»TREDLiteVMT

QUICK START GUIDE

TREDLite VMT Riverside

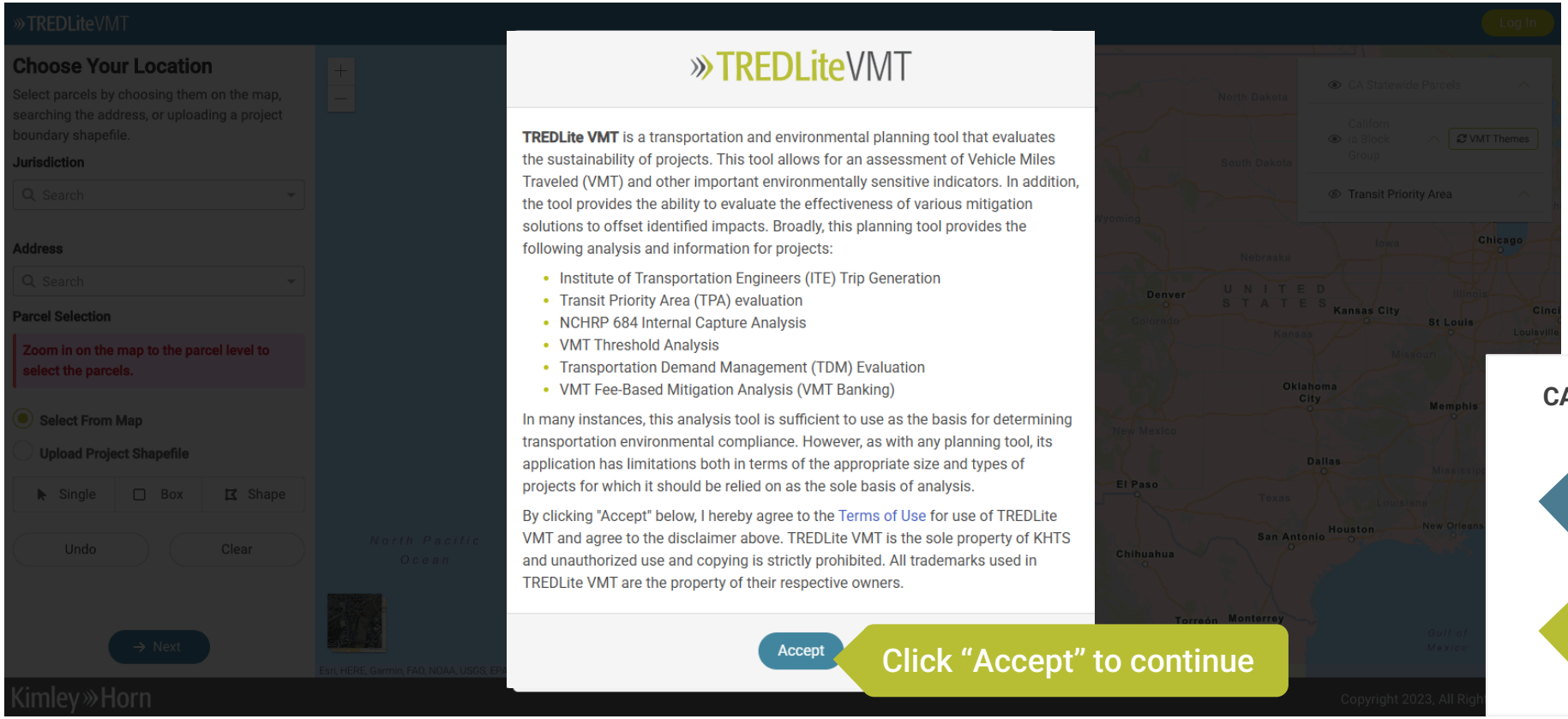
A Kimley-Horn Sustainable Transportation Solution

This help file describes the main concepts, vocabulary, and application functionality.

Getting Started

TREDLite (windows.net)

Click this link to launch the demo site from your browser



CALLOUT KEY

Callouts in **blue** highlight key instructions or considerations

Callouts in **green** provide general guidance or instructions

Few things to note:

- TREDLite relies on travel demand model data (currently RIVCOM 4.0.1) that has been processed by Kimley-Horn
- The City of Riverside’s thresholds are based on the City’s guidance, currently set at the citywide average VMT/capita and VMT/employee for respective land uses
- TREDLite will not be able to calculate VMT in all locations due to a lack of data in the RIVCOM model for certain land uses in the selected location

Choose Your Location

Select parcels by choosing them on the map, searching the address, or uploading a project boundary shapefile.

Jurisdiction

Riverside

Address

Search

Parcel Selection

Zoom in on the map to the parcel level to select the parcels.

Select From Map

Upload Project Shapefile

Single | Box | Shape

Undo | Clear

→ Next

Click "Next" to proceed.

Option to either enter project address or select parcel using the toggle below

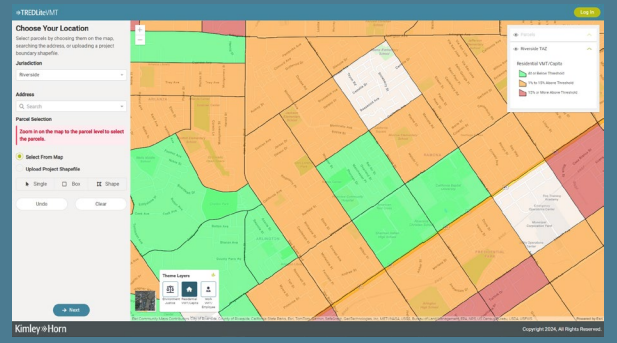
Note: you must zoom in *(use mouse scroll wheel)* to display the parcel layer to see and select an individual parcel

Click "Single" to pick a specific parcel

Theme Layers

Note: The Transit Priority Area (TPA) indicates areas that are within a half-mile of a high-quality transit corridor as defined by WRCOG. This layer is used as a screening criteria to presume a less than significant impact per the City's guidelines.

Note: Activate colored/hatched theme maps, showing VMT/Capita or VMT/Employee based on thresholds established for the jurisdiction and/or the location of disadvantaged communities.



Parcels

Riverside TAZ

Riverside TPA

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Project Information

Project Name

Enter a project name

Enter a project name to proceed.
Note: that this is a required input

Analysis Year

Base Year

Select analysis scenario (Base Year/Future Year)

ITE Trip Gen Land Use

210 - Single-Family Detached Housing

Select project land uses
(up to 10 land uses can be added)

Land Use Quantity

Enter land use quantity

Add Land Use

Click to add project land uses

ITE Trip Gen Land Use	Quantity	Units	
210 - Single-Family Detached Housing	100	Dwelling Unit(s)	
710 - General Office Building	50	1,000 Sq Ft	

Note: VMT calculations are based on model data from the RIVCOM travel demand model at the TAZ level. ITE trip generation data is not used for any VMT analysis but is merely provided to assist the user with screening determinations and to better match a project's land use type. ITE land use types are matched with RIVCOM land use categories to perform the VMT analysis where appropriate.

← Back

→ Next

Click "Next" to proceed

Parcels

Riverside TAZ

Riverside TPA

Theme Layers

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Internal Capture

Internal Capture Method:

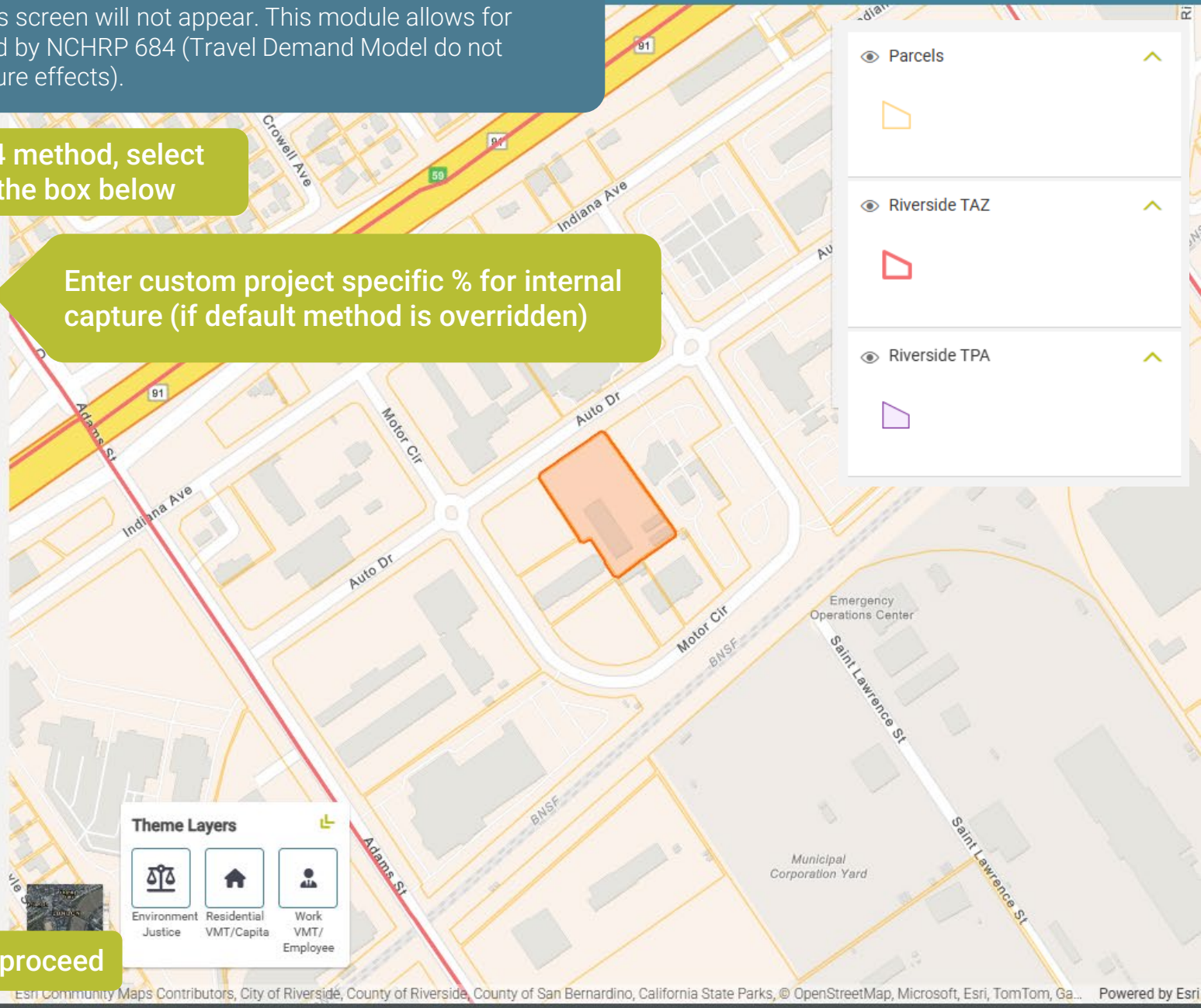
- (●) NCHRP 684
- ( ) Custom

Note: If only a single land use is entered this screen will not appear. This module allows for analysis of internal capture as implemented by NCHRP 684 (Travel Demand Model do not typically address site specific internal capture effects).

If desired to override the default NCHRP 684 method, select "Custom" to enter Internal Capture Rates in the box below

Land Use	Daily Trips	Internal Trips	Internal Capture %
210 - Single-Family Detached Housing	943	19	2.01
710 - General Office Building	542	19	3.51

Enter custom project specific % for internal capture (if default method is overridden)



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Click "Next" to proceed

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Presumptions of Less Than Significant

Check the checkbox if you want the project site to be consid
area. Provide an explanation if overriding the analysis.

Note: This checkbox will be selected automatically on this screen if the parcel selected is fully within the TPA layer. If selected by the user, an explanation for the override must be provided.

Area	Yes/No	Coverage (%)	Explanation For Override
Within 1/2 mile of transit facility	☐	0.0	

Enter reason for overriding whether the parcel is within the TPA here (if the default selection is overridden)

Does the project have a Floor-to-Area Ratio (FAR) of less than 0.75?

Is more parking provided than the minimum amount required?

Has the City determined that the project is inconsistent with the Sustainable Communities Strategy (SCS)?

Does the project replace affordable housing with market rate housing?

Answering 'Yes' to any of these 4 questions will result in the TPA screening not to apply

Project Type Screening

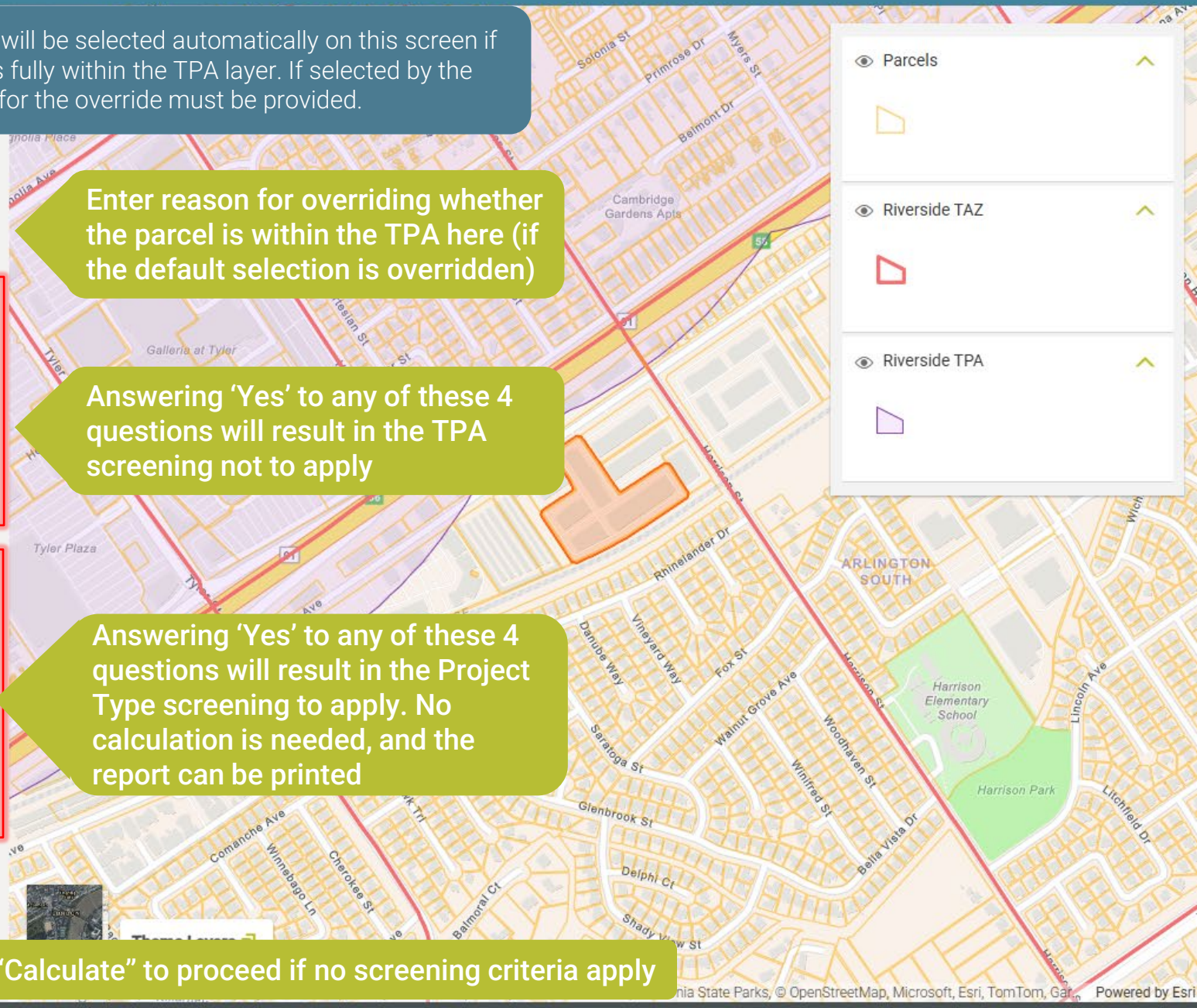
Is the project a local-serving K-12 school, local park, or day care center?

Is the project a local-serving gas station, car wash, bank, or hotel?

Is the project a student housing project, local-serving community college (with assumptions noted in the RTP/SCS), or consist of 100% affordable housing?

Does the project generate 110 or fewer daily trips? Examples include: 11 single family housing units, 16 multi-family, condominiums, or townhouse housing units, 10,000 sq. ft. of office, 15,000 sq. ft. of light industrial, 63,000 sq. ft. of warehousing, or 79,000 sq. ft. of high cube transload and short-term storage warehouse?

Answering 'Yes' to any of these 4 questions will result in the Project Type screening to apply. No calculation is needed, and the report can be printed



← Back | Print Results | → Calculate

Click "Calculate" to proceed if no screening criteria apply

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Analysis

Select land use tab to toggle between individual uses

Project Name: Mixed-Use Project A

Location: Riverside

Analysis Year: 2018

Project Land Use & Intensities:

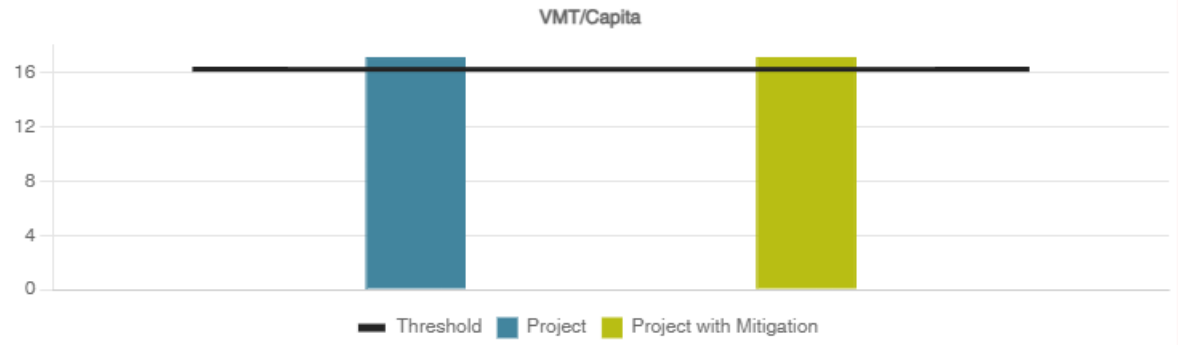
Land Use	Quantity	Units	Per Capita/Employee VMT	VMT With Mitigation	Total VMT	Threshold	Significant Impact
210	100	Dwelling Unit(s)	17.1	17.1	5,563.5	16.2	Yes
710	50	1,000 Sq Ft GFA	37.8	37.8	5,614.1	31.9	Yes
				Totals	11,177.7		

Total Emission Estimates:

Pollutant	Mobile	Mitigation	With Mitigation	Non Mobile	Total
CO (lb/day)	59.10	0.00	59.10	68.39	127.49
ROG (lb/day)	5.43	0.00	5.43	10.95	16.39
NOX (lb/day)	7.95	0.00	7.95	10.24	18.19
SOX (lb/day)	0.11	0.00	0.11	0.13	0.24
PM2.5 (lb/day)	2.83	0.00	2.83	3.05	5.88
PM10 (lb/day)	10.30	0.00	10.30	10.52	20.81
CO_2 (mt/year)	1,687.78	0.00	1,687.78	2,666.48	4,354.26

Graph shows VMT result & threshold for each *individual* land use

ITE 210 | ITE 710



Regional Average (VMT/Capita): 16.2 Threshold: 16.2

Metric	Project	Mitigation	With Mitigation
VMT/Capita	17.1	0.0	17.1
Daily Trips	924	0	0

Note: Planning-level (not for CEQA analyses) air quality information is provided both in the aggregate and for individual uses. The information provided includes both mobile and non mobile sources

If your project result is higher than the threshold, we recommend clicking the **Mitigate VMT** button to learn and decide on ways to mitigate your transportation impact. Otherwise, click **Print Results**.

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Click "Mitigate VMT" if Project is over the threshold

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Transportation Demand Management (TDM)

VMT can only be mitigated in each group by up to the stated Group Max Reduction exceed the max reduction for its respective group.

CAPCOA Handbook

The values for the "Group Maximum Reduction" for each mitigation group was developed using the 2010 CAPCOA Mitigation Handbook.

Selected Land Use: 210 - Single-Family Detached Housing

Global Maximum Reduction: 20%

Current Reduction: 0.00%

TDM Measure	Description	Max VMT Reduction	Input	Input Definition	Reduction
Land Use - Group Max Reduction: 20%, Current Reduction: 0.00%					
Trip Reduction Programs - Group Max Reduction: 20%, Current Reduction: 0					
Parking or Road Pricing / Management - Group Max Reduction: 20%, Current Reduction: 0.00%					
Neighborhood Design - Group Max Reduction: 10%, Current Reduction: 0.00%					
Transit - Group Max Reduction: 15%, Current Reduction: 0.00%					
Expand Transit Network (T-25)	This measure will expand the local transit network by either adding or modifying existing transit service or extending the operation hours to enhance the service near the project site.	4.60%	0 0	existing service miles/hours in community proposed service miles/hours in community	0.00%

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Select land use tab to toggle between Individual uses *(land uses are mitigated individually as not all mitigations are appropriate for all land uses.)*

Note: Although the 2024 CAPCOA guide does not include maximum value guidance for each group of TDMs, the 2010 guidance was used to set the maximum reductions at the TDM category level and for the total TDM reduction

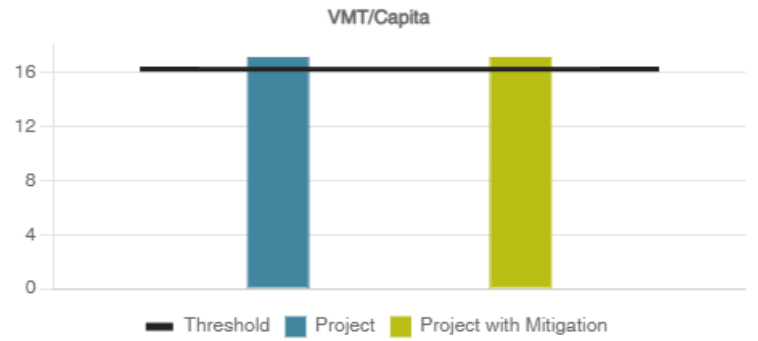
Enter project specific inputs for the applicable TDM

Click to expand each TDM category

Results of each TDM based on data entered

Click to proceed to VMT Banking if VMT is over threshold

ITE 210 | ITE 710



Regional Average (VMT/Capita): 16.2 Threshold: 16.2

Metric	Project	Mitigation	With Mitigation
MT/Capita	17.1	0.0	17.1
Daily Trips	924	0	0

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VMT Banking

Banking/VMT Cost (VMT/$): 98

Note: Household size is from the City of Riverside's Sixth Cycle (2021-2029) Housing Element Technical Background Report

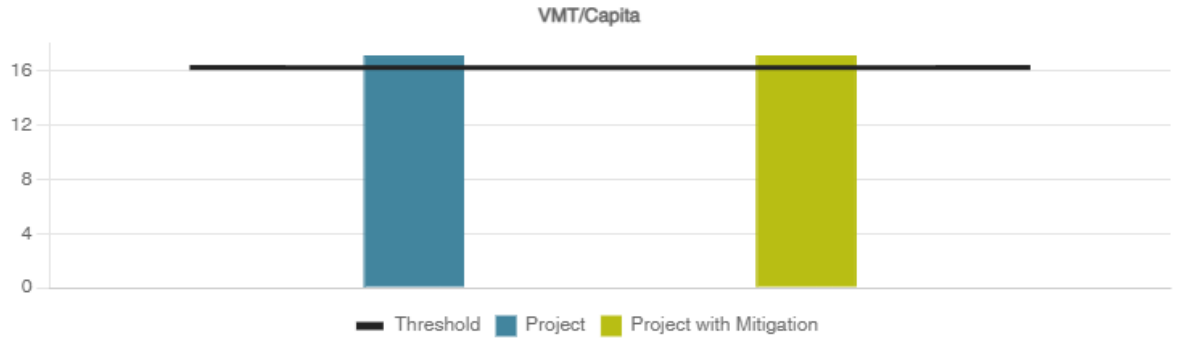
ITE Code	210	710
Land Use Quantity	100	50
Residences per Unit/Employees per 1000 Sq Ft	3.26	2.97
VMT/Unit*	17.1	37.8
Total VMT	5,563.5	1,890.6
City of Riverside Threshold (VMT/Unit*)	16.2	31.9
TDM Mitigation (VMT/Unit*)	0.0	0.0
VMT/Unit* with TDM Mitigation	17.1	37.8
Optional Full Mitigation (VMT/Unit*)	0.866	5.9118
Mitigation Banking Cost ($)	**27,668**	**86,020**

*Unit = Capita for Residential land uses. Unit = Employee for other land use types.

Total Mitigation Banking Cost ($) 113,688

ITE 210 | ITE 710

Select land use tab to toggle between individual uses



Regional Average (VMT/Capita): 16.2 Threshold: 16.2

Metric	Project	Mitigation	With Mitigation
VMT/Capita	17.1	0.0	17.1
Daily Trips	924	0	0

The cost to mitigate each land use's impact is shown here

The total cost to mitigate the project's impact for all land uses is shown here

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Click "Print Results" to capture a PDF of inputs and outputs

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TREDLiteVMT

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