Draft for internal review

TEHAMA COUNTY BASELINE VMT DATA SOURCE EVALUATION MEMO

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Prepared by:

Green DOT Transportation Solutions, Fehr & Peers

Prepared for:

Tehama County Transportation Commission

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SUMMARY

This memorandum identifies and evaluates three primary data sources for estimating Vehicle Miles Traveled (VMT) metrics for land use projects within Tehama County as part of the County's efforts to comply with Senate Bill 743 (SB 743) and its mandate to shift the focus of transportation impact analysis under CEQA from level of service (LOS) to VMT. This evaluation is needed since Tehama County currently does not have a locally developed and calibrated travel demand model (TDM) available to use for VMT estimation and forecasting. Accordingly, this memorandum explores available data sources and assesses their suitability for providing local VMT generation rates (i.e., VMT per capita estimates) and establishing VMT threshold benchmarks such as county-wide averages. Each data source is reviewed for its geographic resolution, methodological consistency, and alignment with the technical guidance issued by the California Office of Planning and Research (OPR).

CEQA EXPECTATIONS FOR ENVIRONMENTAL IMPACT ANALYSIS

Provided below is a brief discussion on expectations associated with the California Environmental Quality Act (CEQA) compliance for technical analysis adequacy. CEQA compliance has two basic elements:

- The legal risk of challenges associated with inadequately analyzing impacts due to the use of technical methods or models that do not meet benchmark expectations.
- The mitigation risk of mis-identifying the impact and the mitigation strategies to reduce the impact.

Agencies/projects with a high risk of legal challenges will likely be concerned about both elements while agencies/projects with less legal risk should still be concerned about the second element since it is also relevant for all other transportation analysis based on model forecasts.

The CEQA Guidelines contain clear expectations for environmental analysis as noted below; however, the Guidelines are silent about what data, analysis methods, models, and mitigation approaches are adequate for transportation impacts.

- § 15003 (F) = fullest possible protection of the environment
- § 15003 (I) = adequacy, completeness, and good-faith effort at full disclosure

- § 15125 (C) = EIR [Environmental Impact Report] must demonstrate that the significant environmental impacts of the proposed project were adequately investigated
- § 15144 = an agency must use its best efforts to find out and disclose

- § 15151 = sufficient analysis to allow a decision which intelligently takes account of environmental consequences

All of these sections suggest accuracy is important and have largely been recognized by the courts as the context for judging an adequate analysis. So, then what is the basis for determining adequacy, completeness, and a good faith effort when it comes to estimating and forecasting VMT for transportation impact analysis? A review of relevant court cases suggests the following conclusions.

- CEQA does not require the use of any specific methodology. Agencies must have substantial evidence to support their significance conclusions. (Association of Irritated Residents v. County of Madera (2003) 107 Cal.App.4th 1383.)
- CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. (CEQA Guidelines, § 15204, subd. (a))
- CEQA does not require perfection in an EIR but rather adequacy, completeness and a good faith effort at full disclosure while including sufficient detail to enable those who did not participate in the EIR preparation to understand and consider meaningfully the issues raised by the project. (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692)
- Lead agencies should not use scientifically outdated information in assessing the significance of impacts. (Berkeley Keep Jets Over the Bay Comm. v. Board of Port Comm. (2001) 91 Cal.App.4th 1344.)
- Impact analysis should improve as more and better data becomes available and as scientific knowledge evolves. (Cleveland National Forest Foundation v. San Diego Association of Governments, Cal. Supreme Ct. S223603, 2017).

These conclusions tend to reinforce the basic tenet of CEQA that requires substantial evidence to support all aspects of the impact analysis and related decisions. Further, analysis should produce accurate and meaningful results. This expectation is grounded in the basic purpose behind environmental regulations like CEQA that attempt to accurately identify and disclose

potential impacts and to develop effective mitigation. Accurate and reliable travel demand estimates and forecasts are essential for meeting these expectations.

Since Tehama County does not have a locally developed and calibrated TDM, alternative estimates of VMT are needed to comply with SB 743. At a minimum, recent estimates of the VMT metrics presented in the next section are desired to serve as baseline values for CEQA impact analysis.

Without a TDM, Fehr & Peers explored other available data sources and evaluated the suitability of each of them to develop the VMT metrics below.

VMT LEXICON

Lead agencies have the discretion to select their preferred VMT metrics. Visualizations and descriptions of several commonly used VMT metric options are provided below. These have been filtered based on Tehama County's land use and analysis context. Additional metrics are available as described here. https://www.fehrandpeers.com/wp-content/uploads/2025/04/VMT-Lexicon.pdf. All these metrics have potential use for environmental impact analysis. Choosing the appropriate ones depends on the purpose of the analysis (example, air quality versus transportation impacts). The considerations below address this conditional aspect of VMT metrics.

Metric	Definition	Visualization
Total VMT	All vehicle-trips (i.e., passenger and commercial vehicles) or passenger only vehicle-trips are assigned on the network within a specific geographic boundary (i.e., model-wide, region-wide, city-wide).	
Total VMT generated by a project	All vehicle-trips are traced from trip origin to destination (O-D). Trips should not be truncated by political or other (example, edge of a TDM) boundaries. Similar to total VMT above, the VMT can be inclusive of all vehicle types or disaggregated between passenger vehicle VMT and commercial vehicle VMT.	

Residential VMT per resident	All automobile (i.e., passenger cars and light-duty trucks) trips are traced back to the residence of the trip-maker, even non- home based trips that occur away from the home.
Home-based VMT per resident	All automobile (i.e., passenger cars and light-duty trucks) vehicle-trips that start or end at the home are traced, but non-home- based trips made by residents elsewhere on the network are excluded.
Home-based work VMT per employee	All automobile trips between home and work are traced.

The following VMT metrics are recommended for use in VMT impact analysis according to the specific type of project and analysis.

- Total VMT (by speed bin) – Used for air quality, energy, greenhouse gas emissions (GHG) and transportation impact analysis.
- Total project generated VMT – Used for air quality, energy, GHG, and transportation impact analysis.
- Residential VMT per resident - Used for transportation impact screening and analysis of residential projects.
- Home-based VMT per resident – Used for transportation impact screening and analysis of residential projects.
- Home-based work VMT per employee – Used for transportation impact screening and analysis of work-related land uses.

Of these metrics, the California Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA recommends the following uses for VMT impact analysis and screening.

- Use Total VMT for retail and similar land use projects.
- Use Residential VMT per resident or Home-based VMT per resident for residential land use projects.
- Use Home-based work VMT per employee for office projects.

BASELINE VMT DATA SOURCES

Without a local TDM, the three data sources below to be evaluated based on the data availability and suitability:

- California Statewide Travel Demand Model (CSTDM)[1]
- VMT+ Tool[2] (or equivalent data from StreetLight[3]

[1] https://dot.ca.gov/programs/transportation-planning/division-of-transportation-planning/state- planning/statewide-modeling/california-statewide-travel-demand-model

[2] https://storymaps.arcgis.com/stories/e9fb17d33a2c4d60a6747071be3d5b4a

[3] https://www.streetlightdata.com/

- Replica[4]

These models and data sources have limitations with respect to which metrics can be estimated and forecast. Neither Replica nor VMT+ can produce forecasts. They are limited to providing estimates of the select metrics included below. This review identifies the limitations and potential modifications needed to use each source for the metrics above in CEQA impact analysis.

[4] https://www.replicahq.com/

CALIFORNIA STATEWIDE TRAVEL DEMAND MODEL (CSTDM)

The California Statewide Travel Demand Model (CSTDM) is a travel demand model operated by the California Department of Transportation (Caltrans). The model provides Caltrans and other agencies with an activity-based travel demand model that can forecast short and long-distance travel by California residents, workers, and commercial vehicles. As a statewide model, it is not calibrated and validated for local level or project-scale estimates and forecasts so its reasonableness for CEQA applications is limited off the shelf.

Caltrans maintains the CSTDM Version 2.0 to support Caltrans, state agencies, Metropolitan Planning Organizations (MPOs), Regional Transportation Planning Agencies (RTPAs), and other stakeholders. The base year of the CSTDM model is 2015.

Fehr & Peers used outputs from the CSTDM to isolate the components of VMT based on trip purpose and traveler type. Specifically, the home-based vehicle trips and multiplied them by the associated trip lengths to calculate total VMT by trip purpose.

The CSTDM consists of seven TAZs that represent Tehama County. Figure 1 displays the TAZs of the CSTDM within Tehama County. The total population of Tehama County in the 2015 base year model is 63,161, with a total home-based VMT of 577,621. The total employees of Tehama County in the 2015 base year model is 19,167 with a total home-based work VMT of 215,375.

Table 1 shows the estimates for the 2015 base year home-based VMT per resident at 9.1 and the home-based work VMT per employee at 11.2.

Table 1: CSTDM (2015) VMT Results for Tehama County

Metric	Tehama County
Home-based VMT per resident	9.1
Home-based work VMT per employee	11.2

Source: Fehr & Peers, 2025.

While the CSTDM can provide estimates and forecasts, it has the following limitations for local project analysis for CEQA purposes:

- Only seven TAZs to represent the whole of Tehama County, which limits its sensitivity to local land use context and projects.
- No static or dynamic validation of VMT metrics in Tehama County.
- No calibration for post-pandemic conditions.
- Truncates trip lengths at California border.

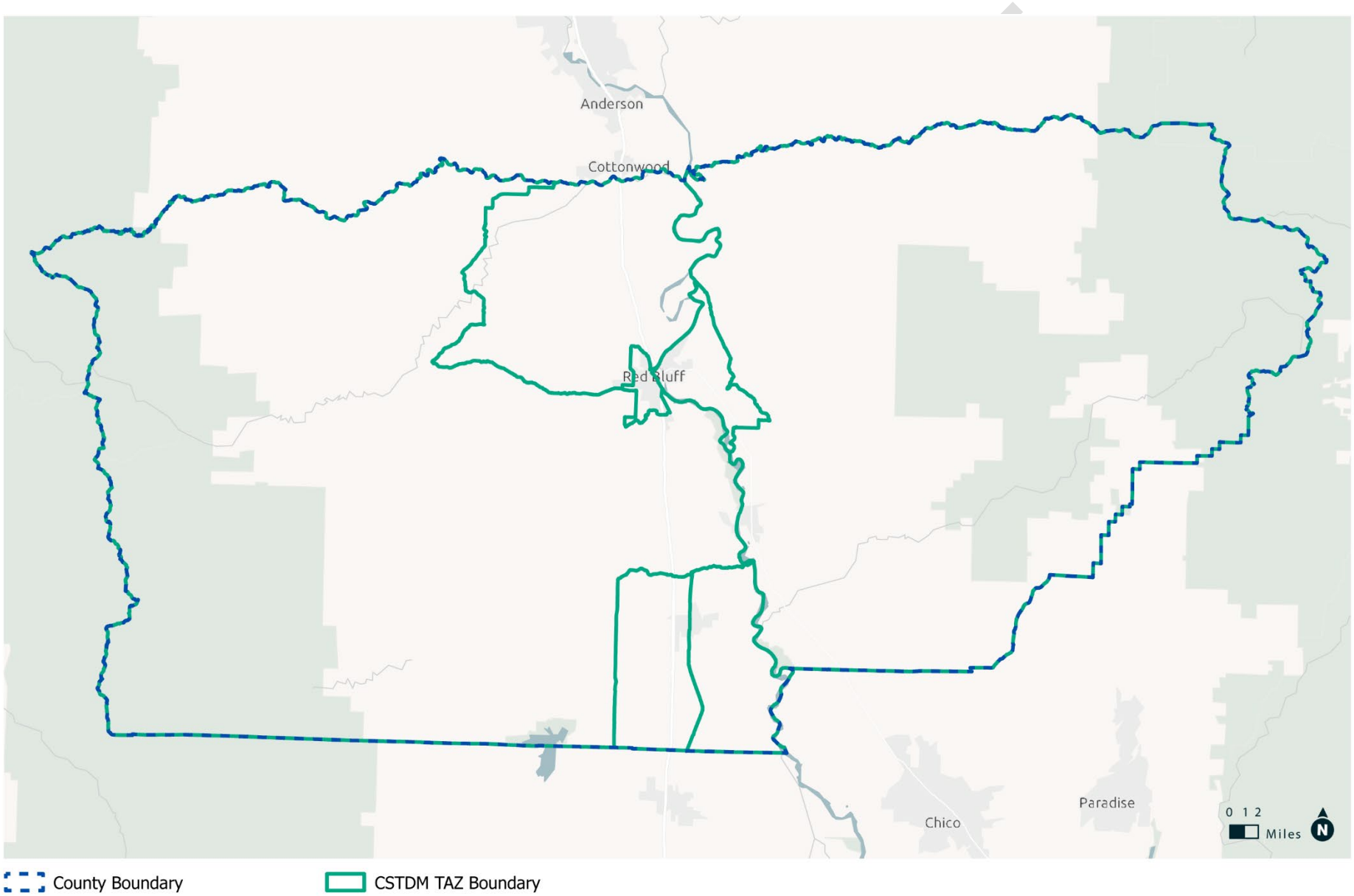


Figure 1: CSTDM TAZs in Tehama County

VMT+

VMT+ is a web application developed by Fehr & Peers to quickly search and review VMT per capita estimates for all CBGs in California. VMT+ utilizes a custom data set derived from StreetLight Data , which is based on anonymized locational records passively collected from smartphones and connected vehicles. The tool provides home-based VMT per resident and home-based work VMT per worker estimates. Data from both 2019 and 2022 is provided and reflects March and April travel behavior.

As of 2022 StreetLight modified their data sources which has changed the methodology regarding trips and trip purposes. Because of this change VMT is not able to be summarized by trip purposes for years preceding 2022. This limits StreetLight's usability as a VMT baseline since it will have a shorter lifespan where it will constitute an accurate baseline VMT.

The home-based VMT per capita estimates include all home-based vehicle trips, which are traced back to the residence of the trip-maker (i.e. home to work, grocery shop to home). Non-home-based trips (i.e. from the grocery store to the coffee shop) and commercial vehicle trips (trucks) are excluded. The home-based work VMT per employee estimates include only trips from home to and from work. This estimate does not include other work-based trips (i.e. going from work to a grocery store).

Below lists the features of the VMT+ tool using the Streetlight Data source.

- VMT+ estimates include pre- and post-pandemic conditions.
- VMT+ captures the full length of trips, but the sample rate of estimated trips varies by block group. Rural CBGs may have small samples and less reliable estimates.

As shown in Table 2, according to the VMT+ tool, the home-based VMT per capita in Tehama County was 31.6 in 2019 and 28.9 in 2022, and home-based work VMT per employee was 20.4 in 2019 and 18.1 in 2022. The downward trend in VMT aligns with the pandemic effect on travel including higher rates of working from home and more internet shopping.

Table 2: VMT+ Results for Tehama County

Metric	2019	2022
Home-based VMT per capita	29.4	28.9
Home-based Work VMT per employee	18.5	18.1

Source: VMT+, Fehr & Peers, 2025. StreetLight. https://www.fehrandpeers.com/project/find-my-vmt/

Updating VMT+ estimates or obtaining similar VMT metrics directly from StreetLight is possible but a significant change occurred in the raw data used by StreetLight after April 2022. The change is related to reduced availability of location based service data due to privacy concerns. With this change, StreetLight[5] has limitations in the ability to identify specific trip purposes by residents and workers.

REPLICA

Replica is a nationwide activity-based travel demand model (ABM) that forecasts travel demand at the census block group (CBG) and local street level. Replica uses several data sources to inform its model, including connected vehicle location-based services, and public traffic and transit data; however, because of the scale, it tends not to be as accurately calibrated as public agency models used in California, and it is not fully validated using industry standard approaches. Replica simulates people's activities on a typical weekday and tracks travel of individuals throughout the day in "trip tours." Replica, as an ABM, defines trip purposes based on the destination land use type of each trip.

[5] More information about Streetlight Data can be found at https://www.streetlightdata.com/

Figure 2 represents the potential trips (and the VMT associated with those trips) that could be estimated in a travel demand model such as Replica.

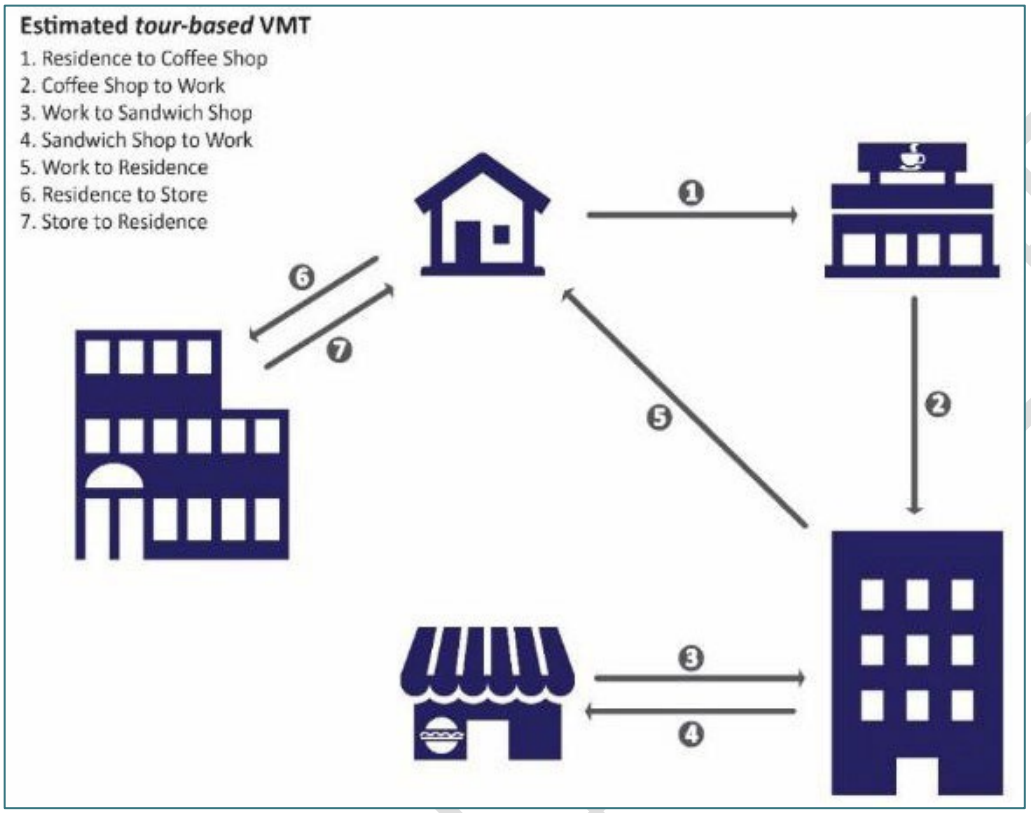


Figure 2: Typical household daily travel in tour-based travel model

Replica data can also be used to estimate VMT metrics based on the travel behavior of study area residents and employees[6]. On Replica's Places data dashboard, there's residential VMT available as calculated by Replica. Currently, Replica does not provide any other VMT metric, which requires data users to calculate other VMT metric by applying the available filters accordingly. The application of Replica filters may vary based on users' understanding and judgment. More details on the available VMT metrics using Replica's Place data on a typical weekday are as follows:

- **Total Resident-generated VMT per resident** represents the average total VMT of residents of Tehama County divided by the total resident population. All trips that are made by residents are captured and accounted for with this metric, encompassing all trips (trips 1 through 7) in Figure 2.
    - Total Resident VMT is available through Replica's Places dashboard. The values reported for this metric is a default data product calculated by Replica and is available in the dashboard.
- **Home-based (HBx) VMT per resident** represents exclusively VMT from trips that start or end at a residence within the County, divided by the total resident population. Home-based VMT includes trips 1, 5, 6, and 7 from Figure 2. All trip lengths are then summed up and divided by the number of residents.
    - HBx VMT per resident is calculated by exporting the individual trips filtered to "Home Location" is in Tehama County. After filtering down to the residents, the following filters are applied:
    - From home to all other locations:
        - "Primary Mode": private auto, taxi/TNC
        - "Previous Trip Purpose": Home
    - From all other locations to home:
        - "Primary Mode": private auto, taxi/TNC
        - "Trip Purpose": Home
- **Home-based work (HBW) VMT per employee** represents exclusively VMT of trips to/from home made by

[6] Replica provides seasonal places data and weekly trend data. Replica Places simulates the complete activities and movements of residents, visitors, and commercial vehicles in a region on a typical day of a given season.

employees for work purpose that intersects Tehama County, divided by the total employee population. This would include the trip directly from home to work and from the workplace to home (trip 5 in Figure 2). All trip lengths are then summed up and divided by the number of employees.

  - HBW VMT per employee is calculated by exporting the individual trips filtered to intersect with Tehama County. After filtering down to the employees, the following filters are applied:
  - From home to the workplace:
    - "Primary Mode": private auto, taxi/TNC
    - "Previous Trip Purpose": Home
    - "Trip Purpose": Work
    - "Tour Type": Commute
  - From workplace to home:
    - "Primary Mode": private auto, taxi/TNC
    - "Previous Trip Purpose": Work
    - "Trip Purpose": Home

- **Total Network VMT** represents all VMT within the county. Calculated by obtaining the vehicle (including commercial vehicle, private auto vehicle, and taxi/TNC) volume for each link and multiplying it by the length of each link.

Table 3: Replica VMT Analysis Results for Tehama County

Metric	2019	2024
Total Resident-generated VMT per resident1	33.9	30.7
Home-based VMT per resident1	24.5	23.3
Home-based work VMT per employee1	28.1	19.4
Total Network VMT	3,131,360	3,217,496

Notes: 1. Includes trips originating or destined outside of Tehama County.
Source: Replica 2019 and 2024 Fall Season Average Weekday data. https://www.replicahq.com/

CONCLUSION

Table 4 highlights the key differences among these sources, providing a comparative overview to aid in selecting the most suitable metrics and estimates for SB 743 analysis needs. Each source provides estimates that can be used to provide VMT generation rates and to calculate VMT thresholds for land use projects in Tehama County. However, the CSTDM has significant limitations due to its geographic scale and pre-pandemic calibration. The County is represented by seven large TAZs that are not sufficient to capture the local land use context of the County. Further, the 2015 baseline does not adequately represent post-pandemic travel behavior and changes since 2015, like higher work-from- home rates.

Replica and VMT+ meet all the necessary requirements for SB 743 but do not include the ability to forecast changes in VMT due to individual land use projects. In addition, VMT+ does not provide estimates of total VMT or total VMT generated by the County. While not necessary for SB 743 analysis, these metrics are commonly used in other CEQA analysis for air quality, GHG, and energy impact analysis. These metrics can be obtained separately using StreetLight data, but that requires additional data purchase.

While Replica and VMT+ do not have forecasting capabilities, their VMT estimates can be adjusted to account for individual land use project features through separate analysis. As such, the VMT generation rates at the CBG level are a useful starting point for individual projects.

Table 4: Key Differences of Data Sources for SB 743 Analysis

Assessment	CSTDM	Replica	VMT+
Base Year Data Year	2015	2019 to 2024[7]	2019 and 2022
Geography Breakdown	TAZ (only seven for the whole county)	Census Block Group[8]	Census Block Group
Data Validation	Limited Validation for 2015[9]	3rd Party Validation Not Available for CA/NV3	Limited Validation for 2019[10]
Avoids truncating trips at political or model boundaries	No	Yes	Yes
Generates Home-based VMT per resident	Yes	Yes	Yes
Generates Home-based VMT per employee	Yes	Yes	Yes

[7] Replica provides seasonal data for each of the years from 2019 and 2024 including spring and fall seasons.

[8] Replica allows users to upload customized geography boundaries.

[9] No static or dynamic validation for local study area (Tehama County) or for specific VMT metrics of interest.

[10] Validation documentation available at https://learn.streetlightdata.com/sb-743-metric-methodology-validation

Assessment	CSTDM	Replica	VMT+
Generates residential VMT per resident	Yes	Yes	No
Generates total VMT	Yes, but requires programming to define metric and boundary and then running of the model	Yes, but requires use of data filters or specifications to define area and metric and then running query	No
Generates total VMT generated by a project	Maybe for projects large enough to affect a TAZ	No	No

Source: Fehr & Peers, 2025.

CEQA CAPCOA Handbook Updates - New Measures (March 2024)

CAPCOA released 10 new quantified measures for the CAPCOA GHG Handbook, of which 6 were transportation related. Research, quantification determinations, and the development of quantification methodologies for each measure were completed by ICF and CAPCOA, with Ramboll providing quality assurance.

The table below provides a review of the new strategies, and an assessment of their reasonableness in use as a quantitative measure appropriate for CEQA purposes. We looked to identify the following factors:

1) There is substantial, high-quality evidence supporting the measure
2) It is applicable in CA in at least one of the urban, suburban, or rural area designations used by CAPCOA
3) It is consistently effective at reducing VMT
4) It can be implemented by public agencies

NOTE: CAPCOA has not made changes to account for post-pandemic effects or added new limitations - the following limitation statement still applies: *"For instances in which high quality, project-specific data are available, those data should be used instead of the more generalized data presented in the Handbook. The quantification and analysis methods provided in this Handbook allow for such substitutions." And "...the Handbook measures and quantitative methods (including available defaults) should not be automatically applied to a project without thoughtful consideration of project-specific circumstances."*

6 of the 10 new measures are transportation related:

T-55: Infill Development
T-56: Active Modes of Transportation for Youth
T-40: Establish a School Bus Program
T-34: Provide Bicycle Parking (remains unquantified)
T-22-D: Transition Conventional to Electric Bikeshare
T-46: Provide Transit Shelters

New Measure	Measure Summary	Applicable Areas (designated by CAPCOA)			FP Opinion	Measure is consistently effective at reducing VMT?	Can be Implemented by Public Agencies?
		Urban	*Suburban*	*Rural*			
T-55: Infill Development	This measure applies to infill housing development programs that allow residents to live closer to downtown areas where there is greater access to jobs and activities. To ensure that the development would only proceed with implementation of this measure, the applicable projects would have to be commercial or industrial lots that are rezoned as high-density	Yes	No	No	• The new measure states that, yes, a project or site is applicable in an urban and suburban environment. The sources do not provide reasonable evidence of suburban effectiveness.	The effectiveness would vary greatly between an urban and a suburban area designation, with much greater effectiveness in an urban environment.	Yes

	residential or mixed-use. GHG reductions from this measure cannot be credited unless the project site is currently a commercial or industrial lot that is being rezoned into either high-density residential or mixed-use.						
T-56: Active Modes of Transportation for Youth	Trips to school and extracurricular activities represent most of the everyday travel taken by youth. Thus, ensuring that children can use active transportation whenever possible can serve to reduce VMT and allow them to get the necessary exercise to live healthy lives. This measure is a blanket measure that can cover projects related to all forms of active transport among youth. It is assumed that driving trips are the only trips that lead to emissions. Trips to school by bike, bus, or on foot are assumed to be zero emission, and thus any mode shift away from private auto trips can be assumed to be a direct reduction in emissions.	Yes	Yes	No	• In the recommended quantification of the effects of measure T-56, Active Modes of Transportation for Youth, the method assumes that the percentage reduction in school driving trips is also the percentage change in all driving trips. We know that school trips only represent about 6% of all household trip generation, so it seems the maximum effect size should be reduced by a factor of 17 to about 1.3%. • The user input assumption includes students living within 2 miles driving distance. The 2-mile assumption may be too great a distance for children to travel to walk or bike to school. • The 2022 NHTS data source has been criticized due to the different survey method used in this update.	Yes	Yes
T-40: Establish a School Bus Program	Busing provides a practical way to transport students to school while also offering reductions in GHG emissions when there is high enough ridership. When districts establish busing programs, they directly replace automobile trips to take students to and from school. This measure estimates the emission benefit or disbenefit associated with establishing or expanding a school bus program.	Yes	Yes	No	• Including a parameter to account for the fact that only about 6% of household trips are school trips would reduce the max effect size to at most 4.3%. • T-40 equation takes into account the percentage of students within 2 miles who are driven to school after project implementation, but it doesn't seem to take into account the percentage who were driven before project implementation. This parameter should be added to the	Yes, with a reduced effectiveness maximum.	Yes

					equation. If we're looking for the net savings in VMT and GHG resulting from the measure, we should be comparing the before and after conditions. This could further reduce the estimate of max effect size.		
T-34: Provide Bicycle Parking (remains unquantified)	This measure requires that projects provide short-term and long-term bicycle parking facilities to meet peak season maximum demand. Parking can be provided in designated areas or added within rights-of-way, such as by replacing car parking spaces with bike parking corrals. As concluded previously, this measure is not quantifiable with currently available scientific literature and research.	Yes	Yes	No	• Available scientific literature and research has not shown that bicycle parking alone will reduce VMT.	Non-quantified	Yes
T-22-D: Transition Conventional to Electric Bikeshare	Research in the state of California has found that electric bikeshare programs lead to increased ridership and accessibility over traditional bikes. This makes sense because, with an electric bike, it is easier to climb hills and is more enjoyable and faster for riders to get where they are going, leading to increased utility. This measure estimates the emissions improvement realized by transitioning an existing traditional bikeshare program to an electric bikeshare program using a methodology that aligns with Measure T-22-A, Implement Pedal (Non-Electric) Bikeshare Program and Measure T-22-B, Implement Electric Bikeshare Program, from the Handbook.	Yes	Yes	No	• The max GHG/VMT reduction is capped at .059%, and the analysis does not take into consideration any additional VMT that may be generated by bikeshare company employees of the program picking up/dropping off bikes for servicing/charging, which may negate the potential reduction. • If a dockless bikeshare program is being converted, it is assumed that all residents within .25 miles of the service area have access within a reasonable distance. This is dependent on the number of bikes and typical distribution within the service area. • Additionally, the 2022 NHTS data source has been criticized due to the different survey method used in this update.	Potentially - Depending on program design: Potentially, if the bikes are docked, and charged at that docking station. If bikes are dockless and picked up by employees for off-site charging, consistent reduction is unknown.	Yes

T-46: Provide Transit Shelters	For this measure, a local government or transit agency provides amenities that make it more comfortable and safer to wait for the bus. The two interventions which have proven to lead to changes in rider perceptions are adding bus shelters and adding real-time arrival information.	Yes	Yes	No	• Several pre-covid transit data sources are used, making certainty unclear. • The 2022 NHTS data source has been criticized due to the different survey method used in this update.	Potentially – with quality local data to supplement.	Yes

VMT & GHG Reduction Strategies

Percentage of VMT or greenhouse gases that would be mitigated using each strategy

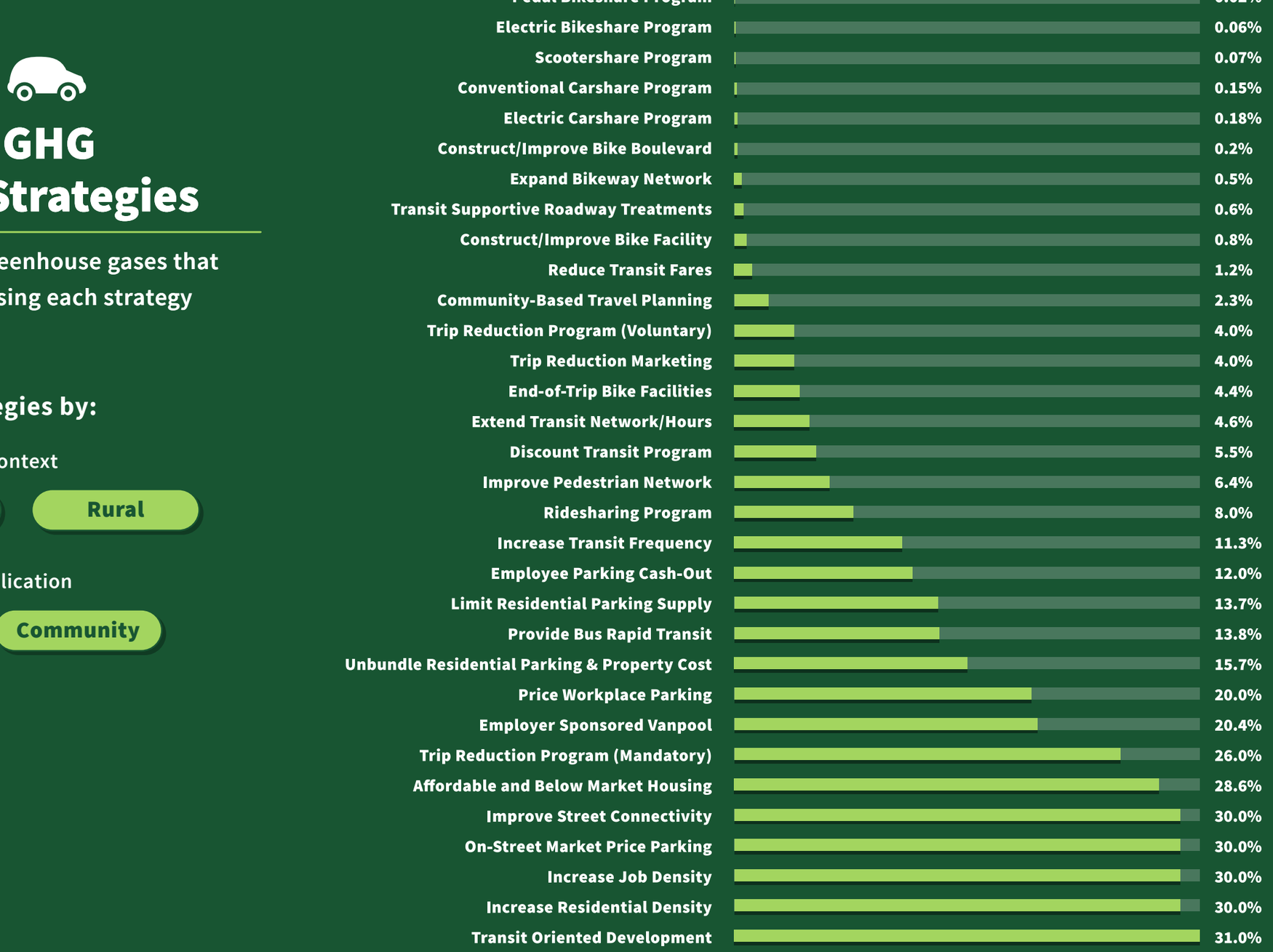
Filter strategies by:

Location context

Urban & Suburban | Rural

Scale of application

Project | Community



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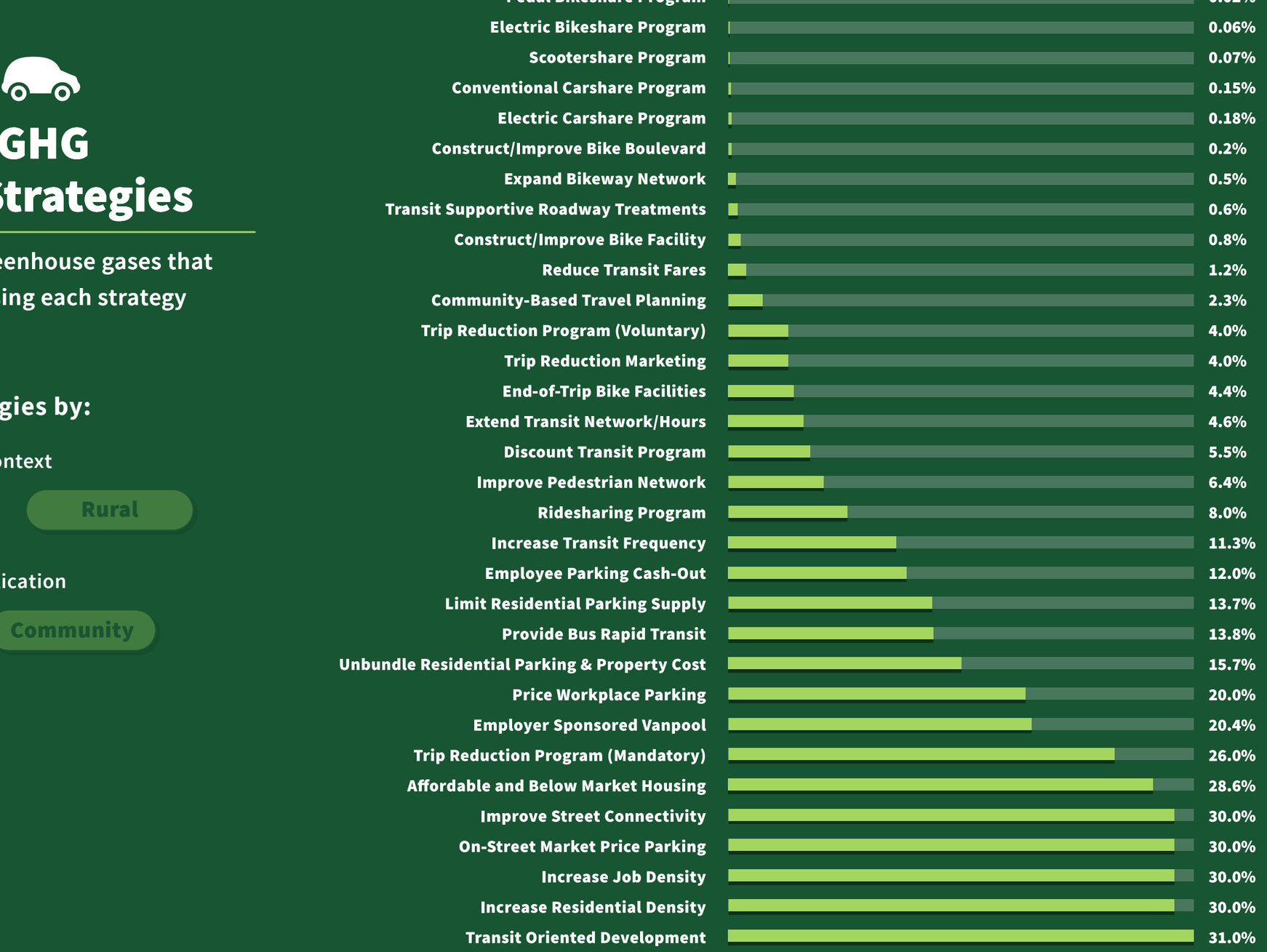

VMT & GHG Reduction Strategies

Percentage of VMT or greenhouse gases that would be mitigated using each strategy

Filter strategies by:

Location context

Urban & Suburban | **Rural**

Scale of application

Project | Community

VMT & GHG Reduction Strategies

Percentage of VMT or greenhouse gases that would be mitigated using each strategy

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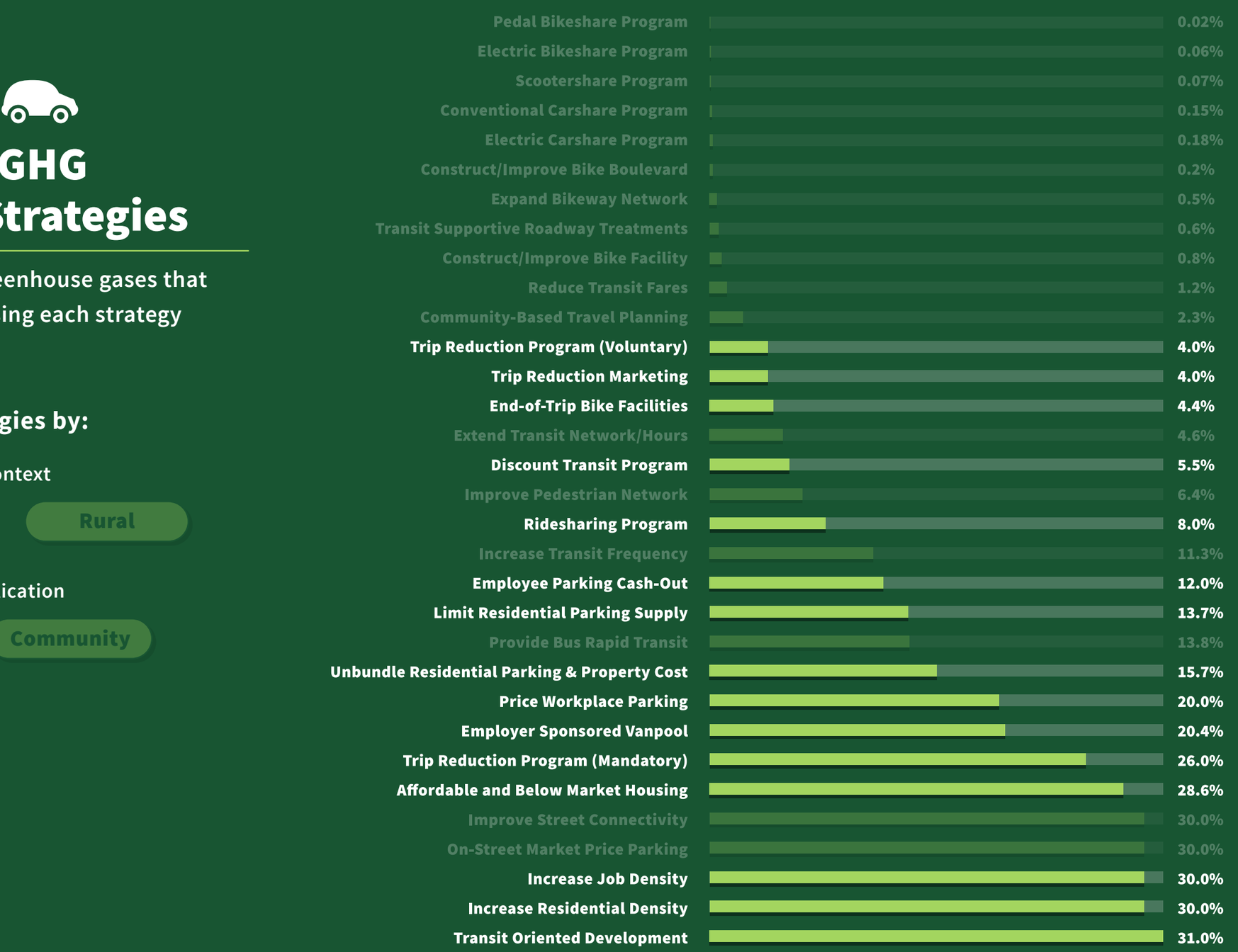
Location context

Urban & Suburban | Rural

Scale of application

Project | Community



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