Draft 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)

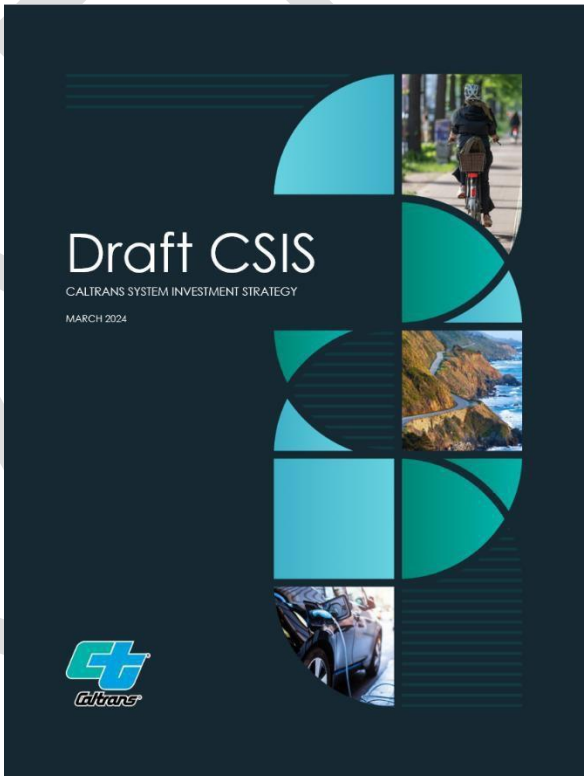
MARCH 2024

Contents

1 – Introduction

The California Department of Transportation (Caltrans) is committed to implementing one of the key actions of the California State Transportation Agency's (CalSTA) Climate Action Plan for Transportation Infrastructure (CAPTI, July 2021) to develop the Caltrans System Investment Strategy (CSIS) through a data and performance-driven approach. The CSIS is Caltrans' investment framework to align project nominations with the 10 CAPTI Guiding Principles by establishing methodologies and processes for evaluating and prioritizing projects for various state and federal discretionary funding programs. The CSIS will result in greater collaboration with external partners, as well as consistency and transparency in the decision-making process.

This document, a companion document to the Draft CSIS, establishes qualitative and quantitative metrics to assess alignment with the 10 CAPTI Guiding Principles. Each metric assesses the extent to which a project aligns with one or more CAPTI principles. To reduce double-counting and streamline required data analysis, there is not a 1:1 mapping of CAPTI principles to CAPTI metrics.



As with the CSIS investment framework that applies to projects that are past the Project Initiation Documents (PID) phase, commonly referred to as post-PID, the CAPTI metrics discussed in this document are intended to evaluate projects that are in or past the environmental phase where more data is available to assess under the quantitative metrics. Projects earlier in project development will require a simpler estimate with less precision, due to uncertainties in the project scope, alternatives, or incomplete outcomes analysis. However, preliminary estimates may be provided in order to help inform the project's potential CAPTI alignment scores for their projects.

It is important to note that while this document focuses on CAPTI Alignment metrics, project prioritization under the CSIS investment framework considers both Program Fit[1] and CAPTI Alignment. 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.

[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 – Metric Score & Weight

The CSIS establishes 11 metrics to assess CAPTI alignment (**Figure 1**) through both quantitative and qualitative metrics, with all metrics are on a 0 to 10-point scale. During a CSIS scoring cycle[2], a project's overall score will include the Program Fit rating (high, medium, low) and a CAPTI Alignment score. Projects are first prioritized by their Program Fit ratings, followed by their CAPTI Alignment scores. Projects that are rated low in Project Fit are likely not to proceed as a Caltrans nomination. As part of project prioritization, other relevant project information is also included for management consideration, such as geographic context, partnership history, completion of a corridor, leveraging funds, funding and schedule risks, and fund request amount.

***Figure 1** – CAPTI Metrics*

CURVE SCORING

When a set of project nominations are being evaluated for a competitive program, referred to as a scoring cycle, the project receives a "provisional score" for each metric, which is a raw score it receives based on the metric scoring rubric. A simple curve is then applied to the provisional score of each metric score. Under this curve scoring, the highest scored project in the scoring cycle is given the top score of 10 on that metric. The difference between the top scored project on that metric and 10 is added to all metrics in that cycle. For example, if the highest scoring project on Accessibility metric in a scoring cycle is a 7.5, 2.5 points are added to the Accessibility scores for all other projects in that scoring cycle. A second project with a provisional Accessibility score of 5.3 would receive a curved score of 7.8. This approach is to ensure that all metrics have equal emphasis, since it is not known in advance what the best performing project of each cycle will be.

METRIC WEIGHTS

All metrics are weighted equally. For a funding program where the metric is not relevant for a particular funding program, the metric will be considered "not applicable" while the rest of the metrics will remain equally weighted. For example, the Freight Sustainability and Efficiency metric (Figure 1) is not a suitable metric for active

[2] A specific period in which project nominations are being evaluated and prioritized under the CSIS framework for a particular competitive program.

transportation type projects that are being nominated for the state Active Transportation Program. Therefore, this metric is considered not applicable and will not be evaluated for as part of CAPTI alignment. Refer to Appendix A for a preliminary list of programs where the CAPTI metrics are applicable.

3 – CAPTI Quantitative Metrics

Nine quantitative metrics are established to assess alignment with eight of ten 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

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.

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

Methodology

This metric uses the crash history within the project area, Safety Countermeasures, and Crash Reduction Factors (CRF) to analyze and determine which projects will have the most impactful reduction in crashes, particularly fatal and serious injury crashes.

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:

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

2. ***Fatal and Serious Injury (FSI) Crashes:*** Provide the count of relevant roadway crashes, with FSI crashes segregated, over a 5-year lookback period within the project limits, starting from the most recent year of available crash data. This should include off-system crashes, if applicable.

3. ***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 or other four or five star rated countermeasures from the Crash Modification Factors (CMF) Clearinghouse that are included in the project scope. There will be an option to add other countermeasures off the FHWA list for review.

4. ***Crash Reduction Factor (CRF):*** Identify and report context appropriate CRFs associated with each project countermeasure in terms of expected percent

reduction in crashes. Cite relevant technical reference for each CRF from FHWA, Caltrans, or CMF Clearinghouse that is rated four-stars or higher. If claiming credit for multiple countermeasures, combine CRFs to the extent possible and provide a copy 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.

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 making roadway changes. However, railroad grade crossing projects will automatically receive 10 points for Safety, even though there is not an FHWA or CMF Clearinghouse countermeasure.

Scoring Rubric

Score	Description
10	High safety need (fatal or serious injury crashes) and high crash reduction factor of 10% or greater; Rail Grade Crossing projects will receive a 10
8	Lower safety need (crashes, but no fatal or serious injury crashes) and high crash reduction factor of 10% or greater
6	High safety need (fatal or serious injury crashes) and low crash reduction factor (less than 10%)
4	Lower safety need (Crashes, but no fatal or serious injury crashes) and low crash reduction factor (less than 10%)
2	Project area has no crashes and no safety countermeasures identified
0	Project area has crashes (of any severity) and no safety countermeasures identified

3.2 VEHICLE MILE-TRAVELED (VMT)

The VMT metric focuses on prioritizing projects that reduce VMT. Projects that do not significantly increase VMT will typically score closer to 5 points, where 5 is the neutral score on this metric.

> ***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.*

Methodology

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.

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 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.

Projects that do not increase VMT are not required to estimate the VMT reduction in the environmental process.

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 VMT 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.

HQ 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 scope of VMT reduction or addition. TDM models and environmental documents may come up with inconsistent VMT figures for projects in different areas. Comparing pre-and-post SB 743 projects may result in inconsistencies in VMT evaluations for similar project typologies. Metric may not be sufficient to meet CARB Scoping Plan goals.

Scoring Rubric

Score	Description
>5 to 10	Scaled between the two numbers, with a 10 representing 10 Million Annual VMT reduced
5	No VMT Change
0 to <5	Scaled between the two numbers, 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.

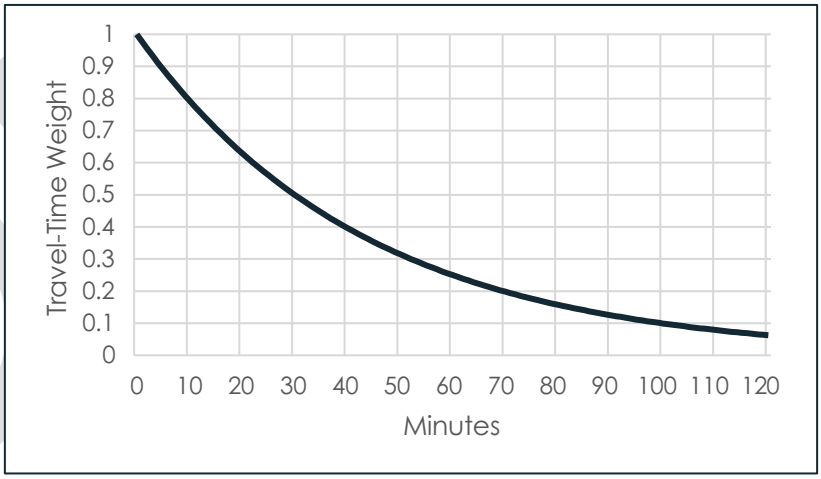
Methodology

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 modes.

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.

Figure 2 illustrates the decay curve used in al accessibility metrics within CSIS. This avoids the issue with having a set time threshold and no impact on accessibility once a destination crosses the threshold. 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 projects accessibility score.

Figure 2 *– Accessibility Time Decay Weight*



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. Using data from Open Street Map, the Conveyal tool is able to determine baseline level of traffic stress using a simple methodology. Caltrans HQ will verify the assumptions and code the correct baseline/build level of traffic stress values based on observed conditions and project documentation.

Accessibility is analyzed on a mode-by-mode basis. However, 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 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:

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

2. ***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.

3. ***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.

Furthermore, this metric focuses on transportation-land use components of access but has certain limitations as it pertains to access broadly. 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 fairly 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 whether or not sidewalks are present. 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.

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%. 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

Example: A project that has a .5% change in accessible destination post project implementation would score a 7.5

3.4 DAC – ACCESS TO JOBS AND DESTINATIONS

The Disadvantage Community (DAC) – Access to Jobs and Destination metric focuses on providing economic opportunity to underrepresented and disadvantaged communities.

> ***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

"Disadvantaged communities" are 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.

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. 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.

Data Requirements

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

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

2. ***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.

3. ***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

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

This DAC – Traffic Impacts metric focuses on evaluating 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, per EQI methodology. This is based on emission figures from 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. They 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 Cons traints

This metric does not yet account for the difference in AADT between zero-emission vehicle (ZEV) and non-ZEV vehicles. Truck traffic being 6 times the car traffic 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 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:

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

This ratio is calculated for all three non-auto modes (transit, bike, and ped) and an average of the three ratios is taken. 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 an average is taken between the two.

Data Requirements

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

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

2. ***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.

3. ***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 RESOURCES

The Land Use and Natural Resources metric combines two CAPTI principles that account for urban and rural land use considerations. The first principle is related to supportive land use and infill development, while the second is preserving natural and working lands. Typically, projects in urban/suburban areas will score well by supporting infill land use, while rural projects will score well by protecting and enhancing natural and working lands.

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.

Methodology

Urban/suburban projects are those that intersect with an incorporated city or Urbanized Area. These are defined by the Census incorporated places, PRC 21071, or PRC 21094.5 (statutes used by CAL FIRE).
Most projects are urban/suburban projects under this definition, even those in predominantly rural districts. These projects are scored based on the following:

- Support non-single occupancy vehicle (SOV) travel in an incorporated area eligible for infill development according to the OPR Sitecheck tool. For a project to score well, all project elements must support travel by non-SOV modes and must be located in an eligible area.

- Create new High Quality Transit Areas (HQTAs, defined by PRC – 21155, 21064.3). HQTAs trigger a variety of infill-friendly policies, including no parking minimums, California Environmental Quality Act streamlining, and more. HQTAs can be created in the following ways:

    - Increase frequency of service along bus corridors to at least every 15 minutes in the morning and afternoon peaks
    - Create or enhance rail stations and ferry terminals with bus connections, by creating bus rapid transit stations meeting PRC 21060.2 and by establishing major bus stops at the intersection of two frequent corridors. Except for isolated frequent bus corridors, all these additionally qualify for "major transit stop" status, a more stringent definition which some infill-friendly policies require.

  A map of existing HQTAs can be found at: CA HQ Transit Areas

Outside of infill development areas, projects that preserve Natural and Working lands are prioritized. Caltrans will identify if a fully rural project is located within 200 meters (1/8 miles) of the OPR Site Check Protected Areas inventory (Site Check data is hosted by Databasin). This represents the protected areas (federal, state, local and private conservation) that exclude development in California. Caltrans is currently identifying additional data layers to consider. If the project is within or near a protected area, a high-scoring project must have an identified project element (i.e., a wildlife bridge, land banking, etc.) that supports the preservation of these natural and working lands.

Examples of project elements include: establishing 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. These interventions are based on the California Transportation Plan 2050.

Data Requirements

To assess the Land Use and Natural Resources 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/or natural resource enhancements and environmental mitigations and project narrative 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 0-5, resulting in a total 10 points:

- ***Multimodal and Clean Freight*** sub-metric focuses on projects that primarily deliver modal 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

To receive a score for increasing Multimodal and Clean Freight sub-metric, a project should be located on the National Highway Freight Network (or working toward federal designation). 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.

Multimodal and Clean Freight

The Multimodal and Clean Freight sub-metric evaluates freight sustainability based on the percentage of capital construction project budget dedicated to elements consistent with California Sustainable Freight Action Plan (CSFAP) typologies.

Freight Efficiency

The Freight Efficiency sub-metric focuses on targeting investment where freight is most unreliable or increasing modal freight. It evaluates freight efficiency based on existing truck throughput and award maximum points to a project that increases modal freight capacity (e.g., rail freight projects) by using the Truck Travel Time Reliability Index (TTRI). Caltrans HQ will perform TTRI calculations using Streetlight data, which Caltrans procured. Alternatively, TTRI calculation can be provided by the project sponsor where Streetlight Data might not be the most reliable provider of this information.

Data Requirements

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

1. ***Location Data:*** Provide project geographic location data using an ArcGIS Editor Form available on the Caltrans intranet.
2. ***Project elements*** included in the CSFAP

3. Project costs associated with sustainable/modal/clean freight project elements
4. Total capital construction cost

Metric Constraints

Projects are rewarded to target areas with existing unreliable freight movement. 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

Multimodal and Clean Freight

- Scored 0-5, where 5 corresponds to 100% of the project capital construction cost dedicated to CSFAP Typologies:
  - CSFAP Typologies: 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.

Freight Efficiency

- Scored 0-5, where 5 corresponds to a TTTRI of 3, representing highly unreliable truck travel times in the project area currently. 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 focuses on the extent of zero-emission infrastructure investments in a project.

> ***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. 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 areas, to align with the CAPTI principle.

Rural is defined as a project not intersecting a US Census Urbanized area (same as 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 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 & Cost:*** Provide information on the number of charger ports, power levels, location, and the 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 technology.

Scoring Rubric

The score is calculated by establishing a ratio of ZEV Infrastructure to $50 million in fund request. This ratio is then 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

Example: A project with a fund request of $25M for 6 Level 3 charger ports in an urban area would have a ratio of 12 per $50M request. That ratio is halfway between 0 and 10 maximum point ratio. The project would be scored a 5.

4 – 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. A new project review committee is 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, while also beyond the standard requirements of the environmental 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 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:

- **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.

- **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.

- **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.

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.

- **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 public engagement and 10 demonstrating superior public engagement that meet and exceed 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)	
<u>Audience</u> **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
<u>Methods & Materials</u> **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 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 components of projects.

Projects on the State Highway System (SHS)

Projects on the SHS should use Caltrans' studies and plans on climate vulnerability, including the Climate Change Vulnerability Assessment and District-level Adaptation Priority 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 Climate Change Vulnerability Assessments and District's Adaptation Priority Report 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.

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.

Recommended climate assessment and adaptation sources:

- Caltrans District Climate Change Vulnerability Assessments
- Caltrans District Climate Change Adaptation Priorities Reports
- Adaptation Strategies for Transportation Infrastructure
- Caltrans Climate Change Emphasis Area Guidance for Corridor Planning
- State Climate Resilience Improvement Plan for Transportation
- 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)

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).**
	Emergency 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 Stat e 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
	Emergency 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*).

	Emergency 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*).
	Emergency 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).
	Emergency 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*).
	Emergency 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 – CAPTI METRICS APPLICABILITY

This table is preliminary and subject to change.

CAPTI Metrics	SB 1 SCCP	SB 1 TCEP	State ATP
Safety	✓	✓	✓
VMT	✓	✓	N/A
Accessibility	✓	✓	✓
DAC – Access to Jobs and Destinations	✓	✓	✓
DAC – Traffic Impacts	✓	✓	✓
Passenger Mode Shift	✓	✓	✓
Land Use and Natural Resources	✓	✓	N/A
Freight Sustainability & Efficiency	✓	✓	N/A
Zero Emission Vehicles	✓	✓	N/A
Public Engagement	✓	✓	✓
Climate Adaptation and Resilience	✓	✓	N/A

APPENDIX B – ACRONYMS & GLOSSARY

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

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/Event: is 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. A list of POI categories utilized in CSIS can be found in Appendix 2 of this document.

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.