

# **City of Los Angeles VMT Calculator User Guide**

Los Angeles Department of Transportation (LADOT) and  
Los Angeles Department of City Planning (DCP)



February 2019

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# 1 User Guide Overview

This User Guide provides a step by step approach to using the City of Los Angeles VMT Calculator (VMT Calculator). With the tool you can enter various mixes and intensities of land use; select transportation demand management (TDM) strategies and mitigations; and review the resulting vehicle trips and vehicle miles traveled (VMT) generated by the project. The VMT Calculator also displays the relationship of the project's estimated VMT to local significance criteria.

An image of the VMT Calculator dashboard is included in **Appendix A. Section 2** of this guide explains how to enter details of your project's location and land use characteristics. **Section 3** documents how to include TDM strategies as part of your project or as mitigation. **Section 4** and **Appendix B** provide examples of the tool's reporting capabilities. These reports can be submitted to the Los Angeles Department of Transportation (LADOT) as part of the transportation analysis for your project. The User Agreement, which should be printed, signed, and submitted to LADOT along with a transportation analysis memorandum of understanding (MOU), is presented in **Section 5** and **Appendix C**.

The VMT Calculator can be accessed/downloaded at the following link: <http://ladot.lacity.org/what-we-do/planning-development-review/transportation-planning-policy>

## 1.1 Purpose

The VMT Calculator tool is specifically designed and intended to be used to develop project-specific daily household VMT per capita and daily work VMT per employee for land use development projects in the City of Los Angeles. It implements the methodologies and significance thresholds described in Section 2.2 of LADOT's *Transportation Assessment Guidelines* for residential and employment projects. A proposed project's daily trips should be estimated using the VMT Calculator tool or the most recent version of the ITE Trip Generation Manual as described in the Section 2.2.4 of the *Transportation Assessment Guidelines*. TDM strategies should not be considered for the purpose of screening.

Although the tool may be useful for other purposes, it is not specifically designed for the following:



- Calculate peak hour or peak period vehicle trips or VMT.
- Calculate person trips.
- Calculate truck trips.
- Distribute or assign trips.
- Estimate net changes in area VMT due to implementation of a retail project.
- Evaluate VMT impacts of land use plans (e.g., general plans, community plans, and specific plans).
- Evaluate VMT impacts of transportation improvement projects.

## 1.2 System Requirements

The VMT Calculator tool has been tested to run in Excel 2016 in Windows 7 or Windows 10.



## 2 Project Information

Project name, location, and land use characteristics should be added under 'Project Information'. This section is divided into three parts.

1. Project Description
2. Project Address
3. Land Use Information

### 2.1 Project Description

The Project Information section begins with a description of the project name and scenario. Use the boxes outlined in green below to enter your project name and the scenario you are testing.

## Project Information

<b>Project:</b>	Los Angeles City Hall	<a href="#" style="color: white; text-decoration: none;">WWW</a> 
<b>Scenario:</b>	Example	
<b>Address:</b>	200 N SPRING ST, 90012	

### 2.2 Project Address


Enter project address and click on the search icon in the box outlined in green below. The City, State, and Zip are not needed, since this tool is intended for projects solely within the City of Los Angeles boundaries. If the location is not found, try adding or removing geographic designations. For example, if your address is 12101 W Olympic Boulevard, but the search returns nothing, try removing 'W' and enter 12101 Olympic Boulevard. Note, the street type is required (i.e. Boulevard or Blvd, Avenue or Ave, Road or Rd).

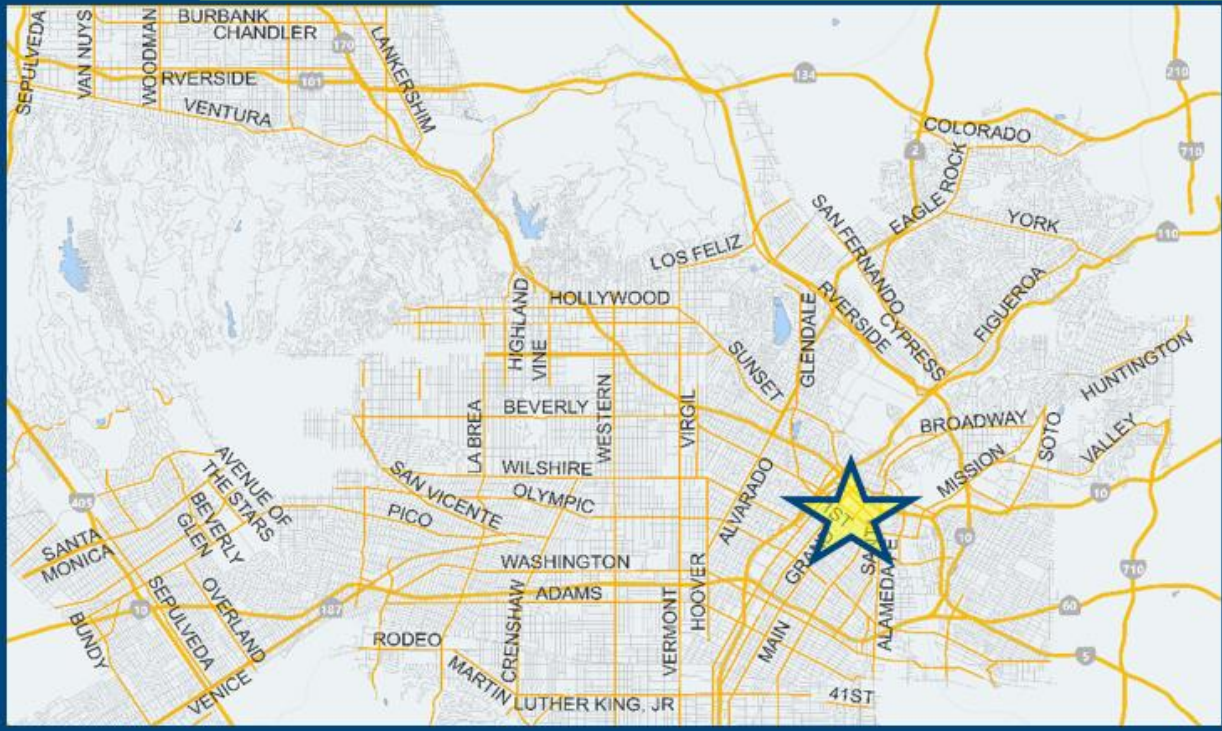


# Project Information

**Project:**

**Scenario:**  [WWW](#)

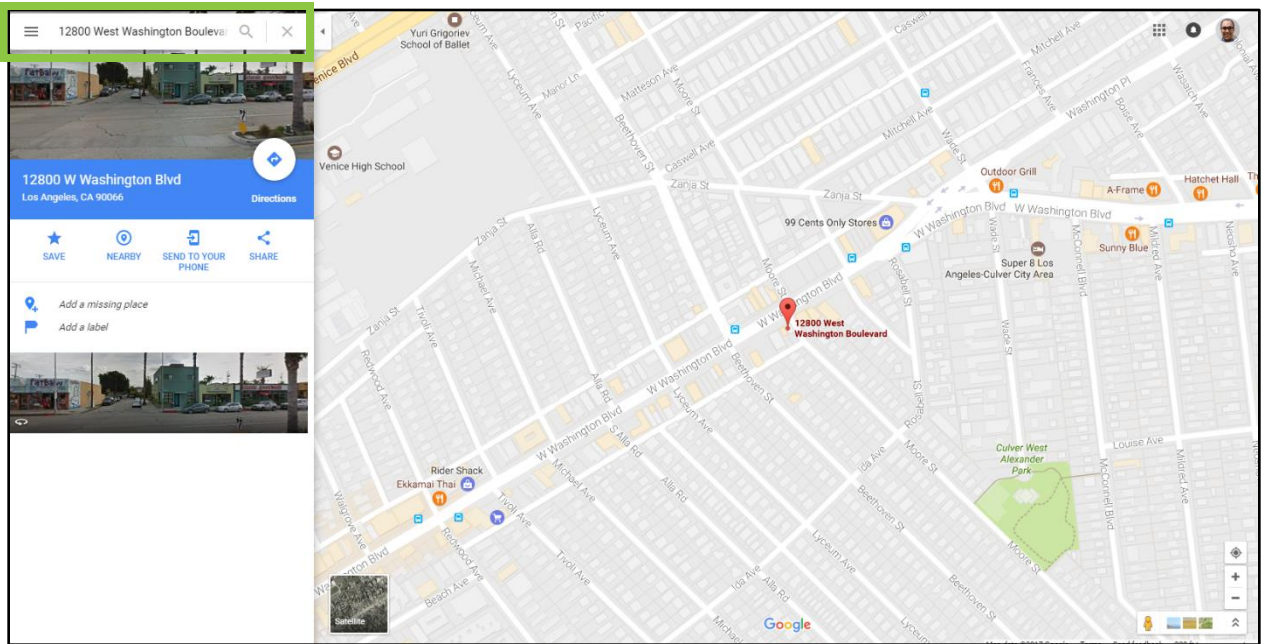
**Address:**  



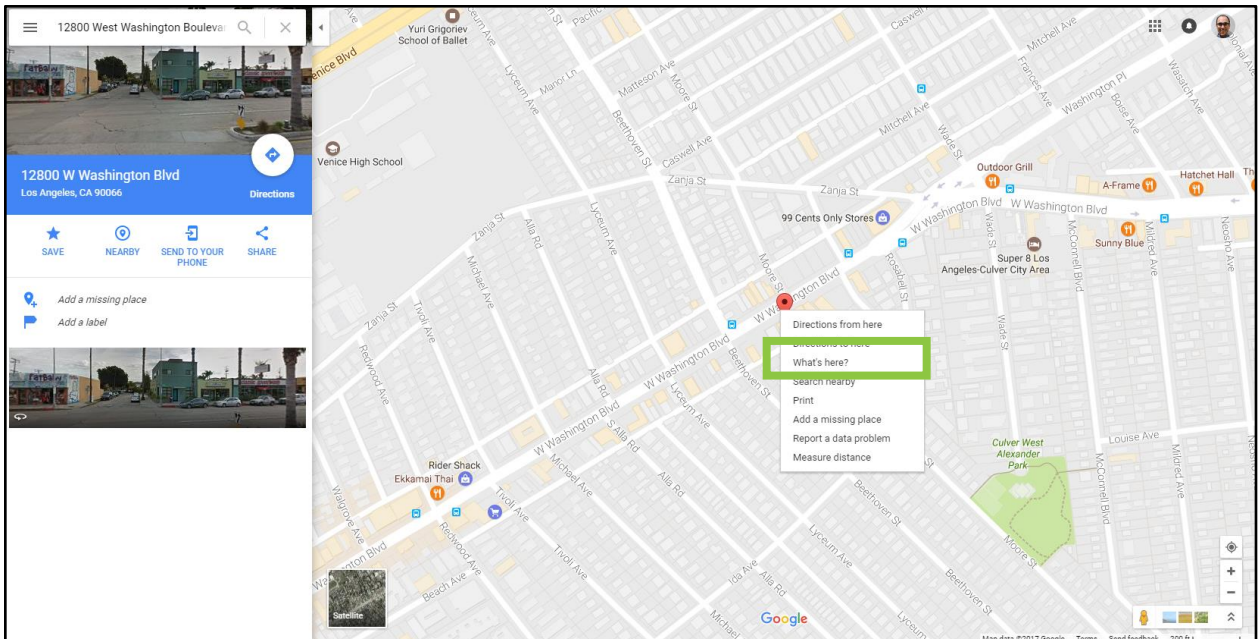
You may also use latitude and longitude if the address is not found or the pinned location is different from your development parcel. You can find these coordinates and enter them into the VMT calculator by following these three steps.

1. Navigate to [Google maps](#) and enter the address you would like to find as shown in the green box below.

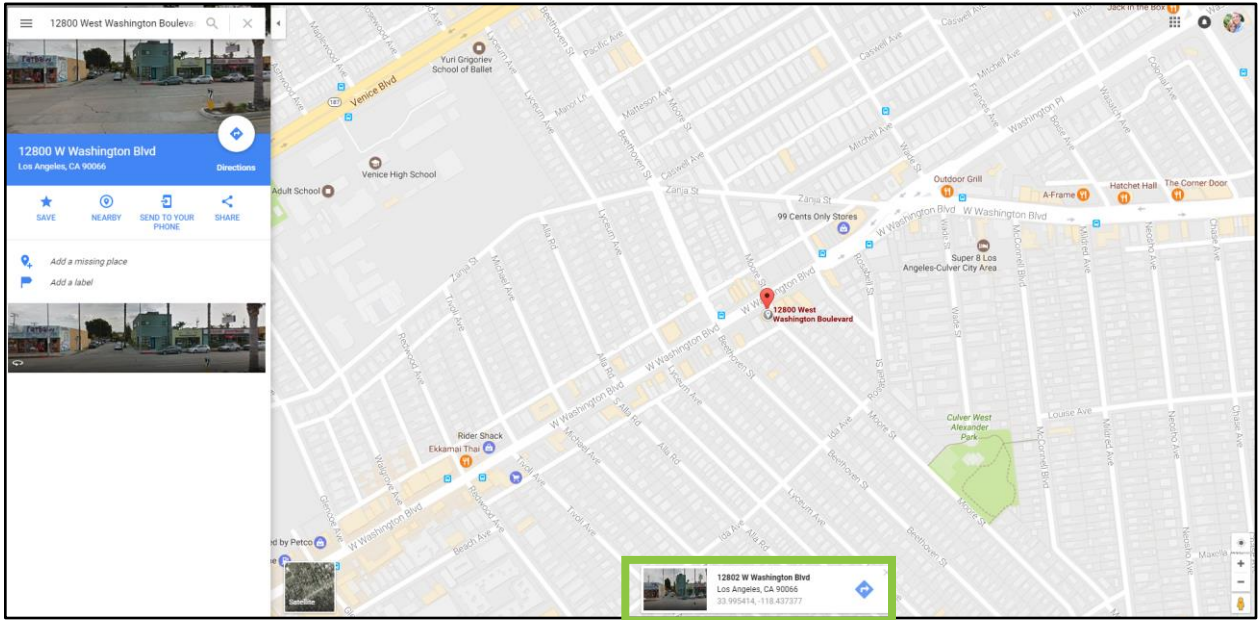




2. Right click on the red pin and select 'What's here?' as shown in the green box below.



- You will see an information box appear at the bottom of the screen, with the address and an image (if street view is available). Under the address will be approximate latitude and longitude coordinates. The first is latitude, the second is longitude. Enter these coordinates as <Latitude, Longitude> into the location dialog in the VMT project evaluation model.




The VMT Calculator requires internet access to display the mapped location. If internet access is unavailable, you can still use the calculator in offline mode and use the latitude, longitude method for analysis. To access the offline mode, click on the 'www' icon located in the green box below.





## Project Information

<b>Project:</b>	<input type="text" value="Los Angeles City Hall"/>	
<b>Scenario:</b>	<input type="text" value="Example"/>	
<b>Address:</b>	<input type="text" value="34.053737, -118.242775"/>	

The tool is currently in offline mode.

Please use the <Latitude, Longitude> address method to indicate your project site location. eg.) 34.053755, -118.2432042

Remember to click on the search magnifier icon after entering the latitude and longitude.

## 2.3 Land Use Information

The VMT Calculator has several predefined land uses that can be used to create your project land use scenario. To add a land use, follow these three steps:

1. Select the land use type from the 'Land Use Type' drop down menu.
2. Enter the land use quantity in the 'Value Box' using the units that appear to the right of the drop down menu.
3. Click the + button to add the land use to your project.
4. If a land use in your project is not predefined in the tool, you may select the box at the bottom to enter a custom land use.



Land Use Type	Value	Unit	
1 Office   General Office	2 856	ksf	3 +
Office   General Office	856	ksf	
4 <input type="checkbox"/> Click here to add a single custom land use type (will be included in the above list)			

You may enter a custom land use by checking the box outlined in green, numbered 4 above. Once selected, the pop-up below should appear. To include a custom land use, follow the steps below and outlined in the image below.

1. Enter the custom land use name.
2. Select if the land use is retail or non-retail.
3. Enter the number of residents and employees the expected land use will contain.
4. Enter the total number of vehicle trips the land use is expected to generate.
5. Enter the trip purpose splits for the land use. The sum of all trip purpose splits must total 100%. Trip purpose splits for land uses provided in the tool can be found in the *City of Los Angeles VMT Calculator Documentation*.




Other Land Use



1	Land Use Name	<input type="text"/>																				
2		<input type="radio"/> Retail <input type="radio"/> Non-retail																				
3	Residents	<input type="text"/>																				
	Employees	<input type="text"/>																				
4	Total Daily Trips	<input type="text"/>																				
5																						
		<table border="1"><thead><tr><th></th><th>Production</th><th></th><th>Attraction</th><th></th></tr></thead><tbody><tr><td>HBW Split</td><td><input type="text"/></td><td>%</td><td><input type="text"/></td><td>%</td></tr><tr><td>HBO Split</td><td><input type="text"/></td><td>%</td><td><input type="text"/></td><td>%</td></tr><tr><td>NHB Split</td><td><input type="text"/></td><td>%</td><td><input type="text"/></td><td>%</td></tr></tbody></table>		Production		Attraction		HBW Split	<input type="text"/>	%	<input type="text"/>	%	HBO Split	<input type="text"/>	%	<input type="text"/>	%	NHB Split	<input type="text"/>	%	<input type="text"/>	%
	Production		Attraction																			
HBW Split	<input type="text"/>	%	<input type="text"/>	%																		
HBO Split	<input type="text"/>	%	<input type="text"/>	%																		
NHB Split	<input type="text"/>	%	<input type="text"/>	%																		
		Production + Attraction total must equal 100%																				
<input type="button" value="Save Other Trips Input"/>																						



To remove a land use from your project, select the land use and click the red X as shown in the green box below.

Land Use Type	Value	Unit	
Office   General Office	856	ksf	
Office   General Office	856	ksf	

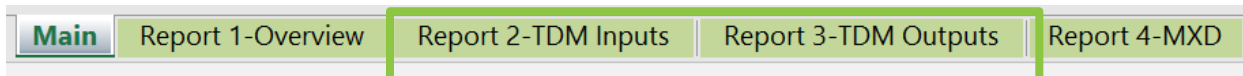
Click here to add a single custom land use type (will be included in the above list)



### 3 TDM Strategies

There are a variety of transportation demand management (TDM) strategies included in the VMT Calculator. These strategies may be applied as part of the project or as mitigation. There are three general steps to add TDM strategies to your project as listed below.

1. The first step is to select a strategy to be part of your project. Click on the appropriate parent strategy to expand the corresponding TDM strategies that are part of the parent strategy. The parent strategies are identified as A-G as follows:
  - A. Parking
  - B. Transit
  - C. Education & Encouragement
  - D. Commute Trip Reductions
  - E. Shared Mobility
  - F. Bicycle Infrastructure
  - G. Neighborhood Enhancement
  
2. The second step is to select if the desired TDM strategy is part of your project or is a mitigation strategy. This can be identified by selecting the corresponding box for the TDM strategy. If the strategy is selected as part of the project, it will be carried over in the mitigation calculations and will not be able to be selected twice.
  
3. The third step to apply a TDM strategy is to enter the quantity and intensity of the TDM strategy. More information on how the TDM strategies work can be found in the *City of Los Angeles VMT Calculator Documentation*. Users may also view the report tabs at the bottom of the tool to see all of the TDM strategies selected for the project (Report 2), and to understand how VMT reductions are assigned by trip purpose to the project's TDM strategies.



# TDM Strategies

Select each section to show individual strategies

Use  to denote if the TDM strategy is proposed part of the project or is a mitigation strategy

<b>A</b>	<b>Parking</b>		<b>1</b>
<b>Reduce Parking Supply</b>	<b>2</b>	<input type="text" value="100"/> city code parking provision for the project site <b>3</b> <input type="text" value="74"/> actual parking provision for the project site	
<input type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation			
<b>Unbundle Parking</b>		<input type="text" value="225"/> monthly parking cost (dollar) for the project site	
<input type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation			
<b>Parking Cash-Out</b>		<input type="text" value="50"/> percent of employees eligible	
<input type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation			
<b>Price Workplace Parking</b>		<input type="text" value="6.00"/> <input type="text" value=""/> daily parking charge (dollar)	
<input type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation		<input type="text" value="50"/> percent of employees subject to priced parking	
<b>Residential Area Parking Permits</b>		<input type="text" value="200"/> <input type="text" value=""/> cost (dollar) of annual permit	
<input type="checkbox"/> Proposed Prj <input type="checkbox"/> Mitigation			
<b>B</b>	<b>Transit</b>		<b>1</b>
<b>C</b>	<b>Education &amp; Encouragement</b>		
<b>D</b>	<b>Commute Trip Reductions</b>		
<b>E</b>	<b>Shared Mobility</b>		
<b>F</b>	<b>Bicycle Infrastructure</b>		
<b>G</b>	<b>Neighborhood Enhancement</b>		



## 4 Reporting

### 4.1 Reporting Metrics

The VMT Calculator analyzes proposed projects dynamically within the tool. The resulting reporting provides details on the proposed project under the following two scenarios:

1. Proposed project **without** mitigation strategies
2. Proposed project **with** mitigation strategies

Key project metrics of interest to LADOT are reported for both scenarios. These metrics include the following:

- Daily Vehicle Trips
- Daily VMT
- Household VMT per Capita: This is the total Home-Based VMT productions divided by the population of the project
- Work VMT per Employee: This is the total Home-Based Work Attractions divided by the employment of the project
- Household Significance Threshold: The Household VMT per Capita is measured against threshold for the Area Planning Commission (APC) in which the project is located to determine if the project has a significant Household Impact
- Work Significance Threshold: The Work VMT per Employee is measured against the APC threshold to determine if the project has a significant Work Impact



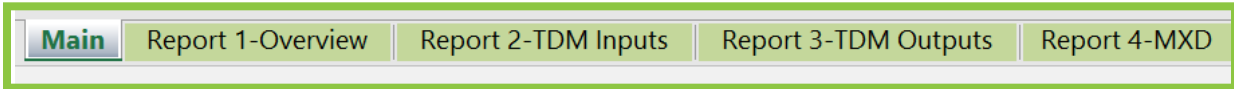
<b>Analysis Results</b>	
<b>Proposed Project</b> <sup>1</sup>	<b>With Mitigation</b> <sup>2</sup>
<b>4,376</b> Daily Vehicle Trips	<b>3,829</b> Daily Vehicle Trips
<b>35,590</b> Daily VMT	<b>31,141</b> Daily VMT
<b>0.0</b> Household VMT per Capita	<b>0.0</b> Household VMT per Capita
<b>6.9</b> Work VMT per Employee	<b>6.0</b> Work VMT per Employee
<b>Significant VMT Impact?</b>	
<b>Household: No</b> Threshold = 6.0 15% Below APC	<b>Household: No</b> Threshold = 6.0 15% Below APC
<b>Work: No</b> Threshold = 7.6 15% Below APC	<b>Work: No</b> Threshold = 7.6 15% Below APC

## 4.2 Reporting Tabs

In addition to the live reporting, the VMT Calculator also provides a series of print ready reports. These reports, accessed using the tabs at the bottom of the tool window, allow the user to review the major project inputs and outputs. Additionally, the reports provide detailed information on the TDM mitigation strategies and mixed-use (MXD) trip adjustments.







Examples of these reports are provided in **Appendix B**. The four reports are:

1. **Overview:** Documents the inputs and outputs of the tool for the specified project. This includes the project land use(s), the estimated total employees and population of the project, and the summary statistics mentioned above.
2. **TDM Inputs:** Provides a detailed breakdown of the TDM strategies that were selected for the project. The user interface for the tool does not allow for the user to see all options at once. This report provides a complete summary of the TDM inputs for the project. These inputs are tabulated for both the proposed project and proposed project with mitigations.
3. **TDM Outputs:** Reports the VMT reductions associated with the TDM strategies selected. These reductions are documented for both the proposed project and proposed project with mitigations. The VMT reductions are also reported by trip purpose. The individual TDM reductions are combined and capped for the maximum TDM effect associated with the project site land use context (e.g. urban, suburban).
4. **MXD:** Reports the VMT reductions associated with the mix of land uses in the project as well as the demographics and built form of the surrounding area. The MXD tab reports the VMT reductions by trip purpose for both the proposed project and proposed project with mitigations.



## 5 User Agreement

The VMT Calculator User Agreement is included in a tab within the Calculator. The User Agreement should be printed, signed, and submitted to LADOT along with the draft transportation memorandum of understanding (MOU). A copy of the User Agreement is included in **Appendix C**.



# APPENDIX A

## VMT CALCULATOR DASHBOARD



# CITY OF LOS ANGELES VMT CALCULATOR Version 1.0

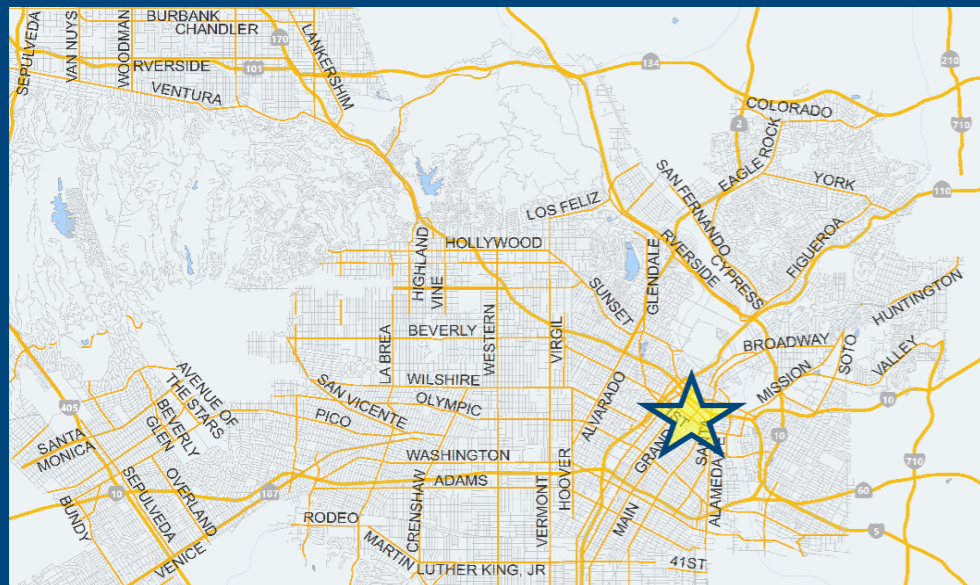


## Project Information

Project:

Scenario:  [WWW](#)

Address:



Land Use Type	Value	Unit	
Office   General Office	100	ksf	
Housing   Multi-Family	300	DU	
Retail   General Retail	20	ksf	
Retail   High-Turnover Sit-Down Restaurant	20	ksf	
Office   General Office	100	ksf	

Click here to add a single custom land use type (will be included in the above list)

## TDM Strategies

Select each section to show individual strategies  
Use  to denote if the TDM strategy is proposed part of the project or is a mitigation strategy

### A Parking

Reduce Parking Supply  city code parking provision for the project site  
 Proposed Prj  Mitigation  actual parking provision for the project site

Unbundle Parking  Proposed Prj  Mitigation  monthly parking cost (dollar) for the project site

Parking Cash-Out  Proposed Prj  Mitigation  percent of employees eligible

Price Workplace Parking  Proposed Prj  Mitigation  daily parking charge (dollar)  
 Proposed Prj  Mitigation  percent of employees subject to priced parking

Residential Area Parking Permits  Proposed Prj  Mitigation  cost (dollar) of annual permit

- B** Transit
- C** Education & Encouragement
- D** Commute Trip Reductions
- E** Shared Mobility
- F** Bicycle Infrastructure
- G** Neighborhood Enhancement

## Analysis Results

Proposed Project	With Mitigation
<b>2,924</b> Daily Vehicle Trips	<b>2,592</b> Daily Vehicle Trips
<b>21,368</b> Daily VMT	<b>18,972</b> Daily VMT
<b>5.5</b> Household VMT per Capita	<b>4.3</b> Household VMT per Capita
<b>8.5</b> Work VMT per Employee	<b>6.8</b> Work VMT per Employee

Significant VMT Impact?	
<b>Household: No</b> Threshold = 6.0 15% Below APC	<b>Household: No</b> Threshold = 6.0 15% Below APC
<b>Work: Yes</b> Threshold = 7.6 15% Below APC	<b>Work: No</b> Threshold = 7.6 15% Below APC



# **APPENDIX B**

## **VMT CALCULATOR SAMPLE REPORTS**



# CITY OF LOS ANGELES VMT CALCULATOR

## Report 1: Project & Analysis Overview

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

Project Information			
	Land Use Type	Value	Units
<b>Housing</b>	Single Family	0	DU
	Multi Family	300	DU
	Townhouse	0	DU
	Hotel	0	Rooms
	Motel	0	Rooms
<i>Affordable Housing</i>	Family	0	DU
	Senior	0	DU
	Special Needs	0	DU
	Permanent Supportive	0	DU
<b>Retail</b>	General Retail	20.000	ksf
	Furniture Store	0.000	ksf
	Pharmacy/Drugstore	0.000	ksf
	Supermarket	0.000	ksf
	Bank	0.000	ksf
	Health Club	0.000	ksf
	High-Turnover Sit-Down Restaurant	20.000	ksf
	Fast-Food Restaurant	0.000	ksf
	Quality Restaurant	0.000	ksf
	Auto Repair	0.000	ksf
	Home Improvement Superstore	0.000	ksf
	Free-Standing Discount	0.000	ksf
	Movie Theater	0	Seats
	<b>Office</b>	General Office	100
Medical Office		0.000	ksf
<i>Industrial</i>	Light Industrial	0.000	ksf
	Manufacturing	0.000	ksf
	Warehousing/Self-Storage	0.000	ksf
<i>School</i>	University	0	Students
	High School	0	Students
<i>Other</i>		0	Trips

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 1: Project & Analysis Overview

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

<b>Analysis Results</b>			
<i>Total Employees: 520</i>			
<i>Total Population: 676</i>			
<b>Proposed Project</b>		<b>With Mitigation</b>	
2,924	Daily Vehicle Trips	2,592	Daily Vehicle Trips
21,368	Daily VMT	18,972	Daily VMT
5.5	Household VMT per Capita	4.3	Household VMT per Capita
8.5	Work VMT per Employee	6.8	Work VMT per Employee
<b>Significant VMT Impact?</b>			
<i>APC: Central</i>			
Impact Threshold: 15% Below APC Average			
Household = 6.0			
Work = 7.6			
<b>Proposed Project</b>		<b>With Mitigation</b>	
<i>VMT Threshold</i>	<i>Impact</i>	<i>VMT Threshold</i>	<i>Impact</i>
<i>Household &gt; 6.0</i>	No	<i>Household &gt; 6.0</i>	No
<i>Work &gt; 7.6</i>	Yes	<i>Work &gt; 7.6</i>	No

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 2: TDM Inputs

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

TDM Strategy Inputs				
Strategy Type	Description	Proposed Project	Mitigations	
<b>Parking</b>	<i>City code parking provision (spaces)</i>	0	0	
	<i>Reduce parking supply</i>			
	<i>Actual parking provision (spaces)</i>	0	0	
	Unbundle parking	Monthly cost for parking (\$)	\$0	\$150
	Parking cash-out	Employees eligible (%)	0%	25%
	Price workplace parking	Daily parking charge (\$)	\$0.00	\$6.00
		Employees subject to priced parking (%)	0%	25%
<i>Residential area parking permits</i>	<i>Cost of annual permit (\$)</i>	\$0	\$0	

(cont. on following page)



# CITY OF LOS ANGELES VMT CALCULATOR

## Report 2: TDM Inputs

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

TDM Strategy Inputs, Cont.			
Strategy Type	Description	Proposed Project	Mitigations
<b>Transit</b>	Reduce transit headways	Reduction in headways (increase in frequency) (%)	0%
		Existing transit mode share (as a percent of total daily trips) (%)	0%
		Lines within project site improved (<50%, >=50%)	0
	Implement neighborhood shuttle	Degree of implementation (low, medium, high)	0
		Employees and residents eligible (%)	0%
	Transit subsidies	Employees and residents eligible (%)	0%
	Amount of transit subsidy per passenger (daily equivalent) (\$)	\$0.00	\$0.00
<b>Education &amp; Encouragement</b>	Voluntary travel behavior change program	Employees and residents participating (%)	50%
	Promotions and marketing	Employees and residents participating (%)	0%
(cont. on following page)			

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 2: TDM Inputs

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

TDM Strategy Inputs, Cont.				
	Strategy Type	Description	Proposed Project	Mitigations
<b>Commuter Trip Reductions</b>	Required commute trip reduction program	Employees participating (%)	0%	50%
	Employer sponsored vanpool or shuttle	Degree of implementation (low, medium, high)	0	0
		Employees eligible (%)	0%	0%
	Ride-share program	Employer size (small, medium, large)	0	0
		Employees eligible (%)	0%	0%
<b>Shared Mobility</b>	Car share	Car share project setting (Urban, Suburban, All Other)	0	Urban + Comprehensive Transit
	Bike share	Within 600 feet of existing bike share station - OR- implementing new bike share station (Yes/No)	0	0
		School carpool program	Level of implementation (Low, Medium, High)	0
(cont. on following page)				

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 2: TDM Inputs

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

TDM Strategy Inputs, Cont.				
	Strategy Type	Description	Proposed Project	Mitigations
<b>Bicycle Infrastructure</b>	Implement/Improve on-street bicycle facility	Provide bicycle facility along site (Yes/No)	0	0
	Bike parking per LAMC	Meets City Bike Parking Code (Yes/No)	Yes	Yes
	Include secure bike parking and showers	Includes indoor bike parking/lockers, showers, & repair station (Yes/No)	Yes	Yes
<b>Neighborhood Enhancement</b>	Traffic calming improvements	Streets with traffic calming improvements (%) Intersections with traffic calming improvements (%) Included (within project and connecting off-site/within project only)	0%	0%
			0%	0%
	Pedestrian network improvements		0	0

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 3: TDM Outputs

Date: December 4, 2018  
 Project Name: Sample Project  
 Project Scenario: Sample  
 Project Address: 200 N SPRING ST, 90012



Version 1.0

### TDM Adjustments by Trip Purpose & Strategy

Place type: Urban

		Home Based Work Production		Home Based Work Attraction		Home Based Other Production		Home Based Other Attraction		Non-Home Based Other Production		Non-Home Based Other Attraction		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
<b>Parking</b>	Reduce parking supply	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Unbundle parking	0%	18%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	
	Parking cash-out	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	
	Price workplace parking	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	
	Residential area parking permits	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
<b>Transit</b>	Reduce transit headways	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Appendix B, Transit sections 1 - 3
	Implement neighborhood shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Transit subsidies	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<b>Education &amp; Encouragement</b>	Voluntary travel behavior change program	0%	4%	0%	4%	0%	4%	0%	4%	0%	4%	0%	4%	Appendix B, Education & Encouragement sections 1 - 2
	Promotions and marketing	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<b>Commute Trip Reductions</b>	Required commute trip reduction program	0%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%	0%	Appendix B, Commute Trip Reductions sections 1 - 4
	Employer sponsored vanpool or shuttle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Ride-share program	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
<b>Shared Mobility</b>	Car-share	0.0%	1.0%	0.0%	1.0%	0.0%	1.0%	0.0%	1.0%	0.0%	1.0%	0.0%	1.0%	Appendix B, Shared Mobility sections 1 - 3
	Bike share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	School carpool program	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 3: TDM Outputs

Date: December 4, 2018  
 Project Name: Sample Project  
 Project Scenario: Sample  
 Project Address: 200 N SPRING ST, 90012



Version 1.0

### TDM Adjustments by Trip Purpose & Strategy, Cont.

Place type: Urban

		<i>Home Based Work Production</i>		<i>Home Based Work Attraction</i>		<i>Home Based Other Production</i>		<i>Home Based Other Attraction</i>		<i>Non-Home Based Other Production</i>		<i>Non-Home Based Other Attraction</i>		Source
		Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	
		<b>Bicycle Infrastructure</b>	Implement/Improve on-street bicycle facility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Bike parking per LAMC	0.6%		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
Include secure bike parking and showers	0.6%		0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	
<b>Neighborhood Enhancement</b>	Traffic calming improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	Appendix B, Neighborhood Enhancement sections 1 - 2
	Pedestrian network improvements	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

### Final Combined & Maximum TDM Effect

	<i>Home Based Work Production</i>		<i>Home Based Work Attraction</i>		<i>Home Based Other Production</i>		<i>Home Based Other Attraction</i>		<i>Non-Home Based Other Production</i>		<i>Non-Home Based Other Attraction</i>	
	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated	Proposed	Mitigated
	<b>COMBINED TOTAL</b>	1%	23%	1%	22%	1%	23%	1%	6%	1%	6%	1%
<b>MAX. TDM EFFECT</b>	1%	23%	1%	22%	1%	23%	1%	6%	1%	6%	1%	6%

$$= \text{Minimum}(X\%, 1 - (1-[a]) * (1-[b]))$$

where: X%=

	<i>urban center</i>	75%
<b>PLACE</b>	urban	75%
<b>TYPE</b>	<i>compact infill</i>	40%
<b>MAX:</b>	<i>suburban center</i>	20%
	<i>suburban</i>	15%

# CITY OF LOS ANGELES VMT CALCULATOR

## Report 4: MXD Methodology

Date: December 4, 2018

Project Name: Sample Project

Project Scenario: Sample

Project Address: 200 N SPRING ST, 90012



Version 1.0

### MXD Methodology - Existing Without TDM

	Unadjusted Trips	MXD Adjustment	MXD Trips	Average Trip Length	Unadjusted VMT	MXD VMT
Home Based Work Production	406	-36.0%	260	7.0	2,863	1,840
Home Based Other Production	1,088	-64.0%	392	4.9	5,356	1,931
Non-Home Based Other Production	687	-20.3%	547	8.2	5,619	4,483
Home-Based Work Attraction	754	-33.9%	499	9.0	6,790	4,497
Home-Based Other Attraction	1,734	-63.8%	627	5.9	10,254	3,711
Non-Home Based Other Attraction	796	-20.0%	636	8.1	6,468	5,175

### MXD Methodology with TDM Measures

	<i>Proposed Project</i>			<i>Project with Mitigation Measures</i>		
	TDM Adjustment	Project Trips	Project VMT	TDM Adjustment	Mitigated Trips	Mitigated VMT
Home Based Work Production	-1.2%	257	1,817	-23.0%	200	1,416
Home Based Other Production	-1.2%	387	1,907	-23.0%	301	1,486
Non-Home Based Other Production	-1.2%	541	4,427	-6.1%	514	4,208
Home-Based Work Attraction	-1.2%	492	4,441	-21.7%	391	3,522
Home-Based Other Attraction	-1.2%	619	3,665	-6.1%	588	3,483
Non-Home Based Other Attraction	-1.2%	628	5,111	-6.1%	597	4,857

### MXD VMT Methodology Per Capita & Per Employee

Total Population: 676

Total Employees: 520

APC: Central

	<i>Proposed Project</i>	<i>Project with Mitigation Measures</i>
<i>Total Home Based Production VMT</i>	<b>3,724</b>	<b>2,902</b>
<i>Total Home Based Work Attraction VMT</i>	<b>4,441</b>	<b>3,522</b>
<i>Total Home Based VMT Per Capita</i>	<b>5.5</b>	<b>4.3</b>
<i>Total Work Based VMT Per Employee</i>	<b>8.5</b>	<b>6.8</b>

# **APPENDIX C**

## **VMT CALCULATOR USER AGREEMENT**



## VMT Calculator User Agreement

The Los Angeles Department of Transportation (LADOT), in partnership with the Department of City Planning and Fehr & Peers, has developed the City of Los Angeles Vehicle Miles Traveled (VMT) Calculator to estimate project-specific daily household VMT per capita and daily work VMT per employee for land use development projects. This application, the VMT Calculator, has been provided to You, the User, to assess vehicle miles traveled (VMT) outcomes of land use projects within the City of Los Angeles. The term “City” as used below shall refer to the City of Los Angeles. The terms “City” and “Fehr & Peers” as used below shall include their respective affiliates, subconsultants, employees, and representatives.

The City is pleased to be able to provide this information to the public. The City believes that the public is most effectively served when they are provided access to the technical tools that inform the public review process of private and public land use investments. However, in using the VMT Calculator, You agree to be bound by this VMT Calculator User Agreement (this Agreement).

**VMT Calculator Application for the City of Los Angeles.** The City’s consultant calibrated the VMT Calculator’s parameters in 2018 to estimate travel patterns of locations in the City, and validated those outcomes against empirical data. However, this calibration process is limited to locations within the City, and practitioners applying the VMT Calculator outside of the City boundaries should not apply these estimates without further calibration and validation of travel patterns to verify the VMT Calculator’s accuracy in estimating VMT in such other locations.

**Limited License to Use.** This Agreement gives You a limited, non-transferrable, non-assignable, and non-exclusive license to use and execute a copy of the VMT Calculator on a computer system owned, leased or otherwise controlled by You in Your own facilities, as set out below, provided You do not use the VMT Calculator in an unauthorized manner, and that You do not republish, copy, distribute, reverse-engineer, modify, decompile, disassemble, transfer, or sell any part of the VMT Calculator, and provided that You know and follow the terms of this Agreement. Your failure to follow the terms of this Agreement shall automatically terminate this license and Your right to use the VMT Calculator.

**Ownership.** You understand and acknowledge that the City owns the VMT Calculator, and shall continue to own it through Your use of it, and that no transfer of ownership of any kind is intended in allowing You to use the VMT Calculator.

**Warranty Disclaimer.** In spite of the efforts of the City and Fehr & Peers, some information on the VMT Calculator may not be accurate. The VMT Calculator, OUTPUTS AND ASSOCIATED DATA ARE PROVIDED “as is” WITHOUT WARRANTY OF ANY KIND, whether expressed, implied, statutory, or otherwise including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

**Limitation of Liability.** It is understood that the VMT Calculator is provided without charge. Neither the City nor Fehr & Peers can be responsible or liable for any information derived from its use, or for any delays, inaccuracies, incompleteness, errors or omissions arising out of your use of the VMT Calculator or with respect to the material contained in the VMT Calculator. You understand and agree that Your sole remedy against the City or Fehr & Peers for loss or damage caused by any defect or failure of the



VMT Calculator, regardless of the form of action, whether in contract, tort, including negligence, strict liability or otherwise, shall be the repair or replacement of the VMT Calculator to the extent feasible as determined solely by the City. In no event shall the City or Fehr & Peers be responsible to You or anyone else for, or have liability for any special, indirect, incidental or consequential damages (including, without limitation, damages for loss of business profits or changes to businesses costs) or lost data or downtime, however caused, and on any theory of liability from the use of, or the inability to use, the VMT Calculator, whether the data, and/or formulas contained in the VMT Calculator are provided by the City or Fehr & Peers, or another third party, even if the City or Fehr & Peers have been advised of the possibility of such damages.

This Agreement and License shall be governed by the laws of the State of California without regard to their conflicts of law provisions, and shall be effective as of the date set forth below and, unless terminated in accordance with the above or extended by written amendment to this Agreement, shall terminate on the earlier of the date that You are not making use of the VMT Calculator or one year after the beginning of Your use of the VMT Calculator.

By using the VMT Calculator, You hereby waive and release all claims, responsibilities, liabilities, actions, damages, costs, and losses, known and unknown, against the City and Fehr & Peers for Your use of the VMT Calculator.

Before making decisions using the information provided in this application, contact City LADOT staff to confirm the validity of the data provided.

Print and sign below, and submit to LADOT along with the transportation assessment Memorandum of Understanding (MOU).

You, the User	
By:	_____
Print Name:	_____
Title:	_____
Company:	_____
Address:	_____
Phone:	_____
Email Address:	_____
Date:	_____