals of the SCAG RTP/SCS. For the purpose of making a finding that a project is consistent with the GHG reduction targets forecasted in the SCAG RTP/SCS, the project analyst should consult **Section 2.2.4** of the Transportation Assessment Guidelines (TAG). **Section 2.2.4** provides the methodology for evaluating a land use project's cumulative impacts to VMT, and the appropriate reliance on SCAG's most recently adopted RTP/SCS in reaching that conclusion.

The analysis methods therein can further support findings that the project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy for which the State Air Resources Board, pursuant to Section 65080(b)(2)(H) of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

References

BOE Street Standard Dimensions S-470-1
http://eng2.lacity.org/techdocs/stdplans/s-400/S-470-1_20151021_150849.pdf

LADCP Citywide Design Guidelines.
https://planning.lacity.org/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf

LADOT Transportation Assessment Support Map https://arcg.is/fubbD

Mobility Plan 2035
https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

SCAG. Connect SoCal, 2020-2045 RTP/SCS, https://www.connectsocal.org/Pages/default.aspx

ATTACHMENT D.1: CITY PLAN, POLICIES AND GUIDELINES

The Transportation Element of the City's General Plan, Mobility Plan 2035, established the "Complete Streets Design Guide" as the City's document to guide the operations and design of streets and other public rights-of-way. It lays out a vision for designing safer, more vibrant streets that are accessible to people, no matter what their mode choice. As a living document, it is intended to be frequently updated as City departments identify and implement street standards and experiment with different configurations to promote complete streets. The guide is meant to be a toolkit that provides numerous examples of what is possible in the public right-of-way and that provides guidance on context-sensitive design.

The Plan for A Healthy Los Angeles (March 2015) includes policies directing several City departments to develop plans that promote active transportation and safety.

The City of Los Angeles Community Plans, which make up the Land Use Element of the City's General Plan, guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 Community Plans provide specific, neighborhood-level detail for land uses and the transportation network, relevant policies, and implementation strategies necessary to achieve General Plan and community-specific objectives.

The stated goal of Vision Zero is to eliminate traffic-related deaths in Los Angeles by 2025 through a number of strategies, including modifying the design of streets to increase the safety of vulnerable road users. Extensive crash data analysis is conducted on an ongoing basis to prioritize intersections and corridors for implementation of projects that will have the greatest effect on overall fatality reduction. The City designs and deploys Vision Zero Corridor Plans as part of the implementation of Vision Zero. If a project is proposed whose site lies on the High Injury Network (HIN), the applicant should consult with LADOT to inform the project's site plan and to determine appropriate improvements, whether by funding their implementation in full or by making a contribution toward their implementation.

The Citywide Design Guidelines (October 24, 2019) includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, Guidelines one through three provide building design strategies that support the pedestrian experience. The Guidelines provide best practices in designing that apply in three spatial categories of site planning, building design and public right of way. The Guidelines should be followed to ensure that the project design supports pedestrian safety, access and comfort as they access to and from the building and the immediate public right of way.

The City's Transportation Demand Management (TDM) Ordinance (LA Municipal Code 12.26.J) requires certain projects to incorporate strategies that reduce drive-alone vehicle trips and improve access to destinations and services. The ordinance is revised and updated periodically and should be reviewed for application to specific projects as they are reviewed.

The City's LAMC Section 12.37 (Waivers of Dedication and Improvement) requires certain projects to dedicate and/or implement improvements within the public right-of-way to meet the street designation standards of the Mobility Plan 2035.

The Bureau of Engineering (BOE) Street Standard Dimensions S-470-1 provides the specific street widths and public right of way dimensions associated with the City's street standards.

VMT CALCULATOR USER GUIDE:

https://ladot.lacity.org/sites/default/files/documents/vmt_calculator_user_guide-2020.05.18.pdf

VMT CALCULATOR DOCUMENTATION:

https://ladot.lacity.org/sites/default/files/documents/vmt_calculator_documentation-2020.05.18.pdf

TDM STRATEGIES

https://ladot.lacity.org/sites/default/files/documents/tdm_strategy_appendixb.pdf

MARKED CROSSWALK GUIDELINES

(Rev. 10/05/20)

The satisfaction of guideline(s) shall not in itself require the installation of a marked crosswalk, and the lack of satisfaction of guideline(s) shall not in itself require the removal of a marked crosswalk. These guidelines do not apply to intersections already controlled by traffic signals or locations shared with other jurisdictions.

SR# _____

Prepared by: _____ Date: _____

Checked by: _____ Date: _____

STREET NAME	X-STREET

Number of (thru) Approach Lanes	Vehicle ADT (Average Daily Traffic Surveyed or Estimated)*	Speed Limit (Posted or Prima Facie) (mph)

**In the absence of 24 hour volume data, Vehicle ADT can be estimated using the product of 10 multiplied by the peak one hour volume of a street in each respective direction, or the product of 2.5 multiplied by the sum of the peak six (6) hour volumes of a street in each respective direction.*

New marked crosswalks should be installed (per S-481.0), only if the location satisfies all the conditions listed below under Section A. MINIMUM REQUIREMENTS, and one or more of Section B. GUIDELINES 1 - 4.

Traffic signal control (Traffic Signal Warrants Worksheet) should be considered as part of any evaluation of a location for a new marked crosswalk. However, traffic signals can bring unintended consequences such as exacerbating neighborhood cut-through traffic, an increase in vehicular delay, and an increase in certain types of crashes (ref. CA MUTCD Section 4B.04.01). Marked crosswalks (with beacons as appropriate) are typically more suitable to address pedestrian issues and needs (ref. CA MUTCD Section 4B.04.02). As such, locations that meet Warrant 4 (Pedestrian Volume) or Warrant 5 (School Crossing) and no other warrants from the Traffic Signal Warrants Worksheet may be considered for a crosswalk with beacons as appropriate in lieu of a traffic signal.

Retention or removal of existing marked crosswalks and evaluation of beacons for existing marked crosswalks, subject to these guidelines, is at the discretion of the Department. Permanent removal or temporary removal/relocation of marked crosswalks **shall** require an investigation and assessment, utilizing these guidelines. If a determination is made to remove a crosswalk, per Section 21950.05 of the California Vehicle Code, "Public Notice" signs must be posted at the crosswalk, and should be in place for at least two weeks in advance of the 30-day period prior to the anticipated date of the removal. When the public input has resulted in compelling factors not previously considered, the proposed removal may be reconsidered. If little or no compelling public input is received, a Traffic Control Report (TCR) with supporting data and the record of public comments **shall** be prepared, or the removal may be shown on a new design plan in lieu of a TCR. Additional information on the procedure to retain or remove an existing crosswalk can be found in in Section 344 E. of the Manual of Policies and Procedures.

A. MINIMUM REQUIREMENTS

	YES	NO
ALL SATISFIED?	❑	❑
(a) Motorists in all approach lanes would be able to see pedestrians in both waiting areas for the proposed crosswalk from distance "A", as shown in S-481.0, during both daytime and nighttime conditions. The waiting areas are defined as follows: for locations with full-time parking lanes (where pedestrians are expected to wait to cross from within the parking lane): a point within the proposed crosswalk, 4 feet from the nearest curb face of the street being crossed near each landing; for locations without full-time parking lanes and active travel lanes adjacent to the curb (where pedestrians are expected to wait to cross from the edge of the sidewalk): at the edge of the curb at each landing. Where additional nighttime visibility is required, the crosswalk may be authorized, contingent upon the installation of additional lighting.	❑	❑
(b) Pedestrian volume is at least 20 units during a one-hour period during any day of the week. All pedestrians crossing the major street mid-block, up to one block away from the proposed crossing may be counted if they are expected to benefit and be served by the proposed crosswalk. Pedestrians crossing at the next upstream and downstream intersections may also be counted if those intersections do not feature a marked crosswalk. All pedestrians as noted above should be counted during one singular one hour period. *Note 1*: For both cases, children who appear to be under 13 years of age, elderly who appear to be over 64 years of age, persons pushing strollers, and disabled persons count as two (2) pedestrian units. *Note 2*: Marked uncontrolled crosswalks can induce demand, particularly adjacent to attractors such as transit stops, schools, and commercial centers *(ref. NACTO Urban Street Design Guide, Intersection Design Elements, Crosswalks and Crossings, Pages 110-111).* A reduced threshold of pedestrian units can be used to satisfy this requirement if the projected pedestrian volume exceeds 20 units and such a projection is documented.	❑	❑
(c) The distance between the location and adjacent signalized intersections is greater than the minimum stopping sight distance based on the posted speed or 85th percentile speed, whichever is greater. Stopping sight distance is shown in the following table:	❑	❑

Posted or 85th Percentile Speed (mph)	Stopping_Sight Distance (ft)
25	153
30	195
35	242
40	294
45	350
50	415

(d) There is no documented history or field observations of queuing from downstream intersections that regularly spills into the location of the proposed crosswalk; if such queuing is observed or documented, it must be resolved prior to, or in conjunction with the installation of the proposed crosswalk.	❑	❑
(e) ADA-accessible curb ramps are present at both landings of the proposed crosswalk, or will be installed as part of the installation of the crosswalk. If such curb ramps are not technically feasible, this requirement is waived, contingent upon a documented determination from the Department on Disability that a marked crosswalk at the proposed location without curb ramps would be a "reasonable accommodation."	❑	❑

B. GUIDELINES

1. PEDESTRIAN VOLUME

	YES	NO
ANY SATISFIED?	❑	❑
(a) Existing or projected pedestrian volume is 40 or more pedestrian units during any one-hour period during any day of the week.	❑	❑
(b) Existing or projected pedestrian volume is 30 or more pedestrian units during each of any two (2) hours, during any day of the week.	❑	❑
Note: For both cases, children who appear to be under 13 years of age, elderly who appear to be over 64 years of age, persons pushing strollers, and disabled persons count as two (2) pedestrian units.		

2. PEDESTRIAN ROUTE DEFINITION

	YES	NO
ANY SATISFIED?	❑	❑
The installation of a marked crosswalk would result in the following:		
(a) Clarify or define pedestrian routes across complex intersections.	❑	❑
(b) Channelize pedestrians into a significantly shorter path.	❑	❑
(c) Position pedestrians to be seen significantly better by motorists where there are visibility restrictions, due to roadway geometry, grade, bus stops, inadequate lighting, etc.	❑	❑
(d) Consolidate pedestrians to a single preferred crossing, in combination with the prohibition of crossings at an adjacent intersection(s) due to restricted visibility or crash history, as applicable.	❑	❑
(e) Provide a needed crossing where there is no intersection with a legal crossing or marked mid-block crosswalk within 315 feet of the proposed location.	❑	❑

3. SPECIAL FACILITIES

	YES	NO
ANY SATISFIED?	❑	❑
The installation of a marked crosswalk would serve the following:		
(a) Transit via a transit stop	❑	❑
(b) A school via a designated school crossing	❑	❑
(c) A government office with a public counter or meeting room	❑	❑
(d) A senior citizen center or facility, or adult day care center	❑	❑
(e) A recreational center, park, or playground used by senior citizens or children	❑	❑
(f) A public library	❑	❑
(g) A medical center, clinic, or pharmacy	❑	❑
(h) A childcare facility or children's day care center	❑	❑
(i) A post office	❑	❑
(j) A place of religious worship	❑	❑
(k) Any other facility where it can be documented that a significant number of the clients/users/occupants are either children, senior citizens, or persons with disabilities.	❑	❑

4. PEDESTRIAN HYBRID BEACON

SATISFIED?	❑	❑

Guidelines 1 - 3 are not satisfied, but the location meets the conditions outlined in CA MUTCD 2014, Section 4F.01 and Figures 4F-1 and 4F-2 for consideration of a Pedestrian Hybrid Beacon. Under such circumstances, a marked crosswalk may be justified and **shall** be controlled by Pedestrian Hybrid Beacons when justified solely by this criteria.

C. STOP CONTROL

If the location of a proposed crosswalk is at an intersection or mid-block, across a street, designated as a Local Street or Collector street in the Mobility Plan 2035 Element of the General Plan, or functions as a Local or Collector due to an Average Daily Traffic value of less than 10,000 vehicles, stop signs may be used to control traffic across the crosswalk, even if the location does not meet any of the guidelines for all-way stop control in LADOT's All-Way Stop Sign Guidelines. Stop sign control for mid-block crosswalks is only recommended for consideration on streets with vehicle ADT of less than 10,000 (classified as Local or Collector or functioning as such), a posted or prima facie speed limit of 35 miles per hour or less, and at locations with active pedestrian usage during the majority of the day on most days.

D. BEACONS

1. AT INTERSECTIONS

Upon a determination that stop control or traffic signal is not suitable for a proposed marked crosswalk at an intersection, the need for Pedestrian Hybrid Beacons (PHB) or Pedestrian Activated Flashing Yellow Beacons (PAYFB) to be installed with the crosswalk is shown in the table below: *(ref Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, Federal Highway Administration)*

Roadway Configuration*	Vehicle ADT < 9,000			Vehicle ADT = 9,000 to 15,000			Vehicle ADT > 15,000		
	Speed Limit (Posted or Prima Facie)								
	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH
1 or 2 through lanes **w/o** two-way left-turn lane		PAYFB/ PHB	PAYFB/ PHB		PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB
2 through lanes **with** raised median		PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB
2 through lanes **with** two-way left-turn lane	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB	PAYFB/ PHB
3+ through lanes **with** raised median	PAYFB/ PHB	PAYFB/ PHB	PHB	PAYFB/ PHB	PHB	PHB	PAYFB/ PHB	PHB	PHB
3+ through lanes **w/o** raised median	PAYFB/ PHB	PAYFB/ PHB	PHB	PAYFB/ PHB	PHB	PHB	PHB	PHB	PHB

**Number of lanes indicated is for both directions*

Special Instructions

1. A raised median is only considered functional if it is at least 4 feet wide and 6 feet long and is ADA accessible. A two-way left turn lane or left turn pocket is not considered a through lane
2. For any location where there is an advisory speed sign posted within the stopping sight distance shown on page 2 (for the speed limit or critical speed) in advance of the crosswalk, due to the presence of speed humps/tables or other roadway features, the advisory speed may be used in lieu of the regulatory speed limit to consider the appropriate beacons
3. For locations across a “slip” lane, where it has been determined that an advisory speed would be lower than the posted or prima facie speed limit based on a ball bank test, that advisory speed should be used in lieu of the posted or prima facie speed limit in the table above in order to determine appropriateness of beacons.

4. If conditions match a cell in the table where beacons are listed and underlined, any one of the indicated beacon types **shall** be installed in conjunction with a marked crosswalk at the subject location. If both a PAYFB and PHB are listed and underlined in the respective cell, then a crosswalk with PAYFB may be authorized and installed, and PHB may be authorized separately, to be installed at a later date, replacing the PAYFB.
5. If conditions match a cell in the table where beacons are listed but not underlined, any one of the indicated beacon types may be installed in conjunction with a marked crosswalk at the subject location. Under such conditions, if a marked crosswalk is authorized without beacons, justification documenting such a decision should be made as part of the crosswalk's authorization. Additionally, under these same conditions, a crosswalk may be authorized and installed without beacons, and beacons may be authorized separately, to be installed at a later date.
6. If conditions match a blank cell, Pedestrian Hybrid Beacons may still be appropriate per CA MUTCD 2014 Section 4F.01, which considers a combination of factors including crosswalk length, posted speed limit, pedestrian volume and vehicle volume.
7. If an initial determination is made that Pedestrian Activated Flashing Yellow Beacons are appropriate and the location is within 600 feet of traffic signals on both the upstream and downstream approaches, Pedestrian Hybrid Beacons or a traffic signal are more appropriate, as they can better facilitate coordination and progression of traffic along a street segment with closely spaced traffic signals.
8. Beacons may still be deemed appropriate and justified, if not required or recommended by the table, nor recommended for consideration per CA MUTCD Section 4F.01. Under such conditions, such justification must be clearly documented.

2. AT MID-BLOCK LOCATIONS

SATISFIED?	YES	NO
(a) For mid-block locations of proposed crosswalks across streets with vehicle ADT of less than 10,000 (classified as Local or Collector or functioning as such), and a posted or prima facie speed limit of 35 miles per hour or less: stop signs, a raised crosswalk, a traffic signal, PAYFB, or PHB may be considered. (See *Section* C. *for further guidance on stop control.* See *Traffic Signal Warrants Worksheet for traffic signal control. See Section D.1 for PAYFB or PHB suitability, refer to DOT criteria for raised crosswalks.)*	❑	❑
(b) For locations with a posted speed or prima facie speed limit of at least 40 miles per hour, a PHB or traffic signal **shall** be used to supplement the mid-block crosswalk.	❑	❑
(c) For locations with a vehicle ADT of at least 10,000 (classified as Avenue or Boulevard or Scenic Highway or functioning as such), a PAYFB, PHB, or traffic signal **shall** be used to supplement the mid-block crosswalk.	❑	❑
(d) Special Instructions listed in Section D. (1.) also apply.	❑	❑

E. LOCATION ALREADY CONTROLLED BY STOP SIGNS

	SATISFIED? YES	NO
1. For locations across intersection approaches with existing stop sign control and where pedestrians are not prohibited from crossing, new crosswalks may be marked if ADA access is satisfied per Section A.(e), and any one of the following criteria are satisfied:		
(a) Minimum pedestrian volume is satisfied per Section A. (b).	❑	❑
(b) There is a documented crash history of at least two (2) pedestrian-involved collisions in a recent 12 month period.	❑	❑
(c) The crossing facilitates access to, within, or along a business district, school route, or special facility (see Section B.3.).	❑	❑

2. For locations with existing midblock crosswalk that is controlled by stop signs, the guidelines for "At Midblock Locations" listed in Section D. (2) should be considered.

LADOT

Sheet 1 of 16

SR#

Traffic Signal Warrants Worksheet

DATE_____ PREPARER_____ REVIEWER _____

MAJOR ST:_____

MINOR ST: _____

Critical Approach Speed } MPH ____ *or* Speed Limit } MPH ____

Speed limit or critical speed on major street traffic > 40 mph……..……☐ *or* } RURAL (R) ☐ URBAN (U)

In built up area of isolated community of < 10,000 population…….……☐

Eight-Hour Vehicular Volume

WARRANT 1

SATISFIED N/A ☐ YES ☐ NO ☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Condition A or Condition B or combination of 80% of both parts A and B must be satisfied.

b. A 6-hour Manual Count may be used in a determination that this warrant is not met. However, supplement manual counts should be taken during separate hours for a determination that this warrant is met.

c. In applying each condition, the major street and minor street volumes shall be for the same hours. On the minor street, the higher volume does not need to be the same approach during each of the hours.

d. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.

e. Figure 4C-103(CA) should be used for new intersections, significantly reconstructed intersections, where near-term land development will result in increased volumes, or where it is not reasonable to use current traffic volumes.

f. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one -lane approach with only the traffic volume in the through/left-turn lane considered.

g. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the “minor street” volume and both approaches of the major street minus the higher of the major-street left-turn volume as “major street” volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

Eight-Hour Vehicular Volume WARRANT 1 *(continued)*

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

Condition A

Minimum Vehicle Volume

SATISFIED	YES	NO
100%	❑	❑
80%	❑	❑

RIGHT TURN REDUCTION APPLICATION *MINOR STREET* ❑
(If Yes, fill in percentage) ❑ _____%

	MINIMUM REQUIREMENTS (80% SHOW IN BRACKETS)				Hours							
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approach Major Street	500 (400)	350 (280)	600 (480)	420 (336)								
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)								

Condition B

Interruption of Continuous Traffic

SATISFIED	YES	NO
100%	❑	❑
80%	❑	❑

RIGHT TURN REDUCTION APPLICATION *MINOR STREET* ❑
(If Yes, fill in percentage) ❑ _____%

	MINIMUM REQUIREMENTS (80% SHOW IN BRACKETS)				Hours							
	U	R	U	R								
APPROACH LANES	1		2 or More									
Both Approach Major Street	750 (600)	525 (420)	900 (720)	630 (504)								
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)								

COMBINATION OF A & B

SATISFIED	YES	NO
	❑	❑

REQUIREMENT	CONDITION	✓	FULFILLED YES	FULFILLED NO
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		❑	❑
	AND			
	B. INTERRUPTION OF CONTINUOUS TRAFFIC			
AND				
AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCOVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			❑	❑

Eight-Hour Vehicular Volume WARRANT 1 (continued)

★ *The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal* ★

Projected Volumes

SATISFIED	YES	NO	N/A
	☐	☐	☐

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)
Based on Estimated Average Daily Traffic - see *Note**

URBAN ☐	RURAL ☐	Minimum Requirements Estimated Average Daily Traffic			
CONDITION A - Minimum Vehicular Volume Satisfied ☐ Not Satisfied ☐		Vehicles Per Day On Major Street (Total of Both Approaches)		Vehicles Per Day On Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Urban	Rural	Urban	Rural
Major Street	Minor Street				
1……	1……	8,000	5,600	2,400	1,680
2 or More……	1……	9,600	6,720	2,400	1,680
2 or More……	2 or More……	9,600	6,720	3,200	2,240
1……	2 or More……	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic Satisfied ☐ Not Satisfied ☐		Vehicles Per Day On Major Street (Total of Both Approaches)		Vehicles Per Day On Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Urban	Rural	Urban	Rural
Minor Street	Minor Street				
1……	1……	12,000	8,400	1,200	850
2 or More……	1……	14,400	10,080	1,200	850
2 or More……	2 or More……	14,400	10,080	1,600	1,120
1……	2 or More……	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B Satisfied ☐ Not Satisfied ☐ No one condition satisfied, but following conditions fulfilled 80% or more…… _____ A _____ B		2 CONDITIONS 80%		2 CONDITIONS 80%	

***Note:** To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes*

Four-Hour Vehicular Volume

WARRANT 2

SATISFIED	
N/A	☐
YES	☐
NO	☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Record hourly vehicle volumes for the highest four hours of an average day.

b. In applying each condition, the major street and minor street volumes shall be for the same hours. On the minor street, the higher volume does not need to be the same approach during each of the hours.

c. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.

d. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.

e. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the “minor street” volume and both approaches of the major street minus the higher of the major-street left-turn volume as “major street” volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left -turn traffic.

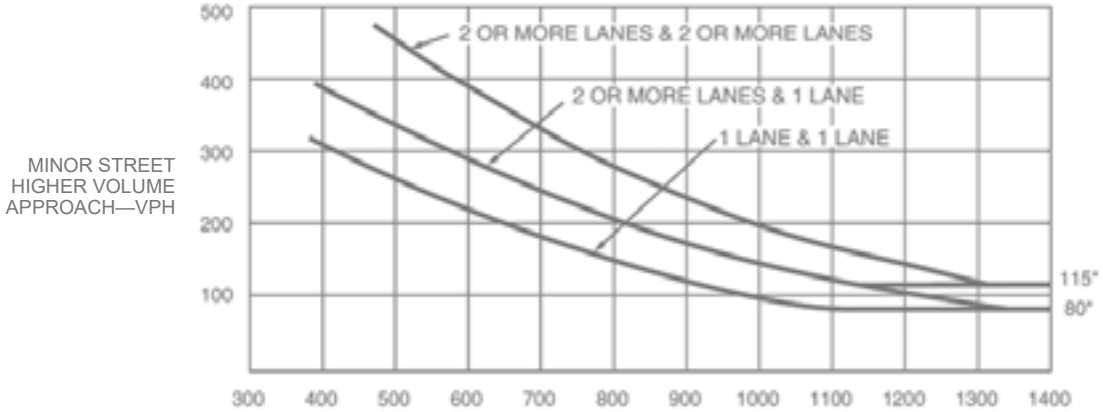
APPROACH LANES	One	2 or More	Hours			
Both Approaches - Major Street						
Higher Approach - Minor Street						

	YES	NO
RIGHT TURN REDUCTION APPLICATION *MINOR STREET*	☐	☐
(If Yes, fill in percentage)	_____%	
* All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	☐	☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)		

Four-Hour Vehicular Volume WARRANT 2 *(continued)*

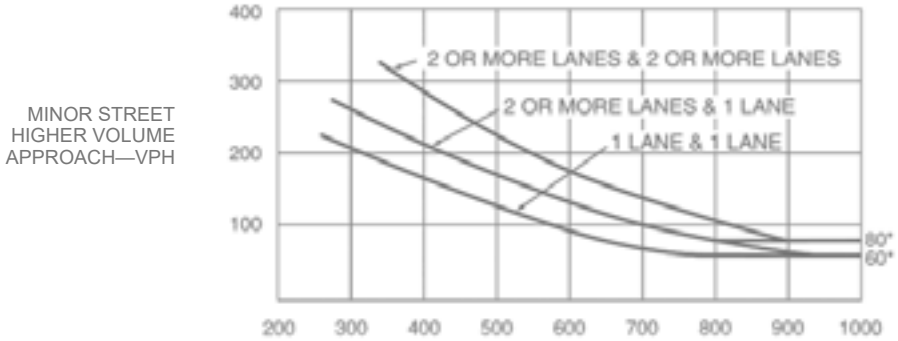
✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

URBAN
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



**Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.*

RURAL
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



**Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.*

Peak Hour WARRANT 3

SATISFIED	N/A	YES	NO
	☐	☐	☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Part A or Part B must be satisfied.
b. This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.
c. In applying each condition, the major street and minor street volumes shall be for the same hours.
d. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.
e. Estimated Peak Hour Volumes may be used for new intersections, significantly reconstructed intersections, or where near-term land development will result in increased volumes.
f. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
g. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the "minor street" volume and both approaches of the major street minus the higher of the major-street left-turn volume as "major street" volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

Unusual facility per Note b.	YES	NO
	☐	☐

Name _____

PART A

All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)	SATISFIED	YES	NO
		☐	☐

	YES	NO	N/A
1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	☐	☐	☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	☐	☐	☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	☐	☐	☐

PART B

	SATISFIED	YES	NO
		☐	☐

APPROACH LANES	One	2 or More	Hour
Both Approaches - Major Street			
Higher Approach - Minor Street			0

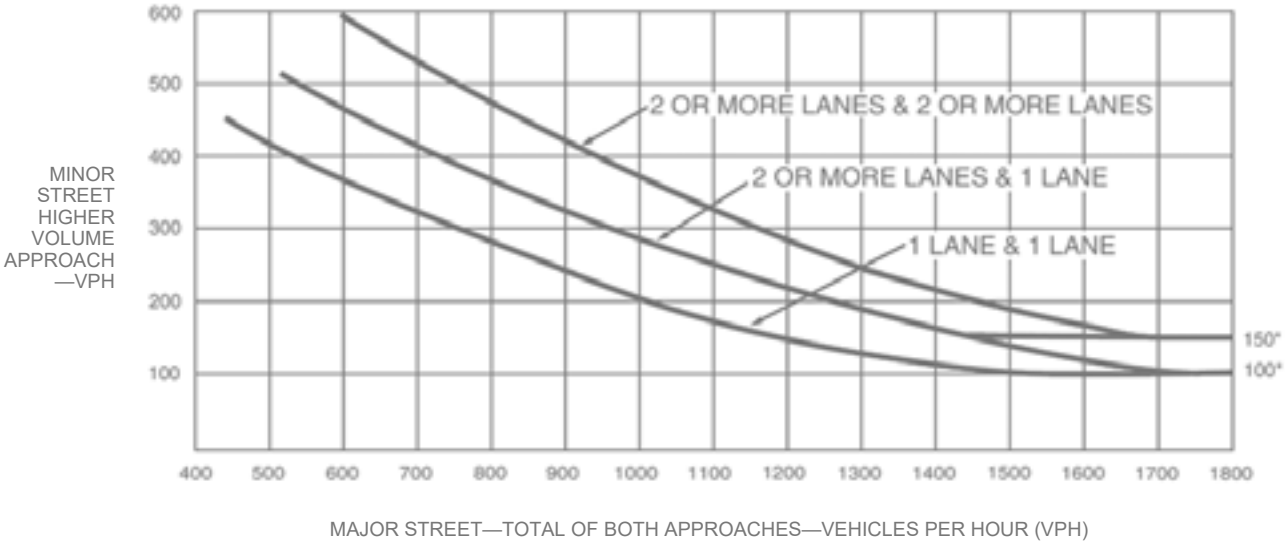
	YES	NO
RIGHT TURN REDUCTION APPLICATION *MINOR STREET*	☐	☐
(If Yes, fill in percentage) _____%		

	YES	NO
The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	☐	☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)		

Peak Hour WARRANT 3 *(continued)*

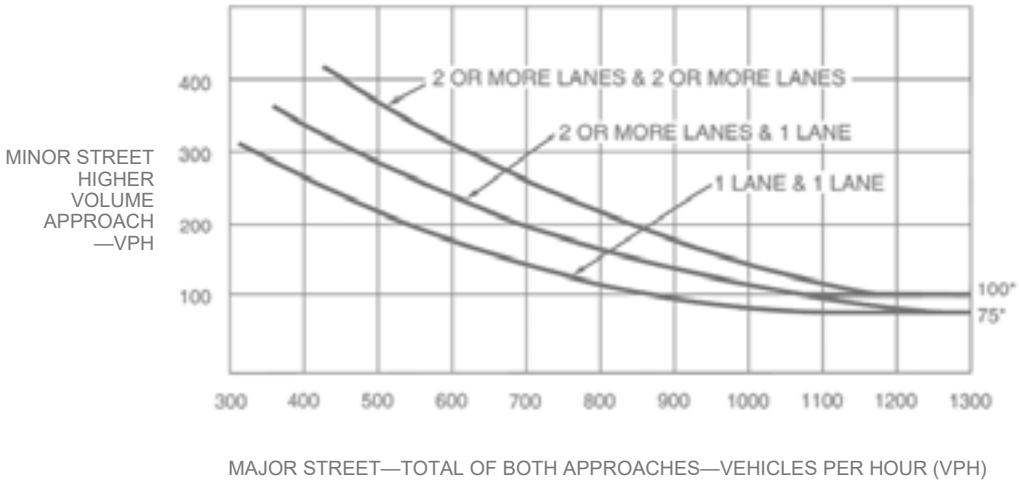
✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

URBAN
Figure 4C-3. Warrant 3, Peak Hour



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.*

RURAL
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(Community Less Than 10,000 Population or Above 40 MPH on Major Street)



** Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.*

Pedestrian Volume

WARRANT 4

SATISFIED	
N/A	☐
YES	☐
NO	☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Parts 1 and 2 shall be satisfied.
b. The pedestrian volume criterion may be reduced by as much as 50% if the 15th percentile speed of the pedestrians is less than 3.5 feet/second.
c. Estimated pedestrian volumes may be used where nearby, near-term land use development has been approved for construction.
d. In applying each condition, the total vehicles per hour on the major street (on both approaches) and the total pedestrians per hour crossing the major street shall be for the same hours.
e. The Pedestrian Volume signal warrants shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.
f. Traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street.
g. If it is considered at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site accommodations should be made through curb extensions or other techniques to provide adequate sight distance, and the installation should include suitable standard signs and pavement markings.
h. Bicycles may be counted as pedestrians.
i. Pedestrian Hybrid Beacons may be considered instead of a traffic signal if a device is recommended based upon pedestrian needs

PART 1 (A or B must be satisfied)

SATISFIED	YES	NO
	☐	☐

A. FOUR-HOUR PEDESTRIAN VOLUMES

	Hours			
Vehicles per hour on major street for 4 hours				
Pedestrians crossing major street per hour for highest 4 hours				

(FIGURE 4C-5 OR 4C-6 SATISFIED)

SATISFIED	YES	NO
100%	☐	☐
80%	☐	☐
50%	☐	☐
15% WALKING RATE	_____ *fps*	

B. ONE HOUR PEDESTRIAN VOLUMES

	Hour
Vehicles per hour on major street for 1 hour	
Pedestrians crossing major street per hour for highest 1 hour	*0*

(FIGURE 4C-7 or 4C-8 SATISFIED)

SATISFIED	YES	NO
100%	☐	☐
80%	☐	☐
50%	☐	☐
15% WALKING RATE	_____ *fps*	

PART 2

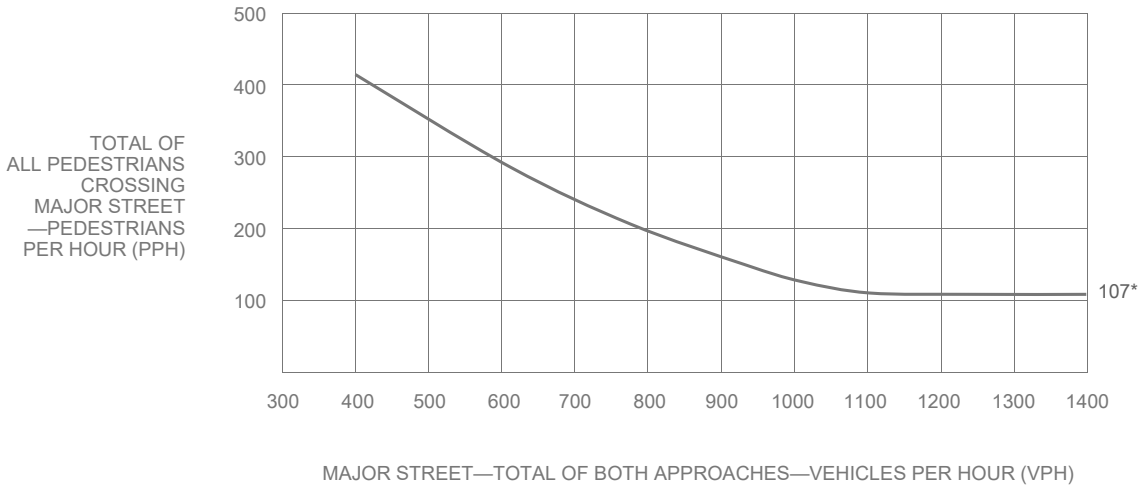
SATISFIED	YES	NO
	☐	☐

	YES	NO
AND, The distance to the nearest traffic signal along the major street is greater than 300 ft	☐	☐
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street	☐	☐

Pedestrian Volume WARRANT 4 *(continued)*

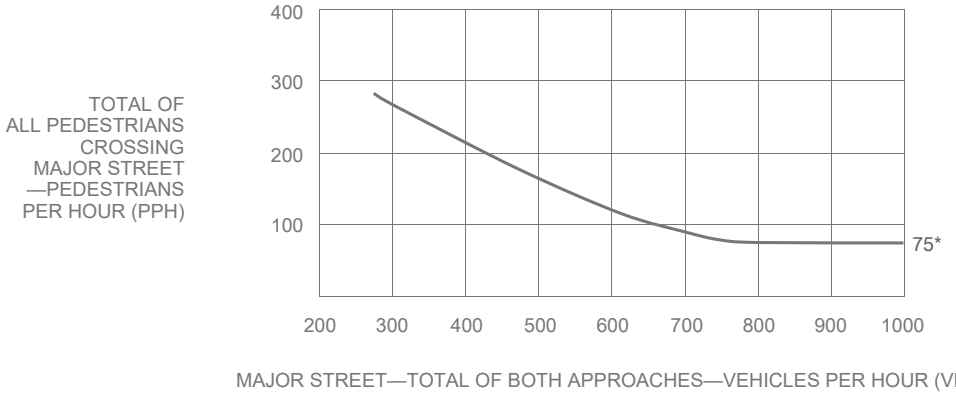
✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

SPEED ≤ 35 MPH
Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume



** Note: 107 pph applies as the lower threshold volume*

SPEED > 35 MPH
Figure 4C-6. Warrant 4, Pedestrian Four-Hour Volume (70% Factor)



** Note: 75 pph applies as the lower threshold volume*

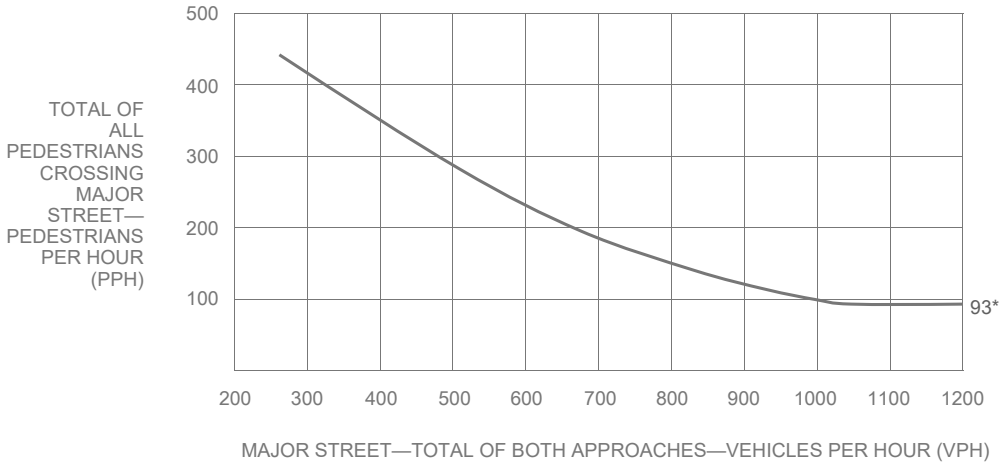
Pedestrian Volume WARRANT 4 *(continued)*

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

SPEED ≤ 35 MPH
Figure 4C-7. Warrant 4, Pedestrian Peak Hour

** Note: 133 pph applies as the lower threshold volume*

SPEED > 35 MPH
Figure 4C-8. Warrant 4, Pedestrian Peak Hour (70% Factor)



** Note: 93 pph applies as the lower threshold volume*

School Crossing — WARRANT 5

SATISFIED	
N/A	☐
YES	☐
NO	☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Part A and Part B shall be satisfied.
b. For purposes of this warrant, schoolchildren include elementary through high school students.
c. Estimated schoolchildren volumes may be used where a new school or expanded school has been approved for construction.
d. The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of schoolchildren at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period and there are a minimum of 20 schoolchildren during the highest crossing hour.
e. The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.
f. Non-intersectional schoolchildren crosswalk locations may be signalized when justified.
g. Pedestrian Hybrid Beacons may be considered instead of a traffic signal if a device is recommended based upon pedestrian needs

PART A

SATISFIED	YES	NO
	☐	☐

Gap / Minutes and # of Children

		Hour
Gaps vs Minutes	Minutes Children Using Crossing	
	Number of Adequate Gaps	
School Age Pedestrians Crossing Street / hr		

	YES	NO
Gaps < Minutes	☐	☐
AND Children ≥ 20/hr	☐	☐
AND, Consideration has been given to less restrictive remedial measures	☐	☐

PART B

SATISFIED	YES	NO
	☐	☐

	YES	NO
The distance to the nearest traffic signal along the major street is greater than 300 ft	☐	☐
OR, The proposed traffic signal will not restrict progressive movement of traffic	☐	☐

Coordinated Signal System — WARRANT 6

SATISFIED	
N/A	☐
YES	☐
NO	☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. The Coordinated Signal System signal warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.
b. All Parts must be satisfied.

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	YES	NO
≥ 1000 ft	N _____ ft, S _____ ft, E _____ ft, W _____ft	☐	☐
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **OR**, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		☐	☐

Crash Experience Warrant

WARRANT 7

SATISFIED N/A ❑ YES ❑ NO ❑

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. All Parts must be satisfied.
b. For locations that involve other agencies, crash data from other involved jurisdictions should be obtained.

			YES	NO
Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency			❑	❑
REQUIREMENTS	Number of crashes reported within a 12-month period susceptible to correction by a traffic signal:		❑	❑
5 OR MORE	*Indicate Date(s):*			
REQUIREMENTS	**CONDITIONS**	✓	❑	❑
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume			
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic			
	OR, Warrant 4, Pedestrian Volume Condition - Ped Vol ≥ 80% for ped volumes per Figures 4C-5 to 4C-8			

Roadway Network

WARRANT 8

SATISFIED N/A ❑ YES ❑ NO ❑

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Existing traffic volumes with an ambient growth rate of 1% (or other LADOT approved ambient growth rate) may be used if projected volumes are not available.
b. All Parts must be satisfied.

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULLFILLED YES	FULLFILLED NO
1000 Veh / Hr	During Typical Weekday Peak Hour _____ Veh/Hr **AND** has 5-year projected traffic volumes that meet one or more of Warrants 1,2, and 3 during an average weekday.		❑	❑
	OR During Each of Any 5 Hrs. of a Saturday or Sunday _____ Veh / Hr			

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B	YES	NO
Highway System Serving as Principal Network for Through Traffic				
Rural or Suburban Highway Outside Of, Entering, or Traversing a City				
Appears as Major Route on an Official Plan				
Any Major Route Characteristics Met, Both Streets			❑	❑

Intersection Near a Grade Crossing

WARRANT 9

SATISFIED N/A ☐ YES ☐ NO ☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Both Parts A and B shall be satisfied.

b. This Warrant shall only be applied after review and approval by the LADOT Railroad Crossing and Safety Section (RCOSS), subject to CPUC General Order approval.

c. This Warrant does not apply for Pre-Signals and/or Queue-Cutter signals, as an alternative application of Pre-Signals (See 2012 CA MUTCD, Sec 8C.09). Pre-Signals shall only be applied after review and approval by RCOSS, subject to CPUC General Order approval.

	FULFILLED	
	YES	NO
PART A A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach. Track Center Line to Limit Line _____ ft	☐	☐
PART B **There is one minor street approach lane at the track crossing** - During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-9. Major Street - Total of both approaches: _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calculate AF) = _____ VPH **OR, There are two or more minor street approach lanes at the track crossing -** During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-10. Major Street - Total of both approaches: _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calculate AF) = _____ VPH	☐	☐

The minor street approach volume may be multiplied by up to three following adjustment factors (AF) as described in Section 4C-10.

1. Number of Rail Traffic per Day _____ Adjustment factor from Table 4C-2 _____
2. Percentage of High-Occupancy Buses on Minor Street Approach _____ Adjustment factor from Table 4C-3 _____
3. Percentage of Tractor-Trailer Trucks on Minor Street Approach _____ Adjustment factor from Table 4C-4 _____

NOTE: If no data is available or known, then use AF = 1 (no adjustment)

Table 4C-2. Warrant 9, Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Warrant 9, Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses * on Minor-Street Approach	Adjustment Factor
0 %	1.00
2 %	1.09
4 %	1.19
6 % or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Intersection Near a Grade Crossing WARRANT 9 *(continued)*

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

Table 4C-4. Warrant 9,
Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Figure 4C-9. Warrant 9, Intersection Near a Grade Crossing
(One Approach Lane at the Track Crossing)

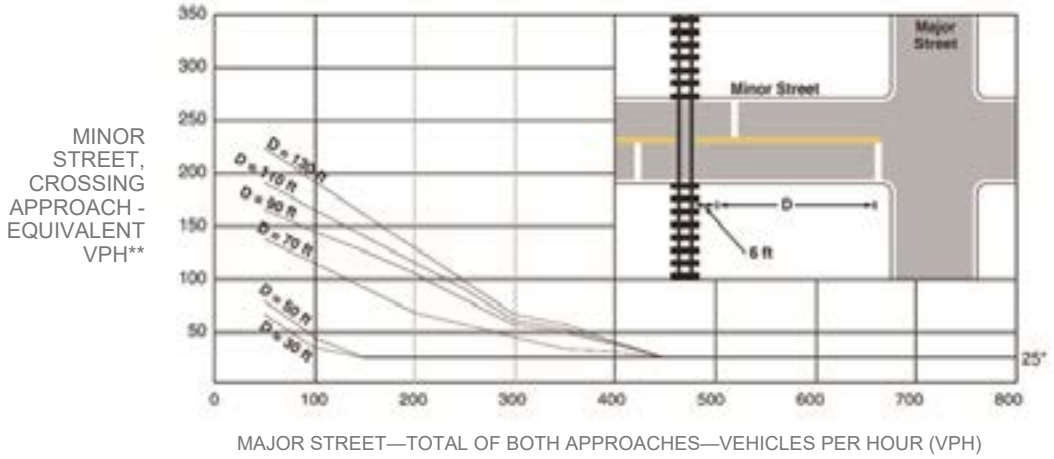
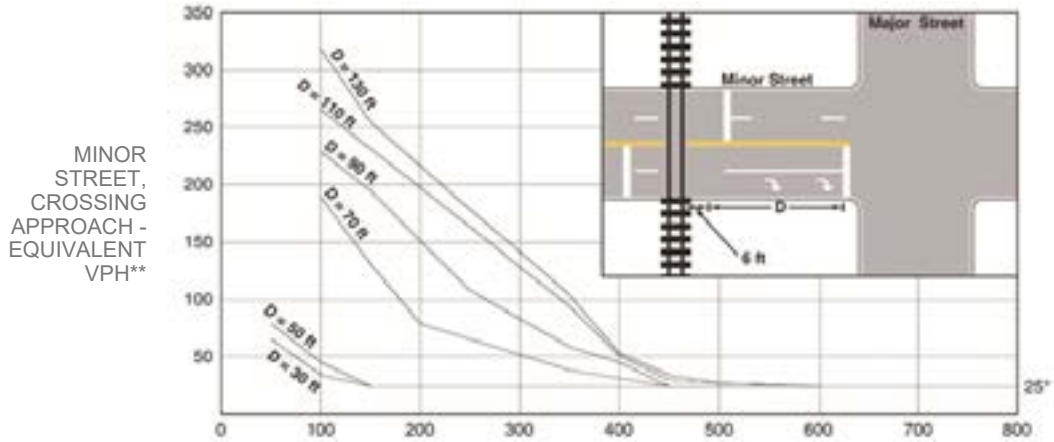


Figure 4C-10. Warrant 9, Intersection Near a Grade Crossing
(Two or More Approach Lanes at the Track Crossing)



** 25 vph applies as the lower threshold volume*
*** VPH after applying the adjustment factors in Tables 4C-2, 4C-3, and/or 4C-4, if appropriate*

The next two warrants are not included in the MUTCD (CA) standard warrants, but are added as optional warrants that an engineer may use with discretion to justify a traffic signal for special conditions where other traffic control devices could be considered, but where a traffic signal might be more appropriate

Bicycles WARRANT 10

N/A	☐
SATISFIED YES	☐
NO	☐

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. Part A and Part B shall be satisfied
b. Per MUTCD (CA) Section 4C.01.15: "For signal warrant analysis, bicyclists may be counted as either vehicles or pedestrians."
c. When performing a signal warrant analysis, bicyclists riding in the street with other vehicular traffic are usually counted as vehicles, and bicyclists who are clearly using pedestrian facilities are usually counted as pedestrians; however for this bicycle specific warrant, bicyclists are counted as bicyclists, regardless of where they are riding.
d. Bicycle signal faces should be considered for use when this warrant is satisfied, with the final determination made during the signal design process. Refer to MUTCD (CA) Section 4D.104 (CA).
e. Estimated peak hour bicycle volumes may be used for new intersections, significantly reconstructed intersections, or where new bicycle facilities or near-term land development are proposed which will result in increased bicycle volumes.

PART A and B must be satisfied	SATISFIED	YES	NO
		☐	☐

PART A (*1 or 2 below must be satisfied*)	SATISFIED	YES	NO
1. Location meets the Department's guidelines for a marked crosswalk with Pedestrian Hybrid Beacons, where pedestrian units are replaced with bicyclists; **AND** the minor street is designated as part of the Neighborhood Enhanced Network in the Mobility Plan 2035 Element of the City's General Plan.		☐	☐
2. The intersection features a two-way bicycle or pedestrian path or trail within the median or alongside one of the roadways.		☐	☐

PART B (*1, 2, or 3 below must be satisfied*)	SATISFIED	YES	NO
1. Signal would be part of a corridor or area project to improve bicycle connectivity.*		☐	☐
2. Signal is associated with a development project.*		☐	☐
3. There have been at least 3 correctable collisions involving bicyclists in the last 1 year, 2 per year for the last 2 years, or 5 in the last 3 years of available data.		☐	☐

Specify dates of correctable bicycle collisions:

	Period Dates	Dates of Correctable Bicycle Collisions
1 year		
2 year		
3 year		

**The authority for a traffic signal justified using Part B.1 or B.2 shall be automatically rescinded three years after the date of approval if funding for construction of the traffic signal is not secured or project plans are not actively being reviewed for approval.*

Pedestrian Activated Yellow Flashing Beacons

WARRANT 11

SATISFIED N/A ❑ YES ❑ NO ❑

✯ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ✯

a. All Parts shall be satisfied.
b. This warrant should be applied when Pedestrian Activated Yellow Flashing Beacons are recommended within 600 feet BOTH upstream and downstream of existing traffic signals.

PART A	YES	NO
Location meets the guidelines for the installation of Pedestrian Activated Yellow Flashing Beacons as described in the LADOT Marked Crosswalk Guidelines.	❑	❑

PART B

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNALS	YES	NO
≤ 600 ft	N _____ ft, S _____ ft, E _____ ft, W _____ft	❑	❑

Attachment J: Pass-By Trip Rates

PASS-BY TRIP RATES

PASS-BY TRIP DISCOUNT RATE	LAND USE CATEGORY
10%	Shopping Center 600,000 sf or more, Quality Restaurant, Specialty Retail, Furniture Store, Medical Office, Day Care, Theater/Cinema, Auto Sales/Repair
15%	Discount Club, Discount Store
20%	Shopping Center 300,000 to less than 600,000 sf, Bank/Savings & Loan, High Turnover Restaurant, Car Wash, Hardware/Lumber Store, Garden Center, Recreation/Health Club
30%	Shopping Center 100,000 to less than 300,000 sf, Auto Parts, Music/Video Store
40%	Shopping Center 50,000 to less than 100,000 sf, Supermarket, Drugstore, Bookstore
50%	Shopping Center less than 50,000 sf, Fast Food Restaurant, Gasoline/Service Station, Convenience Market, Flower/Bakery/Yogurt Shop, Dry Cleaner, Liquor Store

Note: These rates are derived from surveys published in the “Trip Generation Handbook: An ITE Recommended Practice,” 2003.

Attachment K: Manual Traffic Count Summary

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:
North/South BROADWAY

East/West 75TH ST

Day: MONDAY Date: JULY 16, 2007 Weather: SUNNY

Hours: 7-10AM 2-5PM

School Day: YES District: CENTRAL I/S CODE 1451

	N/B	S/B	E/B	W/B
DUAL-WHEELED	101	139	3	6
BIKES	0	11	0	0
BUSES	0	98	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	329	7.15	168	7.45	5	8.00	28	7.15
PM PK 15 MIN	174	2.15	273	4.45	12	2.15	56	2.30
AM PK HOUR	1230	7.15	625	7.15	14	7.15	106	7.15
PM PK HOUR	609	2.00	1002	4.00	33	2.00	111	2.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	7	1056	94	1157
8-9	4	806	63	873
9-10	2	529	10	541
2-3	9	518	82	609
3-4	5	448	19	472
4-5	8	514	21	543
TOTAL	35	3871	289	4195

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	47	550	11	608
8-9	32	459	5	496
9-10	10	374	4	388
2-3	33	679	12	724
3-4	30	816	16	862
4-5	20	973	9	1002
TOTAL	172	3851	57	4080

TOTAL	XING S/L		XING N/L	
N-S	Ped	Sch	Ped	Sch
1765	63	25	0	0
1369	30	8	2	0
929	4	0	1	0
1333	89	40	0	0
1334	12	4	4	0
1545	16	0	5	0
8275	214	77	12	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	1	2	10	13
8-9	2	2	4	8
9-10	6	0	7	13
2-3	6	5	22	33
3-4	6	6	10	22
4-5	9	4	9	22
TOTAL	30	19	62	111

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	43	4	54	101
8-9	32	2	34	68
9-10	18	1	19	38
2-3	42	5	60	107
3-4	34	2	27	63
4-5	32	5	27	64
TOTAL	201	19	221	441

TOTAL	XING W/L		XING E/L	
E-W	Ped	Sch	Ped	Sch
114	70	39	45	2
76	46	11	35	1
51	30	3	12	0
140	103	100	74	25
85	63	18	38	7
86	48	11	32	0
552	360	182	236	35

(Rev Oct 06)

SAMPLE

Attachment L: Bicycle and Pedestrian Count Forms

City of Los Angeles

Department of Transportation

Level Three

BICYCLE COUNT SUMMARY

Draft 6/09/15

STREET:

North/South : **"A" Street**

East/West : **"B" Street**

Day:	Monday	**Date:**	0	**Weather:**	Sunny
School Day:	Yes	**District:**	0	I/S CODE:	0
Hours:	7-10 AM & 3-6 PM	**Staff:**	0		

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

TOTAL

N-S
0
0
0
0
0
0
0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
3-4	0	0	0	0
4-5	0	0	0	0
5-6	0	0	0	0
TOTAL	0	0	0	0

TOTAL

E-W
0
0
0
0
0
0
0

REMARKS (6 hour total):

	NB	SB	EB	WB	TOTAL
- Female riders	1	1	1	1	4
- No helmet riders	1	4	1	1	7
- Sidewalk riding	1	4	4	1	10
- Wrong way riding	1	1	1	1	4

NB: Northbound, **SB**: Southbound, **EB**: Eastbound, **WB**: Westbound, **I/S**: Intersection

Source: (company name)

City of Los Angeles
Department of Transportation

Level Three

PEDESTRIAN COUNT SUMMARY

Draft 6/11/15

STREET:

North/South : **"A" Street**

East/West : **"B" Street**

Day:	Monday	**Date:**		**Weather:**	Sunny
School Day:	Yes	**District:**	Central	I/S CODE:	0
Hours:	7-10 AM & 3-6 PM	**Staff:**	0		

AM PEAK PERIOD

15 Min. interval	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
7:00 - 7:15	0	0	0	0	**0**
7:15 - 7:30	0	0	0	0	**0**
7:30 - 7:45	0	0	0	0	**0**
7:45 - 8:00	0	0	0	0	**0**
8:00 - 8:15	0	0	0	0	**0**
8:15 - 8:30	0	0	0	0	**0**
8:30 - 8:45	0	0	0	0	**0**
8:45 - 9:00	0	0	0	0	**0**
9:00 - 9:15	0	0	0	0	**0**
9:15 - 9:30	0	0	0	0	**0**
9:30 - 9:45	0	0	0	0	**0**
9:45 -10:00	0	0	0	0	**0**

Hours	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
7 - 8	0	0	0	0	**0**
8 - 9	0	0	0	0	**0**
9 - 10	0	0	0	0	**0**
TOTAL	**0**	**0**	**0**	**0**	**0**

PM PEAK PERIOD

15 Min. interval	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
3:00 - 3:15	0	0	0	0	**0**
3:15 - 3:30	0	0	0	0	**0**
3:30 - 3:45	0	0	0	0	**0**
3:45 - 4:00	0	0	0	0	**0**
4:00 - 4:15	0	0	0	0	**0**
4:15 - 4:30	0	0	0	0	**0**
4:30 - 4:45	0	0	0	0	**0**
4:45 - 5:00	0	0	0	0	**0**
5:00 - 5:15	0	0	0	0	**0**
5:15 - 5:30	0	0	0	0	**0**
5:30 - 5:45	0	0	0	0	**0**
5:45 - 6:00	0	0	0	0	**0**

Hours	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
3 - 4	0	0	0	0	**0**
4 - 5	0	0	0	0	**0**
5 - 6	0	0	0	0	**0**
TOTAL	**0**	**0**	**0**	**0**	**0**

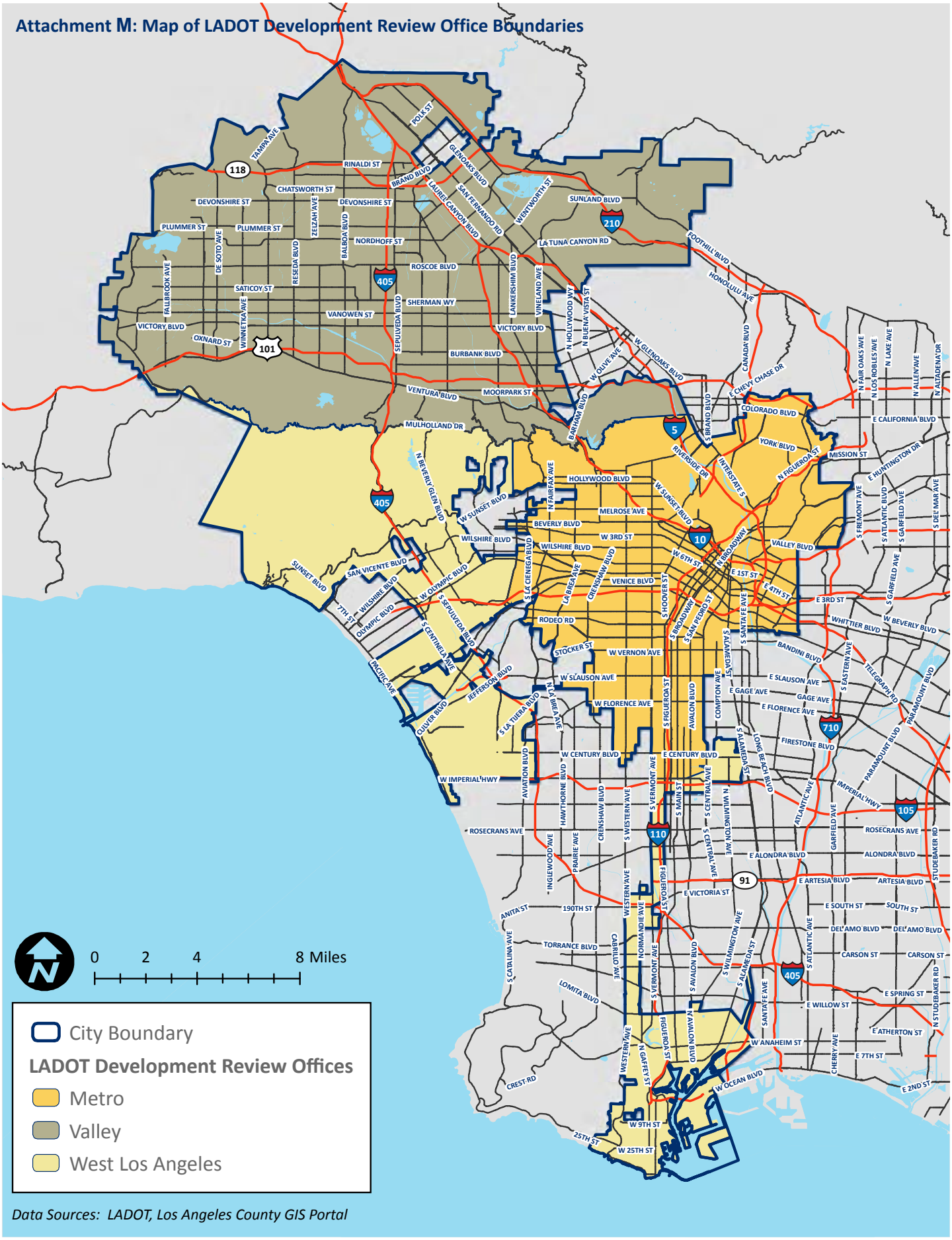
REMARKS (6 hour total):

	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
- Wheelchair/special needs assistance	0	0	0	0	0
- Skateboard/scooter	0	0	0	0	0

N: North, **S**: South, **E**: East, **W**: West, **I/S**: Intersection

Source: (company name)

Attachment M: Map of LADOT Development Review Office Boundaries



Data Sources: LADOT, Los Angeles County GIS Portal

GLOSSARY OF COMMON TERMS

Consultant: individual or persons submitting on behalf of the project applicant.

Development project: any proposed land use project that changes the use within an existing structure, creates an addition to an existing structure, or new construction, which includes any occupied floor area

Level of service (LOS): The operational characteristics of an intersection based on the delay being experienced by vehicles passing through an intersection in the peak hour, calculated using a ratio of its traffic volume and its intersection capacity and based on intersection geometrics peak-hour volumes, turning movements and signal phasing.

Local serving uses: land uses which serve a local community and which do not substantially affect the regional or sub regional transportation infrastructure as determined by LADOT.

Peak hour: the single hour of the highest volume of traffic passing the Project on adjacent streets or intersections.

Project applicant: any person, as defined in LAMC Section 11.01 submitting an application or Transportation Assessment for a Project.

Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): long-range visioning plan prepared every four years by the Southern California Association of Governments (SCAG)

Service population: all of the people living and working within the plan or project area.

Transportation Assessment: a study prepared by the project applicant that assesses the possible transportation impacts of a proposed project. This study follows the Transportation Assessment Guidelines (TAG) which provides the instructions and sets standards for the preparation of this assessment.

Transportation consultant: designated representative for the project applicant

Transportation Demand Management (TDM): The aim of TDM is to improve mobility options by improving accessibility and reducing reliance on SOVs. 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 Project: any proposed project that includes a change to the local or regional transportation system by adding a new element or modifying or changing the existing transportation network. A project can involve any mode of transportation.

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

Vehicle trip: an arrival at or departure from a Project by a motor vehicle during the Peak Hour.

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