Appendix D: Modeling Results

Final

Modeling and Analysis Report

Task 3.3.3

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Contents

Tables

Figures

Appendices

1. Background

The US 50 CMCP is a regionally coordinated planning process that includes developing and analyzing a list of transportation projects to pursue funding opportunities. The project list was analyzed to understand how projects collectively and individually will achieve the plan goals identified in the plan's Policy Framework:

- Improve safety for all transportation system users,
- Enhance travel reliability, and
- Increase multimodal travel options and access to destinations.

The CMCP must demonstrate how implementing these projects will improve corridor performance and achieve the plan's goals. This report presents the results of three scenarios, analyzed using the SACSIM regional travel demand model, and compares the results to quantify how the plan will achieve its goals and improve transportation in the long term.

The first scenario, referred to hereafter as **Existing Conditions**, considers transportation and land use generally as they exist today. The second scenario, the **2050 No Build**, describes a future in which the population in the Study Area continues to grow, and the transportation network remains generally the same as it is today. [1] These two scenarios, shaded in blue in Table 1, were the focus of the Baseline Performance Assessment. By comparing the **Existing Conditions** to the **2050 No Build** (dark blue arrow line in Table 1), one can understand how safety, reliability, options, and access would be affected by not investing in the transportation network.

The third scenario, the **2050 Build**, describes a future in which the region builds transportation projects that will improve safety, enhance reliability, and increase options and access. The CMCP Team has included the Constrained List projects from March 2026 in the **2050 Build** scenario and modeled the results.

In this report, the **2050 No Build** scenario, from the Baseline Performance Assessment, is compared with the **2050 Build** scenario. Through this comparison (light blue arrow line in Table 1), the CMCP Team quantifies the benefits of implementing projects recommended by the CMCP, and answer the key question, "Compared to taking no action, how will the CMCP improve safety, reliability, options and access?"

Table 1: Scenario Types and Scenario Comparisons

	Existing Year	Future: 2050
No Build	Existing Conditions	2050 No Build
Build	not applicable	2050 Build

[1] The 2050 No Build and 2050 Build scenarios both include transit service planned by 2050.

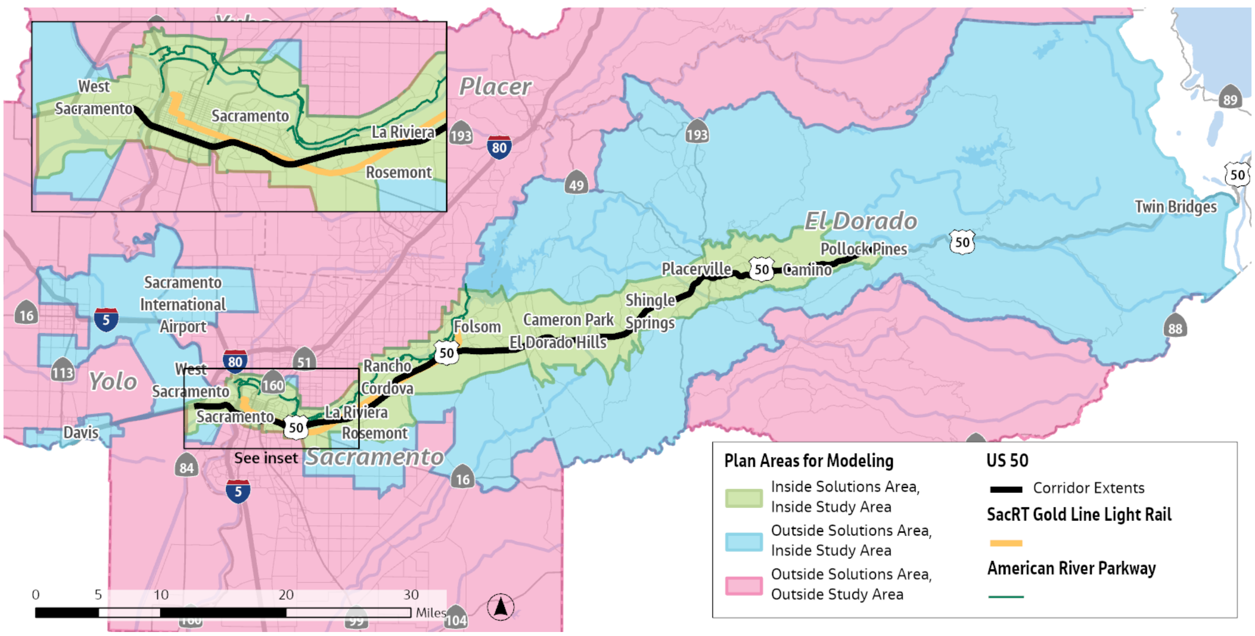
1.1 Plan Areas

The **US 50 CMCP** is centered on U.S. Route 50, approximately 58 miles in length, from West Sacramento at the I-80/US 50 split to Pollock Pines. From west to east, US 50 goes through the communities of West Sacramento, Sacramento, La Riviera, Rosemont, Rancho Cordova, Folsom, El Dorado Hills, Cameron Park, Shingle Springs, Placerville, Camino, and Pollock Pines. The limits of US 50 for the purposes of this CMCP are shown as a black line in Figure 1.

The **US 50 CMCP Study Area**, which defined where the CMCP Team analyzed baseline performance for this report, encompasses the blue and green areas in Figure 1. The Study Area also defined where the CMCP Team analyzed potential benefits and impacts of proposed transportation solutions and engage partners and the public throughout the planning process. It was defined through a combination of partner input through the US 50 CMCP Technical Advisory Committee (TAC) and big data from mobile devices that indicate where trips using US 50 start and end.

The **US 50 CMCP Solutions Area**, which defined where the CMCP Team recommended transportation solutions, is shown in green in Figure 1. The Solutions Area was defined through feedback received from the US 50 CMCP Subject Matter Expert (SME) Group and the US 50 CMCP TAC. It encompasses the SacRT Gold Line light rail line and American River Parkway multi-use path to Folsom Lake.

Figure 1: Solutions Area and Study Area



1.2 Limitations

SACOG's Travel Demand Model, SACSIM, was the primary tool for analyzing performance results presented in this report. SACSIM provides a particular use case for evaluating the performance of a CMCP or corridor plan, as it is most effective in measuring the effects of regional transportation and land use changes that affect regional travel.

In general, population and employment changes have the greatest effect on travel demand model results. An activity-based travel model, such as SACSIM, simulates how people and households make daily travel decisions based on the activities they need or want to do. It estimates where people go, when they travel, how they get there, these activities travel is the demand on the roads, transit, walking, and biking networks. Generally, more population and employment increase the number of activities and demand on the system.

Beyond population and employment growth, the location and density of population and jobs also affect SACSIM model results. The locations of population and jobs are major factors because they define where trips start and end. Density affects mode choice: areas of higher population and employment density tend to produce and attract more trips by transit, biking, and walking, whereas lower density tends to produce and attract more vehicle trips.

SACSIM and other travel demand models perform best at modeling projects whose main effect is network performance. These include projects such as high-occupancy vehicle (HOV) and high-occupancy toll (HOT) lanes, major rail extensions, and park-and-ride facilities. Demand models capture the interaction between multiple projects and connection to land use and are a good fit for corridor studies. However, some types of projects are more difficult to capture their full performance effect on a demand model such as Intelligent Transportation Systems (ITS). Analyzing their effects requires microsimulation modeling because travel demand models are not capable of capturing traffic dynamics such as queue formation and dissipation.

SACSIM is capable of modeling projects such as bus service enhancements and shared use paths and trails, but travel demand models largely understate the full benefits of these projects. For transit specifically, transit demand models underrepresent the benefits of reliability and do not fully capture the benefits of high-frequency transit. As such, the performance measures results presented in this report largely capture the effects of projects that SACSIM can model.

There are many projects that cannot be modeled using SACSIM, so the performance measure benefits associated with those projects may not be captured in this report. These projects include active transportation, complete streets, traffic calming, ITS, first/last-mile improvements, transit station improvements, and transportation demand management. Examples of projects and programs in the CMCP that could not be modeled include US 50 Trip to Green, Envision Broadway, Folsom Boulevard Complete Streets, Sacramento Valley Station Regional Bus Mobility Center, and American River Parkway improvements.

With currently available technology, it is not feasible to measure the effects of a single project's impact on corridor performance on its own. SACSIM and other travel demand models produce results for each model run as a whole, which in the case of this CMCP includes hundreds of projects. It is not possible to attribute changes in performance to any single project with certainty, though large projects such as freeway managed lanes and new major roadways are generally assumed to produce the greatest effects.

2. Performance Measures and Analysis Approach

The following measures are produced using SACSIM:

- **Person Hours of Delay,**
- **Transit Passenger Hours of Delay,**
- **Daily Vehicle Hours of Delay,**
- **Congested Vehicle Miles Traveled,**
- **Non-Highway Vehicle Miles Traveled,**
- **Vehicle Miles Traveled (VMT) per capita,**
- **Non-Single Occupant Vehicle Mode Share,**
- **Non-Vehicle Mode Share, and**
- **Peak Period Person Throughput by Mode.**

The calculation of transportation emissions uses results from SACSIM but requires specific emission modeling tools to complete. The CMCP Team ran the California Air Resources Board's Emission Factor (EMFAC) modeling tool to estimate transportation emissions. Access to a rail station or high-frequency bus stop was calculated using population data from SACSIM and peak period transit frequency from transit operators.

Some baseline measures were calculated off model, not using SACSIM. To calculate vehicle seat utilization, the CMCP Team compared average vehicle utilization with average vehicle capacity. To calculate transit seat utilization, the CMCP Team identified light rail trips and US 50 bus trips during peak periods in the peak direction and compared average passenger loads with average passenger capacities.

The scenario-level measures, shown in Table 2, were selected based on alignment with CMCP goals, TAC and partner feedback, and consistency with state policy priorities.

Table 2: Scenario-Level Measures

<table>
<tr><th>Measure</th><th>Area</th><th>Time Period</th></tr>
<tr><td colspan="3">Goal: Enhance travel reliability within the corridor</td></tr>
<tr><td>Person hours of delay</td><td rowspan="5">On US 50</td><td rowspan="5">Daily</td></tr>
<tr><td>Vehicle hours of delay</td></tr>
<tr><td>Vehicle miles traveled (VMT)</td></tr>
<tr><td>Congested VMT</td></tr>
<tr><td>Transit passenger hours of delay</td></tr>
<tr><td>Person throughput by mode</td><td rowspan="3">On US 50 and Gold Line west of Watt Avenue</td><td rowspan="4">Peak period, peak direction</td></tr>
<tr><td>Transit seat utilization*</td></tr>
<tr><td>Vehicle seat utilization*</td></tr>
<tr><td>Non-highway VMT per capita</td><td>In the Study Area</td></tr>
<tr><td colspan="3">Goal: Increase multimodal travel options and access to destinations</td></tr>
<tr><td>VMT per capita</td><td>On US 50</td><td>Daily</td></tr>
</table>

Measure	Area	Time Period
High-occupancy vehicle mode share		
VMT per capita	In the Study Area	
Non-driving mode share in the Study Area		
Residents with access to a major transit stop	In the Study Area within ½ mile of a major transit stop or high-quality transit corridor	Peak periods
Additional Measures		
Reduction of GHG emissions‡	In the Study Area	Daily
Carbon dioxide (CO_2)‡		
Nitrogen oxides (NO_x)‡		
Particulate matter (PM 2.5)‡		
Volatile organic compounds (VOC)‡		

*Recommended if the required data can be obtained
‡ Requires use of EMFAC

3. Scenario Definition

In collaboration with the US 50 CMCP Subject Matter Expert (SME) Group, the CMCP Team defined the baseline scenarios in Table 3. Appendix A provides detailed information about the collaborative process to define these scenarios.

The **2050 Build** scenario adds the Constrained List projects from March 2026 inside the Solutions Area and assumes the 2050 Blueprint network outside the Solutions Area.

The **2050 Build** scenario's land use is aligned with 2050 Blueprint projections both inside and outside the Solutions Area.

Table 3: Plan Scenarios

<table>
<tr><th></th><th>Existing Conditions: 2024</th><th>Future Conditions: 2050</th></tr>
<tr><td rowspan="3">No Build</td><td rowspan="3">Whole Region:
2024 network
2024 land use</td><td>Inside Solutions Area:
2027 network
2035 land use
2035-2050 growth will be redistributed outside the Solutions Area</td></tr>
<tr><td>Outside Solutions Area, Inside Study Area:
2027 network
2050 land use + redistributed growth from inside the Solutions Area</td></tr>
<tr><td>Outside Solutions Area, Outside Study Area:
2050 network
2050 land use + redistributed growth from inside the Solutions Area</td></tr>
<tr><td rowspan="2">Build</td><td rowspan="2">Not applicable</td><td>Inside Solutions Area:
2027 network + CMCP solutions
2050 land use</td></tr>
<tr><td>Outside Solutions Area:
2050 network
2050 land use</td></tr>
</table>

The Sacramento region's population is assumed to grow by the same amount in the **2050 No Build** and **2050 Build** scenario. If US 50 corridor's transportation systems remain unchanged, then population in the US 50 corridor is expected to grow less than other areas of the region. Thus, as shown in Table 4, the Study Area population is projected to grow more in the **2050 Build** scenario compared to the **2050 No Build** scenario.

Table 4: Population in 2050 in the Sacramento Region and US 50 CMCP Study Area

Direction	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Sacramento Region	2,630,829	3,120,051	3,120,051	No change
US 50 CMCP Study Area	597,991	742,639	784,214	6% increase

The **2050 Build** scenario has 41,000 more residents in the Study Area than the **2050 No Build** scenario. Even if each resident travels the same amount as they do today, the increase in population in turn will result in more trips overall and greater demands on the corridor's transportation systems.

4. Scenario Results

The following sections present the performance of the **Existing Conditions**, **2050 No Build**, and **2050 Build** scenarios as defined by measures established in the Performance Measures Memo. Scenario-level measures are linked to the CMCP's goals to enhance travel reliability and increase multimodal travel options and access to destinations. In alignment with CAPTI, greenhouse gas emissions are also reported as a key performance measure. A discussion and a summary of these results is presented in **Sections 4.4 and 4.5**.

4.1 Travel Reliability

4.1.1 Person Hours of Delay

Person hours of delay, shown in Table 5, measures the extra time drivers and passengers on US 50 spend per day in traffic beyond what they would experience if there was no traffic congestion. Delay is calculated by subtracting free flow travel time from congested travel time. Person hours of delay are greater than vehicle hours of delay because the average vehicle is occupied by more than one person. This measure is derived from the SACSIM regional travel demand model.

Table 5: Daily Person Hours of Delay on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	8,544	9,119	9,879	**8%**
Westbound	8,737	9,524	10,151	**7%**

Person hours of delay per VMT, shown in Table 6, measures the extra time drivers and passengers on US 50 spend in traffic beyond what they would experience if there was no traffic congestion, normalized by vehicle miles traveled. This measure is derived from the SACSIM regional travel demand model. The increase in person hours of delay is less when normalized.

Table 6: Daily Person Hours of Delay per Vehicle Mile Traveled on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	0.00284	0.00279	0.00295	**6%**
Westbound	0.00291	0.00293	0.00305	**4%**

4.1.2 Vehicle Hours of Delay

Vehicle hours of delay, shown in Table 7, measures the extra time vehicles on US 50 spend per day in traffic beyond free-flow (no congestion) conditions. Delay is calculated by subtracting free flow travel time from congested travel time. This measure is derived from SACSIM.

Table 7: Daily Vehicle Hours of Delay on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	6,768	7,391	7,917	**7%**
Westbound	6,999	7,800	8,205	**5%**

Vehicle hours of delay per VMT, shown in Table 8, measures the extra time vehicles on US 50 spend per day in traffic beyond free-flow (no congestion) conditions, normalized by vehicle miles traveled. This measure is derived from SACSIM. The increase in vehicle hours of delay is less when normalized.

Table 8: Daily Vehicle Hours of Delay per Vehicle Mile Traveled on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	0.00225	0.00226	0.00236	**4%**
Westbound	0.00233	0.00240	0.00247	**3%**

4.1.3 Transit Passenger Hours of Delay

Transit passenger hours of delay, shown in Table 9, measures the extra time transit passengers on US 50 spend per day in traffic beyond what they would experience if there was no traffic congestion. Delay is calculated by subtracting free flow travel time from congested travel time, multiplied by the transit volume (in passengers) on each segment. This measure is derived from SACSIM.

Transit passenger hours of delay saw a notably higher increase relative to person hours of delay due to a significant increase in transit ridership and passenger miles traveled (PMT). Because transit passenger delay is calculated by multiplying delay by the number of passengers, the growth in PMT results in a corresponding rise in transit passenger hours of delay.

Table 9: Daily Transit Passenger Hours of Delay on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	4	17	17	**<-1%**
Westbound	9	19	19	**<-1%**

4.1.4 Vehicle Miles Traveled on US 50

Vehicle miles traveled, shown in Table 10, measures the total distance traveled per day by vehicles on US 50. This measure is derived from SACSIM.

The **2050 Build** scenario has 41,000 more residents in the Study Area than the **2050 No Build** scenario. Even if each resident travels the same amount as they do today, the increase in population in turn will result in more trips overall and greater demands on the corridor's transportation systems.

Table 10: Daily Vehicle Miles Traveled on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	3,004,158	3,264,515	3,351,302	**3%**
Westbound	3,004,713	3,253,772	3,326,755	**2%**

4.1.5 Congested Vehicle Miles Traveled

Congested vehicle miles traveled per capita, shown in Table 11, includes two measures. First, the distance traveled per day by vehicles in congested traffic, normalized by the population of the Study Area. Second, the distance traveled to workplaces in congested traffic in the Study Area, normalized by jobs in the Study Area, including people who do not live in the Study Area. These measures are derived from the SACSIM regional travel demand model.

Table 11: Daily Congested Vehicle Miles Traveled per Capita

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Per Resident	0.74	1.06	0.97	**-9%**
Per Job	1.18	1.48	1.32	**-11%**

Congested vehicle miles traveled on US 50, shown in Table 12, measures the distance traveled per day by vehicles on US 50 in congested traffic. Roadway links (segments) are considered congested when their volume to capacity ratio is greater than one. This measure is derived from SACSIM.

Large changes in congested vehicle miles traveled are typical because roadway links near capacity can easily exceed the threshold for congestion through growth in population and employment. When a roadway link becomes congested, all vehicle miles traveled on it are considered to be congested. These factors can result in large swings in congested vehicle miles traveled.

Table 12: Daily Congested Vehicle Miles Traveled on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	50,561	42,101	69,997	**66%** [2]
Westbound	80,748	112,801	103,875	**-8%**

4.1.6 Non-Highway Vehicle Miles Traveled

Non-highway vehicle miles traveled, shown in Table 13, measures the distance traveled per day by vehicles inside the Study Area on roads that are not freeways. This measure is derived from the SACSIM regional travel demand model by identifying non-highway roadway segments based on link capacity classifications. Non-highway vehicle miles traveled may increase when highways become more congested.

Table 13: Daily Non-Highway Vehicle Miles Traveled in the Study Area

Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
10,481,713	12,268,528	12,341,697	**<1%**

4.1.7 Peak Period Person Throughput by Mode

Peak period person throughput, shown in Table 14, measures the travelers traveling on US 50, Folsom Boulevard, SR 16 (Jackson Road), and Gold Line light rail at a screen line west of Watt Avenue during peak periods. It is measured during the AM peak period (7 AM to 10 AM) for westbound travel and the PM peak period (3 PM to 6 PM) for eastbound travel to align with daily commute patterns. Commercial vehicle trips are considered to be single occupancy and included in

[2] The increase in eastbound congested VMT in the 2050 Build is primarily driven by two factors: 1) In the 2050 Build, one general purpose lane is converted to a high-occupancy toll lane in the peak direction. As a result, the volume-to-capacity (V/C) ratio increases on several segments from just below the congestion threshold in the No Build scenario (e.g., 0.96-0.97) to slightly above the threshold in the 2050 Build (e.g., 1.01); and 2) On some segments, total VMT increases by only 4%, however, because the V/C ratio crosses the congestion threshold, the entire segment VMT becomes classified as congested VMT. This results in a relatively large increase in reported congested VMT even though the change in traffic volumes is modest.

the single occupancy vehicle (SOV) total. This measure is derived from the SACSIM regional travel demand model.

Table 14: Peak Period Person Throughput by Mode on US 50 and Gold Line Light Rail

Type	Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
AM Westbound	SOV	22,092	24,183	23,485	**-3%**
	HOV 2 occupants	6,241	7,305	6,492	**-11%**
	HOV 3 occupants	6,232	7,071	7,061	**<-1%**
	Bus	75	124	125	**1%**
	Light Rail	1,003	1,566	1,490	**-5%**
	Total	**35,644**	**40,249**	**38,653**	**-4%**
PM Eastbound	SOV	21,360	23,725	23,292	**-2%**
	HOV 2 occupants	6,945	8,038	7,449	**-7%**
	HOV 3 occupants	6,474	7,166	7,169	**<1%**
	Bus	47	94	79	**-16%**
	Light Rail	1,012	1,608	1,762	**10%**
	Total	**35,838**	**40,630**	**39,751**	**-2%**

4.1.8 Transit Seat Utilization

Transit seat utilization, shown in Table 15, measures the share of seats occupied during the AM peak (7 AM to 10 AM) on westbound (peak direction) buses traveling on US 50 west of Watt Avenue and on Gold Line light rail vehicles west of Watt / Manlove station. Watt Avenue was chosen due to its role as a traffic bottleneck, its position at the terminus of the existing High Occupancy Vehicle lane, and its proximity to a major transit station. The measure is derived from actual 2025 ridership from SacRT and El Dorado Transit on the Gold Line, Route 109, and US 50 Commuter.

Table 15: AM Peak Transit Seat Utilization on US 50 and the Gold Line west of Watt Avenue

Mode	Existing Conditions
Bus	35%
Light Rail	27%
Total	**29%**

4.1.9 Vehicle Seat Utilization

Vehicle seat utilization, shown in Table 16, measures the share of seats that are occupied in vehicles on US 50 at a screen line west of Watt Avenue.[3] It is measured during the AM peak period (7 AM to 10 AM) for westbound travel and the PM peak period (3 PM to 6 PM) for eastbound travel to align with daily commute patterns. This measure is derived from the SACSIM regional travel demand model. The average vehicle is assumed to have five seats for the purpose of this analysis.

[3] The screen line applied to various performance measures throughout this report is located at Occidental Drive/Florin Perkins Road to avoid ambiguity around drivers who enter or exit US 50 at Watt Avenue and transit passengers who board or alight at Watt / Manlove Station.

Table 16: Peak Period Vehicle Seat Utilization on US 50 west of Watt Avenue

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
AM Westbound	26.3%	26.4%	26.4%	**<-1%**
PM Eastbound	26.1%	26.2%	26.1%	**<-1%**

4.2 Multimodal Travel Options and Access to Destinations

4.2.1 Vehicle Miles Traveled

Vehicle miles traveled in the Study Area, shown in Table 17, measures the distance traveled per day by vehicles in the Study Area. This measure also accounts for trips made by individuals who work within the Study Area but reside outside of it. This measure is derived from the SACSIM regional demand model.

Table 17: Vehicle Miles Traveled in the Study Area (in millions)

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Freeway	11,365,843	12,651,738	12,811,854	**1%**
Non-Freeway	10,481,713	12,268,528	12,341,697	**<-1%**
Total	**21,847,556**	**24,920,266**	**25,153,551**	**<1%**

Vehicle miles traveled per capita, shown in Table 18, includes two measures. First, the distance traveled per day by vehicles, normalized by the population of the Study Area. Second, the distance traveled to workplaces in the Study Area, normalized by the jobs in the Study Area, including people who do not live in the Study Area. These measures are derived from the SACSIM regional travel demand model. Normalized per resident and per job, VMT is reduced with the **2050 Build** scenario.

Table 18: Daily Vehicle Miles Traveled per capita in the Study Area

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Per Resident	16.87	16.08	15.66	**-3%**
Per Job	17.51	16.37	15.96	**-3%**

4.2.2 High-Occupancy Vehicle Trips

High-occupancy vehicle (HOV) trips, shown in Table 19, measure the share of vehicle trips per day that are made by vehicles with more than one occupant (including the driver). Commercial vehicle trips are assumed to be single occupancy. This measure is derived from the SACSIM regional travel demand model.

Table 19: Daily High Occupancy Vehicle Mode Share on US 50

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Eastbound	19.6%	19.7%	19.4%	**-1%**
Westbound	19.9%	20.0%	19.8%	**<-1%**

4.2.3 Non-Driving Mode Share

The non-driving mode share, shown in Table 20, measures the percentage of trips per day made by walking, biking, public transit, and school buses in the Study Area. This measure is derived from the SACSIM regional travel demand model.

Table 20: Daily Non-Driving Mode Share in the Study Area

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Bike	2.7%	3.1%	3.2%	**3%**
Transit	1.8%	2.7%	2.7%	**3%**
Walking	9.3%	9.7%	9.9%	**4%**
School Bus	0.6%	0.6%	0.6%	**4%**
Total Non-Driving	**14.5%**	**16.1%**	**16.5%**	**3%**

4.2.4 Access to a Major Transit Stop

Access to a rail station or high-frequency bus stop, shown in Table 21, measures the population living within one half mile (measured as a straight line) of a **Major Transit Stop**, which is defined as an existing rail or bus rapid transit station, a ferry terminal served by bus or rail transit, or the intersection of two or more major bus routes with a service frequency of 20 minutes or better during peak commute hours. This measure is derived from **Major Transit Stop** data from Caltrans published in August 2025.

Table 21: Access to a Major Transit Stop in the Study Area

Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
122,842	184,181	369,276	**100%**

4.3 Transportation Emissions

Transportation emissions measures, shown in Table 22, measure the quantities of emissions from vehicles in the Study Area. This measure is derived using outputs from the SACSIM regional travel demand model, processed through the EMFAC 2025 emissions model developed by the California Air Resources Board (CARB). The unit for all pollutants is tons per day.

Table 22: Emissions from Transportation in the Study Area (in tons per day)

Type	Existing Conditions	2050 No Build	2050 Build	Build vs No Build Change
Carbon Dioxide (CO2)	22,943	25,648	25,658	**<1%**
Winter Nitrogen Oxide (NOx)	19.03	9.51	9.50	**<-1%**
Summer Nitrogen Oxide (NOx)	16.21	11.35	11.43	**<1%**
Particulate Matter (PM 2.5)	0.66	0.67	0.67	**<-1%**
Volatile Organic Compounds (VOC)	12.33	9.18	9.19	**<1%**

4.4 Study Area Performance

Table 23 summarizes Study Area performance of the **2050 Build** scenario compared to the **2050 No Build** scenario. The **2050 Build** and **2050 No Build** scenarios have different multimodal transportation networks and different land use assumptions (i.e., population and jobs). The modeled performance measure results reflect changes to both study area transportation and land use changes. Continued growth in population and employment will increase demand for transportation in the Study Area. The CMCP Team sought to keep total VMT stable, reduce VMT per capita, and increase non-driving mode share, all of which were achieved in the results.

Table 23: Study Area 2050 Build Scenario Performance

Measure	Target Change	2050 Build	Meeting Performance Target
VMT per capita	Lower	Lower	✓
Congested VMT per capita	Lower	Lower	✓
Total VMT	Minimal change	Minimal change	✓
Non-highway VMT	Minimal change	Minimal change	✓
Non-driving mode share	Higher	Higher	✓
Access to a major transit stop	Higher	Higher	✓
Transit passenger hours of delay	Lower	Minimal change	
Carbon dioxide (CO2) emissions	Lower	Minimal change	

The model results show that package of multimodal projects in the CMCP will reduce VMT per capita. Embedded within this are two results: people who live in the Study Area will drive less to get to where they want to go; and people who work in the Study Area, including commuters from outside the Study Area, will drive less to get to work. In addition, results show that congested vehicle miles per capita will also decrease. The average resident and average worker in the study area will experience less congestion.

The model also shows that the CMCP will increase non-driving mode share. The number of people accessing major transit stops in the Study Area will double with the **2050 Build**. Modeled transit improvements resulted in more transit trips in the study area (included in non-driving modes). The effect of these on increasing mode share is understated in SACSIM modeling because planned transit service improvements were included in both the **2050 No Build** and **2050 Build**. Modest transit travel time improvements were balanced by more modeled transit trips (included in non-driving modes), which resulted in no change in total transit passenger hours of delay.

Population and employment are greater in the **2050 Build** than in the **2050 No Build** (see Table 4, which shows a 6% population increase). This growth resulted in more study area trips in the **2050 Build** scenario. Despite increased trips and fewer or shorter individual trips, the **2050 Build** yields about same regional total VMT, non-highway VMT, and CO2 emissions as in the **2050 No Build** scenario.

4.5 US 50 Performance

Table 24 summarizes the performance of the **2050 Build** scenario compared to the **2050 No Build** scenario on US 50. The model forecasted that **2050 Build** scenario total corridor-level VMT, vehicle hours of delay, and person hours of delay are greater on US 50 than in the **2050 No Build** scenario. Continued growth in population and employment in the corridor will increase demand for travel on US 50.

Table 24: US 50 2050 Build Scenario Performance

Measure	Target Change	2050 Build
Vehicle seat utilization*	Higher	Minimal change
Total HOV trips	Higher	Minimal change
Total peak period person throughput	Higher	Lower
– SOV	Lower	Lower
– HOV 2 occupants	Higher	Lower
– HOV 3 occupants	Higher	Minimal change
– Bus*	Minimal change	Minimal change
– Light rail*	Higher	Higher
Total Congested VMT	Lower	Eastbound higher Westbound lower
Transit passenger hours of delay	Lower	Minimal change
Person hours of delay	Minimal change	Higher
Vehicle hours of delay	Minimal change	Higher

*Measured on both US 50 and routes parallel to US 50 for transit.

The model results show decreased VMT on US 50 both per resident and per job in the Study Area. The model forecasted that, with population and employment growth, person throughput will decrease on US 50 and increase on the transit alternative, the Gold Line light rail.

Proposed managed lanes on US 50 have a measurable impact on the travel reliability for travelers in the corridor. The goal of managed lanes is to improve operations on the freeway through better management of capacity. Managed lanes can help HOV and bus trips travel more efficiently with less congestion, and at the same time sell excess capacity to SOVs. Managed lanes also offer revenue generation benefits, enabling the region to fund other transportation improvements in the corridor.

State policy and regional strategy support conversion of existing freeway lanes to managed lanes. Caltrans has developed a Managed Lanes System Plan (MLSP) for District 3. SACOG Blueprint Focus Groups have found that residents consider tolls a reasonable approach for funding new roads, highways, and bridges, especially in areas experiencing growth and transformation. Managed lanes are also consistent with SB 743, which requires that transportation projects must be evaluated using Vehicle Miles Traveled (VMT) rather than traditional Level of Service (LOS), supporting multimodal solutions that reduce VMT and associated emissions.

For the purposes of this plan, the CMCP Team was limited to testing the performance of a single managed lanes strategy: a continuous managed lanes system that spanned most of the corridor in Sacramento County, from the US 50 / I-5 interchange to Folsom Blvd exit in Folsom. Future Caltrans MLSPs or other studies focused on managed lanes strategies could analyze multiple alternatives, which could include various locations, pricing, vehicle eligibility, and access control. Such studies could identify managed lanes strategies to optimize performance on US 50.

5. Project Analysis

Because SACSIM evaluates corridor-level performance rather than individual projects, project goals alignment was assessed using a complementary qualitative and quantitative framework as shown in Table 25.

Table 25: US 50 CMCP Goal and Performance Measures Alignment

US 50 CMCP Goal	Qualitative Measures (all projects)	Quantitative Measures (near-term opportunities only)
Enhance travel reliability	- Improves climate resilience - Improves freight sustainability and efficiency	- Bus travel time reliability - Travel time reliability
Improve safety for all transportation system users	- Improves safety	- Fatal and injury collisions - Non-motorized fatalities and serious injuries
Increase multimodal travel options and access to destinations	- Reduces VMT - Improves accessibility - Encourages mode shift - Improves climate resilience - Preserves natural resources	- Environmental justice population - Jobs accessible by mode - Jobs and dwelling units within ½ mile - Low-income or disadvantaged residents within ½ mile of a rail station or high-frequency bus stop - Neighborhood services accessibility - Residents with poor multimodal access to destinations

5.1 Qualitative Analysis: CAPTI/CSIS Alignment

5.1.1 Methodology

To analyze, compare, and prioritize US 50 CMCP solutions, the CMCP Team conducted a project-level qualitative evaluation to assess how each solution aligns with the Climate Action Plan for Transportation Infrastructure (CAPTI) and the Caltrans System Investment Strategy (CSIS). The evaluation was designed to align with the California State Transportation Agency's greenhouse gas- and equity-focused policies, as well as Caltrans' approach for assessing transportation project benefits.

The methodology, adapted from the approach developed for the SR 99 CMCP and later utilized for the I-80 CMCP, assigns qualitative ratings to project types based on their consistency with CAPTI and CSIS priorities. Each CMCP project was first labeled by mode and project type, then adapted to CAPTI and CSIS consistent categories. Based on these modes, project types were assigned a qualitative alignment rating of high, medium, or low:

- **High:** Project types that strongly align with CAPTI and CSIS policies and advance statewide goals related to greenhouse gas reduction, mode shift, safety, equity, and climate resilience.
- **Medium:** Project types that provide moderate or indirect benefits toward CAPTI and CSIS objectives.
- **Low:** Project types with limited alignment to CAPTI and CSIS priorities.

In the overall ratings, the top third is rated High, the middle third is rated Medium, and bottom third is rated Low. This scoring rubric was applied consistently across all CMCP solutions to ensure comparability and transparency in results.

5.1.2 CAPTI/CSIS Summary Results

The qualitative evaluation assessed a total of 28 unique combinations of project types, representing a diverse mix of transportation strategies included in the solutions list. Many projects incorporate multiple modes or project types. For these projects, the overall CAPTI/CSIS alignment rating reflects the combined performance of each individual mode.

Evaluating CAPTI and CSIS alignment supported solution screening and prioritization, as both policy frameworks closely align with the plan's goals. This analysis helped identify which project types most strongly support state climate, equity, and multimodal access objectives.

A complete table summarizing all project types, combinations, and corresponding alignment ratings is provided in the appendix. Table 26 presents the final CAPTI/CSIS alignment ratings by project type and project type combination.

Table 26: CAPTI/CSIS Alignment Ratings by Project Type(s)

Project Type(s)	Example Solution	CAPTI/CSIS Alignment Rating
Active Transportation	El Dorado Trail - South Shingle Road southwest to Latrobe	High
Active Transportation, Resilience	Pioneer Bluff Riverfront Trail	High
Freeways, Maintenance	ED 50 Shingle Springs Pavement Rehab	Low
Freeways, Managed Lanes	US 50 Dual Managed Lanes East Phase 1	Medium
Freeways, Operations	US 50 Auxiliary Lane - Westbound Sacramento County Line to El Dorado Hills Blvd	Low
Freeways, Operations, Active Transportation	US 50/Hazel Ave Interchange Improvements	Medium
Freeways, Operations, Safety	US 50/East Bidwell Interchange Improvements	Low
Freeways, Operations, Resilience	US 50/Cameron Park Dr Interchange Improvements	Low
Freeways, Operations, Transportation Demand Management	EB Bass Lake Rd. Diagonal Ramp Meter	Low
Freeways, Stations/Stops/Hubs	3rd Street Sacramento Valley Station Access and Northbound Ramp	Medium
Freeways, Safety	Guy West Bridge Ramp Redesign	Low
Freeways, Resilience	Placerville Maintenance Station Retaining Structure	Low
Freeways, Technology	CCTV Camera Upgrades	Medium
Rail, Maintenance	Capitol Corridor Operations & Maintenance	Low
Rail, Stations/Stops/Hubs	Sacramento Intermodal Transportation Facility - Phase 3	High
Rail, Resilience, Safety	Yolo Regional Freight Rail Project	Medium

Project Type(s)	Example Solution	CAPTI/CSIS Alignment Rating
Rail, Transit	Streetcar/Light Rail Extension Phase 2	High
Roads & Streets, Active Transportation	Envision Broadway in Oak Park	High
Roads & Streets, Maintenance	Placerville Dr at Hangtown Creek Bridge Replacement	Low
Roads & Streets, Operations	Douglas Rd. Widening	Low
Roads & Streets, Operations, Active Transportation	Enterprise Blvd. Corridor and Bridge Crossing	Low
Roads & Streets, Operations, Resilience	Green Valley Rd Widening - Francisco Dr to Silva Valley Parkway	Medium
Roads & Streets, Safety	16th St Lane Reduction: P to W Streets	Medium
Roads & Streets, Technology	Folsom Boulevard Intelligent Transportation System (ITS) Upgrade	Medium
Roads & Streets, Technology, Resilience	US 50 Trip to Green	High
Transit	Folsom Health Connections Service	High
Transit, Active Transportation	Stockton Boulevard Multimodal, Bus Rapid Transit, and Vision Zero Project	Medium
Transit, Fleet	Replacement LRVs	Low
Transit, Fleet, Operations	Expansion LRVs for Gold Line 15 Min Service to Folsom	High
Transit, Operations	Folsom Gold Line Service Enhancements	High
Transit, Stations/Stops/Hubs	Horn Light Rail Station	High
Transit, Technology, Operations	Systemwide SCADA Implementation	Medium
Transportation Demand Management	Transportation Demand Management (TDM) Phase 4	Medium

Note: Intelligent Transportation Systems (ITS) projects are categorized using the Technology project type.

5.2 Quantitative Analysis: Plan Goal Alignment

5.2.1 Methodology

The quantitative evaluation assessed ten performance measures to evaluate all 46 near-term opportunities based on existing conditions and spatial analysis. These measures use GIS-based analysis and SACOG's Project Performance Assessment (PPA) tool to assess current needs and contextual conditions. Each analysis generated an output representing the existing conditions for a given project. Measures are calculated within defined buffers around project limits to capture nearby populations, transportation conditions, and safety conditions. These individual outputs were normalized and combined to produce an overall project score.

Together, these measures assess system performance across three goals: enhance travel reliability, improve safety for all transportation system users, and increase multimodal travel options and access to destinations.

The performance measures associated with each goal are described below.

- **Enhance travel reliability**

- **Bus travel time reliability** used Cal-ITP data to evaluate variability in bus travel speeds during peak periods using segment-level data. It reflects how reliably bus services operate along a corridor.
- **Travel time reliability** measured the consistency of travel times along project limits by calculating the average reliability index from the PPA tool (the ratio of the 80th percentile travel time to the 50th percentile travel time) across AM and PM peak periods, as well as midday and weekend conditions.

- **Improve safety for all transportation system users**
  - **Fatal and injury collisions** counted the number of collisions resulting in fatalities or injuries along project limits from 2020 to 2025 using data from the California Statewide Integrated Traffic Records System (SWITRS).
  - **Non-motorized fatalities and injuries** counted the combined number of pedestrian and bicyclist injuries and fatalities resulting from vehicle collisions from 2020 to 2025 using data from the California Statewide Integrated Traffic Records System (SWITRS).
- **Increase multimodal travel options and access to destinations**
  - **Environmental justice population** quantified the proportion and number of environmental justice populations within a half-mile radius of a project. Environmental justice populations are defined by SACOG as census block group–level areas identified through a combination of socioeconomic and demographic indicators. These EJ areas include concentrations of low-income populations, minority populations, and/or communities experiencing “other vulnerabilities,” as well as areas identified by CalEnviroScreen 4.0.
  - **Jobs accessible by mode** captured the number of jobs reachable by different travel modes (e.g., walking, biking, transit) from the project limits.
  - **Jobs and dwelling units within ½ mile** counted the total number of jobs and housing units within a half-mile radius of a project.
  - **Low-income or disadvantaged residents within ½ mile of a major transit stop or high-quality transit corridor (%)** measured the share of disadvantaged populations located both (1) within a half-mile of a project and (2) within a half-mile of an existing or planned major transit stop or high-quality transit corridor, as defined in Public Resources Code Sections 21155, 21064.3, and 21060.2. Disadvantaged populations are defined as residents living in U.S. Census tracts identified by CalEnviroScreen 5.0 as having a Cumulative Impact Score in the 75th percentile or higher, reflecting elevated exposure to environmental burdens and associated public health risks.
  - **Neighborhood services accessibility** evaluated access to nearby services and destinations, including parks, K-12 schools, higher education facilities, libraries, hospitals, other medical service facilities, grocery stores, pharmacies, clothing stores, and banks, via walking, biking, and transit.
  - **Residents with poor multimodal access to destinations** measured the number of people living within a half mile of project limits who are in U.S. Census tracts identified by the Caltrans Transportation Equity Index (EQI) as having poor access to destinations. Poor access to destinations is defined as a relative lack of multimodal accessibility compared to driving. Specifically, access to destinations is measured as the ratio of transit and walking access to jobs relative to auto access to jobs.

Table 27: Project-level Quantitative Performance Measures

Measure	Tool
Bus travel time reliability (80th percentile to 20th percentile ratio)	GIS
Environmental justice population (percentage of total)	PPA
Fatal and injury collisions	GIS
Jobs accessible by mode	PPA
Jobs and dwelling units within ½ mile	PPA
Low-income or disadvantaged residents (percentage of total) within ½ mile of a rail station or high-frequency bus stop (peak periods)	GIS
Neighborhood services accessibility	PPA
Non-motorized fatalities and serious injuries	GIS
Residents with poor multimodal access to destinations	GIS
Travel time reliability (80th percentile to 20th percentile ratio)	PPA

5.3 Near-Term Opportunities Performance

The CMCP includes 46 near-term opportunities to enhance travel reliability, improve safety for all transportation system users, and increase multimodal travel options and access to destinations in the US 50 corridor. The following measures illustrate the scale and reach of the benefits these opportunities would provide:

- 205,000 people live within a half mile of at least one near-term opportunity.
- More than 55,000 corridor residents that currently have poor multimodal access to destinations according to the Caltrans EQI live within a half mile of at least one near-term opportunity.
- Nearly 14,000 low-income or disadvantaged residents live within a half mile of a major transit stop or high-quality transit corridor where transit would be improved through near-term opportunities.
- 48 miles of bicycle and pedestrian infrastructure would be improved through near-term opportunities, including 32 miles of trails.

Each of those near-term opportunities has unique value to the corridor and the region. Table 28 presents the final ratings of these projects from the qualitative and quantitative assessments. Projects are sorted in the following order: rating, lead agency, and title.

Table 28: Near-Term Opportunities Ratings

Project Title	Lead Agency	CAPTI/CSIS Alignment Rating	Plan Goal Alignment Rating
Riley Street Safety Improvement Project	City of Folsom	High	High
US 50 Trip to Green	City of Placerville	High	High
Envision Broadway in Oak Park	City of Sacramento	High	High
I St. Bridge Replacement	City of Sacramento	High	High
Sacramento Intermodal Transportation Facility - Phase 3	City of Sacramento	High	High
Sacramento Valley Station Regional Bus Mobility Center	City of Sacramento	High	High
Two Rivers Trail Phase 3	City of Sacramento	High	High

Project Title	Lead Agency	CAPTI/CSIS Alignment Rating	Plan Goal Alignment Rating
I Street Bridge Deck Conversion for Active Transportation Project	City of West Sacramento	High	High
North 5th Street Complete Streets & Connectivity Project	City of West Sacramento	High	High
Sacramento Ave Complete Streets Construction	City of West Sacramento	High	High
West Capitol Avenue Regional Connection Bicyclist and Pedestrian Safety Improvements	City of West Sacramento	High	High
American River Parkway Woodlake Trail Crossing and Realignment	Sacramento County	High	High
American River Parkway Woodlake Trail Realignment	Sacramento County	High	High
Folsom Boulevard Complete Streets Phase 2	Sacramento County	High	High
Downtown Riverfront Streetcar Project	Sacramento Regional Transit District	High	High
Folsom Gold Line Service Enhancements	Sacramento Regional Transit District	High	High
Horn Light Rail Station	Sacramento Regional Transit District	High	High
Stockton Blvd Enhanced Transit Service (Potential Bus Only Lanes for BRT)	Sacramento Regional Transit District	High	High
Midtown Station	San Joaquin Regional Rail Commission	High	High
Sacramento Track and Siding Upgrades	San Joaquin Regional Rail Commission	High	High
Folsom Boulevard Intelligent Transportation System (ITS) Upgrade	Sacramento County	Medium	High
Capital SouthEast Connector - White Rock Trail Phase 3	Capital SouthEast Connector Joint Powers Authority	High	Medium
Capital Center Dr/White Rock Rd Separated Bikeway	City of Rancho Cordova	High	Medium
FCM Bike Path Connection	City of Rancho Cordova	High	Medium
Folsom Boulevard Complete Streets Phase VI	City of Rancho Cordova	High	Medium
Rossmoor Bar Trail Enhancement Project	City of Rancho Cordova	High	Medium
Southport to Harbor Roadway Project	City of West Sacramento	High	Medium
Sycamore Trail Extension (Phase 3)	City of West Sacramento	High	Medium
Expansion LRVs for Gold Line 15 Min Service to Folsom	Sacramento Regional Transit District	High	Medium
Empire Ranch Road Interchange - Phase 1 Overcrossing	City of Folsom	Medium	Medium
US 50 at Hazel Ave Interchange	Sacramento County	Medium	Medium

Project Title	Lead Agency	CAPTI/CSIS Alignment Rating	Plan Goal Alignment Rating
Capital SouthEast Connector - White Rock Trail Phase 2	Capital SouthEast Connector Joint Powers Authority	High	Low
East Bidwell Pedestrian Overcrossing	City of Folsom	High	Low
Folsom Blvd. Bike/Ped Grade Separation	City of Folsom	High	Low
Clarksburg Branch Line Trail and Bridge-Phase2	City of West Sacramento	High	Low
El Dorado Trail - Central Shingle Springs	El Dorado County	High	Low
El Dorado Trail Extension - Halcon to US 50	El Dorado County	High	Low
US 50 Corridor Bike Route: Old Lincoln Highway Bike Path	El Dorado County	High	Low
US 50 Corridor Bike Route: Wild Chaparral Drive to Palmer Drive Bike Path Connection	El Dorado County	High	Low
Greenback Lane Complete Street Improvements	Sacramento County	High	Low
Mayhew Drain American River Parkway Trail	Sacramento County	High	Low
River Bend Overlay	Sacramento County	High	Low
White Rock Rd Shared-Use Path	Sacramento County	High	Low
Natomas Station and Layover	San Joaquin Regional Rail Commission	High	Low
Capital SouthEast Connector - D3b	Capital SouthEast Connector Joint Powers Authority	Low	Medium
Capital SouthEast Connector - E1	Capital SouthEast Connector Joint Powers Authority	Low	Medium
US 50 at Empire Ranch Road Interchange	City of Folsom	Low	Medium
US 50/East Bidwell Interchange Improvements	City of Folsom	Low	Medium
Douglas Rd. Widening	City of Rancho Cordova	Low	Medium
US 50 / Rancho Cordova Parkway Interchange	City of Rancho Cordova	Low	Medium
Enterprise Blvd. Corridor and Bridge Crossing	City of West Sacramento	Low	Medium
US 50/ Ponderosa Rd Durock Rd/So. Shingle Rd Interchange Improvements	El Dorado County	Low	Medium
Bradshaw Road Widening - Kiefer Blvd to Jackson Rd	Sacramento County	Low	Medium
Bradshaw Road at Kiefer Blvd Intersection Improvements	Sacramento County	Low	Medium
Construct Jug Handle Rd from Hazel Ave to Folsom Blvd	Sacramento County	Low	Medium

Project Title	Lead Agency	CAPTI/CSIS Alignment Rating	Plan Goal Alignment Rating
Douglas Rd. - Zinfandel Dr. to Rancho Cordova City Limit	Sacramento County	Low	Medium
Hazel Ave. Improvements	Sacramento County	Low	Medium
White Rock Road - Grant Line Rd. to Rancho Cordova City Limits	Sacramento County	Low	Medium
Widen S. Watt Ave. from SR-16 to Kiefer Blvd	Sacramento County	Low	Medium
Zinfandel Road Widening	Sacramento County	Low	Medium

Appendix D-1: CAPTI/CSIS Rating Rubric

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Active Transportation	High - Assumes active transportation projects will have a high impact on reducing collisions for bikes/peds	Medium - Assumes active transportation projects will have a medium impact on VMT reduction	High - Assumes active transportation projects will have a high impact on bike/ped network accessibility and travel times	Medium - Assumes active transportation projects will have a medium impact on mode shift	High - Assumes active transportation projects will have a high impact on benefiting disadvantaged communities	Medium - Assumes active transportation projects will have a medium impact on the preservation of natural and working lands	N/A - Assumes active transportation projects will have no impact on freight sustainability and efficiency	N/A - Assumes active transportation projects do not include investment in ZEV infrastructure	Low - Assumes active transportation projects will have a low impact on climate resilience	High
Active Transportation, Resilience	High - Assumes active transportation projects that focus on resilience have a medium impact on reducing collisions for bikes/peds	Medium - Assumes active transportation projects that focus on resilience will have a medium impact on VMT reduction	High - Assumes active transportation projects that focus on resilience will have a high impact on bike/ped network accessibility and travel times	Medium - Assumes active transportation projects that focus on resilience will have a medium impact on mode shift	High - Assumes active transportation projects that focus on resilience will have a high impact on benefiting disadvantaged communities	High - Assumes active transportation projects that focus on resilience will have a high impact on the preservation of natural and working lands	N/A - Assumes active transportation projects that focus on resilience will have no impact on freight sustainability and efficiency	N/A - Assumes active transportation projects that focus on resilience do not include investment in ZEV infrastructure	High - Assumes active transportation projects that focus on resilience will have a low impact on climate resilience	High
Freeways, Maintenance	Medium - Assumes freeway maintenance projects will have a medium impact on reducing collisions	Low - Assumes freeway maintenance projects will have a low impact on VMT reduction	Low - Assumes freeway maintenance projects will have a low impact on network accessibility and travel times	Low - Assumes freeway maintenance projects will have a low impact on mode shift	Medium - Assumes freeway maintenance projects will have a medium impact on benefiting disadvantaged communities	Low - Assumes freeway maintenance projects will have a low impact on the preservation of natural and working lands	N/A - Assumes freeway maintenance projects will have no impact on freight sustainability and efficiency	N/A - Assumes freeway maintenance projects will have no impact on ZEV infrastructure investment	N/A - Assumes freeway maintenance projects will have no impact on climate resilience	Low
Freeways, Managed Lanes	Medium - Assumes ML projects will have a medium impact on reducing collisions	Low - Assumes ML projects will have a low impact on VMT reduction; based on initial model results, VMT reduction is low	High - Assumes ML projects will have a high impact on network accessibility and travel times	Low - Assumes ML projects will have a low impact on mode shift	Low - Assumes ML projects will have a low impact on benefiting disadvantaged communities	Low - Assumes ML projects will have a low impact on the preservation of natural and working lands	High - Assumes ML projects will have a high impact on freight sustainability and efficiency	N/A - Assumes ML projects will have no impact on ZEV infrastructure investment	Low - Assumes ML projects will have a low impact on climate resilience	Medium
Freeways, Operations	Medium - Assumes projects that improve freeway operations or increase capacity will have a medium impact on reducing collisions	N/A - Assumes projects that improve freeway operations or increase capacity will have no impact on VMT reduction	High- Assumes projects that improve freeway operations or increase capacity will have a high impact on network accessibility and travel times	N/A - Assumes projects that improve freeway operations or increase capacity will have no impact on mode shift	Low - Assumes projects that improve freeway operations or increase capacity will have a low impact on benefiting disadvantaged communities	N/A - Assumes projects that improve freeway operations or increase capacity will have no impact on the preservation of natural and working lands	Medium - Assumes projects that improve freeway operations or increase capacity will have a medium impact on freight sustainability and efficiency	N/A - Assumes projects that improve freeway operations or increase capacity will have no impact on ZEV infrastructure investment	Low - Assumes projects that improve freeway operations or increase capacity will have a low impact on climate resilience	Low

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Freeways, Operations, Active Transportation	Medium - Assumes freeway operations projects that also improve active transportation will have a medium impact on reducing collisions	Low - Assumes freeway operations projects that also improve active transportation will have a low impact on VMT reduction	High - Assumes freeway operations projects that also improve active transportation will have a high impact on network accessibility and travel times	Medium - Assumes freeway operations projects that also improve active transportation will have a medium impact on mode shift	Low - Assumes freeway operations projects that also improve active transportation will have a low impact on benefiting disadvantaged communities	N/A - Assumes freeway operations projects that also improve active transportation will have no impact on the preservation of natural and working lands	Low - Assumes freeway operations projects that also improve active transportation will have a low impact on freight sustainability and efficiency	N/A - Assumes freeway operations projects that also improve active transportation will have no impact on ZEV infrastructure investment	Low - Assumes freeway operations projects that also improve active transportation will have a low impact on climate resilience	Medium
Freeways, Operations, Safety	High - Assumes freeway operations projects that focus on safety will have a high impact on reducing collisions	Low - Assumes freeway operations projects that focus on safety will have a low impact on VMT reduction	Low - Assumes freeway operations projects that focus on safety will have a low impact on network accessibility and travel times	Low - Assumes freeway operations projects that focus on safety will have a low impact on mode shift	Low - Assumes freeway operations projects that focus on safety will have a low impact on benefiting disadvantaged communities	N/A - Assumes freeway operations projects that focus on safety will have no impact on the preservation of natural and working lands	Medium - Assumes freeway operations projects that focus on safety will have a medium impact on freight sustainability and efficiency	N/A - Assumes freeway operations projects that focus on safety will have no impact on ZEV infrastructure investment	Low - Assumes freeway operations projects that focus on safety will have a low impact on climate resilience	Low
Freeways, Operations, Resilience	Medium - Assumes projects that improve freeway operations or increase capacity and improve resilience will have a medium impact on reducing collisions	N/A - Assumes projects that improve freeway operations or increase capacity and improve resilience will have no impact on VMT reduction	High- Assumes projects that improve freeway operations or increase capacity and improve resilience will have a high impact on network accessibility and travel times	N/A - Assumes projects that improve freeway operations or increase capacity and improve resilience will have no impact on mode shift	Low - Assumes projects that improve freeway operations or increase capacity and improve resilience will have a low impact on benefiting disadvantaged communities	N/A - Assumes projects that improve freeway operations or increase capacity and improve resilience will have no impact on the preservation of natural and working lands	Medium - Assumes projects that improve freeway operations or increase capacity and improve resilience will have a medium impact on freight sustainability and efficiency	N/A - Assumes projects that improve freeway operations or increase capacity and improve resilience will have no impact on ZEV infrastructure investment	High - Assumes projects that improve freeway operations or increase capacity and improve resilience will have a low impact on climate resilience	Low
Freeways, Operations, Transportation Demand Management	Medium - Assumes freeway operations projects with TDM elements will have a medium impact on reducing collisions	Medium - Assumes freeway operations projects with TDM elements will have a medium impact on VMT reduction	Low - Assumes freeway operations projects with TDM elements will have a low impact on network accessibility and travel times	Low - Assumes freeway operations projects with TDM elements will have a low impact on mode shift	Low - Assumes freeway operations projects with TDM elements will have a low impact on benefiting disadvantaged communities	N/A - Assumes freeway operations projects with TDM elements will have no impact on the preservation of natural and working lands	N/A - Assumes freeway operations projects with TDM elements will have no impact on freight sustainability and efficiency	N/A - Assumes freeway operations projects with TDM elements will have no impact on ZEV infrastructure investment	N/A - Assumes freeway operations projects with TDM elements will have no impact on climate resilience	Low

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Freeways, Stations/Stops/Hubs	Medium - Assumes freeway projects that enhance rail stations will have a medium impact on reducing collisions	Medium - Assumes freeway projects that enhance rail stations will have a medium impact on VMT reduction	Medium - Assumes freeway projects that enhance rail stations will have a low impact on network accessibility and travel times	Medium - Assumes freeway projects that enhance rail stations will have a medium impact on mode shift	Medium - Assumes freeway projects that enhance rail stations will have a Medium impact on benefiting disadvantaged communities	N/A - Assumes freeway projects that enhance rail stations will have no impact on the preservation of natural and working lands	Low - Assumes freeway projects that enhance rail stations will have a low impact on freight sustainability and efficiency	Low - Assumes freeway projects that enhance rail stations may include some investment in ZEV infrastructure	Low - Assumes freeway projects that enhance rail stations will have a low impact on climate resilience	Medium
Freeways, Safety	High - Assumes freeway projects that focus on safety will have a high impact on reducing collisions	Low - Assumes freeway projects that focus on safety will have a low impact on VMT reduction	Low - Assumes freeway projects that focus on safety will have a low impact on network accessibility and travel times	Low - Assumes freeway projects that focus on safety will have a low impact on mode shift	Medium - Assumes freeway projects that focus on safety will have a Medium impact on benefiting disadvantaged communities	N/A - Assumes freeway projects that focus on safety will have no impact on the preservation of natural and working lands	Low - Assumes freeway projects that focus on safety will have a low impact on freight sustainability and efficiency	N/A - Assumes freeway projects that focus on safety will have no impact on ZEV infrastructure investment	N/A - Assumes freeway projects that focus on safety will have no impact on climate resilience	Low
Freeways, Resilience	Low - Assumes freeway projects that improve resilience will have a low impact on reducing collisions	Low - Assumes freeway projects that improve resilience will have a low impact on VMT reduction	Low - Assumes freeway projects that improve resilience will have a low impact on network accessibility and travel times	Low - Assumes freeway projects that improve resilience will have a low impact on mode shift	Low - Assumes freeway projects that improve resilience will have a low impact on benefiting disadvantaged communities	N/A - Assumes freeway projects that improve resilience will not have an impact on the preservation of natural and working lands	Medium - Assumes freeway projects that improve resilience will have a medium impact on freight sustainability and efficiency	N/A - Assumes freeway projects that improve resilience will have no impact on ZEV infrastructure investment	High - Assumes freeway projects that improve resilience will have a high impact on climate resilience	Low
Freeways, Technology	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on reducing collisions	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on VMT reduction	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on network accessibility and travel times	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a low impact on mode shift	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a low impact on benefiting disadvantaged communities	N/A - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have no impact on the preservation of natural and working lands	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on freight sustainability and efficiency	N/A - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have no impact on ZEV infrastructure investment	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a low impact on climate resilience	Medium
Rail, Maintenance	Low - Assumes rail maintenance projects will have a low impact on reducing collisions	Low - Assumes rail maintenance projects will have a low impact on VMT reduction	Low - Assumes rail maintenance projects will have a low impact on network accessibility and travel times	Low - Assumes rail maintenance projects will have a low impact on mode shift	Low - Assumes rail maintenance projects will have a low impact on benefiting disadvantaged communities	Low - Assumes rail maintenance projects will have a low impact on the preservation of natural resources and working lands	Low - Assumes rail maintenance projects will have a low impact on freight sustainability and efficiency	N/A - Assumes rail maintenance projects do not include investment in ZEV infrastructure	Low - Assumes rail maintenance projects will have a low impact on climate resilience	Low

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Rail, Stations/Stops/Hubs	Low - Assumes projects that enhance or construct new rail stations will have a low impact on reducing collisions	High - Assumes projects that enhance or construct new rail stations will have a high impact on VMT reduction	High - Assumes projects that enhance or construct new rail stations will have a high impact on network accessibility and travel times	High - Assumes projects that enhance or construct new rail stations will have a high impact on mode shift	Medium - Assumes projects that enhance or construct new rail stations will have a Medium impact on benefiting disadvantaged communities	N/A - Assumes projects that enhance or construct new rail stations will have no impact on preservation of natural resources and working lands	Low - Assumes projects that enhance or construct new rail stations will have a low impact on freight sustainability and efficiency	Low - Assumes projects that enhance or construct new rail stations may include some investment in ZEV infrastructure	High - Assumes projects that enhance or construct new rail stations will have a high impact on climate resilience	High
Rail, Resilience, Safety	High - Assumes rail projects that improve resilience and safety will have a high impact on reducing collisions	Low - Assumes rail projects that improve resilience and safety will have a low impact on VMT reduction	Low - Assumes rail projects that improve resilience and safety will have a low impact on network accessibility and travel times	Low - Assumes rail projects that improve resilience and safety will have a low impact on mode shift	Medium - Assumes rail projects that improve resilience, and safety will have a medium impact on benefiting disadvantaged communities	Low - Assumes rail projects that improve resilience, and safety will have a low impact on the preservation of natural resources and working lands	High - Assumes rail projects that improve resilience, and safety will have a high impact on freight sustainability and efficiency	N/A - Assumes rail projects that improve resilience and safety do not include investment in ZEV infrastructure	High - Assumes rail projects that improve resilience, and safety will have a high impact on climate resilience	Medium
Rail, Transit	Low - Assumes that capacity-increasing rail transit projects will have a low impact on reducing collisions	High - Assumes that capacity-increasing rail transit projects will have a high impact on VMT reduction	High - Assumes that capacity-increasing rail transit projects will have a high impact on network accessibility and travel times	High - Assumes that capacity-increasing rail transit projects will have a high impact on mode shift	High - Assumes capacity-increasing rail transit projects will have a high impact on benefiting disadvantaged communities	Low - Assumes that capacity-increasing rail transit projects will have a more severe impact on the preservation of natural and working lands	Low - Assumes that capacity-increasing rail transit projects will have a low impact on freight sustainability and efficiency	N/A - Assumes that capacity-increasing rail transit projects do not include investment in ZEV infrastructure	Low - Assumes that capacity-increasing rail transit projects will have a low impact on climate resilience	High
Roads & Streets, Active Transportation	High - Assumes roads & streets projects with active transportation elements will have a high impact on reducing collisions	Medium - Assumes roads & streets projects with active transportation elements will have a medium impact on VMT reduction	High - Assumes roads & streets projects with active transportation elements will have a high impact on network accessibility and travel times	Medium - Assumes roads & streets projects with active transportation elements will have a medium impact on mode shift	High - Assumes roads & streets projects with active transportation elements will have a high impact on benefiting disadvantaged communities	Medium - Assumes roads & streets projects with active transportation elements will have a medium impact on the preservation of natural and working lands	N/A - Assumes roads & streets projects with active transportation elements will have no impact on freight sustainability and efficiency	N/A - Assumes roads & streets projects with active transportation elements will have no impact on ZEV infrastructure investment	Low - Assumes roads & streets projects with active transportation elements will have a low impact on climate resilience	High
Roads & Streets, Maintenance	Low - Assumes roads & streets maintenance projects will have a low impact on reducing collisions	Low - Assumes roads & streets maintenance projects will have a low impact on VMT reduction	Low - Assumes roads & streets maintenance projects will have a low impact on network accessibility and travel times	Low - Assumes roads & streets maintenance projects will have a low impact on mode shift	Low - Assumes roads & streets maintenance projects will have a low impact on benefiting disadvantaged communities	N/A - Assumes roads & streets maintenance projects will have no impact on the preservation of natural and working lands	N/A - Assumes roads & streets maintenance projects will have no impact on freight sustainability and efficiency	N/A - Assumes roads & streets maintenance projects will have no impact on ZEV infrastructure investment	Low - Assumes roads & streets maintenance projects will have a low impact on climate resilience	Low

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Roads & Streets, Operations	Medium - Assumes roads & streets projects that improve operations or increase capacity will have a medium impact on reducing collisions	N/A - Assumes roads & streets projects that improve operations or increase capacity will have no impact on VMT reduction	High - Assumes roads & streets projects that improve operations or increase capacity will have a high impact on network accessibility and travel times	N/A - Assumes roads & streets projects that improve operations or increase capacity will have no impact on mode shift	Low - Assumes roads & streets projects that improve operations or increase capacity will have a low impact on benefiting disadvantaged communities	Low - Assumes roads & streets projects that improve operations or increase capacity will have a low impact on the preservation of natural and working lands	Medium - Assumes roads & streets projects that improve operations or increase capacity will have a medium impact on freight sustainability and efficiency	N/A - Assumes roads & streets projects that improve operations or increase capacity will have no impact on ZEV infrastructure investment	Low - Assumes roads & streets projects that improve operations or increase capacity will have a low impact on climate resilience	Low
Roads & Streets, Operations, Active Transportation	Low - Assumes roads & streets projects that increase capacity and have active transportation elements will have a low impact on reducing collisions	N/A - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have no impact on VMT reduction	High - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have a high impact on network accessibility and travel times	Low - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have a low impact on mode shift	Low - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have a low impact on benefiting disadvantaged communities	Low - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have a low impact on the preservation of natural and working lands	Medium - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have a medium impact on freight sustainability and efficiency	N/A - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have no impact on ZEV infrastructure investment	Low - Assumes roads & streets projects that improve operations or increase capacity and have active transportation elements will have a low impact on climate resilience	Low
Roads & Streets, Operations, Resilience	Medium - Assumes roads & streets projects that improve operations or increase capacity and improve resilience will have a medium impact on reducing collisions	N/A - Assumes roads & streets projects that improve operations or increase capacity and improve sustainability, and resilience will have no impact on VMT reduction	High - Assumes roads & streets projects that improve operations or increase capacity and improve sustainability, and resilience will have a high impact on network accessibility and travel times	N/A - Assumes roads & streets projects that improve operations or increase capacity and resilience will have no impact on mode shift	Low - Assumes roads & streets projects that improve operations or increase capacity and resilience will have a low impact on benefiting disadvantaged communities	Low - Assumes roads & streets projects that improve operations or increase capacity and resilience will have a low impact on the preservation of natural and working lands	Medium - Assumes roads & streets projects that improve operations or increase capacity and resilience will have a medium impact on freight sustainability and efficiency	N/A - Assumes roads & streets projects that improve operations or increase capacity and resilience will have no impact on ZEV infrastructure investment	High - Assumes roads & streets projects that improve operations or increase capacity and resilience will have a low impact on climate resilience	Medium
Roads & Streets, Safety	High - Assumes roads & streets projects that focus on safety will have a high impact on reducing collisions	Medium - Assumes roads & streets projects that focus on safety will have a medium impact on VMT reduction	Low - Assumes roads & streets projects that focus on safety will have a low impact on network accessibility and travel times	Medium - Assumes roads & streets projects that focus on safety will have a medium impact on mode shift	High - Assumes roads & streets projects that focus on safety will have a high impact on benefiting disadvantaged communities	Low - Assumes roads & streets projects that focus on safety will have a low impact on the preservation of natural and working lands	N/A - Assumes roads & streets projects that focus on safety will have no impact on freight sustainability and efficiency	N/A - Assumes roads & streets projects that focus on safety will have no impact on ZEV infrastructure investment	Low - Assumes roads & streets projects that focus on safety will have a low impact on climate resilience	Medium

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Roads & Streets, Technology	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on reducing collisions	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on VMT reduction	High - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a high impact on network accessibility and travel times	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a low impact on mode shift	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a low impact on benefiting disadvantaged communities	N/A - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have no impact on the preservation of natural and working lands	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a medium impact on freight sustainability and efficiency	N/A - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have no impact on ZEV infrastructure investment	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) will have a low impact on climate resilience	Medium
Roads & Streets, Technology, Resilience	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a medium impact on reducing collisions	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a medium impact on VMT reduction	High - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a high impact on network accessibility and travel times	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a low impact on mode shift	Low - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a low impact on benefiting disadvantaged communities	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a medium impact on the preservation of natural and working lands	Medium - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a medium impact on freight sustainability and efficiency	N/A - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have no impact on ZEV infrastructure investment	High - Assumes projects that improve transportation technology (ITS, TMS, communications, safety) and resilience will have a high impact on climate resilience	High
Transit	Low - Assumes transit projects will have a low impact on reducing collisions	High - Assumes transit projects will have a high impact on VMT reduction	High - Assumes transit projects will have a high impact on network accessibility and travel times	High - Assumes transit projects will have a high impact on mode shift	High - Assumes transit projects will have a high impact on benefiting disadvantaged communities	Low - Assumes transit projects will have a more severe impact on the preservation of natural and working lands	N/A - Assumes transit projects will have no impact on freight sustainability and efficiency	Low - Assumes transit projects will have a low impact on ZEV infrastructure investment	Low - Assumes transit projects will have a low impact on climate resilience	High
Transit, Active Transportation	Medium - Assumes transit projects that also improve active transportation will have a medium impact on reducing collisions	High - Assumes transit projects that also improve active transportation will have a high impact on VMT reduction	Medium - Assumes transit projects that also improve active transportation will have a medium impact on network accessibility and travel times	Medium - Assumes transit projects that also improve active transportation will have a medium impact on mode shift	High - Assumes transit projects that also improve active transportation will have a high impact on benefiting disadvantaged communities	Low - Assumes transit projects that also improve active transportation will have a low impact on the preservation of natural and working lands	N/A - Assumes transit projects that also improve active transportation will have no impact on freight sustainability and efficiency	N/A - Assumes transit projects that also improve active transportation will have no impact on ZEV infrastructure investment	Medium - Assumes transit projects that also improve active transportation will have a medium impact on climate resilience	Medium
Transit, Fleet	Low - Assumes transit fleet projects will have a low impact on reducing collisions	Low - Assumes transit fleet projects will have a low impact on VMT reduction	Low - Assumes transit fleet projects will have a low impact on network accessibility and travel times	Low - Assumes transit fleet projects will have a low impact on mode shift	Medium - Assumes transit fleet projects will have a Medium impact on benefiting disadvantaged communities	Low - Assumes transit fleet projects will have a low impact on the preservation of natural and working lands	N/A - Assumes transit fleet projects will have no impact on freight sustainability and efficiency	Low - Assumes transit fleet projects will have a low impact on ZEV infrastructure investment	Medium - Assumes transit fleet projects will have a medium impact on climate resilience	Low

Project Type(s)	Improves Safety (reduces collisions)	Reduces VMT	Accessibility (improves access & travel time to destinations)	Encourages Mode Shift to Non-auto Modes	Disadvantaged Communities Benefit	Preserves Natural Resources	Improves Freight Sustainability & Efficiency	Investment in ZEV Infrastructure (e.g., charging)	Addresses Climate Risks & Improves Climate Resilience	CAPTI/CSIS Alignment Rating
Transit, Fleet, Operations	Low - Assumes transit fleet projects that improve service will have a low impact on reducing collisions	High - Assumes transit fleet projects that improve service will have a high impact on VMT reduction	Medium - Assumes transit fleet projects that improve service will have a medium impact on network accessibility and travel times	Medium - Assumes transit fleet projects that improve service will have a medium impact on mode shift	High - Assumes transit fleet projects that improve service will have a high impact on benefiting disadvantaged communities	Medium - Assumes transit fleet projects that improve service will have a medium impact on the preservation of natural and working lands	N/A - Assumes transit fleet projects that improve service will have no impact on freight sustainability and efficiency	Low - Assumes transit fleet projects that improve service will have a low impact on ZEV infrastructure investment	High - Assumes transit fleet projects that improve service will have a high impact on climate resilience	High
Transit, Operations	Low - Assumes transit projects that improve service and operations will have a low impact on reducing collisions	High - Assumes transit projects that improve service and operations will have a high impact on VMT reduction	Medium - Assumes transit projects that improve service and operations will have a medium impact on network accessibility and travel times	Medium - Assumes transit projects that improve service and operations will have a medium impact on mode shift	High - Assumes transit projects that improve service and operations will have a high impact on benefiting disadvantaged communities	Medium - Assumes transit projects that improve service and operations will have a medium impact on the preservation of natural and working lands	N/A - Assumes transit projects that improve service and operations will have no impact on freight sustainability and efficiency	N/A - Assumes transit projects that improve service and operations will have no impact on ZEV infrastructure investment	High - Assumes transit projects that improve service and operations will have a high impact on climate resilience	High
Transit, Stations/Stops/Hubs	Low - Assumes transit stations/stops/hubs projects will have a low impact on reducing collisions	High - Assumes transit stations/stops/hubs projects will have a high impact on VMT reduction	Medium - Assumes transit stations/stops/hubs projects will have a medium impact on network accessibility and travel times	Medium - Assumes transit stations/stops/hubs projects will have a medium impact on mode shift	High - Assumes transit stations/stops/hubs projects will have a high impact on benefiting disadvantaged communities	Low - Assumes transit stations/stops/hubs projects will have a low impact on the preservation of natural and working lands	N/A - Assumes transit stations/stops/hubs projects will have no impact on freight sustainability and efficiency	Low - Assumes transit stations/stops/hubs projects will have a low impact on ZEV infrastructure investment	High - Assumes transit stations/stops/hubs projects will have a high impact on climate resilience	High
Transit, Technology, Operations	Low - Assumes transit technology projects that improve service and operations will have a low impact on reducing collisions	Medium - Assumes transit technology projects that improve service and operations will have a medium impact on VMT reduction	High - Assumes transit technology projects that improve service and operations will have a high impact on network accessibility and travel times	High - Assumes transit technology projects that improve service and operations will have a high impact on mode shift	High - Assumes transit technology projects that improve service and operations will have a high impact on benefiting disadvantaged communities	N/A - Assumes transit technology projects that improve service and operations will have no impact on the preservation of natural and working lands	N/A - Assumes transit technology projects that improve service and operations will have no impact on freight sustainability and efficiency	N/A - Assumes transit technology projects that improve service and operations will have no impact on ZEV infrastructure investment	Medium - Assumes transit technology projects that improve service and operations will have a medium impact on climate resilience	Medium
Transportation Demand Management	Low - Assumes transportation demand management projects will have a low impact on reducing collisions	High - Assumes that transportation demand management projects will have a high impacts on VMT reduction	Medium - Assumes that transportation demand management projects will have a medium impact on network accessibility and travel times	High - Assumes transportation demand management projects will have a high impact on mode shift	Medium - Assumes transportation demand management projects will have a medium impact on benefiting disadvantaged communities	Low - Assumes transportation demand management projects will have a low impact on the preservation of natural and working lands	N/A - Assumes transportation demand management projects will have no impact on freight sustainability and efficiency	N/A - Assumes transportation demand management projects will have no impact on ZEV infrastructure investment	Medium - Assumes transportation demand management projects will have a medium impact on climate resilience	Medium