CSIS

CAPTI ALIGNMENT METRICS

A companion document of the Caltrans System Investment Strategy (CSIS) to assess alignment with the Climate Action Plan for Transportation Infrastructure (CAPTI)

JULY 2024

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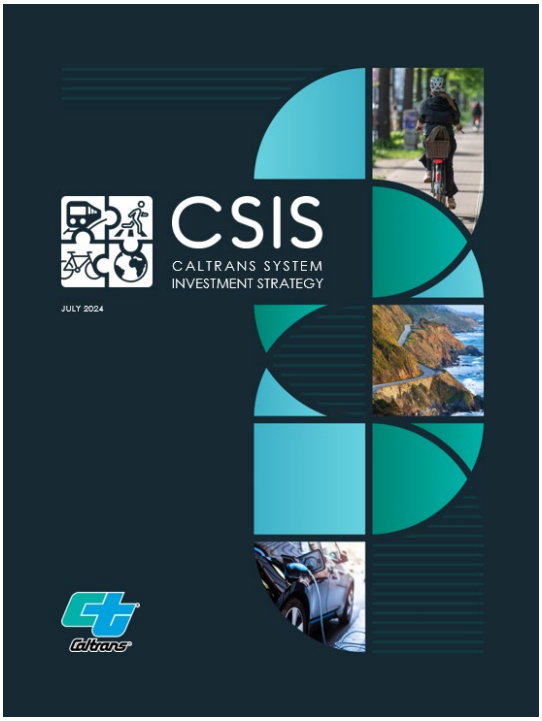
CONTENTS

1.0 – Introduction

The California Department of Transportation (Caltrans) is committed to implement one of the key actions of the California State Transportation Agency's (CalSTA) Climate Action Plan for Transportation Infrastructure (CAPTI, July 2021) through the Caltrans System Investment Strategy (CSIS). CSIS is Caltrans' investment framework for the evaluation of transportation infrastructure projects in alignment with CAPTI.

1.1 PURPOSE OF THE CAPTI ALIGNMENT METRICS

CAPTI Alignment Metrics is a companion document to CSIS, the main policy document. CAPTI Alignment Metrics operationalizes CSIS through a data-and performance-based approach to evaluate project's performance towards state's climate and equity goals and the ten (10) CAPTI Guiding Principles.



It establishes methodologies and processes for evaluation of projects for various state and federal discretionary funding programs. It assists in assessing projects' competitiveness through the lens of CAPTI to provide the basis for prioritization and inform the nomination process. CSIS will result in greater collaboration with external partners, as well as consistency and transparency in the decision-making process.

CAPTI Alignment Metrics establishes eleven (11) areas or components of projects to assess and evaluate for measurable outcomes. These are (1) Safety, (2) Vehicle Miles Traveled (VMT), (3) Accessibility, (4) Disadvantaged Communities (Access to Jobs and Destinations), (5) Disadvantaged Communities (Traffic Impacts), (6) Passenger Mode Shift, (7) Land Use and Natural Resources, (8) Freight Sustainability and Efficiency, (9) Zero Emissions Vehicle Infrastructure, (10) Public Engagement, and (11) Climate Adaptation and Resiliency.

These nine (9) quantitative and two (2) qualitative metrics assess alignment with the 10 CAPTI Guiding Principles. Each metric assesses the extent to which a project aligns with one or more CAPTI principles.

1.2 APPLICABILITY OF CSIS INVESTMENT FRAMEWORK

CSIS as an investment framework is applicable to multi-modal projects past their Project Initiation Documents (PID) phase, commonly referred to as post-PID. CSIS applies to all state and federal discretionary funding programs for multi-modal transportation infrastructure projects. While the general assessment under Program Fit applies to all projects, CAPTI alignment metrics evaluation will be implemented in phases.

Program Fit: As part of CSIS, the first tier of evaluation is the Program Fit[1] rating. The Program Fit assessment, unique to each grant program applies to all projects seeking Caltrans nominations. The criteria for assessing Program Fit are unique for each competitive program and will be developed as a separate companion document in future CSIS updates.

CAPTI Alignment Metrics: After the Program Fit rating, the second tier of evaluation is the CAPTI Alignment metrics assessment. Projects are anticipated to be in the project development and environmental review phase with relevant project scope, data, and information available for assessment.

It is possible to assess projects that are in their earlier project development phase. This assessment could be based on simpler estimates with less precision, due to uncertainties in the project scope, alternatives, or incomplete analysis. However, preliminary estimates could help inform the project's potential CAPTI alignment scores as well potential changes in project scope, design, and components for their projects.

CSIS Scoring Cycle: CSIS scoring cycle is a specific period in which project nominations are being evaluated and prioritized under the CSIS investment framework for a particular competitive program. During a CSIS scoring cycle, a project's overall score will include the Program Fit rating (high, medium, low) and a CAPTI Alignment total score. Projects are first prioritized by their Program Fit rating, followed by their CAPTI Alignment scores. Projects that are rated low in Project Fit are not likely to proceed further in the nomination process.

The applicability of CAPTI alignment metrics may vary dependent on the funding program. Therefore, CAPTI alignment metrics will be implemented in phases after careful deliberation and collaboration for applicability and feasibility. The Caltrans System Investment Strategy (CSIS) | Caltrans provides the current list of state and federal programs for CAPTI Alignment Metrics under CSIS Updates.

It is important to reiterate that while this document establishes the CAPTI Alignment metrics, related methodologies, data requirements, and the scoring rubric, project prioritization under the CSIS investment framework considers both Program Fit and the CAPTI Alignment Metric scores.

[1] Program Fit is an assessment of a project competitiveness for a discretionary funding program in which the project is being considered. This assessment mirrors the program guidelines by ensuring the project meets the program objectives, eligibility, and requirements, and competitive under key program criteria.

2.0 – CAPTI Metric Score & Weight

CSIS operationalizes alignment with the CAPTI Principles through a data-and performance-driven approach. It establishes eleven (11) areas or components of projects to assess and evaluate for measurable outcomes for transportation projects.

CSIS acknowledges that a one-size-fits-all approach does not meet the need of the state's diverse communities. Similarly, CAPTI Alignment Metrics are designed for a broader and contextual understanding of performance along these guiding principles for various types of projects.

These quantitative and qualitative metrics (**Figure 1**) are designed to assess project's ability to provide safer, multi-modal infrastructure that encourages fewer miles traveled, enables mode shift, and transit supportive projects. Projects that support infill land uses, zero-emissions infrastructure, freight efficiency and sustainability, accessibility to jobs and other destinations; particularly to disadvantaged communities are also aligned with the CAPTI Guiding Principles.

***Figure 1**: CAPTI Metrics*

Project related information for public engagement and climate change adaptation and resiliency, while qualitative in nature, are assessed are with a detailed scoring rubric. These metrics are designed to respond to the diversity of project types and the geographical context such as the urban-suburban-rural setting.

2.1 METRICS SCORING

Each CAPTI Alignment Metric is on a 0-to-10 scale, wherein a project can score a maximum of ten (10) points and a minimum of zero (0) point on each metric. Overall, a project can score a maximum of 110 point. When a project does not provide any data or information on a metric, it is assigned a default score corresponding to a "no change" score.

2.2 METRIC WEIGHTS

All metrics are weighted equally and no one metric is given additional weight. When certain metrics are not applicable to a particular funding program, the metric will be considered "not applicable" while the remaining metrics will remain equally weighted.

For example, the Freight Sustainability and Efficiency metric is not a suitable metric for active transportation projects under consideration for nomination for the state Active Transportation Program. Therefore, this metric is considered not applicable and will not be evaluated for the CAPTI alignment scoring. Refer to the Caltrans System Investment Strategy (CSIS) | Caltrans current list of state and federal programs for CAPTI Alignment Metrics under CSIS Updates.

3.0 – CAPTI Quantitative Metrics

Nine (9) quantitative metrics are established to assess alignment with the CAPTI Guiding Principles. Each metric outlines the methodology and data requirements to perform the analysis, any known constraints, and the scoring rubric.

3.1 SAFETY

The Safety metric focuses on prioritizing projects with demonstrated safety impacts in areas with high safety needs.

> ***CAPTI Guiding Principle Alignment***
>
> *Making safety improvements to reduce fatalities and severe injuries of all users towards zero on our roadways, railways and transit systems by focusing on context-appropriate speeds, prioritizing vulnerable user safety to support mode shift, designing roadways to accommodate for potential human error and injury tolerances, and ultimately implementing a safe systems approach.*

Methodology

This metric uses the crash history within the project area, Safety Countermeasures, and Crash Reduction Factors (CRFs) to analyze and determine which projects will have the most impactful reduction in crashes, particularly fatal and serious injury crashes. Addition of a traffic exposure screen that considers net increase in VMT is used to determine the likelihood of overall risk in the system based on the project being implemented.

Data Requirements

To assess the Safety metric, applicants must work with a registered traffic safety engineer (Professional Civil or Traffic Engineer) to provide the following information:

- ***Location Data:*** Provide project geographic location data using an ArcGIS Editor Form available on the Caltrans intranet.
- ***Counts of Crashes:*** Provide the following counts of crashes over a 5-year lookback period near the project's proposed safety infrastructure, starting from the most recent year of available crash data: all relevant roadway crashes, FSI crashes, Injury and/or Complaint of Pain crashes, and ped and bike crashes. This should include off-system crashes, if applicable.
- ***Safety Countermeasures:*** Identify proven safety countermeasures to address the dominant crash patterns aligned with the California Strategic Highway Safety Plan challenge areas. Focus on the 28 FHWA Proven Safety Countermeasures, available at https://dot.ca.gov/programs/safety-programs/proven-safety-countermeasures/countermeasures. There is an option to add other countermeasures not on the FHWA list for review if the crash reduction factors are appropriately documented.

- ***Crash Reduction Factor (CRF):*** Identify and report context appropriate CRFs associated with each project countermeasure in terms of expected percent reduction in crashes. This is not to be confused with the CMF (Crash Modification Factor). The CRF should be applicable to all crashes or to ped and bike crashes. Cite relevant technical reference for each CRF from FHWA or Caltrans. Caltrans CRFs should come from the latest Local Roadway Safety Manual. Sponsor engineers may also report other four or five star rated CRFs from the Crash Modification Factors (CMF) Clearinghouse that are included in the project scope. If claiming credit for multiple countermeasures, combine CRFs to the extent possible and provide a description of the combined CRF methodology aligning with Existing and Alternative Methods for Combining Multiple CMFs (FHWA, 2011) or equivalent.

Caltrans HQ will quality check the counts of nearby crashes based on a 30-meter buffer around the project location data. HQ will also review the inclusion of countermeasures that are not on the FHWA Proven Safety Countermeasures list.

Metric Constraints

Non-roadway projects (e.g., freight rail or port projects) may not have demonstrable crashes in the area nor applicable proven safety countermeasures. Transit projects will typically not have safety countermeasures unless also includes roadway changes as part of the project scope. Multimodal projects are encouraged to report where they are making concurrent active transportation improvements to receive more points (e.g., adding sidewalks near a new train station where there were not previously walkways). However, railroad grade crossing projects will automatically receive 10 points for Safety, even though a railroad grade crossing is not identified as a FHWA or CMF Clearinghouse countermeasures.

Scoring Rubric

Projects will receive an initial Roadway Safety Score based on the following matrix. After the initial score is calculated, scores will be adjusted up to +/- 4 points based on a crash exposure factor derived from projects' induced VMT, with +4 points corresponding to a reduction of 10 million VMT, and –4 points corresponding to an increase of 10 million induced VMT.

Score	Description	SEE KABCO Crash Severity Scale
10	(High Safety Need, 75% <= CRF_TOTAL)	High Safety Need (Fatal (K) & Serious Injury (A)) Rail Grade Crossing Projects Receive a 10
9	(High Safety Need, 50% <= CRF_TOTAL <75%)	High Safety Need (Fatal (K) & Serious Injury (A))

Score	Description	SEE KABCO Crash Severity Scale
8	(High Safety Need, 30% <= CRF_TOTAL <50%)	High Safety Need (Fatal (K) & Serious Injury (A))
7	(High Safety Need, 10% <= CRF_TOTAL <30%) OR (Moderate Safety Need, 75% <= CRF_TOTAL)	High Safety Need (Fatal (K) & Serious Injury (A)) // Moderate Safety Need (Consider Injury or Complaint of Pain) (B or C))
6	(High Safety Need, .01% <= CRF_TOTAL <10%) OR (Moderate Safety Need, 30% <= CRF_TOTAL < 75%)	High Safety Need (Fatal (K) & Serious Injury (A)) // Moderate Safety Need (Consider Injury (B) or Complaint of Pain (C))
5	(Moderate Safety Need, 10% <= CRF_TOTAL < 30%) OR (Low Safety Need, 75% <= CRF_TOTAL)	Moderate Safety Need (Consider Injury (B) or Complaint of Pain (C)) // Low Safety Need (Property Damage Only (O))
4	(Moderate Safety Need, .01% <= CRF_TOTAL < 10%) OR (Low Safety Need, 30% <= CRF_TOTAL < 75%) OR (No Safety Need, 75% <= CRF)	Moderate Safety Need (Consider Injury (B) or Complaint of Pain (C)) // Low Safety Need (Property Damage Only (O))
3	(Low Safety Need, 10% <= CRF_TOTAL < 30%) OR (No Safety Need, 30% <= CRF_TOTAL < 75%)	Low Safety Need (Property Damage Only (O))
2	(Low Safety Need, .01% <= CRF_TOTAL < 10%) OR (No Safety Need, 10% <= CRF_TOTAL < 30%)	Low Safety Need (Property Damage Only (O))
1	(No Safety Need, .01% < CRF_TOTAL < 10%)	
0	(No Safety Need, No Countermeasure)	

3.2 VEHICLE MILE-TRAVELED (VMT)

The VMT metric assesses a project's net VMT for the purpose of prioritizing projects that reduce VMT.

> ***CAPTI Guiding Principle Alignment***
>
> *Promoting projects that do not significantly increase passenger vehicle travel, particularly in congested urbanized settings where other mobility options can be provided and where projects are shown to induce significant auto travel. These projects should generally aim to reduce VMT and not induce significant VMT growth. When addressing congestion, consider alternatives to highway capacity expansion, such as providing multimodal options in the corridor, employing pricing strategies, and using technology to optimize operations.*

Projects that do not substantially increase VMT will typically score closer to 5 points, as 5 is the neutral score on this metric. Under the California Environmental Quality Act (CEQA), it is a standard practice to assess significance based on the thresholds of significance which vary and are project specific. This is not to be conflated with the VMT Metric scoring. For the purposes of VMT Metric, the scoring does not involve any VMT modeling but rather uses the results of the VMT modeling done elsewhere in the project development process.

Methodology

The CAPTI VMT Metric measures the difference between the applicable baseline VMT and the estimated project specific induced VMT. When VMT mitigations are available, the VMT Metric is further adjusted to account for the reduction in the net VMT.

Applicants will provide the VMT estimate as part of the project application process. Additional information gathered from project location and scope provided during the application process may be used to verify the estimates. Estimates are verified and confirmed in consultation with the Caltrans HQ Sustainability SB 743 Implementation Unit.

Projects that induce new traffic are assumed to have developed VMT estimates as part of the environmental process. If a full VMT estimate has not been developed (i.e., not yet completed environmental review), the project will be scored based on the estimated range of potential VMT increase and reduction from either the draft environmental document or PID, along with potential project scope. For projects with multiple alternatives under study, the worst score in the range will be selected. VMT estimates documented in PIDs may also be used.

If VMT mitigation is part of a project, the project sponsor should provide information on the nature of the mitigation, the estimated VMT reduction, and the source of information for the reduction calculation. These mitigations will be factored into the projects overall VMT scores to calculate the net VMT increase.

Projects that do not increase VMT are not required to estimate the VMT reduction in the environmental process. However, we will work with estimated ridership or usage figures to produce an estimate of reduced VMT for scoring.

Data Requirements

To assess the VMT metric, the information required varies based on whether the project is VMT reducing or increasing.

- ***VMT-reducing Projects:*** Provide VMT estimate based on Caltrans SB 743 Program Mitigation Playbook or California Air Pollution Control Officers Association GHG Handbook. If an estimate was not prepared, contact the CSIS team for assistance.
- **VMT-increasing Projects with no Final Environmental Document:** Provide the approved PID and/or any draft environmental documents or analysis.
- **VMT-increasing Projects with Final Environmental Document that Predates SB 743:** A simpler approach will be used, which may include the National Center for Sustainable Transportation (NCST) Calculator, if in an applicable county, to estimate the VMT increase. A project team may elect to perform a full local Transportation Demand Model (TDM) run if they believe it will be the most accurate way to model their project.
- **VMT Mitigations or other VMT-reducing Elements:** If VMT mitigations are included in the project scope, provide information on the nature of the mitigation, the estimated VMT reduction, and the sources for the reduction calculation.
- **No VMT Impact:** Project type must be non-VMT-inducing (i.e. zero-emission vehicle infrastructure) or provide data and analyses to support no VMT impact determination.

The metric evaluation team will verify the VMT estimates based on project location and scope.

Metric Constraints

Evaluating the scope of VMT mitigations and inclusion into project may not adequately capture the full scope of VMT reductions or additions. TDM models and environmental documents may come up with inconsistent VMT evaluations and data for projects in different areas. Comparing pre-and-post SB 743 projects may result in inconsistencies in VMT evaluations for similar types of projects. The VMT metric may not be sufficient to meet CARB Scoping Plan goals. As explained earlier, there is no shared definition of "significantly" increasing VMT, so projects with insignificant VMT increases score close to 5, but do not score 5.

Scoring Rubric

Score	Description
>5 to 10	Scaled between 5 and 10, with a score of 10 representing 10 million Annual VMT reduced
5	No VMT Change
0 to <5	Scaled between 0 and 5, with a 0 representing a 10 million Annual VMT increase

3.3 ACCESSIBILITY

The Accessibility metric measures the weighted percent change in overall accessible destinations (work & non-work) across four modes (auto, transit, bike, ped) that are "reachable" within a time threshold of two hours. Examples of non-work destinations are grocery stores, schools, medical facilities.

CAPTI Guiding Principle Alignment

(1) Building toward an integrated, statewide rail and transit network, centered around the existing California State Rail Plan that leverages the California Integrated Travel Project to provide seamless, affordable, multimodal travel options in all contexts, including suburban and rural settings, to all users.

(2) Investing in networks of safe and accessible bicycle and pedestrian infrastructure, particularly by closing gaps on portions of the State Highway System that intersect local active transportation and transit networks or serve as small town or rural main streets, with a focus on investments in low-income and disadvantaged communities throughout the state.

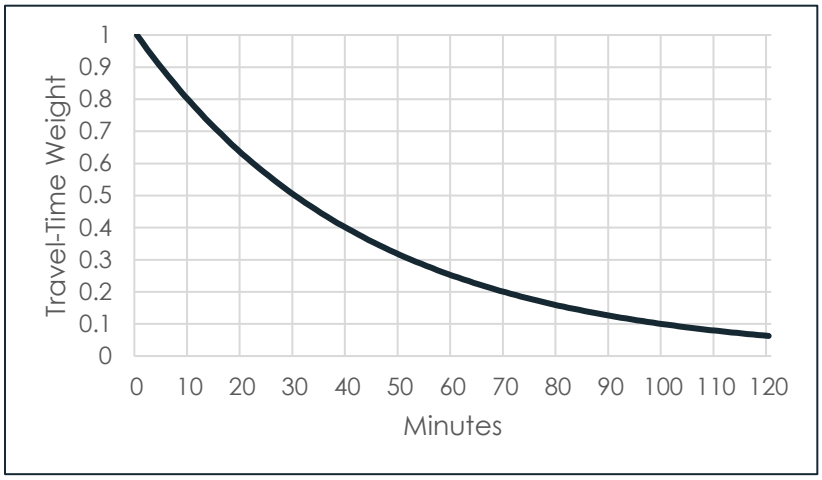
Methodology

This metric measures the percent change in access to destinations across modes, meaning a project's score is determined by how much it increases accessibility relative to the existing baseline. Using data from Open Street Map, the Conveyal tool is used to determine baseline level of traffic stress using a simple methodology.

Accessibility analysis is conducted for two destination types: work and non-work. Destinations are weighted by travel time using an exponential decay function, so that destinations that take longer to reach are weighted less than those that can be reached within a shorter amount of time. A consistent decay weight is applied across all four modes to allow for like-to-like comparisons across all modes.

Figure 2 illustrates the decay curve used in all accessibility metrics within CSIS. This avoids the issue of a set time threshold and no impact on accessibility once a destination crosses the threshold.

Figure 2: *Accessibility Time Decay Weight*



For example, if using a one-hour threshold without weights, making a destination go from one hour one minute away to 59 minutes away would have impact; going from 55 minutes to 35 would not, however much more actually impactful on someone's life or commute that would be. The decay weight ensures that nearly all improvements in access to jobs and destinations will improve a project's accessibility score.

For transit, travel times for first- and last-mile walks are included in waiting and in-vehicle travel times. For biking, speed is degraded in conditions where traffic stress is high, reflecting travelers' inclination to avoid such routes even if they are the most direct route.

Though accessibility is analyzed on a mode-by-mode basis, many transportation projects include components that impact accessibility for multiple modes. For example, a highway project may aim to decrease auto travel times along a corridor, while also providing faster or additional transit service or low stress bike lanes. In this case, there would be separate, measurable accessibility impacts for auto, transit, and bicycle modes. For this metric, all included modes can be combined into a single average percent change in access.

Accessibility analysis is run for two destination types: work and non-work. Work destinations are accessed from the US Census Longitudinal Employer-Household Dynamics (LEHD) survey, with all job types included. Non-work destinations include grocery stores, schools, and hospitals. Non-work destination data, also referred to as "Points of Interest" (POIs), was purchased from HERE platform, in-conjunction with the Conveyal accessibility platform. A complete list of non-work destination categories included in the analysis is available in the Caltrans Transportation Equity Index (EQI) Documentation (**Appendix 2**). Caltrans HQ will verify the assumptions and code the correct baseline/build level of traffic stress values based on observed conditions and project documentation. Caltrans HQ will run the analysis with access to the aforementioned platforms and verified with the applicant after scoring is complete.

Data Requirements

To assess the Accessibility metric, the following information is required:

- ***Location Data:*** Provide project geographic location data using an ArcGIS Editor Form available on the Caltrans intranet.
- ***Project Mode(s):*** Provide the mode(s) in which the project scope impacts. For example, a new class I bike/ped path would likely impact bike and ped modes and possible transit if it improved first/last mile connections.
- ***Change in Land Use (optional):*** If a project is serving a location with a near-term expected change in land use (i.e., new housing or jobs), those can be provided by the project team to adjust the relevant access scores. For scoring purposes, new land use projects that are in or through the entitlements phase will be considered. For future land use to be considered, approximate changes in the number of people, jobs, and or non-work destinations must be provided at the Census block level.

Metric Constraints

As currently operationalized, the Accessibility metric applies a consistent time decay curve across modes to allow for like-to-like comparisons. Generally speaking, this curve is calibrated to metropolitan-level trip making and may not accurately reflect less-frequent interregional trip making. Future revision to this metric may be necessary to account for this, but rural areas remain well accounted for given the long time-trip window (2 hours) and the focus on relative increase, rather than absolute increase in access for scoring.

Furthermore, this metric focuses on transportation-land use components of access but has certain limitations as it pertains to access in a broader sense of the term. For example, access to healthcare services involves much more than physical proximity, as access to these facilities is often determined by insurance status, income, etc. Future revisions to the metric will account for these considerations, where feasible.

Lastly, the metric utilizes a simplistic approach to modeling bike and ped facilities due to a lack of statewide facility data. For bike access, improvements to existing facilities are measured in terms of level of traffic stress (LTS), where a project can make a formally high stress facility into a low stress one. Future revisions to this metric may take a more nuanced approach to LTS and not simply measure the difference between high and low stress network.

The current metric measures pedestrian access on existing facilities, regardless of the presence of sidewalks. If there are no sidewalks and a project proposes to add sidewalks, the model assumes pedestrians can walk along a facility where they could not before. Future revisions to the metric will develop a pedestrian LTS approach, where more nuanced enhancements to the network can be properly analyzed.

For auto access, the baseline network speeds are derived from posted speed limit data from the Open Street Map. For a given project or scenario, these speed assumptions can be replaced with observed speed data from Replica and/or speed data provided by the applicant to account for the difference between project build and no-build speeds to capture the travel time savings benefits of operational improvements.

Scoring Rubric

An accessibility analysis is run for four separate modes (auto, transit, bike, and ped), where an average percentage change is taken across all four modal accessibility analyses and destination types (work and non-work). All non-impacted modes are given a change of 0%. As an example, a project that has a .5% change in accessible destination post-project implementation would score a 7.5. Points are assigned based on the following ranges:

Score	Description
>5 to 10	Percent change is scaled between this score range, where 10 corresponds to >1% increase in population-weighted access
5	0% change in population-weighted access
0 to <5	Percent change is scaled between this score range, where 0 corresponds to >1% decrease in population-weighted access

3.4 DAC – ACCESS TO JOBS AND DESTINATIONS

The Disadvantage Community (DAC) – Access to Jobs and Destination metric assesses a project's ability to provide transportation access to economic opportunities and other destinations to the underrepresented and disadvantaged communities.

This metric is identical to the Accessibility metric but focuses specifically on providing Access to Jobs and Destinations for disadvantaged communities, rather than the population at large.

CAPTI Guiding Principle Alignment

Strengthening our commitment to social and racial equity by reducing public health and economic harms and maximizing community benefits to disproportionately impacted disadvantaged communities, low-income communities, and Black, Indigenous, and People of Color (BIPOC) communities, in urbanized and rural regions, and involve these communities early in decision-making. Investments should also avoid placing new or exacerbating existing burdens on these communities, even if unintentional.

Methodology

This metric measures percent change in access to destinations across modes, meaning a project's score is determined by how much it increases accessibility relative to the existing baseline.

Accessibility analysis is run for two destination types (work and non-work), where an average percentage change is calculated across all four modes and destination types. All non-impacted modes are given a change of 0%. Work destinations are accessed from the US Census Longitudinal Employer-Household Dynamics (LEHD) survey, with all job types included.

"Disadvantaged communities" is defined in a manner consistent with the Caltrans Transportation Equity Index (EQI), which includes all people that are part of a low-income household (as defined by AB 1550). The State Income Limit are determined by the Department of Housing and Community Development and are published annually. The current methodology is based on the 2021 State Income Limits to align with the most recently-available Census data and job data used in the accessibility analysis.

Data Requirements

To assess the DAC – Access to Jobs & Destination metric, the following information is required:

- ***Location Data:*** Provide project geographic location data using an ArcGIS Editor Form available on the Caltrans intranet.
- ***Project Mode(s):*** Provide the mode(s) in which the project scope impacts. For example, a new class I bike/ped path would likely impact bike and ped modes and possible transit if it improved first/last mile connections.
- ***Change in Land Use (optional):*** If a project is serving a location with an expected near-term change in the land uses (i.e., new housing or jobs), those can be provided by the project team to adjust the relevant access scores. For scoring purposes, new land use projects that are in or through the entitlements phase will be considered. For future land use to be considered, approximate changes in the number of people, jobs, and or non-work destinations must be provided at the Census block level.

Metric Constraints

This metric is similar to the Accessibility metric (**Section 3.3**) in terms of metric constraints. This metric is designed as a person-level metric, where accessibility results are weighted by low-income individuals rather than all individuals. While this method is more nuanced and captures disadvantaged individuals even if they are not living in a disadvantaged community, it does deliver similar results as the Accessibility metric, unless the accessibility benefits of a given project are disproportionately targeted towards areas with a greater share of low-income residents.

Scoring Rubric

Points are assigned based on the following ranges:

Score	Description
>5 to 10	Percent change is scaled between this score range, where 10 corresponds to >1% increase in DAC population-weighted access
5	0% change in DAC population-weighted access
0 to <5	Percent change is scaled between this score range, where 0 corresponds to >1% decrease in DAC population-weighted access

3.5 DAC – TRAFFIC IMPACTS

The Disadvantage Community (DAC) – Traffic Impacts metric evaluates a project's potential to place new or exacerbating existing burdens on disadvantaged communities, in the form of additional traffic.

> ***CAPTI Guiding Principle Alignment***
>
> *Strengthening our commitment to social and racial equity by reducing public health and economic harms and maximizing community benefits to disproportionately impacted disadvantaged communities, low-income communities, and Black, Indigenous, and People of Color (BIPOC) communities, in urbanized and rural regions, and involve these communities early in decision-making. Investments should also avoid placing new or exacerbating existing burdens on these communities, even if unintentional.*

Methodology

The metric counts the amount of additional projected truck-weighted Annual Average Daily Traffic (AADT) impacting disadvantaged communities, based on the EQI traffic exposure screen.

Alternatively, it counts the reductions in AADT for projects that lessen traffic. Truck-weighted AADT is defined as AADT where truck traffic is weighted at 6 time the regular vehicle traffic, according to the Equity Index (EQI) methodology. This is based on emission figures from the California Air Resources Board (CARB) and may be refined in future version of the EQI. DAC are defined as Census blocks that either are low-income (per AB 1550) and are at or above the 80th percentile for truck-weighted traffic proximity and volume per the Caltrans EQI Traffic Exposure Screen.

To evaluate the additional traffic in disadvantaged communities, the project's auto component locations are buffered by 500 meters and overlaid with the EQI Traffic Exposure Screen. Projects where the buffer does not overlap disadvantaged communities will receive a neutral score on this metric, regardless of traffic impact. Projects that do not change truck-weighted AADT will also receive a neutral score.

Projects score poorly by increasing truck-weighted AADT within 500 meters of screened communities. Projects score well by reducing truck-weighted AADT within 500 meters of a particular disadvantaged communities. If a project is relocating AADT away from

disadvantaged communities but is not eliminated, that can be scored inside the percentage reduction.

Data Requirements

To assess the DAC – Traffic Impact metric, the following information is required:

- ***Truck & Non-Truck AADT:*** Provide the projected new AADT for trucks and non-trucks in the build scenario, which can be provided in several formats as part of the project intake. Typically, these estimates come from either a Traffic Operations Analysis Report (TOAR) or a Cal B/C model. Other formats may be appropriate but will need to be evaluated by Caltrans HQ team to ensure a fair comparison. If the estimate is a range, the lowest-scoring end of the range will be used for this metric scoring.

Metric Constraints

This metric does not yet account for the difference in AADT between zero-emission vehicle (ZEV) and non-ZEV vehicles. Truck traffic is calculated as a 6 times multiplier of the car traffic and does not account for difference in types of trucks. Traffic impact reducing projects may not have quantified the benefits in reducing traffic if a TOAR or Cal B/C was not completed.

Scoring Rubric

Score	Description
>5 to 10	Percentage reduction in truck-weighted AADT is scaled between 5-10, with 10 corresponding to a 10% decrease in truck-weighted AADT.
5	No change in AADT anticipated or no impact on disadvantaged communities
0 to <5	Percentage increase in truck-weighted AADT is scaled between 0-5, with 0 corresponding to a 10% increase in truck-weighted AADT.

3.6 PASSENGER MODE SHIFT

The Passenger Mode Shift metric focuses on the change in accessibility by non-auto modes as compared to auto.

The metric assumes that when access to destinations by non-auto modes increases compared to auto, more travelers will use non-auto modes. This means that all projects are scored against the existing access baselines inside their communities and the potential for mode shift compared to existing conditions, rather than a set statewide standard.

For context, many parts of the state have very low baseline mode shift ratios where residents can reach fewer than five percent of accessible auto destinations by non-auto modes. In some urbanized areas with dense land use and frequent transit networks, such as downtown San Francisco and Los Angeles, this number is closer to forty percent for transit.

CAPTI Guiding Principle Alignment

(1) Building toward an integrated, statewide rail and transit network, centered around the existing California State Rail Plan that leverages the California Integrated Travel Project to provide seamless, affordable, multimodal travel options in all contexts, including suburban and rural settings, to all users. (2) Investing in networks of safe and accessible bicycle and pedestrian infrastructure, particularly by closing gaps on portions of the State Highway System that intersect local active transportation and transit networks or serve as small town or rural main streets, with a focus on investments in low-income and disadvantaged communities throughout the state.

Methodology

The metric is measured by calculating the change in the ratio of population-weighted multimodal accessibility to population-weighted auto accessibility in the project area. The ratio is calculated as follows:

$$\frac{(\textit{Average Number of Decay Weighted Destinations Accessible by Multimodal Options})}{\textit{Number of Decay Weighted Destinations Accessible by car}}$$

This ratio is calculated for all three non-auto modes (transit, bike, and ped) and an average of the three ratios is calculated. If a given ratio is zero, that score still contributes towards the final average, so additional non-auto modal components can also serve to increase the average change in ratio. These ratios are calculated for both work and non-work destinations, and the final is an average of the two ratios.

Data Requirements

To assess the Passenger Mode Shift metric, the following information is required:

- ***Location Data:*** Provide project geographic location data using an ArcGIS Editor Form available on the Caltrans intranet.

- ***Project Mode(s):*** Provide the mode(s) in which the project scope impacts. For example, a new class I bike/ped path would likely impact bike and ped modes and possible transit if it improved first/last mile connections.
- ***Change in Land Use (optional):*** If a project is serving a location with an expected near-term change inland use (i.e., new housing or jobs), those can be provided by the project team to adjust the relevant access scores. For scoring purposes, new land use projects that are in or through the entitlements phase will be considered. For future land use to be considered, approximate changes in the number of people, jobs, and or non-work destinations must be provided at the Census block level.

Metric Constraints

The Mode Shift metric is not designed to be a predictive model. It simply quantifies how non-auto access changes relative to auto access to assess how supportive of mode shift is for a particular project. The metric also does not account for certain non-infrastructure project components that may encourage mode shift, such as TDM measures.

Scoring Rubric

A project's (population-weighted) change in mode shift ratios is calculated and points are assigned based on the following:

Score	Description
>5 to 10	Change in ratio is scaled in this score range, where 10 corresponds to >= 0.0013 change in average population-weighted mode shift ratio across the region.
5	No change in population-weighted mode shift ratio
0 to <5	Change in ratio is scaled in this score range, where 0 corresponds to a <= -0.0013 change in the mode shift ratio corresponding to a shift towards more auto-accessible destinations post-project implementation

3.7 LAND USE AND NATURAL AND WORKING LANDS

The Land Use and Natural and Working Lands metric responds to two CAPTI principles: incentivize transportation development that supports compact infill land uses and incentivize protection of natural and working lands with land conservation through transportation programs.

Infill development promotes use of underutilized or undeveloped lands within established communities. Transportation infrastructure that supports or advances use of infill development, in turn supports housing for walkable communities that are affordable, reduce the transportation cost burden and auto trips and encourage transit use to reduce VMT.

CAPTI Guiding Principle Alignment

(1) Promoting compact infill development while protecting residents and businesses from displacement by funding transportation projects that support housing for low-income residents near job centers, provide walkable communities, and address affordability to reduce the housing-transportation cost burden and auto trips.

(2) Protecting natural and working lands from conversion to more intensified uses and enhance biodiversity by supporting local and regional conservation planning that focuses development where it already exists and align transportation investments with conservation priorities to reduce transportation's impact on the natural environment.

Local and regional conservation planning that focuses land development within existing communities also reduces the burdens on natural lands and related land conversions. Transportation investments that are consistent with such conservation planning priorities would protect conversion of natural and working lands to developed lands.

For the purposes of this metric, combining these two principles lends to prioritizing transportation that supports infill and prevents conversion of natural or undeveloped lands. Typically, but not exclusively, projects in urban and suburban areas score well due to the compact and infill land uses with existing transit. Transportation projects that increase the efficiency of existing transit and create new efficient transit also score well. Generally, projects that overlap rural and suburban areas surrounded by natural or undeveloped lands score well by supporting local and regional conservation priorities and reducing transportation's impacts on the natural environment.

Methodology

Land Use – Projects Overlapping Urbanized Areas

Infill development is defined by Public Resources Code (PRC) 21094.5 (e) and 21099 (a) further defines infill sites and transit priority areas for transit-oriented infill projects. Projects located within urbanized areas or overlapping urbanized area that support infill are assessed for their support to non-SOV modes of travel or transit. Urban and suburban transportation projects either overlay or intersect with an incorporated city or

an Urbanized Area, as defined by PRC 21071 and PRC 21094.5 (also definitions used by CAL FIRE) are considered for evaluation in this methodology.

This metric is assessed using an existing tool from OPR, namely Site Check ✓ (ca.gov),[2] a free mapping tool for primary purpose of accelerating housing production. It enables preliminary parcel level check for various datasets to clarify potential for CEQA streamlining options. Additionally, it includes datasets of local, state, federal and private conservation and protected areas that excludes development in the state. Caltrans is currently identifying additional data set and data layers to further assist in this assessment.

Projects are scored based on the following:

1. Support non-single occupancy vehicle (SOV) travel in an incorporated city or Urbanized Area that is eligible for infill development. This metric uses OPR's Site Check ✓ (ca.gov) tool for eligibility, verification of datasets and other data layers.
2. Create new High Quality Transit Areas [(HQTAs), as defined by PRC – 21155, 21064.3). HQTAs trigger a variety of infill-friendly policies, including no parking minimums, CEQA streamlining, and other pro-housing policies. HQTAs can be created in the following ways:
    a. Increase frequency of service along bus corridors to at least every 15 minutes in the morning and afternoon peaks
    b. Create or enhance rail stations and ferry terminals with bus connections, by creating bus rapid transit stations as defined by PRC 21060.2 and by establishing major bus stops at the intersection of two intersection of two or more major bus routes.

A map of existing HQTAs can be found at: CA HQ Transit Areas. Projects located in an eligible area with project elements that support travel by non-SOV modes or transit are likely to score well.

Natural or Undeveloped Areas – Projects Outside Urbanized Areas

Projects surrounded by natural or undeveloped lands outside urbanized areas are evaluated under this metric. Projects that support local and regional conservation priorities, preserve natural and working lands, and reduce transportation's impacts on the natural environment will score well under this metric.

Projects are scored based on the following:

[2] Site Check is a free and publicly available mapping tool funded by the Department of Housing and Community Development as part of the technical assistance for Senate Bill 2, the Building Homes and Jobs Act. Site Check data is hosted by Databasin and available on OPR's website.

1. Caltrans will identify projects' location within 200 meters (1/8 miles) of the Protected Areas Inventory using the Site Check ✓ (ca.gov) tool. The Protected Areas Inventory represents various federal, state, local, and private conservation areas.
2. When a project is within or near a protected area, a high-scoring project must have identified project element/s (i.e., a wildlife bridge, land banking, etc.) that supports the protection of these natural/undeveloped and working lands consistent with the CAPTI and the CTP 2050 recommendations to expand protection of natural resources and ecosystems.

Examples of project elements include and are not limited to, establishment of conservation areas or environmental mitigation banks, wildlife bridges or passage elements in culverts, natural infrastructure solutions such as bioswales, rainwater storage systems, and permeable pavements, and explicit partnership with resource agencies and Tribal nations on environmental preservation.

Data Requirements

To assess this metric, the following information is required:

- Provide the project locations for all modes.
- Projects that create new HQTAs should provide information about the specific transit operator, routes that will be augmented, and specific service change.
- Clearly identify non-SOV infrastructure and project element/s that supports the protection of these natural/undeveloped and working lands, ecological enhancements, and
- Environmental mitigations for preservation of natural and working lands provided in the project narrative documents and the environmental review documents.

Metric Constraints

For projects intersecting urbanized areas, this metric does not yet incorporate the distinction between new-built high occupancy vehicle (HOV) or managed lanes and converted HOV or managed lanes.

Scoring Rubric

Projects Overlapping Urbanized Areas

Score	Description
8 – 10	Project creating new HQTA is scored on a range from 8-10, with 10 corresponding to 10+ sq miles of new HQTA when scaling along the range.
6 – 7	Passenger projects without new GP lane miles are scored as follows: • Projects with transit infrastructure – 7 points • Projects without transit infrastructure but with active transportation infrastructure – 6 points • Projects with neither transit nor active transportation infrastructure, but with managed or HOV lanes – 5 points
5	Freight rail or port projects
0 – 4	Passenger projects with new GP lane miles are scored as follows: • Projects with transit infrastructure – 4 points • Projects without transit infrastructure but with active transportation infrastructure – 3 points • Projects with neither transit nor active transportation infrastructure, but with managed or HOV lanes – 2 points

Projects Outside Urbanized Areas

Score	Description
10	If a project is within 200 meters natural/working lands and has elements to significantly enhance them from the CTP 2050 list
6-9	If a project is near natural/working lands and reports only other environmental mitigations not on the CTP 2050 list
5	A project neither near natural/working Lands nor overlapping an Urbanized Area
0-4	A project near natural/working lands reporting neither will score 5 or below based on its traffic impact.

3.8 FREIGHT SUSTAINABILITY AND EFFICIENCY

The Freight Sustainability and Efficiency metric comprises of two individual sub-metrics, each scored between 0 and5, resulting in a total 10 points:

- ***Freight Sustainability*** sub-metric focuses on projects that primarily deliver multimodal and clean freight improvements.
- ***Freight Efficiency*** sub-metric focuses on projects in areas with the most congested freight corridors.

CAPTI Guiding Principle Alignment

Developing a zero-emission freight transportation system that avoids and mitigates environmental justice impacts, reduces criteria and toxic air pollutants, improves freight's economic competitiveness and efficiency, and integrates multimodal design and planning into infrastructure development on freight corridors.

Methodology

Freight Sustainability

Freight Sustainability sub-metric is scored based on the location of projects on the National Highway Freight Network (or working toward federal designation) to increase multimodal and clean freight. A project may also demonstrate its inclusion in the draft Federal Multimodal Freight Network, State Freight Plan, Regional Plan, or California Major Freight Facilities lists to demonstrate alignment to freight planning efforts. Projects that are on or near National Alternative Fuel Corridors (AFC) Network may also receive points.

This sub-metric evaluates the percentage of capital construction project budget dedicated to clean and sustainable freight elements consistent with the California Sustainable Freight Action Plan (CSFAP). Alternative fuel infrastructure, bridge improvements, bridge replacements, freight technology-based approaches, sustainable trucking are examples of clean and sustainable freight. These clean freight elements are defined below under the scoring rubric.

Freight Efficiency

The Freight Efficiency sub-metric focuses on targeting investment where freight is most unreliable or there is a need to increase modal freight. It evaluates freight efficiency based on existing truck throughput and awards maximum points to a project that increases modal freight capacity (e.g., rail freight projects) by using the Truck Travel Time Reliability Index (TTTRI).

Caltrans HQ will perform TTTRI calculations using Caltrans procured Streetlight data. Alternatively, TTTRI calculation can be provided by the project sponsor where Streetlight Data might not be the most reliable provider of this information.

For each street segment in the project corridor, 50th and 95th percentile truck travel times are downloaded from Streetlight using the Segment Analysis tool. In the resulting downloaded table of travel times and segment lengths, the TTTRI is calculated as follows:

1. Level of Truck Travel Time Reliability (LOTTR) = [95th Travel Time Percentile] / [50th Travel Time Percentile]
2. Weighted LOTTR = [LOTTR] x [Line Zone Length (miles)]
3. Across all segments, get the sum of Weighted LOTTR and the sum of Line Zone Length
4. TTRI = [Sum of Weighted LOTTR] / [Sum of Line Zone Length]

Data Requirements

To assess the Freight Sustainability and Efficiency metric, the following information is required:

- ***Location Data:*** Provide project geographic location data using an ArcGIS Editor Form available on the Caltrans intranet.
- ***Project elements*** included in the CSFAP
- **Project costs** associated with sustainable/modal/clean freight project elements
- ***Total capital construction cost***

Metric Constraints

Projects within target areas with existing unreliable freight movement are rewarded under this metric. However, it does not consider how much more efficient freight will be after project implementation. This means that a more impactful project in an equally unreliable area will score the same as a less impactful project. This metric requires the project to provide nexus between investment and freight improvement. Streetlight Data may not have the most accurate TTRI data, although alternate data sources can be used.

Scoring Rubric

Freight Sustainability [Multimodal and Clean Freight]

- Scored 0-5, where 5 corresponds to 100% of the project capital construction cost dedicated to CSFAP Typologies:
    - CSFAP Elements: Alternative Fuel Infrastructure, Bridge Improvements, Bridge Replacements, and Intermodal At-grade Crossing Reduction, Modal (Non-highway Mode) Freight Mobility, Freight Safety, Resiliency, and Security, Freight Technology-based Approaches, Sustainable Trucking, and Other Modal and Sustainable Approaches.

- Other modal and sustainable approaches will require additional review by the Headquarters Freight team to determine alignment with the California Sustainable Freight Action Plan elements.

Freight Efficiency

- Scored 0-5, where 5 corresponds to a TTTRI of 2+, representing the current conditions in the project area of highly unreliable truck travel times.
- For non-truck, modal projects, if the assumption is that the project will improve freight throughput, it will receive maximum points.
- A project with no impact on freight will receive a 0.

3.9 ZEV INFRASTRUCTURE

The ZEV Infrastructure metric assesses the extent of zero-emission infrastructure investments in a project.

The metric is based on the type of project and the location of the project, that is the urban-suburban-rural context and size of the funding request.

CAPTI Guiding Principle Alignment

Including investments in light, medium, and heavy-duty zero-emission vehicle (ZEV) infrastructure as part of larger transportation projects. Support the innovation in and development of the ZEV market and help ensure ZEVs are accessible to all, particularly to those in more rural or remote communities.

Methodology

The level of investment in ZEV infrastructure is evaluated on a scale of 0 to 10. The score is calculated by establishing a ratio of ZEV Infrastructure for each $50 million in fund request. Harder to implement ZEV technologies, such as Hydrogen, Heavy Duty Freight Charging are prioritized, although sufficient ZEV infrastructure investment can result in the highest score.

Additionally, projects in rural areas are structured to receive more points for a similar level of investment in urban-suburban areas, to align with the CAPTI principle. Rural location is defined as a project that does not intersect a US Census defined Urbanized area (also used in the Land Use and Natural Resources Metric). Heavy Duty Chargers are defined as chargers designed for the use of heavy-duty vehicles such as trucks or buses.

All installations will follow the NEVI Standards and Requirements regarding the following: installation requirements, interoperability, data sharing, public availability, and smart network connectivity.

Data Requirements

To assess the ZEV Infrastructure metric, the following information is required:

- ***Charger Ports:*** Provide information on the number of charger ports, power levels, location.
- ***Cost:*** Estimated cost with a 20% contingency.

Metric Constraints

The metric does not account for areas where ZEV infrastructure cannot be installed (i.e., lack of power sources) and does not account for all types of ZEV technologies.

Scoring Rubric

The score is calculated by establishing a ratio of ZEV Infrastructure to $50 million in fund request. As an example, a project with a fund request of $25M for six (6) Level 3 charger ports in an urban and suburban area would have a ratio of 12 charger ports per $50M request. That ratio is halfway between 0 and 10 maximum point ratio. The project would score a 5. A similar project located in a rural area with a fund request of $25M for three (3) Level 3 charger ports would have a ratio of 6 charger ports per $50M request. The rural project would also score a 5.

This ratio is scaled 0 to 10 points, corresponding to the following ratios:

ZEV Infrastructure Type	Ratio Calculation
Urban/Suburban ZEV Infrastructure	• Level 2 Charger Ports: 90 charger ports per $50M request • Level 3 Charger Ports: 24 charger ports per $50M request
Rural ZEV Infrastructure	• Level 2 Charger Ports: 40 charger ports per $50M request • Level 3 Charger Ports: 12 charger ports per $50M request
Freight ZEV Infrastructure	• 12 Heavy Duty Charger Ports per $50M request • Hydrogen: 10,000KG of site per day capacity with 2 nozzles
Rail/Transit ZEV Infrastructure	• 6 Heavy Duty Charger Ports per $50M request • Hydrogen: 10,000KG of site per day capacity with 2 nozzles
Rail/Transit ZEV Rolling Stock	• Rail ZEV Rolling Stock – Maximum Points • 10 BEB Buses per 50 million in Request • 5 Hydrogen Buses per 50 million in Request
Rail Projects	Rail projects that provide zero emission freight will be prioritized and automatically receive 3 points

4.0 – CAPTI Qualitative Metrics

Two CAPTI Guiding Principles are assessed for alignment under two qualitative metrics – Public Engagement and Climate Adaptation and Resiliency.

The evaluation for these qualitative metrics is conducted by a project review committee comprising of Caltrans HQ and District staff, including the appropriate subject matter experts. As described in the CSIS, new project review committees are established for each program and funding cycle.

CAPTI Guiding Principle Alignment

Strengthening our commitment to social and racial equity by reducing public health and economic harms and maximizing community benefits to disproportionately impacted disadvantaged communities, low-income communities, and Black, Indigenous, and People of Color (BIPOC) communities, in urbanized and rural regions, and involve these communities early in decision-making. Investments should also avoid placing new or exacerbating existing burdens on these communities, even if unintentional.

4.1 PUBLIC ENGAGEMENT

The Public Engagement metric measures the quality and effectiveness of the engagement activities that are adequate and appropriate for the project, and over and above the standard public scoping and meeting requirements under the environmental review process. This metric also addresses the CTP 2050 and CAPTI equity goal with emphasis on representation and involvement of disadvantaged groups for an equitable public engagement process.

Methodology

This metric is assessed with a checklist approach that comprises of both the quality of public engagement and measurable actions undertaken. The performance-based metric considers three key areas of assessment:

1. **The Public Engagement Plan (PEP), or Equivalent**: This document should clearly outline the overall approach and purpose of engagement, which may range from informational, educational, to outcomes-oriented with active participation in the project development, referred to as the spectrum of engagement. An engagement plan should be tailored to the project and community needs, address community history and past sentiments, and demonstrate consideration and implementation of community input in project scope.
2. **Public Engagement Actions Undertaken:** This pertains to the timing, frequency, audience, and methods used for outreach and engagement. The project should clearly demonstrate past and planned engagement from pre-planning through various phases of project development with the appropriate audiences for the project (i.e., local governments, community leaders, disadvantages communities, underrepresented groups, advocacy groups, Tribal Organizations, etc.). It is important that a project provides ample and easily accessible

opportunities for the public and members of disadvantaged groups to engage in the process.

3. **Project Responsiveness to Public Input:** The project should clearly demonstrate that the design or scope was or will be responsive to accommodate the needs and input from the public engagement process. Being responsive may be in the form of refinements or modifications to the project scope or specific elements. A superior response would demonstrate project's responsiveness to the public engagement with related project design, timing, and other changes.

Data Requirements

To assess the Public Engagement metric, the following information is required:

- **Public Engagement Plan or equivalent document**: This document should document the outreach and engagement methods tailored to the project. It can include the history of engagement undertaken through the prior phases of the project.
- **Outreach & Engagement Undertaken:** Summary of stakeholder & community meetings/events occurred and planned throughout project development (open houses, pop-up event, community charrettes, city/county council meetings, and regional agency board meetings, etc.); documentation of project development team meetings that include local partners/stakeholders (technical advisory committee, citizen advisory committee, etc.); documentation of community meetings that include disadvantaged and vulnerable communities, Tribal Organization, and other interest groups; feedback survey that document the responses to public engagement. Meeting and event materials may include, but not limited to, fact sheets, meeting/event agendas and minutes, flyers (all languages used), presentations, public comments, project website, focus group notes, summary of feedback, polling results, list of organizations contacted, contact list, and photos of event and/or link to project website, etc.
- **Responsiveness to Public Input**: The public engagement process resulted in a project that is responsive to community input. This may include meeting minutes, response to comments, follow-up stakeholder/public meetings, surveys, etc.

Metric Constraints

This metric acknowledges there would be varying levels of engagements depending on the project type and size, location, audience, and other factors. A larger complex project may require a more comprehensive public engagement plan and process, while a smaller project may be less intensive. Regardless on the project size and other factors, the project should demonstrate a strong public engagement that is appropriate for the project through well documented activities, events, and outcomes.

Due to the qualitative approach of this metric, it is important that the applicant provides as much information available, including measurable components (number of

meetings/events, outreach methods, participants, comments received, etc.) and narratives on to demonstrate meaningful public engagement.

Scoring Rubric

Project is evaluated on a 0 to 10 continuous scale, with 0 corresponding to project that does not include any public engagement and 10 demonstrating superior public engagement that meets and exceeds all scoring areas. The score is defined as follows:

10 = Superior Overall Public Engagement
8 = Excellent Overall Public Engagement
6 = Average Overall Public Engagement
4 = Adequate Overall Public Engagement
2= Inadequate Overall Public Engagement
0= Unacceptable Overall Public Engagement

Points	Scoring Descriptors or Criteria, including but not limited to the following:
A. Public Engagement Plan (PEP) or Equivalent (2 Points)	
A1. Quality of the PEP or Equivalent (1 Point) **A2. Public Engagement Materials (1 Point)**	• Spectrum of Engagement: Informative-Education-Outcome Oriented Approach • Demonstrates consideration and implementation of community input for project scope • Tailored to the community needs and addresses community history and past sentiment • Demonstrates several outreach strategies and engagement methods planned throughout project development • Public outreach is well planned and demonstrated in the PEP
B. Public Engagement Actions Undertaken (4 Points)	
Audience **B1. Stakeholders and Community Groups (1 Point)** **B2. DAC & Native American Tribes (1 Point)**	• A variety of stakeholder and community groups were/are included in public outreach events and input methods • Disadvantaged communities, underrepresented groups, advocacy groups, and other interest groups • Tribal Organization, Tribal Affairs, and Tribal Leaders
Methods & Materials **B3. Outreach Methods and Materials (1 Point)** **B4. Engagement Methods and Materials (1 Point)**	• Enumerate public outreach methods, utilizing multiple methods, as appropriate. • Enumerate public engagement methods to communicate and receive stakeholders & community feedback, utilizing multiple methods, as appropriate • Outreach and engagement methods are well documented (Fact sheets, meeting agendas & minutes, flyers in multiple languages as appropriate, presentations, public comments, project webpage, focus group notes, summary of feedback, polling results, list of organizations contacted, contact list, and photos of event and/or link to project website, etc.)

C. Project Responsiveness to Public Feedback (4 Points)	
C1. Project Responsiveness to Feedback (2 Points) **C2. Input & Feedback loop (2 Points)**	• Engagement allowed for public input to shape the project in multiple forms (public/community meetings, direct contact via email/phone, comment intake portal, etc.) • Project is responsive to community input that resulted in a project scope and/or refinements & modifications that addressed community needs either in early planning and/or through project development • Documented decisions that the project considered and addressed community input for existing and future needs of project location and transportation system (i.e., meeting minutes, response to comments, follow-up stakeholder & public meetings, etc.) • Engagement demonstrates equitable outcomes • Feedback survey documents the quality of engagement

4.2 CLIMATE ADAPTATION AND RESILIENCY

The Climate Adaptation and Resiliency metric evaluates how the project proposes to address identified climate stressors and risks within the project limits and incorporate adaptation strategies and measures to increase the resiliency of at-risk transportation infrastructure to current or projected climate stressors.

CAPTI Guiding Principle Alignment

Assessing physical climate risk as standard practice for transportation infrastructure projects to enable informed decision-making, especially in communities that are most vulnerable to climate-related health and safety risks.

Climate risks to transportation infrastructure refers to vulnerabilities of the transportation infrastructure to the physical effects from climate stressors, such as sea level rise, storm surge, cliff retreat, wildfire, extreme temperatures, flooding, or other extreme weather events or natural hazards and potential impacts to facilities, users, or nearby economic, environmental, or community resources from these stressors. ***Climate adaptation*** can be defined as steps taken to modify the project components and prepare the community to minimize or avoid these risks and potential effects from climate change stressors. ***Resiliency*** is an ability to recover and adapt to the adverse events. Refer to the Caltrans Climate Change Vulnerability Assessment.

While greenhouse gas emissions, air quality, and VMT-related assessment are commonly included in the environmental documents, the intent of this metric is to assess climate stressors (exposure and risk assessment) to gauge vulnerabilities and apply adaptation measures or actions that would reduce or ameliorate climate risks on transportation infrastructure and the communities. Assessing climate risk requires using relevant climate change data sources to evaluate potential impacts from climate change stressors and to identify potential impacts to the transportation facilities, its users, or to surrounding economic, environmental, or community assets.

Methodology

This metric is performance-based that considers three key areas of assessment:

1. Identification and Evaluation of Climate Change Effects, Stressors and related Risks, and Vulnerabilities, and Adaptation Strategies
2. Consistency with the State, Regional, and local Climate Change Adaptation Plans, Policies, and Actions
3. Evaluation of Climate Change-related Risks to Vulnerable Communities and Adaptation Strategies

Additional criteria are provided for emergency projects or emergency response and evacuation projects or such components of larger projects. Disaster management projects should consider all phases of the FEMA emergency management cycle, such as mitigation, preparedness, response, and recovery – for a stronger score. Additionally, projects that address multimodal evacuation in alignment with other State and federal transportation policies and goals (i.e., transit, active transportation, etc.) will also receive a stronger score.

Projects on the State Highway System (SHS)

Projects on the SHS should use Caltrans' studies and plans on climate vulnerability, including the District Climate Change Vulnerability Assessments and the Adaptation Priorities Reports to identify and assess climate stressors. Project-level climate risk assessments or similar studies evaluating segment(s) on the SHS should use and refer to the District Climate Change Vulnerability Assessments and the Adaptation Priorities Reports to identify all assets in the study area as well as their assigned priority level(s).

A climate risk assessment must include a description of the current conditions, and the potential exposure to climate stressors that could affect the system's performance for goods movement, economic prosperity, roadway safety, and/or other secondary impacts from climate change.

Projects are required to demonstrate consideration of and consistency with the state climate change goals and strategies from the California State Transportation Agency's (CalSTA) Climate Action Plan for Transportation Infrastructure (CAPTI), the California Transportation Plan (CTP) 2050, and Caltrans 2020-2024 Strategic Plan. In addition, projects should advance the goals and actions included in Assembly Bill (AB) 1482, AB 2800, Executive Order (EO) B-30-15, EO N-82-20, and the California Climate Adaptation Strategy which collectively direct agencies to account and prepare for climate change impacts by incorporating adaptation strategies in all infrastructure investments, including all phases of planning and project delivery. Projects are also required to demonstrate consistency with other regional, and local climate adaptation plans or policies, where applicable to the projects.

Projects off the State Highway System (SHS)

When the project scope and limits include facilities off the SHS, other state or federal climate data sources may be utilized to supplement the identification of climate hazards, exposures, and stressors. Past climate events, extreme weather events, or conditions from the changing climate may be used to supplement identification of climate vulnerabilities. When available, granular level data for any climate stressor at the local, regional, or academic level can be used. This information and data may be used to inform the project scope but should not be used in place of the climate risk assessment.

Projects should demonstrate climate adaptation measures and strategies in response to the stressors consistent with Caltrans guidance in the Adaptation Strategies for Transportation Infrastructure and the State Climate Resilience Improvement Plan for Transportation. Other available regional or local adaptation plans or policies, as appropriate could also be used to supplement the evaluation and application of adaptation strategies and measures.

Non-Highway Projects

Projected climate stressors and hazards for non-highway projects, such as passenger/ freight rail, seaport, transit, or active transportation projects are not available through Caltrans Climate Change Vulnerability Assessments and the Adaptation Priority Reports.

Non-highway projects may use other resources, such as Cal-Adapt.org or other local climate data sources and tools, to identify and assess vulnerability to climate change stressors. Such information, data, and analysis could be used to respond to this metric with references to the studies and data sources. When possible, include images such as screenshots of analyses performed using climate change tools listed below, or to provide pictures from past impacts to support an initial climate risk assessment.

Non-highway projects must also demonstrate consideration of and consistency with the state climate change goals and strategies from the California State Transportation Agency's (CalSTA) Climate Action Plan for Transportation Infrastructure (CAPTI), the California Transportation Plan (CTP) 2050, and Caltrans 2020-2024 Strategic Plan and, where applicable, regional, or local climate change assessments, adaptation plans or policies, and resiliency measures. Additionally, projects should advance the goals and actions included in Assembly Bill (AB) 1482, AB 2800, Executive Order (EO) B-30-15, EO N-82-20, and the California Climate Adaptation Strategy which collectively direct agencies to account and prepare for climate change impacts by incorporating adaptation strategies in all infrastructure investments, including all phases of planning and project delivery.

Note: Datasets must have climate change incorporated in its methodology to be considered eligible. When a dataset does not include climate change, it could be

used in tandem with other climate change data such as Cal-Adapt.org to capture the project related climate vulnerability.

When certain climate stressors, such as wind events, land subsidence and others are not included in the Cal Adapt, provide history of such climate events with its effects on the transportation infrastructure, its users, or to surrounding economic, environmental, or community assets. Images of transportation facilities impacted by these events will assist in substantiating the need for projects that will address such impacts.

Recommended climate assessment and adaptation sources:

1. Caltrans District Climate Change Vulnerability Assessments
2. Caltrans District Climate Change Adaptation Priorities Reports
3. Adaptation Strategies for Transportation Infrastructure
4. Caltrans Climate Change Emphasis Area Guidance for Corridor Planning
5. State Climate Resilience Improvement Plan for Transportation
6. Other Resources: Selecting Climate Information to Use in Climate Risk and Impact Assessments: Guide for Federal Agency Climate Adaptation Planners (White House Office of Science and Technology Policy. Washington, D.C. March 2023)
7. Climate Mapping for Resilience and Adaptation

Data Requirements

To assess the Climate Adaptation & Resiliency metric, the following information is required:

- A preliminary analysis of climate change impacts using existing resources with identification of Climate Stressors, Risks, and Vulnerabilities and Adaptation Strategies
- For data, studies, and tool sources, see Cal Adapt.org in addition to above listed resources
- When applicable, provide history of climate events and their effects (such as wind events, land subsidence, others) not available in Cal Adapt or other state, regional and local plans

Metric Constraints

The metric is constrained by existing available knowledge, data, tools, and assessment methodologies. As an example, certain climate stressors such as wind events, land subsidence and others are not included in the Cal Adapt and may be available in other resources. Growing scientific and technological understanding of climate and

related climate change, stressors, vulnerabilities, and adaptation measures will continually influence this metric and future updates.

Scoring Rubric

Projects will be evaluated on a 0 to 10 continuous scale based on the rubric below.

Score	Criteria
10	**Climate Change Impacts/Vulnerabilities/Risks** – The Project: • Has conducted a robust and comprehensive climate risk assessment for All climate stressors as appropriate (wildfire, sea level rise, drought, temperature change, precipitation, and extreme events) on timelines that align with the expected service life of the Project, following State and Caltrans climate adaptation planning guidance. Climate components and outcomes of the Project are demonstrated to be consistent with state goals and regional or local adaptation plans or policies, as appropriate. • Nature-based adaptation strategies form part of the Project's design components wherever feasible and appropriate.
	State, Regional, and Local Climate Change Adaptation Goals – The Project: Climate components and outcomes of the Project exemplify State goals and regional or local adaptation plans or policies, as appropriate.
	Impacts to Vulnerable Communities – The Project: Includes a robust and comprehensive evaluation of potential climate change-related risks to vulnerable communities – including disadvantaged, low income, and BIPOC communities, Native American Tribal Organization/Tribes – demonstrated in the project planning, scoping, and design process. The Project demonstrates a superior level of response and components of the Project that will improve the resilience of these communities to climate change stressors or impacts *(considered superior)*.
	Disaster Management Projects – The Project: Prioritizes alternative measures to improve evacuation flow, response, and recovery times such as: ITS, counterflow/contraflow/lane reversal measures as a primary objective for the project, and fully addresses all projected impacts on all transportation facilities within the project area as identified in the climate risk assessment. The project is located at least partially on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation, and the project must document that the above measures are specifically prepared for emergency operations through design changes, personnel training, incident command planning, or adoption of emergency operations plans in accordance with Caltrans Design Information Bulletin (DIB) #93: Evacuation Route Design Guidance: https://dot.ca.gov/-/media/dot-media/programs/design/documents/signed-dib-93-evacuation-route-a11y.pdf.

Score	Criteria
8	**Climate Change Impacts/Vulnerabilities/Risks** – The Project either: • Has conducted a climate risk assessment for all climate stressors as appropriate (wildfire, sea level rise, drought, temperature change, precipitation, and extreme events) on timelines that align with the expected service life of the Project, following State and Caltrans climate adaptation planning guidance. Climate components and outcomes of the Project are demonstrated to be consistent with State goals and regional or local adaptation plans or policies, as appropriate; and, • Identifies design components and/or adaptation strategies that mitigate identified climate risk(s) for entirety of expected service life as part of its primary objectives or as a significant part of its outcomes. If no adaptation elements are included in project scope, strong justification is provided which refers to the findings of the initial climate risk assessment and the project scope will include the development of detailed long-term adaptation strategies to improve the resilience of transportation facilities, roadway users, or of communities or habitats surrounding the project area to climate change stressors or impacts. • Project identifies comprehensive design components and/or adaptation strategies that mitigate identified climate risk(s) for entirety of expected service life as part of its primary objectives or as a significant part of its outcomes. If no adaptation elements are included in project scope, strong justification is provided which refers to the findings of the initial climate risk assessment and the project scope will include the development of detailed long-term adaptation strategies to improve the resilience of transportation facilities, roadway users, or of communities or habitats surrounding the project area to climate change stressors or impacts. • Nature-based adaptation strategies form part of the Project's design components wherever feasible and appropriate.
	State, Regional, and Local Climate Change Adaptation Goals – The Project Climate components and outcomes of the Project are demonstrated to be consistent with State goals and regional or local adaptation plans or policies, as appropriate.
	Impacts to Vulnerable Communities – The Project includes a comprehensive evaluation of potential climate change-related risks to vulnerable communities – including disadvantaged, low income, and BIPOC communities, Native American Tribal Organization/Tribes – demonstrated in the project planning, scoping, and design process. The Project demonstrates that components of the Project will improve the resilience of these communities to climate change stressors or impacts *(considered excellent)*.

Score	Criteria
	Disaster Management Projects – The Project either: • Prioritizes alternative measures to improve evacuation flow, response, and recovery times, such as: ITS, counterflow/contraflow/lane reversal measures as a primary objective for the project, and fully addresses all projected impacts on all transportation facilities within the project area as identified in the climate risk assessment. The project is located at least partially on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation; or, • Prioritizes alternative measures to improve evacuation flow, response, and recovery times such as: ITS, counterflow/contraflow/lane reversal measures as a primary objective for the project, and fully addresses all projected impacts on all transportation facilities within the project area as identified in the climate risk assessment. The project is located at least partially on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation, and the project must document that the above measures are specifically prepared for emergency operations through design changes, personnel training, incident command planning, or adoption of emergency operations plans.

Score	Criteria
6	**Climate Change Impacts/Vulnerabilities/Risks** – The Project either: • Has conducted climate risk assessment for some climate stressors, but not all that are applicable to the project location; or, • Has conducted climate risk assessment for most of the applicable climate stressors on timelines that align with the expected service life of the Project, following State and Caltrans climate adaptation planning guidance; or • The risk assessment clearly aligns with the expected service life of the Project.
	State, Regional, and Local Climate Change Adaptation Goals – The Project: Climate components and outcomes of the Project are demonstrated to be consistent with State goals and regional or local adaptation plans or policies, as appropriate.
	Impacts to Vulnerable Communities – The Project either: • Demonstrates consideration of vulnerable communities – including disadvantaged, low-income, and BIPOC communities, Native American Tribal Organization/Tribes; addresses some of the considerations in the Project planning, scoping, and design process (considered adequate); or, • Demonstrates consideration of vulnerable communities – including disadvantaged, low-income, and BIPOC communities, Native American Tribal Organization/Tribes; addresses some considerations in the Project planning, scoping, and design process *(considered average)*.

	Disaster Management Projects – The Project either: • Prioritizes alternative measures to improve evacuation flow, response, and recovery times such as: ITS, counterflow/contraflow/lane reversal measures as a primary objective for the project but does not fully address all projected impacts due to an incomplete climate risk assessment. The project is located at least partially on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation. • Prioritizes alternative measures to improve evacuation flow, response, and recovery times such as: ITS, counterflow/contraflow/lane reversal measures as a primary objective for the project, and fully addresses all projected impacts on most transportation modes within the project area as identified in the climate risk assessment. The project is located at least partially on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation.

Score	Criteria
4	**Climate Change Impacts/Vulnerabilities/Risks** – The Project either: • Has conducted climate risk assessment for at least one climate stressor, but not all that are applicable to the project location. Project does NOT include design components and/or adaptation strategies to address the identified climate stressor; or, • Has conducted climate risk assessment for some climate stressors, but not all that are applicable to the project location. The risk assessment is not clear if it aligns with the expected service life of the Project.
	State, Regional, and Local Climate Change Adaptation Goals – The Project: Some of the climate components and outcomes of the Project are demonstrated to be consistent with State goals and regional or local adaptation plans or policies, as appropriate.
	Impacts to Vulnerable Communities – The Project: Demonstrates minimal consideration of vulnerable communities – including disadvantaged, low-income, and BIPOC communities, Native American Tribal Organization/Tribes; addresses only few considerations in the Project planning, scoping, and design process *(considered inadequate)*.
	Disaster Management Projects – The Project either: • Includes some changes or enhancements to the transportation system that incorporates the need for improved evacuation facilities due to impacts from extreme weather or other climate change stressors such as riverine flooding, wildfire, or landslide, but these changes do not align with the findings of the climate risk assessment. The project is not located on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation, but the facilities have been used for evacuation in the past during emergency events. • Includes changes or enhancements to the transportation system which incorporates the need for improved evacuation due to projected climate change impacts identified in the climate risk assessment, and some of those impacts are

	addressed in the design and scope of evacuation improvements. The project is not located on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation, but the facilities have been used for evacuation in the past during emergency events.

Score	Criteria
2	**Climate Change Impacts/Vulnerabilities/Risks** – The Project either: • Did not conduct climate risk assessment following State and Caltrans climate adaptation planning guidance; or, • Minimally addresses climate risks identified in design components and/or adaptation strategies to mitigate identified climate risk(s). These design components and/or adaptation strategies are NOT part of the primary objectives or a significant part of its outcomes, and/or the Project does NOT design the strategies for the entirety of expected service life.
	State, Regional, and Local Climate Change Adaptation Goals – The Project either: • Climate change is minimally considered throughout project planning, scoping, and design, with NO alignment with State goals, and regional or local adaptation plans or policies are NOT included; or, • Climate change is minimally considered throughout project planning, scoping, and design, with minimal alignment with State goals, and regional or local adaptation plans or policies included.
	Impacts to Vulnerable Communities – The Project: Demonstrates minimal consideration of vulnerable communities – including disadvantaged, low-income, and BIPOC communities Native American Tribal Organization/Tribes; BUT these considerations are NOT included in the Project planning, scoping, and design process *(considered unacceptable)*.
	Disaster Management Projects – The Project either: • Includes changes/enhancements to the transportation system which incorporates improvements that may improve evacuation and acknowledges the need for improved evacuation facilities due to past impacts from extreme weather or other climate stressors (riverine flooding, wildfire, or landslide, etc.), but no deliberate changes were made to improve evacuation on transportation facilities. The project is not located on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documents; or, • Includes changes or enhancements to the transportation system that acknowledges the need for improved evacuation due to due to past impacts from extreme weather or other climate stressors such as riverine flooding, wildfire, or landslide, and evacuation improvements such as ITS, counterflow/contraflow/lane reversal measures are minimally incorporated into the design and scope. The project is not located on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or others.

Score	Criteria
0	**Climate Change Impacts/Vulnerabilities/Risks** – The Project either: • Does not mention or acknowledge climate change impacts, vulnerabilities, or risks; or, • Acknowledges past climate change impacts on transportation infrastructure and/or future climate risk, but does NOT include analysis of anticipated vulnerabilities, data sources used, or long-term adaptation strategies.
	State, Regional, and Local Climate Change Adaptation Goals – The Project either: • Not consistent with State climate adaptation goals, or with regional/local adaptation plans/policies; or, • Very minimally considers climate change throughout project planning, scoping, and design, with NO alignment with State goals, and regional or local adaptation plans or policies are NOT included.
	Impacts to Vulnerable Communities – The Project either: • Does not include evaluation of potential climate change-related risks to climate-vulnerable communities; or, • Demonstrates NO consideration of vulnerable communities – including disadvantaged, low-income, and BIPOC communities, Native American Tribal Organization/Tribes; and these considerations are NOT included in the Project planning, scoping, and design process *(considered unacceptable)*.
	Disaster Management Projects – The Project either: • Does not present viable strategies to improve evacuation flow, response, or recovery times; or, • Includes changes or enhancements to the transportation system which may assist in evacuation during extreme weather or emergency events as a co-benefit, but no deliberate changes were made to improve evacuation on transportation facilities. The project is not located on an evacuation route previously documented in a Community Wildfire Protect Plan, Local Hazard Mitigation Plan, a Safety Element of a General Plan, or in other documentation.

Appendix

APPENDIX A – ACRONYMS

AADT	Annual Average Daily Traffic
AFC	Alternative Fuel Corridors
CAPTI	Climate Action Plan for Transportation Infrastructure
CMF	Crash Modification Factors
CRF	Crash Reduction Factor
CSFAP	California Sustainable Freight Action Plan
CSIS	Caltrans System Investment Strategy
DAC	Disadvantaged Community
EQI	Equity Index
FSI	Fatal and Serious Injury
HERE	A data vendor producing Points of Interest data
HOV	High Occupancy Vehicle
HQTA	High Quality Transit Areas
LEHD	Longitudinal Employer-Household Dynamics
LTS	Level of Traffic Stress
NCST	National Center for Sustainable Transportation
PID	Project Initiation Document
POI	Points of Interest
SHS	State Highway System
SOV	Single Occupancy Vehicle
TDM	Transportation Demand Model
TOAR	Traffic Operations Analysis Report
TTRI	Truck Travel Time Reliability Index
VMT	Vehicle Miles Traveled
ZEV	Zero-Emission Vehicle

APPENDIX B – GLOSSARY

Accessibility: The ability to reach destinations, generally defined as employment and non-work destinations, via the auto, transit, pedestrian, and bicycle networks. Factors affecting accessibility include density and location of destinations, travel times by mode (including first- and last-mile walks for transit), and "level of traffic stress" for cycling.

California Sustainable Freight Action Plan Typologies: Project elements defined by the California Sustainable Freight Action Plan that support sustainable freight. These are: Alternative Fuel Infrastructure, Bridge Improvements, Bridge Replacements, and Intermodal At-grade Crossing Reduction, Modal (Non-highway Mode) Freight Mobility, Freight Safety, Resiliency, and Security, Freight Technology-based Approaches, Sustainable Trucking, and Other Modal and Sustainable Approaches. Other modal and sustainable approaches will require additional review by the Headquarters Freight team to determine alignment with the California Sustainable Freight Action Plan Typologies.

Conveyal: A web-based software tool for calculating accessibility for custom transportation and land use scenarios.

Disadvantaged Community: Members of communities of color and underserved communities that experienced fewer benefits and a greater share of negative impacts associated with our state's transportation system. Within the context of this document, it is defined in a manner consistent with the Caltrans EQI, which includes all people that are part of a low-income household (defined by AB 1550).

Extreme Weather/Events: Defined differently based on the climate stressors or impacts being called out. For example, for an extreme heat day or warm night is defined as a day in a year when the daily max/minimum temperature exceeds in the 98th percentile of daily max/min temperatures based on observed historical data from 1961-1990 between April and October. Generally, an extreme weather event is an occurrence that is significantly different from typical weather at a specific location for that time of year. There is flexibility for what can be considered an "extreme event". More examples "extremes" can be found at https://cal-adapt.org/tools/.

Heavy Duty Chargers: Chargers designed for the use of heavy-duty vehicles, such as trucks or buses.

Location Data: The location and extent of a project, stored in Geographic Information System. To accurately capture standardized Project Geographic Data, a single Survey123 form has been developed by Caltrans HQ and will be distributed to project sponsors.

Longitudinal Employer-Household Dynamics: The US Census Longitudinal Employer-Household Dynamics survey program produces a dataset with origin-destination employment statistics to identify counts of jobs and workers within each Census block.

Low Income: A Census block group is designated as a 'low-income' community if either 1) its median household income was at or below 80% of the statewide median household income, OR 2) its median household income was at or below the 2022 county low-income limit established by the California Department of Housing and Community Development. This definition is consistent with AB 1550.

Metric: Performance criteria where a numerical score is assigned to a project based on a set of thresholds or ranges.

Points of Interest: Non-work destinations, including grocery stores, medical facilities, schools, attractions, etc.

Population-Weighted Accessibility: Raw accessibility scores weighted by population to reflect the number of people who would benefit from an improvement, and to avoid showing benefits to zero-population areas. Population weighting may be based on the entire population or the population in a disadvantaged community, depending on the metric.

Program Fit: An assessment of a project competitiveness for a discretionary funding program in which the project is being considered. This assessment mirrors the program guidelines by ensuring the project meets the program objectives, eligibility, and requirements, and competitive under key program criteria.

Project Sponsor: A project advocate (local/state agency, or private entity) that acquires and ensure adequate project funding.

Rural: An area that does not intersect a US Census Urbanized area.

Scoring Cycle: A particular time period in which project nominations are being evaluated and prioritized under the CSIS framework for a specific competitive program.