»TREDLiteVMT

QUICK START GUIDE

# TREDLite VMT *for Santa Cruz County*

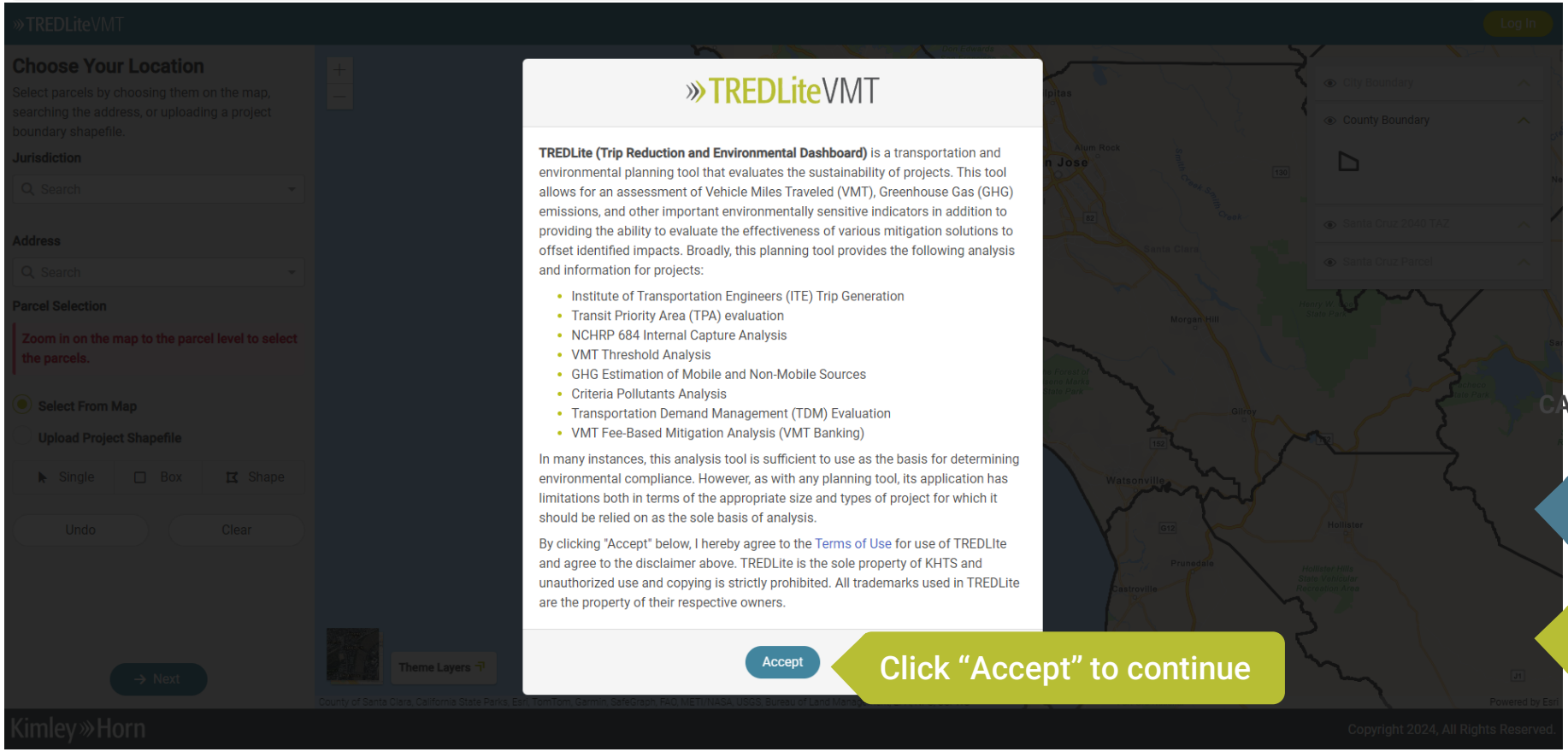
## A Kimley-Horn Sustainable Transportation Solution

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

# Getting Started

https://tredlite.kimley-horn.com/sites/santacruz

Use this website to launch the 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 big data, and travel demand model data that has been processed by Kimley-Horn
- Thresholds are based on OPR guidance and are established for Santa Cruz County
- Sometimes there are “blanks” in the data given that there is no existing data for a land use

## Choose Your Location

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

**Jurisdiction**

City of Santa Cruz

**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

Select Jurisdiction and map will zoom to that area

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

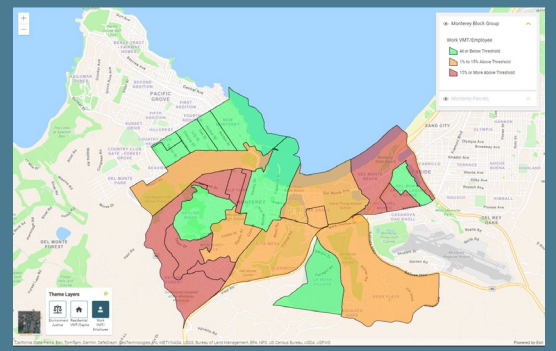
Note: you must zoom in *(use mouse scroll wheel)* to display the parcel layer to see and select an individual parcel

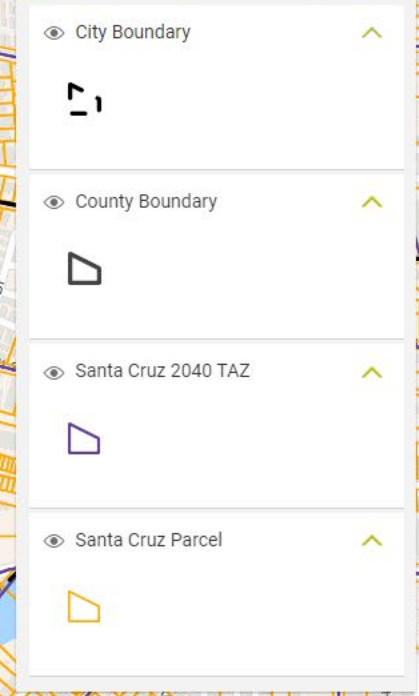
Click "Single" to pick a specific parcel

Click "Next" to proceed.

→ Next

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.



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## Project Information

**Project Name**

Mixed-Use Project A

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

**Analysis Year**

2019

**Project Context/Setting**

Low Density Suburb

Select analysis 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**

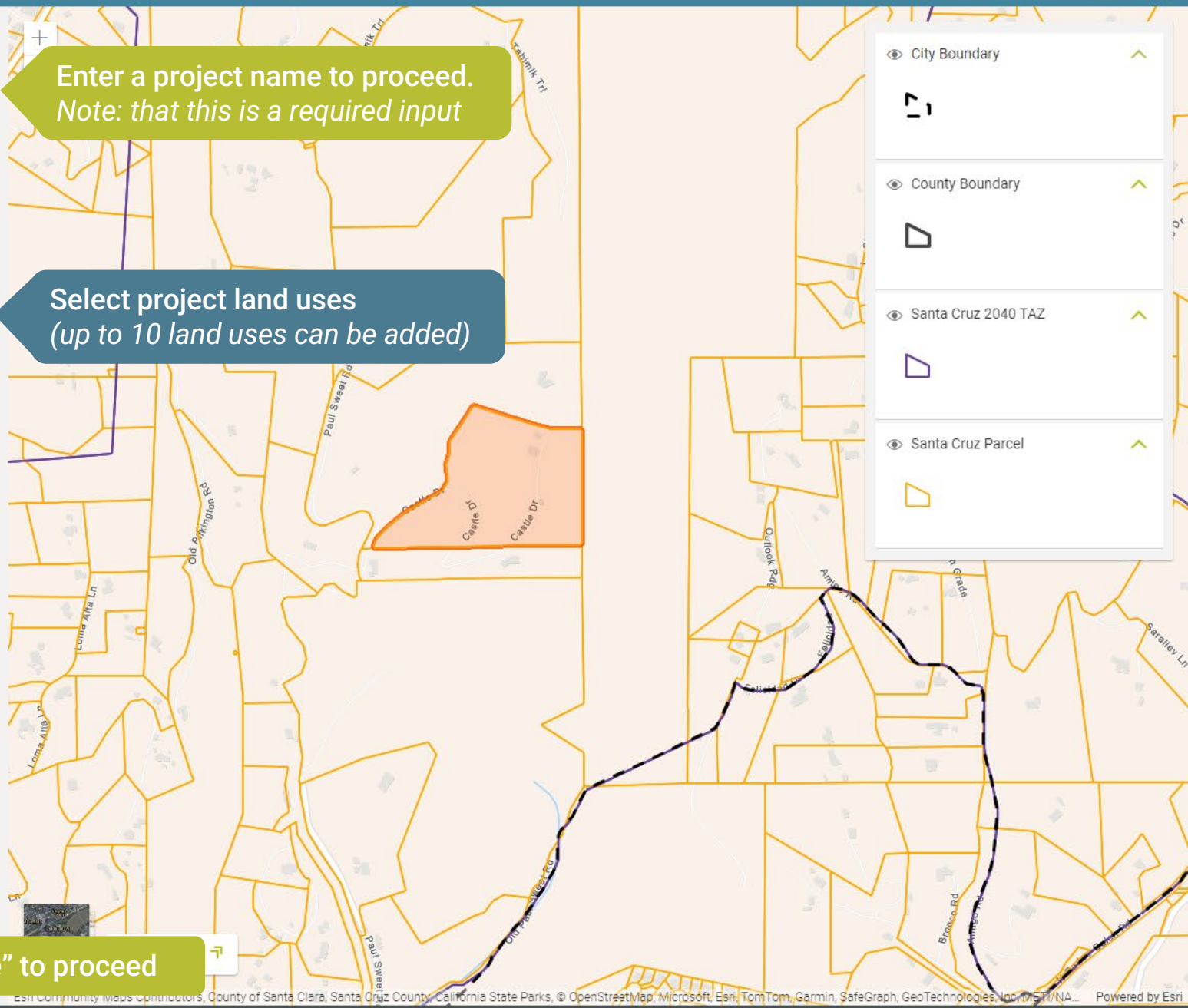
100

Enter land use quantity
(In thousands for nonresidential, dwelling units for residential.)

Add Land Use

Click to add project land uses

| ITE Trip Gen Land Use | Quantity | Units | |
|---|---|---|---|
| 710 - General Office Building | 50 | 1,000 Sq Ft | |

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→ Calculate

Click “Calculate” to proceed



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## Internal Capture

*Note: that if only a single land use is entered this screen will not appear. This module allows for analysis of internal capture as documented by NCHRP 684.*

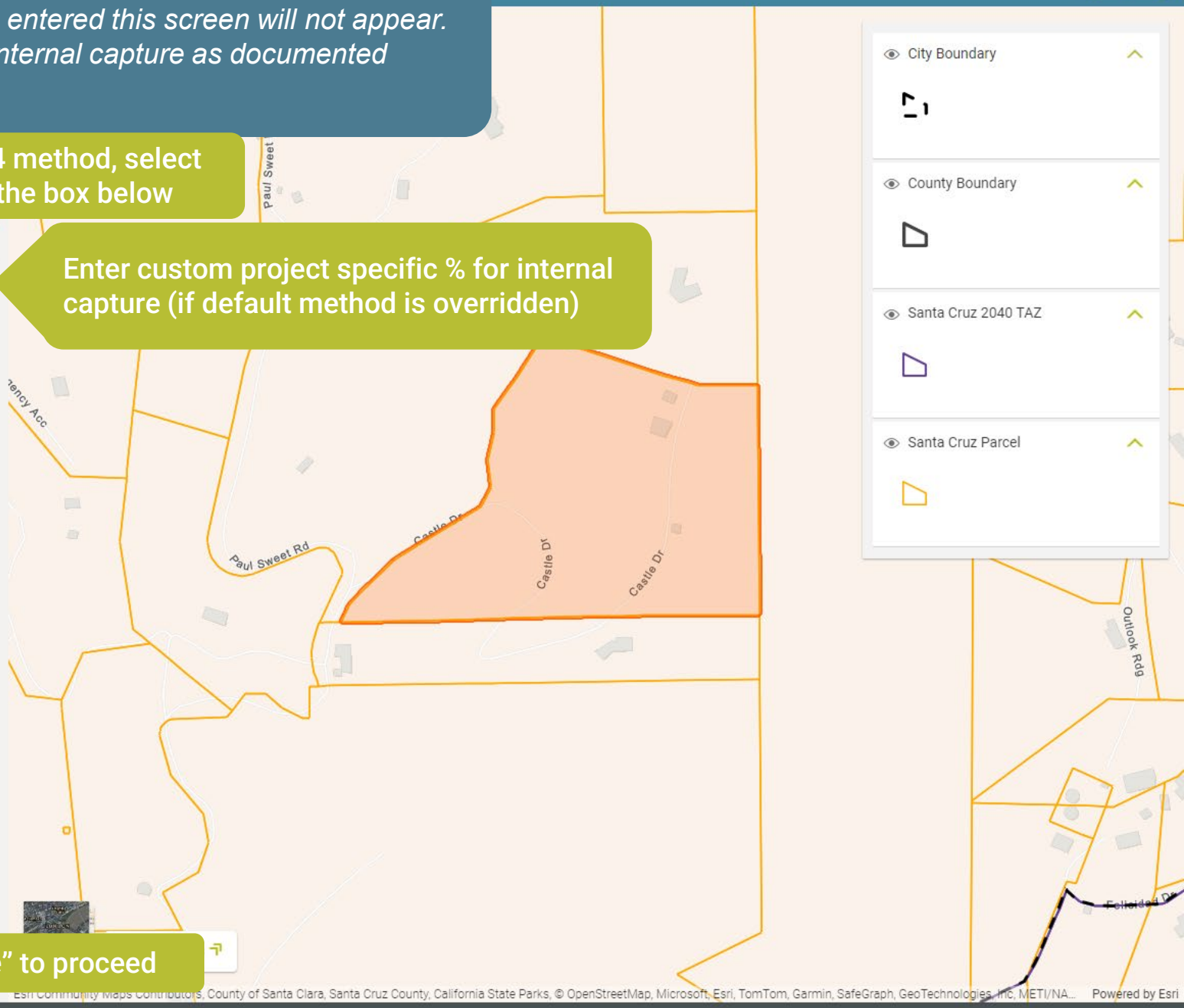
NCHRP 684

Custom

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

| | | | |
|---|---|---|---|
| 710 - General Office Building | 487 | 19 | 3.90 |
| 210 - Single-Family Detached Housing | 944 | 19 | 2.01 |

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

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→ Calculate

Click "Calculate" to proceed



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# Analysis

**Project Name:** Mixed-Use Project A

**Location:** City of Santa Cruz

**Analysis Year:** 2019

**Project Land Use & Intensities:**

| Land Use | Quantity | Units | Per Capita/Employee VMT | Mitigation | | | |
|---|---|---|---|---|---|---|---|
| 710 | 50 | 1,000 Sq Ft | 13.0 | 13.0 | 1,934.7 | 9.9 | Yes |
| 210 | 100 | Dwelling Unit(s) | 19.4 | 19.4 | 4,659.0 | 13.6 | Yes |
| | | | | Totals | 6,593.7 | | |

**Total Emission Estimates:**

| Pollutant | Mobile | Mitigation | With Mitigation | Non Mobile | Total |
|---|---|---|---|---|---|
| CO (lb/day) | 71.72 | 0.00 | 71.72 | 134.79 | 206.51 |
| ROG (lb/day) | | 0.00 | 7.40 | 99.61 | 107.01 |
| NOX (lb/ | | | | | |
| SOX (lb/ | | | | | |
| PM2.5 (l | | | | | |
| PM10 (lb/day) | 8.40 | 0.00 | 8.40 | 18.07 | 26.47 |
| $CO_2$ (mt/year) | 1,442.96 | 0.00 | 1,442.96 | 623.13 | 2,066.09 |

**Project Presumptions of Less than Significant Impact**

- [ ] Within a 1/2 mile of Major Transit Stop
- [ ] Less than 110 Trips per Day

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.

← Back | Print Results | → Mitigate VMT

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

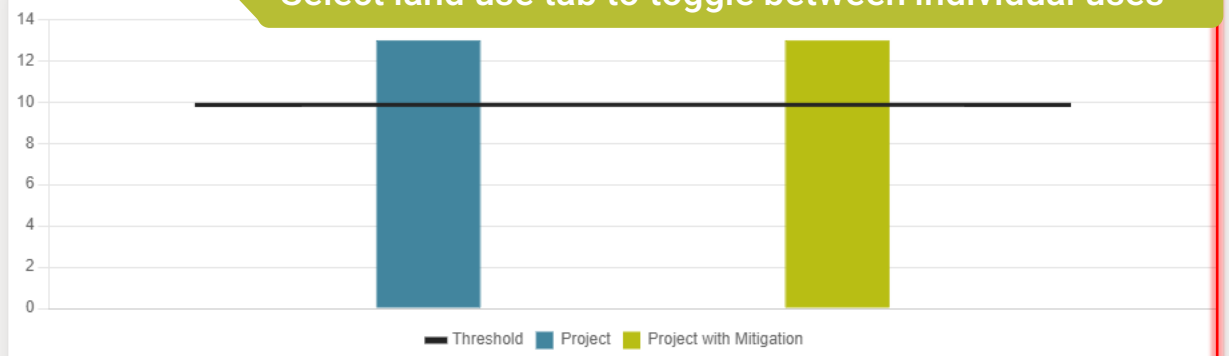
*Note: Air quality is shown both in the aggregate and for individual uses and includes both mobile and non mobile sources*

This is being implemented in *a separate GIS module*

Click "Mitigate VMT" if it is over the threshold

ITE 710 | ITE 210

Select land use tab to toggle between individual uses




Regional Average (HBW VMT/Emp): 11.6 Threshold (15% below Average): 9.9

| Metric | Project | Mitigation | With Mitigation |
|---|---|---|---|
| HBW VMT/Emp | 13.0 | 0.0 | 13.0 |
| Daily Trips | 468 | 0 | 0 |

| Pollutant | Mobile | Mitigation | With Mitigation | Non Mobile | Total |
|---|---|---|---|---|---|
| CO (lb/day) | 21.85 | 0.00 | 21.85 | 0.23 | 22.08 |
| ROG (lb/day) | 2.36 | 0.00 | 2.36 | 1.31 | 3.67 |
| NOX (lb/day) | 3.38 | 0.00 | 3.38 | 0.26 | 3.64 |
| SOX (lb/day) | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 |
| PM2.5 (lb/day) | 0.70 | 0.00 | 0.70 | 0.02 | 0.72 |
| PM10 (lb/day) | 2.50 | 0.00 | 2.50 | 0.02 | 2.52 |
| $CO_2$ (mt/year) | 357.78 | 0.00 | 357.78 | 151.04 | 508.82 |

Land Use Presumptions of Less than Significant Impact

- [ ] Affordable Housing
- [ ] Local Serving Land Use



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# Transportation Demand Management (TDM)

VMT can only be mitigated in each group by up to the stated Group Max Reduction. The current reduction listed for each group must not exceed the max reduction for its respective group.

CAPCOA Handbook

**Selected Land Use: 710 - General Office Building**

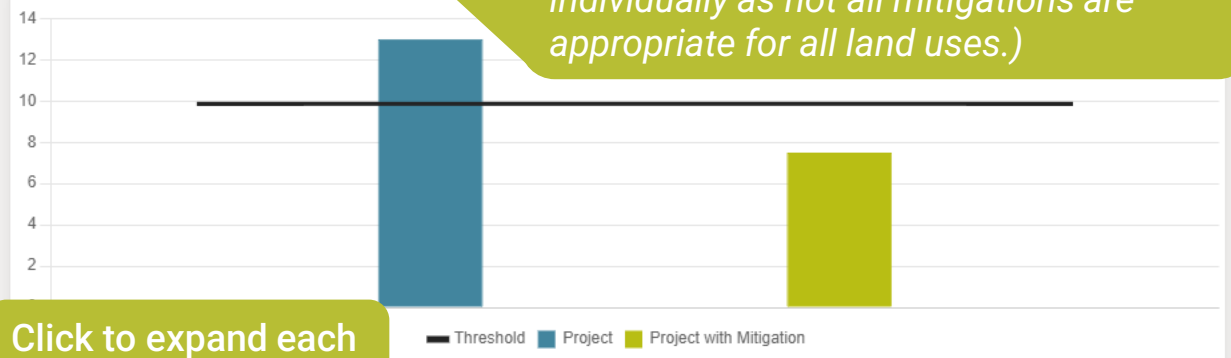
**Total Maximum Reduction: 20%**

**Current Reduction:** 42.17%

| TDM Measure | Description | Max VMT Reduction | Input | Input Definition | Reduction |
|---|---|---|---|---|---|
| Land Use Strategies - Group Max Reduction: 20%, Current Reduction: 0.00% | | | | | |
| Trip Reduction Programs - Group Max Reduction: 20%, Current Reduction: 0.00% | | | | | |
| Parking or Road Pricing / Management - Group Max Reduction: 20%, Current Reduction: 3.92% | | | | | |
| Provide Electric Vehicle Charging Infrastructure (T-14) Reminder: Does not reduce VMT | Install onsite electric vehicle chargers in an amount beyond what is required by the 2019 California Green Building Standards (CALGreen) at buildings with designated parking areas (e.g., commercial, educational, retail, multi-family). | 11.90% | 20<br>200<br>2022 | number of chargers installed (e.g. 20)<br>daily vehicles accessing the site (e.g. 200)<br>project opening year | 0.80% |
| Limit Residential Parking Supply (T-15) | This measure will reduce the total parking supply available at a residential project or site. Limiting the amount of parking available creates scarcity and adds additional time and | 13.70% | 100<br>80<br>50 % | required parking (e.g. 100)<br>provided parking (e.g. 80)<br>percentage of VMT generated by residents | 0.65% |
| Parking Costs (T-16) | costs, requiring those who wish to purchase parking spaces to do | 15.70% | | | 2.48% |

← Back | Print Results

ITE 710 | ITE 210




Threshold (15% below Average): 9.9

| Metric | Project | Mitigation | With Mitigation |
|---|---|---|---|
| HBW VMT/Emp | 13.0 | 5.5 | 7.5 |
| Daily Trips | 468 | 0 | 0 |

| Pollutant | Mobile | Mitigation | With Mitigation | Non Mobile | Total |
|---|---|---|---|---|---|
| | 21.85 | 9.22 | 12.64 | 0.23 | 12.86 |
| | 2.36 | 0.99 | 1.36 | 1.31 | 2.68 |
| | 3.38 | 1.42 | 1.95 | 0.26 | 2.21 |
| | 0.03 | 0.01 | 0.02 | 0.00 | 0.02 |
| | 0.70 | 0.29 | 0.40 | 0.02 | 0.42 |
| | 2.50 | 1.05 | 1.45 | 0.02 | 1.46 |
| $CO_2$ (mt/year) | 357.78 | 150.89 | 206.89 | 151.04 | 357.93 |

Land Use Presumptions of Less than Significant Impact

- ☐ Affordable Housing
- ☐ Local Serving Land Use

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

Click to expand each TDM category

Enter project specific inputs for applicable TDM

Results of each TDM based on data entered

Although the 2021 CAPCOA guide does not include a maximum percent, we still recommend using maximums.

Click “Print Results” to capture a PDF of inputs and outputs



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# TREDLite VMT

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