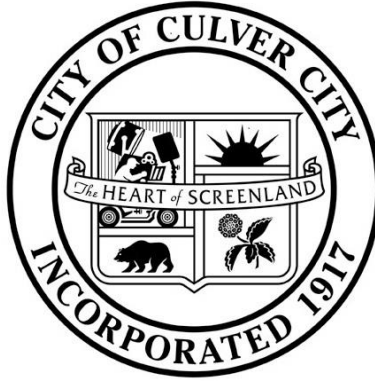




# **Transportation Study Criteria and Guidelines**

Anticipated for adoption July 13, 2020



## City Departmental Information

### Public Works Department / Mobility and Traffic Engineering Division

9770 Culver Boulevard  
Culver City, California  
90232  
(310) 253-5600

### Community Development Department / Current Planning Division

9770 Culver Boulevard  
Culver City, California  
90232  
(310) 253-5710

### Transportation Department / Administrative Division

4343 Duquesne Avenue  
Culver City, California  
90232  
(310) 253-6500

## Contents

<b>1. Background and Purpose.....</b>	<b>1</b>
<b>2. Transportation Study Process.....</b>	<b>1</b>
A. Screening Criteria.....	1
B. Scoping and Memorandum of Understanding (MOU) .....	2
C. City Review .....	2
<b>3. Transportation Study Format and Contents.....</b>	<b>3</b>
A. Format.....	3
B. Contents.....	3
<b>4. CEQA Transportation Analysis Requirements.....</b>	<b>6</b>
A. Programs, Plans, Ordinances, and Policies .....	6
B. VMT – Land Use Projects.....	7
C. VMT – Transportation Projects .....	10
D. Geometric Design Hazards.....	10
<b>5. Supplemental Transportation Analysis Requirements.....</b>	<b>12</b>
A. Traffic Operations .....	12
B. Transit Operations.....	19
C. Driveways.....	21
D. Parking.....	22
E. Curb Space Allocation .....	22
F. Safety Analysis.....	22
<b>6. Fee Program .....</b>	<b>22</b>
<b>Attachments .....</b>	<b>23</b>
Attachment A – MOU Template.....	23
Attachment B – Driveway Requirements and Guidelines .....	26
Attachment C – Transit Priority Area Map .....	27
Attachment D – Non-Inducing Transportation Projects.....	28

# 1. Background and Purpose

The City of Culver City (City) Public Works Department (PWD) Mobility & Traffic Engineering Division, Community Development Department (CDD) Advance and Current Planning Divisions, and Transportation Department developed these guidelines for the preparation of transportation study reports. The purpose of these guidelines is to provide the public, private developers, land development consultants, and City staff with a uniform set of criteria to prepare and evaluate transportation studies. The transportation study elements shall include:

- Development project land uses and a site plan;
- Report on consistency with existing city programs, plans, ordinances, and policies;
- Assessment of the project's Vehicle Miles Traveled (VMT) impact compared to the City's adopted thresholds;
- Identification of Transportation Demand Management (TDM) and multimodal measures needed to mitigate a project's VMT impact;
- Assessment of impacts and mitigations related to geometric design and emergency access; and
- Assessment of the project site access, parking, traffic operations, transit, allocation of curb space, traffic safety and construction upon the surrounding area.

As new data becomes available and processes evolve, staff may periodically need to update the guidelines. Therefore, unless the VMT thresholds or screening criteria are modified, staff may update the Criteria and Guidelines as needed without City Council approval, e.g., for any data-based, procedural, or other administrative updates.

## 2. Transportation Study Process

The following section explains the process for determining if a project requires analysis and the steps to start the process.

### A. Screening Criteria

The City shall require a transportation study if a project is estimated to add 250 or more new daily trips. [Sections 4](#) and [5](#) provide details about when different components of a study are required. However, PWD may also require a transportation study or submittal of certain components of the study, even if the threshold criteria are not met to address other traffic or parking related concerns including, but not limited to, a project that:

- Creates adverse conditions for bicycles or pedestrians
- Creates pedestrian or vehicular traffic conflict due to its proximity to an intersection
- Generates a significant amount of traffic on residential streets
- Generates a significant amount of additional parking on residential streets
- Generates traffic that could create operational problems that interfere with the flow of traffic on roadways or driveways
- Includes a proposed driveway location that may have limited visibility due to the roadway's curving alignment or other safety, design or operational issues

## B. Scoping and Memorandum of Understanding (MOU)

### Scoping Process

The applicant, project architect, or consulting traffic engineer shall submit an MOU ([Attachment A](#)) for the preparation of a transportation study before applying for any project requiring discretionary action. The MOU will be subject to the approval of the City Traffic Engineer. All parties, including the City, shall sign the MOU before starting the transportation study. The transportation study shall be signed by a professional civil or traffic engineer registered in the State of California.

During the scoping process, the traffic engineer shall meet with the applicable City staff assigned to the project to review and gain "conceptual City staff approval" of all driveway locations and widths; trip generation estimates; parking layout; loading areas and docks; and all other motor vehicle, bicycle, and pedestrian on-site and off-site circulation elements of the plan, including those within any enclosed parking areas.

### MOU Contents

- The property owner(s), applicant(s), architect(s), civil engineer(s), and traffic consultant(s) contact information
- A description of the project (see '[Project Description](#)' in Section 3 for details)
- A project site plan (see '[Site Plan](#)' in Section 3 for details)
- Project's trip generation, including daily and peak traffic hours volumes, with trip reductions and credits that may be applicable for various purposes
- Project directional trip distribution and assignment
- Build-out (horizon) year or phasing information
- An up-to-date list of approved and pending projects (see '[Buildout/Future Year Forecasts](#)' in Section 5 for details)
- A list and map (with city limit lines) showing all intersections and road segments to be studied (the City may request more, or different intersections and road segments be studied)
- All transit routes within one mile of the project operated by the City and all other transit service providers
- Payment of the applicable MOU and transportation study review fees based on the current City fee schedule (see [Section 6](#) for details); other fees may be applicable

### Agency Coordination

If any of the study intersection(s) are located within the City of Los Angeles, Los Angeles County, or impact any other public agency (i.e., Caltrans), then the MOU shall also be reviewed and approved by a staff representative from each agency.

## C. City Review

### Administrative Draft Transportation Study

The applicant shall electronically transmit an electronic version of the administrative draft transportation study consistent with the terms of the approved MOU and pay all fees required by the City to review the study upon transmittal. PWD Mobility and Traffic Engineering Division staff will review to determine if the study has been prepared per the established criteria and is reflective of the site and project specifics. If the City requires corrections, City staff will advise the applicant of the required revisions, and the applicant will be required to resubmit.

### **Final Draft Transportation Study**

Once deemed acceptable, the applicant shall electronically transmit an electronic version of the final draft transportation study for review by City staff, as well as other impacted jurisdictions as applicable. The applicant and the traffic consultant preparing the report shall be present at all public meetings and hearings on the proposed project and available to respond to all questions from City representatives and the public. The City may request a reasonable amount of additional information and revisions at any time during the study preparation and review period.

### **Approved Transportation Study**

Once the City approves the transportation study, the applicant shall transmit an electronic copy of the City-approved transportation study to the PWD, CDD, and Transportation as applicable.

While the City primarily asks for electronic copies, should any hardcopies are requested during the City review process, the applicant shall print and provide said copies at their sole cost and expense.

## **3. Transportation Study Format and Contents**

The following section describes the requirements for a transportation study and the components to be included. Sections 4 and 5 provide more detail on the analysis methodologies.

### **A. Format**

All plans, maps, and figures shall:

- Be in 8 1/2" x 11" format;
- Include a date, north arrow, scale with scale bar, and City limit lines where applicable; and
- Any map, table, or graphic using color, patterns, or shading shall be readable, and what they represent shall be understood when reproduced in black and white.

### **B. Contents**

At a minimum, the transportation study shall have the following sections:

#### **Executive Summary**

The executive summary shall include, but not be limited to:

- Project description
- Scope of the analysis
- Summary of VMT impact analysis and mitigation measures
- Summary of supplemental traffic and parking analysis and improvement measures

## Project Description

A project description shall include, but not be limited to:

- The project name, address, legal description, assessor's data, and access locations
- A description of the existing land use, including, but not limited to, those factors which quantify traffic generators (e.g., dwelling units and gross floor area (GFA<sup>1</sup>)), uses, and heights of existing buildings to be remodeled or demolished
- A description of the project size, including, but not limited to, those factors which quantify traffic generators (e.g., dwelling units and GFA), uses, and heights of proposed new buildings and other buildings to be remodeled or demolished
- For residential developments, the description shall include, but not be limited to, the type of residence (i.e., single-family, duplex, or multi-family (apartment or condominium))
- For non-residential developments, the description shall include details of all land use components
- The project's hours of operation and the number of employees, students, seats, and residents as applicable to the project type
- The number of parking spaces for motor vehicles and bicycles required by the City and provided by the applicant
- Any sequence of phased development, the target date for each phase, and the final build-out (horizon) year(s)

If a project description changes at any time during the review process, City staff shall review the change(s) and determine if a supplemental or new transportation study shall be required.

## Site Plan

A site plan for the development shall be provided showing existing and proposed:

On-site	On-site and off-site*
<ul style="list-style-type: none"><li>▪ property lines</li><li>▪ loading areas</li><li>▪ circulation for vehicles, bicyclists, and pedestrians</li><li>▪ parking layout for vehicles and bicycles**</li><li>▪ restricted or gated driveways, or other vehicle ingress/egress locations Aisle width, width, and slope of ramps, loading area and access to trash enclosure(s) including height restrictions along the access path</li><li>▪ curbs along the project site edges and any proposed changes to curb use indicating the reason for the changes</li></ul>	<ul style="list-style-type: none"><li>▪ public right-of-way facilities including, but not limited to, widths and lane configurations</li><li>▪ bicycle and pedestrian facilities including, but not limited to bike lane/route designations</li><li>▪ bicycle racks, parking, and amenities</li><li>▪ Metro Bikeshare and other alternative mode stations</li><li>▪ sidewalks and widths</li><li>▪ Nearby traffic calming and traffic control devices</li><li>▪ driveways and widths***</li><li>▪ transit stops, stations, and public transit</li></ul>

\*Offsite = within a five hundred-foot (500'-0") radius of the project boundary, or as determined by the City

\*\* The project shall provide enough short- and long-term parking spaces, per CCMC [Section 17.320](#).

\*\*\*Driveways shall be designed according to the requirements and guidelines in [Attachment B](#).

## Existing Transportation Network Review

The existing transportation network review will establish the bicycle, pedestrian, transit, and auto traffic conditions in which the project is proposed, which shall be illustrated in the following maps:

- **Study Area Circulation Map:** All existing and proposed transportation circulation in the study area, including the street system, existing traffic controls (traffic signals, stop signs, and

<sup>1</sup> GFA shall include the definition in the Institute of Transportation Engineers (ITE)'s Trip Generation Handbook for all transportation studies.

crosswalks), posted speed limit and recorded or inferences about overserved speeds, incident and injury data, freeways (on- and off-ramps), number of travel lanes, bikeways, parking restrictions, traffic calming devices, and bus stop locations. For land uses that are expected to generate large amounts of visitors, including hotels and theaters, the applicant shall explain how the capacity of the on-site facilities will accommodate heavy use of taxis and Transportation Network Companies (TNC) like Uber and Lyft at the site. Indicate the roadway classifications according to the City's Circulation Element of the General Plan. This information may be obtained from the various City departments or from field observations.

- **Transit Routes Map:** All local fixed-route bus operator(s) within one mile of the proposed project site and express bus service (including limited stop and freeway commuter routes) and rail transit operators with stops within two miles of the proposed project site. Indicate signal timing and phasing of traffic control devices (including the presence of transit signal priority), nearby transit stations/stops amenities; e.g., shelters, boarding islands, and service information; i.e., frequency, time of day service, ridership, origins and destinations, and service type.
- **Base Year Traffic Volumes Map:** All existing (specify base year) traffic volumes for the AM and PM peak hours at the study intersections and daily on street segments. The existing traffic counts shall be taken within one year of the transportation study completion date unless otherwise approved by the City. Traffic counts shall occur when schools are in session and shall avoid holidays.
- **Project Trip Generation and Future Traffic Volumes Maps:** Assigned project trip at the study intersections and segments. Unless otherwise directed by the City, the future traffic maps will include existing + project volumes, background + project volumes, and cumulative + project volumes.
- **Site Vicinity Map:** All intersections and street segments to be analyzed in the study area. Throughout the report, each intersection shall be identified with a consecutive numbering system that is consistently used in all figures, lists of intersections, traffic counts, and analysis.
- **Lane Configurations Map:** Lane configurations for each of the intersections to be analyzed for existing conditions, showing the number of travel lane(s) by type (indicate if number is different at intersection vs. midblock) and width of each lane; e.g., mixed flow, bicycle and transit-only lanes, and street parking. Show any changes proposed in the lane configurations as part of proposed mitigation and improvement measures in the final build-out (horizon) year(s) and all road improvements that are programmed and funded. A different contrast, arrow, symbol, or pattern shall show the recommended changes.

## Existing Transit Network Review

For transit analysis, a visual analysis with recorded observations<sup>2</sup> shall be conducted on a weekday during the extended PM peak period (3-7 PM), at all transit stops/stations within a quarter mile of the project site. Visual analysis shall consist data collected during a site visit at the project site, documenting the following conditions and supplemented by photos and/or video recordings:

- Photo(s) showing the conditions of the existing transit stop(s)/station(s);
- Confirmation of transit features listed in the [Project Description](#) and [Existing Transportation Network Review](#)
- Weather conditions on the day of observation; and

---

<sup>2</sup> Typical transit analysis in a TIA is for the project potential impact on transit capacity and associated need for improvements. This is not a survey to assess City transit service.



- Any existing operational conflicts or hazards to transit operations in the study area, especially along travel lanes where transit vehicles operate and at transit stop/station locations

### **CEQA Transportation Analysis and Mitigations**

The CEQA transportation analysis shall be conducted per the CEQA Appendix G checklist. Details are provided in [Section 4](#), including the areas of required analysis.

### **Supplemental Transportation Analysis and Measures**

In addition to CEQA review, the City requires supplemental transportation analysis of the project. Details are provided in [Section 5](#), including the areas of required analysis.

## **4. CEQA Transportation Analysis Requirements**

This section details the thresholds, methodology, and mitigation process for transportation analysis and review required by CEQA. The [CEQA Appendix G Environmental Checklist Form](#)<sup>3</sup> lists questions on environmental factors, including transportation, which, if answered in the affirmative, indicates a potentially significant impact. The relevant questions for transportation ask if a project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- Land Use Projects: Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)(1)?
- Transportation Projects: Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)(2)?
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Each of the following subsections, which are based on the checklist items, describe impact thresholds, methods for determining an impact, and options and process for mitigating impacts.

### **A. Programs, Plans, Ordinances, and Policies**

#### **CEQA Threshold**

Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

#### **Screening Criteria**

This review shall be required for all projects.

#### **Methodology**

The City has many programs, plans, ordinances, and policies related to the transportation system in Culver City. Table 1 summarizes the documents that should be reviewed for this analysis. These documents are subject to periodic review by the City as new documents are adopted. Determination of conflicts with the proposed project and these documents may require coordination with City staff.

---

<sup>3</sup> The linked version is updated as of 6/11/19; however, the most current version shall be as updated by the State.

Table 1 – Programs, Plans, Ordinances, and Policies for Review

Document	Last Revised	Link
<a href="#">Traffic Code, Chapter 7.05: Motor Vehicle Air Quality Management</a>	1993	<a href="http://library.amlegal.com/nxt/gateway.dll/California/culver/title7trafficcode/chapter705motorvehicleairqualitymanage?f=templates\$fn=default.htm\$3.0\$vid=amlegal:culvercity_ca\$anc=JD_CHAPTER7.05">http://library.amlegal.com/nxt/gateway.dll/California/culver/title7trafficcode/chapter705motorvehicleairqualitymanage?f=templates\$fn=default.htm\$3.0\$vid=amlegal:culvercity_ca\$anc=JD_CHAPTER7.05</a>
<a href="#">General Plan Circulation Element</a>	2004 <sup>a</sup>	<a href="https://www.culvercity.org/home/showdocument?id=788">https://www.culvercity.org/home/showdocument?id=788</a>
<a href="#">General Plan Land Use Element</a>	2004 <sup>a</sup>	<a href="https://www.culvercity.org/home/showdocument?id=786">https://www.culvercity.org/home/showdocument?id=786</a>
<a href="#">Neighborhood Traffic Management Program</a>	2004	<a href="https://www.culvercity.org/Home/ShowDocument?id=19038">https://www.culvercity.org/Home/ShowDocument?id=19038</a>
<a href="#">Gateway Neighborhood Design Guidelines</a>	2010	<a href="http://www.culvercity.org/Home/ShowDocument?id=908">http://www.culvercity.org/Home/ShowDocument?id=908</a>
<a href="#">Gateway Adjacent Neighborhood Design Guidelines</a>	2011	<a href="http://www.culvercity.org/Home/ShowDocument?id=910">http://www.culvercity.org/Home/ShowDocument?id=910</a>
<a href="#">Residential Parkway Guidelines</a>	2016	<a href="http://www.culvercity.org/Home/ShowDocument?id=3613">http://www.culvercity.org/Home/ShowDocument?id=3613</a>
<a href="#">Upper Culver Crest Hillside Design Standards</a>	2017	<a href="https://www.culvercity.org/home/showdocument?id=17412">https://www.culvercity.org/home/showdocument?id=17412</a>
<a href="#">Short Range Transit Plan</a>	2020	<a href="https://culver-city.legistar.com/View.ashx?M=F&amp;ID=8188818&amp;GUID=6FE04285-1BAF-4838-83F9-65EEA65BBBE2">https://culver-city.legistar.com/View.ashx?M=F&amp;ID=8188818&amp;GUID=6FE04285-1BAF-4838-83F9-65EEA65BBBE2</a>
<a href="#">Bicycle and Pedestrian Action Plan</a>	2020	<a href="https://www.culvercity.org/home/showdocument?id=19155">https://www.culvercity.org/home/showdocument?id=19155</a>
<a href="#">Complete Streets Policy</a>	2020 <sup>b</sup>	<a href="https://www.culvercity.org/Home/ShowDocument?id=19040">https://www.culvercity.org/Home/ShowDocument?id=19040</a>
Local Road Safety Plan	2020 <sup>c</sup>	Document will be updated with a link once available

<sup>a</sup> An update to the General Plan is anticipated for completion in Spring 2022, and the table will be updated with links once available.

<sup>b</sup> The City has adopted a complete streets policy. Complete Streets Guidelines have not been developed yet but are anticipated in the future.

<sup>c</sup> The Local Road Safety Plan will be approved in August 2020, and the table will be updated with a link once available.

## Impact Analysis

A project has a significant impact if it results in a conflict with any of the programs, plans, ordinances, and policies listed in Table 1.

## Mitigation Measures

If an impact is determined following review, changes to the project that avoid or reduce the impacts are required. Proposed mitigations will be reviewed with City staff to confirm that the project complies with the City's programs, plans, ordinances, and policies. Otherwise, the impact will be determined to be significant and avoidable.

## B. VMT – Land Use Projects

### CEQA Threshold

Would the project conflict or be inconsistent with CEQA Guideline Section 15064.3(b)(1)?

### Screening Criteria

A development project that meets any of the below VMT screening thresholds would be cleared from having to conduct VMT impact analysis to comply with CEQA, as a less than significant impact would be presumed.

1. Small projects that result in less than 250 daily or 25 peak hour trips

2. Projects within a ½ mile from these key TPAs: Metro E (Expo) Line Culver City Station, Metro E (Expo) Line La Cienega Station, Westfield-Culver City Transit Center, or Sepulveda/Venice Boulevard intersection may be screened ([Attachment C](#)). Threshold may be updated in response to changes in TPAs without required Planning Commission or City Council approval when mutually agreed upon by the Directors in the Transportation, Public Works, and Community Development Departments.
3. Projects located within any TPA where at least 15% of the on-site residential units are affordable
4. Affordable housing projects where 100% of the dwelling units are affordable
5. Local serving retail projects having less than 50,000 square feet in size at a single store

Thresholds 4 and 5 apply to specific land uses-meaning these land uses can also be screened from a mixed use project, and other uses in the same project not otherwise screened would have to analyze VMT impacts.

## Impact Analysis

The VMT thresholds, as shown in Table 2, have been determined for land use projects within Culver City. If the project, after calculation of VMT per the methodology described below, results in a VMT per capita or employee that is less than 15% below the threshold, then it will be deemed to have a significant impact. Regional serving retail is considered to have a significant impact if the project results in a net increase in VMT.

*Table 2 – VMT Thresholds*

Use	Metric	Threshold
Residential	Daily home-based daily VMT/capita	15% below existing levels
Work	Daily home-based-work VMT/employee	15% below existing levels
Regional Retail	Total VMT	Any net positive change in citywide VMT

## Methodology

### *Residential VMT per Capita*

VMT per capita can be calculated for residential projects by using the Culver City VMT Evaluation Tool and User Guide. The tool will determine the daily trips generated along with the VMT per capita for the project. Any travel demand management measures used by the project should be included in the analysis. The tool will determine the final VMT per capita for use in the transportation study.

### *Work VMT per Employee*

VMT per employee can be calculated for work (office) projects by using the Culver City VMT tool. The tool will determine the daily trips generated along with the VMT per employee for the project. Any TDM measures used by the project should be included in the analysis. The tool will determine the final VMT per employee for use in the transportation study.

### *Regional Serving Retail VMT*

Regional serving retail projects<sup>7</sup> should be evaluated to determine their effect on vehicle trip length and VMT. It is accepted that regional serving retail may be responsible for substituting longer trips for short ones. Retail that is not screened from VMT analysis should be evaluated using the Culver City travel demand forecast model (TDFM) using a four-step process.

<sup>7</sup> Local serving retail projects are those with fewer than 50,000 square feet in size at a single store and are screened out.

## ***Mixed Use Projects***

The components of a mixed-use project should be evaluated independently, with the relevant significance threshold being applied for each land use type. The mixed-use project should account for the internalization of trips to accurately assess VMT. All components of the project should be input into the tool to account for internalization, including screened components.

## **Mitigation Measures**

### ***TDM Program***

If an impact is determined following review, changes to the project that avoid or reduce the impacts are required. The means of mitigating a VMT impact for land use projects is reducing the number of people driving alone to the proposed project through TDM. TDM measures may include, but are not limited to:

- Carpooling and vanpooling incentives
- Pricing parking
- Reducing parking supply
- Pedestrian oriented design
- Commute marketing program that may include a dedicated staff member to advertise non-driving options to employees, residents, and visitors. This may include direct outreach, help with trip planning, development of promotional materials, etc.
- Incentives for employees to use transit or other alternative modes of transportation such as transit vouchers or bike share membership
- Financial contributions for the capital and operating costs of transit to increase transit frequency or provide shuttle service

TDM measures are more appropriate for larger developments, particularly non-residential developments with more than 25,000 gross square feet (GSF) as defined in the Culver City Municipal Code (CCMC) [Section 7.05.015](#). The Traffic Code [CCMC Chapter 7.05](#) includes minimum TDM and trip reduction measures that should be implemented for any projects that result in a net increase of  $\geq 25,000$  GSF. Some of the measures required in the Traffic Code are not supported by enough research to mitigate VMT impacts, only measures contained in the VMT evaluation tool are suitable for mitigation. In the tool each of these mitigations is associated with a decrease in project trips based on the latest available research. Other measures may be included to mitigate VMT impacts if enough evidence is provided by the applicant and accepted by the City.

### ***TDM Program Monitoring and Reporting***

Depending on the size and type of a project, the City may require annual monitoring and reporting, including trip data collection, to assess the effectiveness of the TDM program and needed changes. The City may impose conditions of approval, including TDM measures, which reduce the project's vehicle trips, specific methods to be used by the City to monitor a project's trip generation, and the posting of a letter of credit and related penalty charges in amounts determined by the City. The monitoring program shall include measures to evaluate the effectiveness of the TDM program or project-specific conditions of approval. If the monitoring results show one or more of the conditions are not being achieved, the City may draw monies from the letter of credit; e.g., for penalty charges, if any. The City will determine how the assessed penalties are best utilized to enhance TDM measures.

## C. VMT – Transportation Projects

Transportation projects can result in the increase of vehicle capacity and thus may increase the VMT on roadways, called induce demand. If a project adds new roadways or additional through lanes to existing roadways, an assessment of induced demand is required.

### CEQA Threshold

Would the project conflict or be inconsistent with CEQA Guideline Section 15064.3(b)(2)?

### Screening Criteria

Transportation projects that do not add capacity are screened from induced demand VMT analysis. [Attachment D](#) provides a list of transportation projects that typically do not add capacity.

### Impact Analysis

A project that increases vehicular roadway capacity has the potential to induce vehicle travel. Any additional VMT is a significant transportation impact. The City's TDFM can be used to assess the changes in VMT associated with a transportation project. The change in VMT, both with and without the project must be analyzed and a finding of significance determined.

### Methodology

Applicants should reference methodology guidance in the Governor's Office of Planning and Research (OPR) [Technical Advisory On Evaluating Transportation Impacts](#).

### Mitigation Measures

If an impact is determined following review, changes to the project that avoid or reduce the impacts are required. Mitigations will be determined on a project-by-project basis in consultation with City staff as appropriate. The following types of mitigation have been used to reduce the increase in vehicle travel induced by a transportation project:

- Tolling new lanes to encourage carpools and fund bicycle, pedestrian and transit improvements
- Converting existing general-purpose lanes to high-occupancy vehicle (HOV) or high-occupancy toll (HOT) lanes or bus only lanes
- Providing bicycle lanes and bicycle facilities
- Implementing or funding travel demand management measures
- Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes

## D. Geometric Design Hazards

Proposed projects must be reviewed for potential on-street hazards caused by the project. Further site plan review is outlined in [Section 5](#), which focuses on on-site circulation and access, while this section focuses on off-site conditions affected by the project. This review shall be required for all projects.

### CEQA Threshold

Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., oversized vehicles)?

## Screening Criteria

This review shall be required for all projects.

## Impact Analysis

Any project that causes a substantial increase in on-street hazards due to geometric design will result in an impact.

## Methodology

The method for determining geometric design impact involves examining the existing interactions on roadways around the project site between vehicles to vehicles, vehicles to bikes, and vehicles to pedestrians, and determining how those interactions may change with the proposed project. Based on how the interactions would change, this analysis shall make an impact judgment. The following steps should be included in the geometric design review.

- Understand the bicycle, pedestrian, auto, and public transit network surrounding the project site with specific attention to the facilities crossing project driveways
- Understand the relative bicycle, pedestrian, auto, and public transit activity levels
- Understand the existing environment and roadway conditions, such as slopes, curves, connectivity, proximity to intersections, and barriers
- Document how the proposed project would change and interact with the above conditions
- Assess hazards caused by the proposed project
- Consider safety for people driving as they turn into and out of the project
- Consider site-lines at the driveways and surrounding the site
- Consider the safety of people walking and biking when they cross the project driveways
- Assess the proximity of incompatible uses that would cause a transportation hazard

## Mitigation Measures

Changes to the project that avoid or reduce the impact will mitigate the impact. Mitigations should remove the danger caused by the project by altering site access location, type, and treatment. A list of example traffic engineering mitigations for a geometric design hazard impact is provided below. This list is not exhaustive, and the applicant should work with the City to determine appropriate mitigation.

- Install a traffic signal, stop sign, or pedestrian crossing control device
- Relocate a driveway away from an intersection or roadway curve, or onto a different road/alley
- Reduce project access points
- Improve site lines for drivers, pedestrians, and bicyclists
- Expand pedestrian space and implement physical devices such as curb extensions and islands
- Enhance signage and pavement markings
- Clarify interactions at intersections with vehicle lane and/or bike lane striping
- Restrict turns in or out of the project site
- Dedicate right-of-way for construction of improved pedestrian or bicycle facilities.

## 5. Supplemental Transportation Analysis Requirements

This section details the supplemental transportation analysis, methodology, and improvements to address deficiencies that shall be conducted in addition to the CEQA analysis.

The City shall require the following components of the transportation study if a project is estimated to add 250 or more new daily trips. However, PWD may also require a transportation study or components thereof, even if the above thresholds are not met to address other traffic and parking related factors described in [Section 2](#).

### A. Traffic Operations

This section shall assess the ability of the circulation system to accommodate extra vehicular traffic generated by the related projects and the subject project. The traffic analysis for projects shall include:

- Intersection LOS and queuing including trip generation, distribution, existing conditions, and future traffic conditions
- Warrant analysis for new or upgraded traffic control devices such as stop control, traffic signals and pedestrian signals; e.g., HAWK (high-intensity activated crosswalk, a pedestrian hybrid beacon signal)
- Applicability of dedicated bicycle signals
- Driveway LOS and queuing including potential vehicular conflicts and motorists' visibility at project driveways, potential conflicts
- with pedestrians and bicyclists, and the ability of left- and right-turn lanes to accommodate additional project generated traffic
- Neighborhood/residential street analysis
- Ability to conduct loading operations on the site and maneuver into parking stalls

If the project results in an unacceptable LOS, potential for cut-through traffic and other operational impacts, measures shall be proposed and analyzed to improve the conditions caused by the project. Certain projects, or the location of the projects, may require additional analysis as determined by the City including, but not limited to, the following:

- Evening analysis for movie theaters, playhouses and other commercial/industrial uses that may generate traffic during off-peak commuter hours
- University/school graduation and special events
- Developments with special activities outside of normal business operations that attract a higher number of employees and visitors and businesses with nontraditional hours and days of operation
- Health clubs
- Daycare centers and other uses that generate the need for passenger and vehicular loading zones
- Mainline freeway and on-ramp and off-ramp capacity analyses

### Methodology

#### *Project Trip Generation*

The daily trip generation for the supplemental transportation analysis shall be consistent with the trip generation calculations for the VMT analysis in [Section 4](#). The peak hours trip generation calculations for the proposed and related projects shall be based on the most recent editions of the Institute of

Transportation Engineers (ITE) [ITE Trip Generation Handbook](#) and the trip rates in the [ITE Trip Generation Manual](#). If ITE trip rates are not available, the [City of San Diego Trip Generation Manual](#) may be used. Other trip generation rates, subject to PWD approval, may be used based on traffic generation studies of similar developments.

As recommended in the [ITE Trip Generation Manual](#), site-specific trip generation rates are encouraged, especially for land uses not in the manual. For site-specific trip generation rates, adequate backup material shall be included in the study and approved by the City before the submission of the draft study. The City may require a trip monitoring plan as a condition of approval; i.e., due to unique trip generation rates or the type(s) of land use(s) within the adjacent neighborhood. Developments may qualify for the trip credits described below if they reduce traffic generation. The allowance of trip credits is subject to the approval of the City.

### **Trip Credits**

The City shall first approve all trip credits as part of the MOU for the transportation study, and those trips shall not be excluded in the existing base year traffic counts. In each case, it shall be the responsibility of the applicant to demonstrate, to the satisfaction of the City, that the requested trip credit(s) will result in a more accurate transportation study.

Development projects outside of Culver City shall not exceed the trip credits allowed by the City for analysis of locations in Culver City. Trip credits may be permitted within Culver City as follows:

- **Existing Uses:** Trip credits may be approved for an existing land use if the use was in operation at the time the base year traffic counts were taken, and the counts are less than one year old. Any claim for trip credits for a previous land use shall be supported by appropriate documentation of the previous land use, including, but not limited to, the percentage of building occupancy at the time of the study.
- **Pass-By Trips:** Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Lowered project trip volumes for pass-by trips may be allowed for retail/commercial type developments. The ITE average pass-by trip percentages, up to a maximum of 25%, may be used for pass-by trips for convenience-type land uses as approved by the City. Lowered project trip volumes due to pass-by trips shall not be considered in determining the need for a traffic study, nor are they applicable to assess impacts at project driveways.
- **Internal Trip Capture:** A maximum of 10% trip credit may be allowed for internal trip capture for mixed-use developments as determined by the City considering various items including, but not limited to, the type and amount of non-residential land uses.
- **Transit Oriented Developments (TOD):** A maximum of 25% trip credits for TOD projects may be allowed for developments within a 1/4 of a mile of a rail transit station or transit center.
- **TDM:** A maximum of 10% trip credits for TDM programs that are recorded via covenant may be allowed by the City if the TDM measures can be quantified and are based on TDM reductions found on other similar developments.

### ***Trip Distribution and Assignments***

Maps showing the project's trip distribution percentages for each land use (inbound and outbound), as well as assignments at the study intersections and project driveways shall be included and submitted to the City with the MOU request.



### *Study Intersections and Street Segments*

Study intersections shall be determined on a project-by-project basis in consultation with PWD Mobility and Traffic Engineering Division staff. PW staff may also identify street segments to be included in the analysis.

### *Traffic Counts*

Manual traffic counts shall be taken as follows:

- Manual or video recording intersection counts collected in 15-minute intervals between 7-9 AM and 4-6 PM showing all movements by vehicular traffic, bicycles, and pedestrians<sup>8</sup>
- ATR or video recording segment counts, when required, on three separate days to develop average daily traffic volumes to be used in segments analysis
- When school is in session unless there is enough back-up data showing that out-of-session school counts are not significantly lower than in-session counts
- On Tuesdays, Wednesdays, and/or Thursdays only, unless otherwise approved by the City
- Not on any weekday before, on the day of, or the day after, any holiday
- Not on days of poor weather conditions or if traffic conditions are affected by construction activity

Additional periods shall be counted if the project generates significant traffic volumes during other periods, such as weekends or evening traffic generated by a movie theater or performance theatre. Additional traffic counts and warrant analyses may be required by the City to determine the need for extra traffic signals or controls. All traffic counts data shall be submitted in an electronic format acceptable to the City. City staff may require a review of the traffic data to ensure accuracy before performing the LOS, warrants, and other operational analyses.

### *Buildout/Future Year Forecasts*

Forecasts shall be based on projected future volumes plus related projects.<sup>9</sup> The Current Planning Division shall provide the initial list of related projects. However, it is the responsibility of the consultant to verify that the list is current and includes related projects in neighboring jurisdictions. The City may require additional related projects to be added if such projects are initially overlooked for any reason.

The transportation study shall include related projects within a one-and-one-half (1½) mile radius of the project regardless of City boundaries. It may, as required by the City, include projects at greater distances from the project that may have potential impacts on the study intersections.

The following maps shall be included in the report to represent buildout/future year conditions:

- **Related Projects Map and List:** An area map showing the location of related projects as approved by the City for the build-out (horizon) year(s). Each related project shall also be listed in a table showing the project's name, location, size, land use, and trip generation.
- **Related Projects Peak Traffic Volumes Map:** A map showing AM and PM peak traffic volumes generated by the related projects for the build-out (horizon) year(s).

---

<sup>8</sup> Depending on the land use types, the City may extend the duration of the AM and PM peak periods or add a mid-day peak period or weekend count to appropriately capture peak traffic conditions for the streets and the project.

<sup>9</sup> For purposes of the transportation study, the term "related projects" shall include development projects that have a build-out (horizon) year(s) up to two years beyond the build-out (horizon) year(s) of the proposed project.

- **Project Only Peak Traffic Volumes Maps – Intersections, Driveways & Segments:** A map showing the project's future AM and PM peak traffic volumes, and other peak periods as applicable, generated at the study intersections and project driveways. Staff may also require a map of daily volumes on relevant road segments. These maps shall be submitted to the City with the transportation study MOU.
- **Future No Project Peak Traffic Volumes Maps – Intersections, Driveways & Segments:** Maps showing the 'future AM and PM peak traffic volumes generated at study intersections and driveways, as well as daily volumes on street segments with ambient growth and related projects without the project in the specified build-out (horizon) year(s) of the project. Specify the build-out (horizon) year(s) for each phase, if the project is to be developed in phases. The study shall use a growth rate based on the TDFM unless the City approves a different rate to reflect local and regional traffic growth. Typical future analysis scenarios will be for background conditions at expected project occupancy date, including other approved projects, as well as for cumulative conditions for a longer-term horizon year, including approved and pending projects.
- **Future Plus Project Peak Traffic Volumes Maps – Intersections, Driveways & Segments:** Maps showing the total future AM and PM peak traffic volumes generated with the project (background plus project and cumulative plus project) at study intersections and project driveways, and future daily volumes on segments. As previously noted, traffic volumes during the peak noon hour and weekend periods may be required.

### ***Intersection LOS***

Intersection LOS shall be calculated for intersections selected in consultation with the PWD Mobility and Traffic Engineering Division staff. Synchro software, unless otherwise specified by the City, will be utilized for intersections analysis.

### ***Signalized Intersections***

The methods in the latest version of the Highway Capacity Manual (HCM) shall be used to analyze existing and future LOS for signalized intersections. Unmarked lanes may be allowed in the capacity calculations, subject to City approval, including lanes that are a minimum of twenty-two feet (22'-0") wide, with minimum bus activity at bus stops, and the parallel pedestrian volume crossing the street is deemed not significant by the City. Based on traffic conditions and the number of buses that stop at a study intersection during the peak hours, the City may require the capacity analysis to reflect the reduction in capacity caused by buses stopping at one or more approaches to the intersection.

The LOS analysis determines the intersection delay (measured in seconds) and LOS for a signalized intersection. LOS describes the quality of traffic flow in terms of the level of congestion, travel speed, and delay. LOS ranges between "A" denoting free-flow conditions and "F" denoting forced-flow or significant delays with long queue lengths. Table 3 describes the typical characteristics of LOS and delay at signalized intersections as defined by the HCM.

Table 3 – LOS Characteristics and Delays for Signalized Intersections

LOS	Delay(s)	Characteristics
A	10.0 or Less	EXCELLENT: No vehicles wait longer than one red light and no approach phase is full used.
B	10.1 and less than 20.0	VERY GOOD: An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	20.1 and less than 35.0	GOOD: Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	35.1 and less than 55.0	FAIR: Delays may be substantial during portions of rush hours, but enough lower volume periods occur to permit clearing of developing lines preventing excessive backups.
E	55.1 and less than 80.0	POOR: Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	80.1 or More	FAILURE: Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: HCM

For each intersection analyzed, the delay shall be calculated to two decimal places. The LOS and delay for the AM and PM peak hours for the project shall be shown in a table format outlining the following scenarios:

- Existing traffic conditions representing the year the traffic counts were taken
- Existing conditions plus the proposed project
- Future background horizon (typically for the year of project occupancy), year(s) without the project, with ambient growth and related projects representing existing traffic conditions plus the increase in traffic-related to ambient growth and related projects
- Future background year(s) with ambient growth and related projects plus proposed project representing the background plus project conditions that assist in determining the project's effects on operations and associated project improvements
- Future build-out (cumulative horizon) year(s) with longer-term ambient growth and related approved and pending projects
- Future build-out (cumulative) year and proposed project (cumulative plus project) to help assess the project's cumulative effects on operations and any pro-rata share towards associated improvements

The above scenarios shall be tabulated using, at a minimum, the format outlined in Table 4.

Table 4 – Delay Scenarios

"A"		"B"		"C"		"D"		"E"	
Year of Existing Traffic Conditions		Existing Traffic Conditions Plus Project		Project Buildout Year Cumulative Base		Buildout Year Project Traffic Conditions		Buildout Project with Traffic Improvement	
Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS

### Non-Signalized Intersections

The methods in the latest version of the HCM shall be used to analyze LOS at non-signalized intersections and non-signalized freeway ramps. Table 5 describes the typical characteristics of LOS at stop-controlled intersections as defined by the Transportation Research Board. If the City determines a project adds a significant amount of traffic to a non-signalized intersection, a traffic-signal or additional stop sign warrant study shall be conducted.

Table 5 – LOS Characteristics for Stop-Controlled Intersections

LOS	Delay (seconds)	Expected Delay to Minor Street Traffic
A	10.0 or Less	Little or no delay
B	10.1 and less than 15.0	Short traffic delays
C	15.1 and less than 25.0	Average traffic delays
D	25.1 and less than 35.0	Long traffic delays
E	35.1 and less than 50.0	Very long traffic delays
F	50.1 or More	Extreme delays

Source: HCM

### Queuing

The methods in the latest version of the HCM shall be used to analyze queue lengths at study intersections. Significant queuing conditions shall occur if trips generated by the project cause the queue lengths at nearby intersections to exceed the available capacity. The locations will be determined in consultation with City staff.

### Driveway LOS and Queuing

The driveway LOS and queuing analysis should address the following questions:

- Would the project's driveways on arterial highways be limited to improve the pedestrian and bicycle environment?
- Would the location of project driveways relative to side streets or other driveways adversely affect left-turn queuing?
- Would the location of project driveways or sidewalks of structures affect motorists' visibility of vehicles, pedestrians, or bicyclists?

### Neighborhood/Residential Streets

Effects on residential streets near the project site shall be determined based on the following analysis:

- Assess the potential for cut-through traffic generation, and preventive measures such as traffic calming subject to community input.
- Assess the potential for neighborhood parking intrusion and preventive measures.

The thresholds shown in Table 6 below shall be used to determine if a project creates significant conditions on a local residential street. Streets with a higher average daily traffic (ADT) volume require a lower percentage increase in traffic to be considered significantly affected.

Table 6 – Significant Project Conditions on Residential Streets

Projected ADT With Project	Significant Project-Related Increase in ADT Volume
999 or Less	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

### Warrants Analysis for Non-Signalized Intersections

This analysis captures the need for a new or upgraded traffic control such as signalization, HAWK, or all-way stop control. Warrants contained in the [California Manual on Uniform Traffic Control Devices](#) (CA MUTCD) must be followed. These warrants not only take multi-modal traffic volumes into account but also collisions statistics, visibility conditions, nearby traffic control, among other factors.

## **Improvement Measures**

Potential measures to address traffic conditions caused by a project include physical measures, traffic signal modifications, , and TDM measures. TDM measures applied for a VMT mitigation, as described in [Section 4.B](#), could also be used to reduce project conditions for the supplemental transportation analysis. Improvements other than TDM are described in more detail below. A discussion of any improvement measures that were considered but found not to be feasible shall also be included, and the reasons they were rejected, so the public is aware that other potential measures that were considered. If required by the City, the applicant shall outline a reporting program on adopted traffic operations improvement measures to the City.

### ***Traffic Management and Control Plan***

Project applicants shall work with the City to develop a temporary traffic management and control plan if construction will impact a public right-of-way. If there are detours because of construction effects, the effects of the detours shall be disclosed and accommodated in the plan. Potential interference with pedestrian and bicycle facilities caused by construction shall be identified including the duration of said interference. Detouring of pedestrian and bicycle traffic, as needed, will also be part of the plan. Other elements covered by the plan include potential temporary impact on public parking, staging of construction material and parking, and community notifications as applicable.

### ***Residential Streets Traffic Monitoring Program***

The City may require the project applicant establish a traffic monitoring program to ensure project traffic does not affect a residential street and that project patrons do not affect parking availability in nearby residential neighborhoods. For the monitoring process, the developer shall be required to take baseline “before-project” traffic counts and parking surveys before construction, and “after-project” traffic counts and parking surveys after occupancy.

The City may require a residential streets traffic monitoring program at the time of a project’s conditional approval, including, but not limited to, the posting of a letter of credit and related penalty charges in amounts as determined by the City. The monitoring program shall include measures to evaluate the effectiveness of the residential street traffic monitoring program or the project-specific conditions of approval. If the monitoring results show one or more of the conditions of approval are not being achieved, the City may draw monies from the letter of credit for several purposes; e.g., penalty charges.

### ***Residential Neighborhood Traffic Management Program (NTMP) and Permit Parking***

The City may require the developer of a project to pay for planning, design, and construction costs to improve conditions caused by a project, using the City’s NTMP. Typical elements of an NTMP may include, but are not limited to, speed humps, speed cushions, curb extensions, entry treatment and medians, street diverters, traffic circles, one-way streets, and turn restrictions. The City may also require the developer to pay for the review and implementation of residential permit parking, including data collection, community surveys, and installation of signage as necessary to mitigate project parking impacts. Conditions may be set on the project to pay for the residents’ permits for a year and up to a maximum of three years.

### ***Street Widening and Other Physical Improvements***

Any recommended street widening, such as for the provision of a left- or right-turn lane or reconfiguration, must be feasible and meet City standards. Sidewalk widths shall be adequate for

pedestrian needs, meet the American With Disabilities Act (ADA) requirements, and be wide enough to accommodate all other applicable public improvements as deemed necessary by the City's PWD. If additional right-of-way is needed to improve the conditions, at the discretion of the City, it shall be available from the public right-of-way or the development's on-site private property before any project site plan approval. Any recommended street widening or reconfiguration shall analyze various components including, but not limited to, the needs of bicyclists, pedestrian movements, and transit vehicles.

For recommendations to increase the number of lanes on a street or at an intersection by re-striping or reconstruction of the roadway, the transportation study shall identify the associated effects, such as whether the additional lanes would require additional right-of-way or if any removal off-street parking. If the removal of on-street parking is recommended, the transportation study shall analyze the effects of removing the on-street parking on the adjacent land uses. If the City approves any parking removal, the City may require the project applicant to relocate the parking to a City-approved location. At the discretion of the City, such relocation shall either be on-site or off-site nearby, and the applicant shall pay all costs of any such parking relocation.

Projects proposing physical improvements or re-striping shall submit geometric design drawings at a scale of at least one inch (0'-1") equal to forty feet (20'-0"), unless otherwise specified, for existing conditions and proposed measures and as more specifically required by the City. The drawings shall show all significant roadway details, including adjacent land uses, parking restrictions, sidewalk widths, driveway widths, lane dimensions, roadway striping, curb and right-of-way lines, existing and proposed property lines and building footprints. The City shall approve all measures, and the developer shall fund and construct the measures unless otherwise approved by the City.

### ***Traffic Signal Installation and Modifications***

For significant project conditions at non-signalized intersections, the transportation study shall include a traffic signal warrant analysis to determine if the project alone or with related projects, causes the need for a traffic signal installation. The traffic signal warrant analysis shall be conducted using the latest version of the CA MUTCD and as more specifically required by the City. If a traffic signal installation is warranted with the addition of the project's traffic, then the developer shall be responsible for design and construction of the signal. the installation. For significant conditions at a signalized intersection(s), the transportation study shall analyze the intersection to determine if traffic signal modifications or other measures would improve the conditions from a design and/or operational perspective. Additional modifications such as upgrades to meet current ADA compliance requirements and video detection for operational purposes may be conditioned on the project.

### ***Fair-Share Contributions for Measures***

A transportation study may result in the recommendation of various off-site traffic measures. If two or more projects require the same traffic measure(s) be implemented at the same intersection or street segment, the coordination and cost-sharing to construct those measure(s) shall be done pursuant to an agreement approved by the City and executed by all parties. Also for long-term cumulative conditions, more than one project may share costs of improvements.

## **B. Transit Operations**

The applicant shall identify and consult with regional and local fixed-route transit operators(s) providing service to the project and obtain relevant data from in-vehicle automated vehicle location

system to the extent applicable. Said operators shall be allowed to comment on the effects of the project and identify recommended transit service or capital improvements that may be required due to the project. The applicant shall document potential project trip impact on transit capacity, headway, travel time (between the nearest time points before and after the stop serving the project), delay, and service reliability (on-time performance) of fixed-route transit route(s) servicing the project.

## Methodology

### *Travel Demand/Capacity by Route*

Estimate the number of new transit trips that the project would generate based on the trip generation estimation and mode split estimate. Assign the new transit trips to the transit routes and stops that serve the project site. Estimate whether the existing capacity on the transit routes that serve the project site can accommodate the increase in transit trips generated by the project.

### *Transit Delay by Route*

The Transportation Department will determine whether a project will substantially delay public transit based on quantitative or qualitative criteria as applicable. If a project would generate more than 300 vehicle trips in the PM peak hour or more than 3,000 daily vehicle trips, the project shall conduct a quantitative or qualitative transit delay analysis.

If a project would result in transit delay greater than one-half headway for individual surface lines operated by transit agencies, then Transportation Department may require implementation or improvement measures. The Transportation Department may also consider the following qualitative criteria when determining the potential delay to public transit:

- Transit service routes headways and ridership
- Origins and destinations of trips
- Availability of other modes or mobility options
- Competitiveness with private vehicles including for-hire vehicles

The applicant can propose a methodology to be approved by the Transportation Department to estimate the transit delay caused by the project. Some examples of acceptable methodologies are:

- Evaluate transit delay based on three components:
  - **Traffic congestion delay:** Represents the additional time experienced by a transit vehicle as it travels between stops across one or more intersections in the corridor due to congestion caused by other vehicular traffic traveling parallel or perpendicular to the transit flow.
  - **Transit reentry delay:** Represents the wait time for a sufficient gap in traffic flow to allow a bus to pull back into the travel lane.
  - **Passenger boarding delay:** The sum at each transit stop using empirical data), and passenger boarding delay (calculated by using a second per passenger boarding/alighting and based on projected transit boarding).
- Use the Transit Research Board's method per their [Transit Capacity and Quality of Service Manual](#) which offers a free to download spreadsheet tool for calculating the operational characteristics of bus, rail, and other public transit modes.

### *Hazardous Conditions*

Assess the potential for hazardous conditions for transit operations, vehicles, and users because of the project's vehicular trip generation and project design elements. The Transportation Department will

determine if measures to address project conditions are required based on the quantitative or qualitative criteria as applicable. Qualitatively and/or quantitatively describe:

- The number, movement type, sightlines, and speed of project vehicle trips in and out of project facilities based upon the design (e.g., curb-cut dimensions, roadway speeds) in relation to the travel lanes where transit vehicles operate and transit stop/station locates
- The number, movement type, sightlines, and speed of project vehicle movements at intersections and roadways in relation to the travel lanes where transit vehicles operate and transit stops and stations are located

Below are some examples of conditions expected to be potentially hazardous for transit operations:

- A project that would add a substantial number of vehicle trips (e.g., turning movement into the project driveway, curb cut) crossing or immediately adjacent to a transit only lane or transit facility (e.g., transit stop)
- A project that would construct or be located on a lot with physical obstructions (e.g., trees, utilities, an adjacent curb cut used by a substantial number of motorists, or on-street parking directly adjacent to a curb cut or transit stop) or slopes that would obstruct sightlines between a substantial number of motorists exiting or reversing into an off-street facility and a transit vehicle operating in travel lane next to the off-street facility
- A project would be unable to accommodate vehicle trips, including freight and delivery service vehicle trips, into its off-street facilities thereby resulting in queues on the transit-only lane or near a transit facility

## Improvement Measures

If the project is projected to substantially delay public transit or create potentially hazardous conditions for public transit operations, the applicant shall work with the Transportation Department to establish improvement measures, which may include, but not be limited to, the following:

- Revise project design features to eliminate the potentially hazardous conditions
- Establish transit-only lane(s) or pay a fair share of fees
- Establish transit queue jump/bypass lane(s)
- Optimize transit stop locations and layout
- Extend transit zone to accommodate more transit vehicles at a time
- Increase the capacity of the Culver CityBus transit system and other transit providers
- Contribute to the construction or enhancement of transit stations, stops, and transit centers
- Contribute to projects which expedite transit flow; e.g., transit priority traffic signal systems and bus lanes
- Contribute to projects which create additional incentives for transit usage; e.g., real-time bus arrival information system

The applicant shall outline a reporting program on adopted transit improvement measures to the City.

## C. Driveways

### Vehicular Access

Site plans with vehicle turning templates may be required by the City to show there is enough room to accommodate the largest vehicles anticipated to access and travel within the site. The traffic consultant shall consult with the Mobility & Traffic Engineering and Current Planning Divisions to



determine if vehicle access is limited on certain streets where the City is focusing on efforts to enhance the pedestrian-oriented environment.

### **Pedestrian and Bicycle Access**

Access to the project site shall be provided for people walking and bicycling. This may or may not be at the location of the driveway but should avoid unsafe conflicts between pedestrians, cyclists, and autos. Where sidewalks and bicycle facilities cross driveways, best practices must be followed to ensure that pedestrians and bicyclists can safely cross driveways.

## **D. Parking**

The applicant shall work with the City's PWD to determine the parking meter revenue loss associated with the removal of any parking meters because of the project. A project request for valet parking shall be evaluated separately by the PWD according to established guidelines and funded by the project. shared parking analysis, if necessary, can be provided for the project. This should be discussed with City staff during the MOU process.

## **E. Curb Space Allocation**

The applicant shall work with the City to ensure that the curb space is managed appropriately between passenger and commercial loading and parking, bus stop facilities, and bike and other alternative transportation mode parking while maintaining visibility at driveways.

## **F. Safety Analysis**

### **Vehicular Safety**

The applicant will work with the City's PWD to determine if the project is located, or would impact a priority safety corridor on the high injury network (HIN), as identified in the Local Road Safety Plan (LRSP) or other analysis. If a project is on, impact a HIN corridor, the applicant shall evaluate the adverse effect of the project and associated measures to enhance safety conditions. If it is determined that the project would have an adverse effect on a HIN corridor including intersections and road segments, the applicant shall work with the City's PWD to improve roadway safety at impacted locations for all users, including the design and construction of engineering measures and possibly safety education measures. The applicant shall also work with the City to confirm that the project does not inhibit future implementation of projects identified by the City in the LRSP.

### **Safety for People Walking and Bicycling**

The applicant shall refer to the City's LRSP determine if the project is located near a hot spot of collisions that involve people walking and bicycling. If this is the case, the applicant shall demonstrate how project features will not worsen the issue per the LRSP.

## **6. Fee Program**

*This section will be updated once the City Council adopts the fee program.*

## Attachments

### Attachment A – MOU Template<sup>10</sup>

#### Memorandum of Understanding for Transportation Study

This Memorandum of Understanding (MOU) acknowledges and agrees to all the City of Culver City requirements and fees for the review of a transportation study for the following project.

Date Submitted: \_\_\_\_\_ MOU Version # \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Address: \_\_\_\_\_

Project Description: \_\_\_\_\_

Land Use	Gross Floor Area (sq. ft.) <i>Defined per latest ITE publication</i>	Residential Units (#)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Project Horizon Year: \_\_\_\_\_ Ambient Growth Rate  
(% per year): \_\_\_\_\_

Directional Distribution (%): N: \_\_\_\_\_ S: \_\_\_\_\_ E: \_\_\_\_\_ W: \_\_\_\_\_

**Trip Generation Rates:** Show AM, PM and daily trip generation rates for each land use and attach total daily trips generation calculations. Indicate ITE Latest Edition/Other \_\_\_\_\_

Land Use	ITE Code#	AM Trips		PM Trips		Daily Totals	
		In	Out	In	Out	In	Out
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

**Study Intersections:** Show all study intersections, intersections subject to capacity analysis credit for advanced traffic signal control synchronization, whether intersections are signalized or non-signalized, and use the same numbering system for all lists of intersections and figures in the study.

No.	Intersection	Signalized/Non-Signalized	Jurisdiction
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Residential Streets:** Show all residential streets to be studied.

No.	Street Name	Limits	Jurisdiction
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

<sup>10</sup> Download the MOU template separately: <https://www.culvercity.org/Home/ShowDocument?id=19042>

**Trip Credits:** Indicate trip credits to be requested (subject to City approval)

	Trip Credits	Yes/No
Existing Uses		
Pass-By Trips		
Internal Trip Capture		
Transit-Oriented Development (TOD)		
Transportation Demand Management (TDM)		

**Related Projects:** Before the start of any proposed project analysis, consultants shall:

1. Obtain a list of related projects from the Culver City Current Planning Division and other affected jurisdictions.
2. Prepare a draft list of "related projects specific to the proposed project."
3. Obtain written approval from the City of the "related projects specific to the proposed project."

**Maps:** The following maps shall be attached to the MOU:

1. A map showing the study intersections and street segments to be analyzed, including City limit lines where applicable.
2. A map showing the project's trip distribution percentages for each land use (inbound and outbound) on the area's road network.
3. A map showing the project's trip assignments at the study intersections and project driveways, as well as road segments when applicable.
4. A site plan of the project showing property lines, alleys, project's driveways and nearby driveways and intersections on both sides of the street including dimensions.

**Proposed Mitigation and Transportation Improvements:** Any proposed transportation improvement(s) or mitigation measure(s) shall be listed and accompanied by plans of the existing and proposed improvements, including city limit lines and existing and proposed property lines. The City may initially accept conceptual plans with the transportation study, but detailed design of such improvements will be part of the project's plan submittal.

**Post-Occupancy Traffic Counts:** By signing below, the Property Owner/ Developer/Applicant hereby agrees to pay for and submit to the City a post-occupancy traffic count analysis of the development to the satisfaction of the City. The analysis shall determine the amount of actual traffic (motor vehicle, bicycle, and pedestrian) generated by the development compared to the ITE trip generation rates. The analysis shall include a traffic count of all onsite driveways taken upon reaching eighty-five percent (85%) occupancy of the total building gross floor area or within one (1) year of the issuance of the first Temporary Certificate of Occupancy (TCO), as determined by the City. The data shall be used to confirm the findings in the approved study and not result in any additional traffic mitigation measures and/or conditions of approval on the subject project.

**Fees:** Payment of a fee to the City's PWD for the City's processing of the MOU shall be required before the City approves the MOU. Payment for review of the Transportation Study shall be paid before the City's PWD completes its review of the Transportation Study. Said fees shall be per the most recent Fee Schedule as approved by the City Council.

**Applicant Information:**

	Property Owner/Applicant	Developer/Applicant	Traffic Consultant
Name			
Title			
Company			
Street Address			
City, State, Zip			
Office			
Cell			
Fax			
Email			

**Public Agency Information:** If any of the intersection(s) to be studied as part of this study are located within the City of Los Angeles, the unincorporated areas of Los Angeles County and/or impact any other public agency (i.e., Caltrans), then this MOU shall also be approved by the reviewing staff representative from each agency:

	City of Los Angeles	County of Los Angeles	Other Public Agency
Name			
Title			
Company			
Street Address			
City, State, Zip			
Office			
Cell			
Fax			
Email			

**Signatures/Expiration:** This MOU shall become valid as of the date of the City's signature and expire one year thereafter. If the administrative draft of the study has not been filed with the City by the expiration date, the MOU shall expire and a new MOU filing, fee, review, and approval process shall be required.

**Approved By:****Date:**


---

 Property Owner/Applicant

---

 Developer/Applicant

---

 Traffic Consultant

---

 City of Culver City

## Attachment B – Driveway Requirements and Guidelines

The following are requirements and guidelines for proposed driveways:

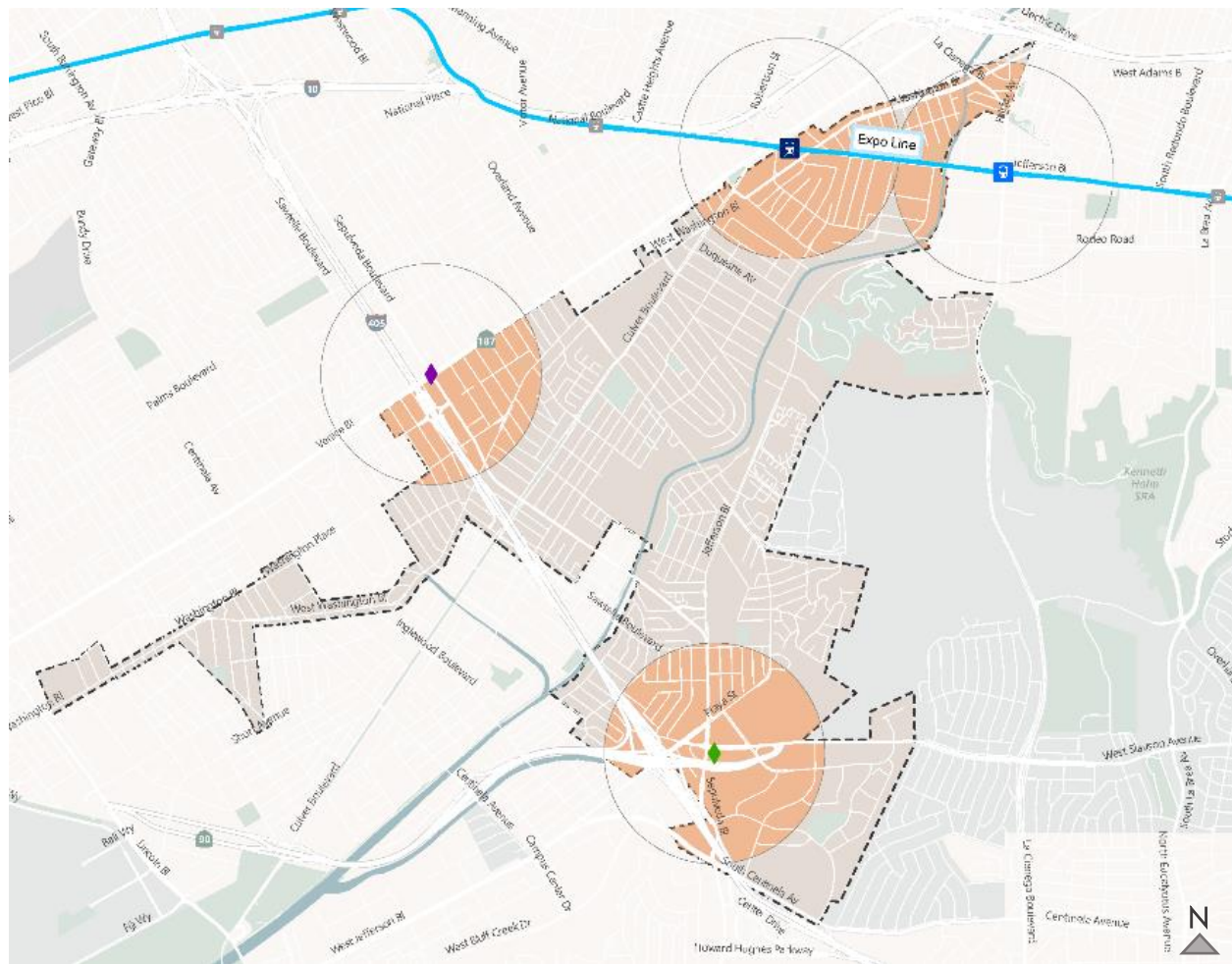
### *Requirements*








- Driveways shall be designed in a manner that does not impede vehicular, bicycle, or pedestrian access on the adjacent streets and planned to minimize potential conflicts.
- Driveway locations shall maximize motorists' visibility and be compatible with existing driveways and traffic signals.
- No driveway shall be located within twenty-five feet (25'-0") of a stop sign.
- There shall be sufficient separation (at least 20 feet) between external and internal circulation roads so vehicles can be queued on entry or exit without blocking access to parking spaces or internal roadway circulation.
- There shall be sufficiently wide driveways and aisles to allow service vehicles to enter and exit the site without encroaching upon opposing lanes or curbed areas.
- There shall be adequate visibility for driveways that access onto streets and alleys. A queuing analysis may be required by the City to show adequate ingress and egress capacity at proposed access driveways and the project's effect at nearby intersections.
- Site plans with vehicle turning templates at the access driveways and within the site may be required by the City to show there is enough room to accommodate the largest vehicles anticipated to travel on the site.
- The traffic consultant shall consult with the Mobility & Traffic Engineering and Current Planning Divisions to determine if vehicle access is limited on certain streets where the City is focusing efforts to enhance the pedestrian-oriented environment.

### *Guidelines*

- It is desirable to line up major driveways across the street from existing driveways to form four legged intersections.
- It is undesirable to position driveways near other driveways, at the inside of horizontal curves, or within one hundred feet (100'-0") of an approach to a signalized intersection.

## Attachment C – Transit Priority Area Map



- |   |                                      |   |                            |
|---|--------------------------------------|---|----------------------------|
|  | Culver City Station                  |  | E (Expo) Line              |
|  | La Cienega Station                   |  | Key Transit Priority Areas |
|  | Sepulveda/Venice Intersection        |  | Culver City                |
|  | Westfield-Culver City Transit Center |   |                            |

## Attachment D – Non-Inducing Transportation Projects

The following excerpt from the Governor’s Office of Planning and Research (OPR) [Technical Advisory On Evaluating Transportation Impacts](#) in CEQA lists projects that would not likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis under [Section 4](#). This list does not apply to traffic operations analysis and associated improvements that may be required by the City in [Section 5](#).

- 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., HOV, 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
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor