



# **TRANSPORTATION IMPACT ANALYSIS CURRENT PRACTICE & GUIDELINES**

**Prepared by:**

**Transportation Complete Streets Division  
Department of Transportation**

20150925

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For comments or additional questions regarding the Department's transportation review practice, please contact:

City of Pasadena Department of Transportation  
Complete Streets Division  
Mike Bagheri, P.E.  
Conrad Viana, P.E.  
Juliana Iturrizaga

<http://www.cityofpasadena.net/Transportation/>

The Department's current review practice will be periodically updated and posted on:

[http://www.cityofpasadena.net/Transportation/Transportation\\_Impact\\_Review/](http://www.cityofpasadena.net/Transportation/Transportation_Impact_Review/)

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***SECTION 1:***

***INTRODUCTION, BACKGROUND, AND  
PROCESS***

## ***SECTION 1: BACKGROUND, PURPOSE, & PROCESS***

### **BACKGROUND**

The following guidelines support Pasadena's vision of creating “a community where people can circulate without cars.” The vision relies upon an integrated and multimodal transportation system that provides choices and accessibility for everyone living and working in the City. Key strategies to achieve this vision promote non-auto travel including public transit services, parking strategies, bicycle facilities, and pedestrian components that are well coordinated and connected with a larger regional transportation system.

### **PURPOSE**

The ability of a community to balance and facilitate the different components of its transportation system is important to the creation and preservation of a quality living and business environment. The function of a community's transportation system is to provide for the movement of people and goods, including pedestrians, bicyclists, transit and other vehicle traffic flows within and through the community.

The Mobility Element of the City's General Plan sets forth goals and policies to improve overall transportation in Pasadena. The Mobility Element is based on approaches that address the needs of multimodal corridors and streets as well as community neighborhoods that are affected by traffic. These guidelines have been developed to ensure that transportation system improvements necessary to support new development while maintaining quality of life within the community are identified prior to project approval and funded prior to construction.

Transportation impact analyses are an integral part of the environmental review process that is required for all proposed projects that are not categorically exempt under the California Environmental Quality Act (CEQA). Under CEQA, jurisdictions have the right to categorically exempt projects consisting of less than five housing units and non-residential projects with less than 2,500 square feet of floor area (CEQA 15303). Projects exempt under this class are qualified by consideration of where the project is located. If a project may impact an environmental resource or the location may be of critical concern, the project cannot be categorically exempt. Projects characterized as

in-fill development may also be categorically exempt if they meet the conditions described in Section 15332 of the CEQA Guidelines as follows:

1. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations
2. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses
3. The project site has no value as habitat for endangered, rare, or threatened species
4. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality
5. The site can be adequately served by all required utilities and public services

These guidelines have been developed to identify projects that may have transportation impacts and to provide step-by-step instructions for preparing a Transportation Impact Analysis.

## **PROCESS**

Upon receipt of initial Project Plan Review (PPR) from city of Department of Planning and Community Development, the City of Pasadena Department of Transportation (PasDOT) will determine whether or not a transportation review is required relative to CEQA guidelines and City policies. If a review is required, the following steps describe the process for initiating the process:

1. Applicant contacts PasDOT with a request to commence the study
2. PasDOT will estimate the required fees for conducting the study.
3. Upon authorization to proceed and payment of fees, PasDOT will commence the analysis.

## **Traffic Counts**

1. Traffic counts shall be collected in accordance with industry standards and established methodologies and at PasDOT's discretion.
2. Counts should be collected when schools and colleges are in session. Counts collected when schools and/or colleges are not in session shall be approved by the Director of Transportation.

3. Counts should be collected during AM (7 a.m. to 9 a.m.) and PM (4 p.m. to 6 p.m.) peak hours, unless otherwise specified. Midday and Weekend counts may also be required.

*Trip Generation and Applicable Credits*

Trip generation is determined by one or more of the following:

1. Institute of Transportation Engineers (ITE) Trip Generation, 9<sup>th</sup> Edition or most current edition.
  - a. Rates should be calculated using the weighted average formula when applicable
  - b. Special consideration should be given for ITE rates based on antiquated data or a small sample may require additional data collection to determine the appropriate trip generation
2. Counts conducted for existing projects that are relocating or expanding
3. New rates should be generated using community examples for uses not updated or included in the ITE Trip Generation publication
4. Trip credits are given to certain uses located on major corridors and/or within the Transit Oriented District (TOD). The trip discounts are determined on a case by case basis and must be consistent with the City's current practice
5. For new uses, parking demand should be based on ITE Parking Generation Handbook and/or parking demand analyses conducted for similar uses in the community

## **SECTION 2:**

# **THRESHOLDS USED FOR DETERMINING TRANSPORTATION REVIEW OF PROJECTS**



## **SECTION 2: THRESHOLDS**

### **Thresholds for Determining Transportation Review**

Pasadena's current practice for reviewing a project's transportation impact begins with the submittal to the Pasadena Planning & Community Development Department of either a Project Plan Review (PPR), or an application for a discretionary action, including but not limited to a master development plan, planned development, conditional use permit, variance, hillside development permit, design review, and/or a request to alter the assessor's map.

PasDOT reviews several types and sizes of projects that could be subject to environmental review under the California Environmental Quality Act. The Department has two processes for reviewing a proposed project's transportation impacts based on project size, consisting of **below or equal to communitywide significance thresholds, and above communitywide significance thresholds. Communitywide significance projects are defined as 50,000 square feet of new commercial use, 50 residential units, or any combination of the two.** The primary difference between the two types of transportation review is inclusion of street segment and Level of Service (LOS) analyses. Additionally, street segment analysis and LOS analysis may be required for smaller projects at the discretion of the Director of Transportation. The following table summarizes the thresholds of determination.

**Table 1: Thresholds for Determining Transportation Review of Projects**

<b>TYPE OF PROJECT</b>	<b>EXEMPTION</b>	<b>Category 1: BELOW COMMUNITYWIDE SIGNIFICANCE</b>	<b>Category 2: COMMUNITYWIDE SIGNIFICANCE</b>
<b>Residential (Net # of units)</b>	10 units or less	11 – 49 units	50+ units
<b>Non- Residential Use (Net)</b>	10,000 Sq Ft or less than 300 daily trips	10,001 to 49,999 Sq Ft	50,000+ Sq Ft

## Thresholds for Determining Impacts

The guidelines apply to all projects that require environmental review in accordance with the California Environmental Quality Act and the City's established Environmental Policy Guidelines, significance thresholds, and transportation review guidelines. The thresholds contained herein determine a project's expected level of impact on the transportation system and identify appropriate types of mitigation.

**Table 2- Metrics' CEQA Thresholds of Significance**

METRIC		DESCRIPTION	CEQA IMPACT THRESHOLD
1.	VMT Per Capita	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs).	22.6 VMT/Capita
2.	VT Per Capita	Vehicle Trips (VT) in the City of Pasadena per service population (population + jobs).	2.8 VMT/Capita
3.	Proximity and Quality of Bicycle Network	Percent of service population (population + jobs) within a quarter mile of bicycle facility types.	31.7% Any decrease in existing citywide of service population (population + jobs) within a quarter mile of levels 1 & 2 bike facilities.
4.	Proximity and Quality of Transit Network	Percent of service population (population + jobs) located within a quarter mile of transit facility types.	66.6% Any decrease in existing citywide service population (population + jobs) within a quarter mile of levels 1 & 2 transit facilities.
5.	Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations, and a network-based walk shed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score

**Table 3- Metrics' Cap Outside of CEQA**

METRIC		DESCRIPTION	CAP
1.	Street Segment Analysis	The street segment analysis assesses traffic intrusion on local streets in residential neighborhoods	Increases of 10-15% above existing on streets with more than 1500 ADT would trigger conditions of approval to reduce project vehicular trips
2.	Auto Level of Service	Level of Service (LOS) as defined by the Transportation Research Board's <i>Highway Capacity Manual (HCM)</i> .	A decrease beyond LOS D Citywide or LOS E within Transit Oriented Districts (TODs) would trigger conditions of approval to reduce project vehicular trips
3.	PEQI	Pedestrian Environmental Quality Index	Below average Conditions
4.	BEQI	Bicycle Environmental Quality Index	Below average conditions

All metrics in Tables 2 and 3 shall be analyzed for projects of “communitywide significance” under Category 2 in Table 1. All or any of the metrics in Table 3 might be required for analysis for Category 1 projects in Table 1 at the discretion of Director of Transportation. In addition to metrics in Table 3, all projects of “communitywide significance” will require consultation with Caltrans to determine whether or not additional analysis is needed regarding off-ramp queuing conditions. This analysis may lead to conditions of approval being placed on the project to reduce the queuing length on the off-ramps.

### Street Segment Analysis (Increase in Daily Traffic)

Street Segment Analysis to address impacts to neighborhoods from traffic intrusion. The Average Daily Traffic (ADT) caps in Table 4 below measure the relative change in daily traffic resulting from an increase in trips or a change in access that alters existing traffic patterns. The relative change in daily traffic is determined as follows:

$$\text{Percentage of Increase} = \text{Net New Project Trips/Existing Daily Traffic}$$

A Street Segment analysis is required for all Category 2 projects identified in Table 1, or smaller projects at the discretion of Director of Transportation. The following criteria will be used for street segment analysis:

- Applies to “Projects of Communitywide Significance” which are defined as 50,000 square feet of new commercial use, 50 residential units or more, or any combination of the two (Category 2 project in Table 1).
- May apply to smaller projects identified as Category 1 projects in Table 1 at discretion of Director of Transportation
- The analysis would be limited to “Access” and “Neighborhood Connector” street types within a residential context (Street Types Map below)

**Table 4- ADT Caps for Requiring Neighborhood Traffic Calming Measures**

Existing ADT	Project-Related Vehicular Increase In ADT
0 to 1500	150 or more
1,501 to 3,499	10 percent or more of final ADT
3,500 or more	8 percent or more of final ADT

If project-related net trips exceed the caps in the table above conditions of approval would require the project applicant to develop and implement a targeted Complete Streets Plan with input from the affected residents, council districts and DOT to encourage use of non-vehicular modes by the project’s patrons, and implement measures to discourage use of residential streets to-and-from the project site. Below is a list of typical measures that would be included in a Complete Streets Plan.

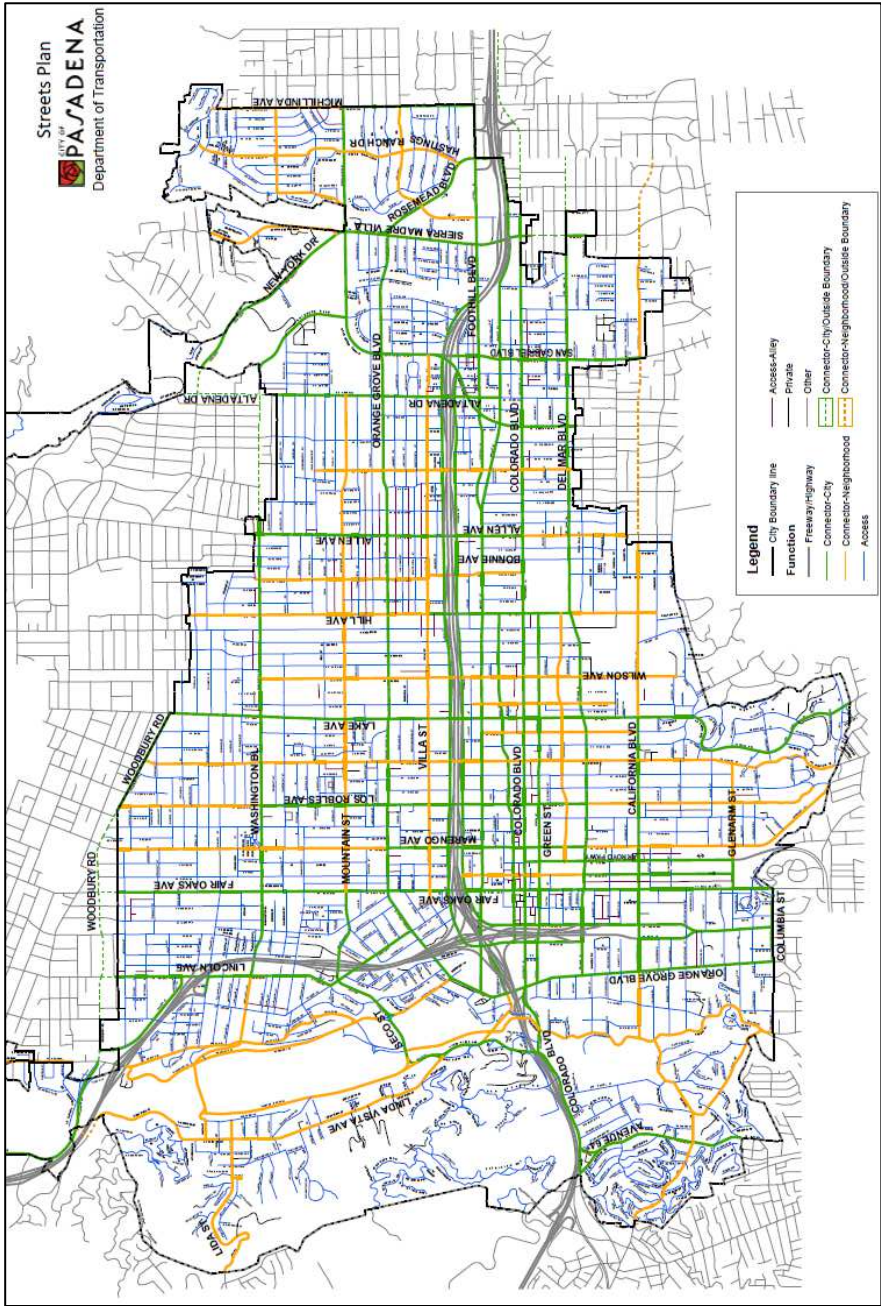
Project specific measures:

- Establish a more aggressive Average Vehicle Occupancy (AVO) target that exceeds city’s AVO average by enhancing the required TDM plan under City’s Trip Reduction Ordinance (TRO)
- Project turn-restrictions
- Revised project access and circulation

Complete Streets measures

- Curb Extensions
- Pedestrian and Bike Traffic signal upgrades/enhancements
- Turn-restrictions
- Neighborhood Gateways (raised medians)
- Traffic circles
- Speed humps
- Signal metering

**Map 1- City of Pasadena Adopted Street Types**



## **Level of Service (LOS) Analysis**

A *Highway Capacity Manual* (HCM) intersection Level of Service (LOS) analysis will be applied to proposed new development projects that meet or exceed the size thresholds to be Projects of Communitywide Significance, or smaller projects at the discretion of Director of Transportation. The LOS results will be measured for compliance with the intersection LOS caps in Table 5 below.

**Table 5- Signalized Intersections LOS Cap**

<b>Study Intersections</b>	<b>Existing + Project LOS Cap</b>
Citywide	D
Transit Oriented District (TOD)-see Map 2	E

Intersection LOS analysis using HCM criteria shown in Table 6 is conducted for peak hour conditions (morning, mid-day or evening or combination, depending upon size and location of the proposed project). The number of intersections to be analyzed will vary also depending upon size and location of the proposed project. Where the evaluated intersections exceed the LOS caps, conditions of approval will be recommended consistent with the City's Guiding Principles to encourage walking, biking and transit to-and-from the project site to reduce project-related vehicular trips. Below is a list of typical measures that would be included in trip reduction programs:

- Project specific measures:
  - Establish an Average Vehicle Occupancy (AVO) Cap or more aggressive AVO target that exceeds the City's AVO average by enhancing the required TDM plan under the City's Trip Reduction Ordinance (TRO)
  - Parking strategies to share parking or reduce on-site parking
  - Transit passes and/or transit cash-out
  - Bikeshare program with 10 or more bikes
  - Carshare program with two or more vehicles
  - Shuttle service to major transit stops
  - On-site transit kiosk
- Complete Streets measures
  - Pedestrian lighting to and from major transit stops
  - Pedestrian and Bike Traffic signal upgrades/enhancements
  - Installation of non-vehicular improvements at studied intersections

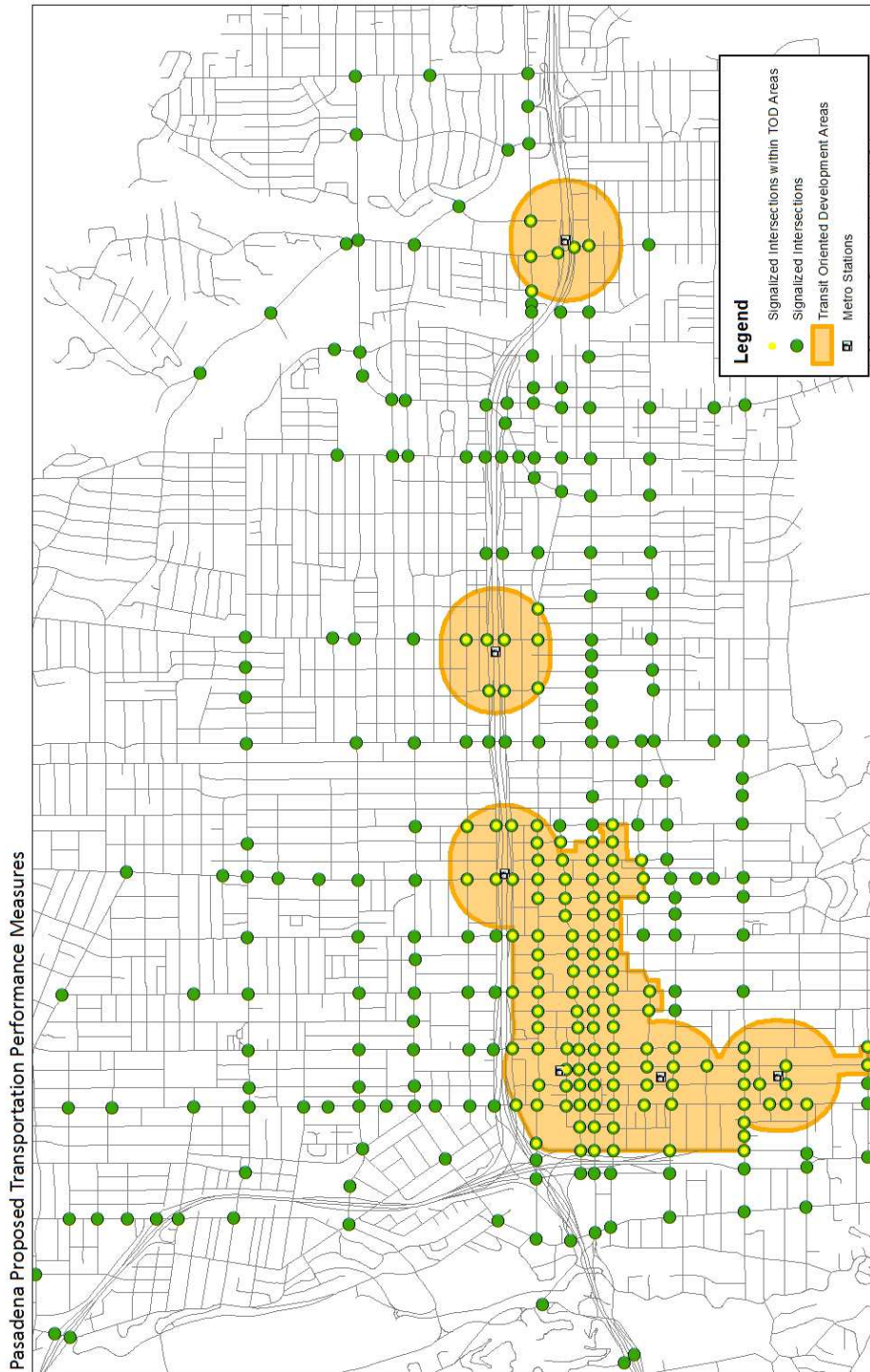
Level of Service analysis should be developed in a table form as follows:

Intersection	Peak Hour	Existing		Existing w/Project		Exceeds LOS Cap?
		Delay	LOS	Delay	LOS	Yes/No

TABLE 6- HIGHWAY CAPACITY LEVEL OF SERVICE CRITERIA		
LEVEL OF SERVICE	DESCRIPTION	DELAY IN SECONDS
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor (vehicle) progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: 2010 *Highway Capacity Manual*.

**Map 2- City of Pasadena Adopted Transit Oriented Districts**





## **SECTION 3:**

# **PROCEDURES FOR PREPARING A TRANSPORTATION IMPACT ANALYSIS (TIA)**

### **SECTION 3: PROCEDURES FOR PREPARING A TRANSPORTATION IMPACT ANALYSIS**

The following procedures have been established for the preparation of a Transportation Impact Analysis (TIA). A TIA is intended to focus on an accurate field inventory of existing circulation elements, and provide recommendations for incorporating existing and/or recommended circulation elements into the design of the proposed project to ensure safety and compatibility. Approval of a TIA generally occurs **six (6) to eight (8) weeks** after the City receives the authorization to proceed and the deposit to fund the analysis from the applicant.

#### ***I. Overall Process of a Transportation Impact Analysis (TIA)***

- a. The Department of Transportation reviews applications for Project Plan Review (PPR) and other discretionary approvals to determine what types of analysis must be prepared in accordance with the City's established thresholds in Section 2.
- b. Based on the project scope provided in the application, DOT staff will prepare a draft Memorandum of Understanding (MOU) for review and approval by the applicant or applicant representative and Planning & Community Development Department staff.
- c. The applicant shall submit the signed authorization to proceed along with a deposit for preparing the TIA. The fee amount will be based on city's "fee schedule" adopted by Council at the time of submittal. The deposited fee will be subject to additional billing or refund.
- d. Staff will develop, examine, and recommend feasible transportation improvements. The recommendations will be incorporated into the report based on their consistency with the Mobility Element, Neighborhood Traffic Management Program, adopted specific plans, and the Capital Improvement Program.
- e. The Department of Transportation case manager may forward the preliminary recommended transportation improvements to the applicant for information.
- f. Based on the Transportation Impact Analysis findings, the Department of Transportation will notify the Planning & Community Development Department with a list of transportation improvements pertaining to the

proposed project as part of the approval process.

## ***II. Transportation Impact Analysis- Report Format***

### Cover Page

A cover page containing the project address and name (if applicable), as well as the date, and consultant contact information.

### Table of Contents

#### Section 1: PROJECT DESCRIPTION

1. Type, size, and number of parking spaces
2. Vehicular trip generation estimates
3. Circulation Plan

#### SECTION 2: FIELD SURVEY, DOCUMENT AND/OR IDENTIFY POTENTIAL IMPROVEMENTS FOR THE FOLLOWING:

1. Digital photo documentary of the project site, key street features, inventory of transportation elements.
2. Existing site (use, access, pedestrian walkways, etc.)
3. Adjacent intersections (both signalized and non-signalized), including lane configurations, type of controls, and any special traffic-related features/conditions (grade, curvature, raised medians, etc.);
4. Residential neighborhoods near the project;
5. General land uses on the same and adjacent blocks of the project;
6. On-street parking restrictions and utilization on the adjacent street and nearby street(s);
7. Transit facilities within 800 feet of the project, including the service provider(s) (Pasadena ARTS, MTA, Foothill Transit,) and location, amenities, and condition of existing bus stops;

8. Ingress/egress of proposed use, such as sight visibility, potential need for parking restrictions, location of access gate, etc.;
9. Bicycle facilities, including bike lane/route designations on adjacent streets, existing bike racks/parking on or adjacent to site, and proposed on-site bicycle amenities; and,
10. Pedestrian amenities, such as sidewalk widths adjacent to the project and pedestrian indicators at the nearest signalized intersection.

### SECTION 3: IDENTIFY PROJECT IMPACTS

1. Vehicle Miles Travelled (VMT) per Capita: The project's incremental influence/contribution on citywide vehicle mile per capita (VMT/capita) is compared to the adopted CEQA threshold to determine significant impact. The project's incremental VMT/capita is determined by dividing the change in citywide VMT (with and without project) by the change in citywide service population (with or without the project) using City's Travel Demand Forecasting model.
2. Vehicle Trip (VT) per Capita: The project's incremental influence/contribution on citywide vehicle trips per capita (VT/capita) is compared to the adopted CEQA threshold to determine significant impact. The project's incremental VT/capita is determined by dividing the change in citywide VT (with and without project) by the change in citywide service population (with or without the project) using City's Travel Demand Forecasting model.
3. Bicycle and Transit Facilities: Assess proximity and quality of bicycle and transit networks by estimating project's change in percent of service population access within a quarter mile of levels I & II bicycle and transit facilities.
4. Pedestrians Accessibility: Estimate Project's change in Citywide Pedestrian Accessibility Score.
5. Trip Generation: Estimate project's vehicular trip generation using the Trip Generation Manual, current edition, published by the Institute of Transportation Engineers as the primary document. Other trip production rates can be used if approved by the Department of Transportation. Any adjustments to standard rates, such as for special uses, mixed uses, high transit use, or pass-by trips must be approved by the City Traffic Engineer.

6. Study Street Segments and Intersections: The Department of Transportation will identify study street segments and intersections within the primary influence area of the proposed development.
  - A. Traffic Count Data:
    - a. The Department of Transportation will require evaluation of all critical time periods based on the proposed uses and site location.
    - b. Unless otherwise specified, peak hours occur between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m. Pedestrian and bicycle counts must be collected.
  - B. Study street segments
    - a. Describe speed limits, stop control, pedestrian crossings, and parking restrictions)
    - b. Street segment analysis
  - C. Study intersections
    - a. Describe speed limits, stop control, pedestrian crossings, and parking restrictions, and include a diagram of existing lane configurations
    - b. Display existing peak hour traffic volumes
    - c. Distribute project trips (include distributions for each peak hour in percentages and volumes). The traffic distribution is a prediction of the future travel paths of site users. It is generally based on population distribution and significant travel paths in the study area. The trip distribution is to be approved by the Department of Transportation prior to preparation of the report.
    - d. Analyze intersection LOS changes
    - e. Conduct CMP analysis (if applicable)
    - f. Identify potential construction impacts
    - g. Recommend project approval conditions. Developments must mitigate the increase in traffic caused by their development. Measures are required when level of service at any study intersection or on any street segment exceeds the caps contained in Section 2.
7. Study Pedestrian and Bike Impacts

The Department of Transportation will identify study street segments within the primary influence area of the proposed development below communitywide significance (category one only).

- a. Collect data elements that directly impact pedestrians, bicyclists, and transit operations along the street segment(s),
- b. Analyze the project impacts on pedestrians and bicyclists using industry standard methodologies such as PEQI, BEQI.
- c. Require measures to improve the environmental quality of non-vehicular modes when the findings reveal less than average conditions (Please see Section 2, Table 3).

#### SECTION 4: IDENTIFY TRANSPORTATION IMPACTS

Summarize the transportation impact based on data collected for Section 3 and recommend prioritization for appropriate improvements that address increases in traffic on analyzed street segments.

#### SECTION 5: GENERAL PLAN MOBILITY ELEMENT CONSISTENCY CHECK

Identify and incorporate specific transportation-related elements that support the City's goal of becoming a city where people can circulate without cars. Also identify and incorporate improvements that will protect nearby residential streets by encouraging project-related traffic to utilize multimodal corridors and/or through neighborhood traffic calming measures.

#### SECTION 6: CONCLUSION & RECOMMENDATIONS

Summarize key findings and elements to be incorporated into the development of the project, such as changes in access and recommended locations for bicycle amenities.

# ***ATTACHMENTS***

## Transportation Impact Analysis (TIA)-Sample MOU

**CITY OF PASADENA  
SCOPING FOR A TRANSPORTATION IMPACT ANALYSIS**

This Memorandum of Understanding (MOU) acknowledges City of Pasadena  
Department of Transportation requirements of traffic impact analysis for the following project

Project Name: \_\_\_\_\_  
 Project Address: \_\_\_\_\_  
 Project Description: \_\_\_\_\_  
 Traffic Analysis Category: \_\_\_\_\_

Principal Analyst: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_  
 Tel/Fax: \_\_\_\_\_

Project Description Approved By Planning Department:

Name: _____	Signature: _____
Title: _____	
Date: _____	

Metric	Impact Threshold/CAP	Required?
VMT Per Capita	CEQA Threshold: An Increase over existing Citywide VMT per Capita of 23.6.	<input type="checkbox"/>
VT Per Capita	CEQA Threshold: An Increase over existing Citywide VT per Capita of 2.8.	<input type="checkbox"/>
Proximity and Quality of Bicycle Network	CEQA Threshold: Any decrease in % of units or employment within a 1/4 mile of Level 1 or 2 Bike Facility.	<input type="checkbox"/>
Proximity and Quality of Transit Network	CEQA Threshold: Any decrease in % of units or employment within a 1/4 mile of Level 1 or 2 Transit Facility.	<input type="checkbox"/>
Pedestrian Accessibility	CEQA Threshold: Any decrease in the Citywide Pedestrian Accessibility Score.	<input type="checkbox"/>
Street Segment Analysis	Increases of 10-15% above existing on streets with more than 1500 ADT would trigger conditions of approval to reduce project vehicular trips.	<input type="checkbox"/>
Auto Level of Service	A decrease beyond LOS D Citywide or LOS E within Transit Oriented Districts (TODs) would trigger conditions of approval to reduce vehicular trips.	<input type="checkbox"/>
PEQI	Below average Conditions	<input type="checkbox"/>
BEQI	Below average conditions	<input type="checkbox"/>

**PROJECT TRIP GENERATION**

Trip Generation Rate Source: \_\_\_\_\_ ITE "Trip Generation," 9th Edition, 2012  
[Others, please specify] \_\_\_\_\_

Project Land Use 1: _____	ITE Land Use Code: _____
Project Land Use 2: _____	ITE Land Use Code: _____
Project Land Use 3: _____	ITE Land Use Code: _____

Project Daily Trips: \_\_\_\_\_

**Trip Credit:** Exact amount of credit subject to acceptance by City of Pasadena Department of Transportation

Transportation Demand Management (TDM)	Yes	No
Existing Active Land Use	<input type="checkbox"/>	<input type="checkbox"/>
Previous Land Use	<input type="checkbox"/>	<input type="checkbox"/>
Internal Trip Capture	<input type="checkbox"/>	<input type="checkbox"/>
Pass-by Trip	<input type="checkbox"/>	<input type="checkbox"/>

Trip Generation Approved By Department of Transportation:

Name: _____	Signature: _____
Title: _____	
Date: _____	



CITY OF PASADENA  
SCOPING FOR A TRANSPORTATION IMPACT ANALYSIS

**PROJECT BUILD-OUT YEAR**

Project Build-Out Year: \_\_\_\_\_

**Project Build-Out Year Accepted By Planning Department:**

Name:	Signature:
Title:	
Date:	

**STUDY INTERSECTIONS (if applicable)**

\*\* All new traffic counts shall be digitally submitted to the City in Excel or ABCI format.

Please indicate type of counts for each intersection: **New Available**

No. 1		
No. 2		
No. 3		
No. 4		

**STUDY STREET SEGMENTS (if applicable)**

\*\* All new traffic counts shall be digitally submitted to the City in Excel or ABCI format.

Please indicate type of counts for each street segment: **New Available**

No. 1		
No. 2		
No. 3		
No. 4		

**Study Street Segments Approved By Department of Transportation:**

Name:	Signature:
Title:	
Date:	

**TRANSIT**

Proximity metric applicable? \_\_\_\_\_  
 Location(s) of bus and/or Gold Line stop(s) within 1300 feet of the project: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**PROJECT CIRCULATION & PARKING**

**PROVIDE A PROJECT SITE PLAN SHOWING PEDESTRIAN & VEHICULAR CIRCULATION**

Number of Existing Off-Street Parking Spaces: \_\_\_\_\_  
 Number of Parking Spaces Required by Code: \_\_\_\_\_  
 Number of Off-Street Parking Spaces Proposed: \_\_\_\_\_

**PEDESTRIAN/BICYCLE**

Proximity metrics or PEQ/BEQI analysis? \_\_\_\_\_  
 Bicycle Parking Spaces Required by Code: \_\_\_\_\_  
 Bicycle Parking Spaces Proposed: \_\_\_\_\_

Include a detailed description of existing bikeways, bike signage, and bicycle racks within 1000 feet of the site.

Signalized intersection(s) within 1300 feet of the site: \_\_\_\_\_  
 (Add rows if necessary)  
 Type of Pedestrian Push Buttons: \_\_\_\_\_  
 (Add rows if necessary)  
 Type of Pedestrian Indicator: \_\_\_\_\_  
 (Add rows if necessary)  
 ADA Compliant Wheelchair Ramps? \_\_\_\_\_  
 (Add rows if necessary)

**GENERAL PLAN CONSISTENCY**

The Project Site is (check one):  
 On a Multi-Modal Corridor \_\_\_\_\_  
 On/near a De-Emphasized Street(s) \_\_\_\_\_  
 In/Near a Residential Neighborhood \_\_\_\_\_

Yes	No

**OTHER PROJECT CONSIDERATIONS**

## Description of Transportation Performance Metrics

### 1. VMT PER CAPITA

The Vehicle Miles Traveled (VMT) per Capita measure sums the miles traveled for trips within the City of Pasadena Citywide Travel Demand Model. The VMT total considers only trips that begin inside Pasadena, end inside Pasadena, or both, and includes 100% of the distance traveled on these trips along roads in Pasadena and 50% of the distance traveled along roads outside of Pasadena. The City's VMT is then divided by the City's total service population, defined as the population plus the number of jobs.

Although VMT itself will likely increase with the addition of new residents, the City can reduce VMT on a per-capita basis with land use policies that help Pasadena residents meet their daily needs within a short distance of home, reducing trip lengths, and by encouraging development in areas with access to various modes of transportation other than auto.

### 2. VT PER CAPITA

Vehicle Trips (VT) per Capita is a measure of motor vehicle trips associated with the City. The measure sums the trips with origins and destinations within the City of Pasadena, as generate by the 2013 Trip-Based citywide Travel Demand Model. The regional VT is calculated by adding the VT associated with trips generated and attracted within the City of Pasadena boundaries, and 50% of the VT associate with trips that either begin or end in the City, but have one trip end outside of the City. The City's VT is then divided by the City's total service population, defined as the population plus the number of jobs.

As with VMT, VT itself will likely increase with the addition of new residents, but the City can reduce VT on a per-capita basis with land use policies that help Pasadena residents meet their daily needs within a short distance of home, reducing trip lengths, and by encouraging development in areas with access to various modes of transportation other than auto.

### 3. PROXIMITY AND QUALITY OF BICYCLE NETWORK

The Proximity and Quality of Bicycle Network provides a measure of the percent of the City's service population (population + jobs) within a quarter mile of each of three bicycle facility types. The facility types are aggregated into three hierarchy levels, obtained from the City's 2012 (Draft) Bicycle Transportation Plan categories as shown in Table 1.

LEVEL	DESCRIPTION	FACILITIES INCLUDED
1 (A)	Advanced Facilities	Bike Paths (P1) Multipurpose Paths (PP) Cycle Tracks/Protected Bike Lanes
2 (B)	Dedicated Facilities	Buffered Bike Lanes Bike Lanes (2, P2) Bike Boulevards (BB)
3 (C)	Basic Facilities	Bike Routes (3, P3) Enhanced Bike Routes (E3, PE3) Emphasized Bikeways (PEB)

Source: City of Pasadena Bicycle Transportation Plan, 2012.

For each bike facility level, a quarter-mile network distance buffer is calculated and the total service population (population + jobs) within the buffer are added.

The City can improve measures of Bike Facility Access by improving and expanding existing bike facilities and by encouraging residential and commercial development in areas with high-quality bike facilities.

#### 4. PROXIMITY AND QUALITY OF TRANSIT NETWORK

The Proximity and Quality of Transit Network provides a measure of the percent of the City's service population (population + jobs) within a quarter mile of each of each of three transit facility types, as defined in the *Streets Types Plan* and in Table 2.

<b>TABLE 2 – TRANSIT FACILITIES HIERARCHY</b>	
<b>LEVEL</b>	<b>FACILITIES INCLUDED</b>
1 (A)	Includes all Gold Line stops as well as corridors with transit service, whether it be a single route or multiple routes combined, with headways of five minutes or less during the peak periods.
2 (B)	Includes corridors with transit headways of between six and 15 minutes in peak periods.
3 (C)	Includes corridors with transit headways of 16 minutes or more at peak periods.
Source: <i>Draft Streets Types Plan</i> , Pasadena Department of Transportation, March 2013.	

For each facility level, a quarter-mile network distance buffer is calculated and the total service population (population + jobs) within the buffer are added.

The City can improve the measures of Transit Proximity and Quality by reducing headways on existing transit routes, by expanding transit routes to cover new areas, and by encouraging residential and commercial development to occur in areas with an already high-quality transit service.

#### 5. PEDESTRIAN ACCESIBILITY

The Proximity and Quality of Pedestrian Environment provides a measure of the average walkability in the TAZ surrounding Pasadena residents, based on a Pedestrian Accessibility metric. The Pedestrian proximity metric is a simple count of the number of land use types accessible to a Pasadena resident or employee in a given TAZ within a 5-minute walk. The ten categories of land uses are:

- Retail
- Personal Services
- Restaurant

- Entertainment
- Office (including private sector and government offices)
- Medical (including medical office and hospital uses)
- Culture (including churches, religious and other cultural uses)
- Park and Open Space
- School (including elementary and high schools)
- College

The resulting count of land use types is then assigned a letter grade from A to D based on the following structure:

- **A** – greater than or equal to 8 land use types
- **B** – greater than or equal to 5 land use types and less than 8 land use types
- **C** – greater than or equal to 2 land use types and less than 5 land use types
- **D** – greater than or equal to 0 land use types and less than 2 land use types

The City can improve the Resident and Employment Pedestrian Accessibility Scores by:

- Encouraging residential development in areas with high existing Pedestrian Accessibility Scores;
- Encouraging commercial development in areas with high existing Pedestrian Accessibility Scores; and
- Attracting mixed development and new land use types to increase the Pedestrian Accessibility metric values of other areas.