

As described in the United States Department of Transportation’s Benefit-Cost Analysis Guidance for Discretionary Grant Programs, a blend of “localized data with national estimates or industry standards to complete a more robust analysis” can be applied. The default parameters for the 2024 INFRA Cal-B/C tool are a blend of California and national values assessed at a 2022 base year.

Users should revise default parameters if more applicable values exist for a project being assessed. Revisions can be made within the “Parameters” tab of the Excel workbook by entering a new value into the individual cell. In addition, assumptions identified in the “Project Information” tab (red or blue cells) can be adjusted based for a specific project, e.g., average vehicle occupancy, percent truck, roadway type, etc. The table below is a comparison of California and national values—assumed 2024 INFRA Cal-B/C values are highlighted in yellow.

Parameters	Cal-B/C Values	Fed. Values	Notes
Current Dollar Value applied in tool	2021	2022	All assumed Cal-B/C parameters are adjusted for 2021 dollars. Assumed Cal-B/C values in the model have been escalated to 2021 dollars, as recommended in the guidance.
Real Discount Rate	4.00%	3.10%	The 2024 USDOT Benefit Cost Guidance updated the Real Discount Rate to 3.1% from 7%.
Average Vehicle Occupancy	Non-peak – 1.3 Peak – 1.15	Non-peak – 1.58 Peak – 1.48	Cal-B/C factors in peak and non-peak average vehicle occupancy, whereas the federal guidance uses a single AVO figure. Thus, the default values apply to California statewide average. From USDOT Guidance.
Period of analysis	Construction, plus 20 years after completion.	Construction, plus 20 years after completion in most situations.	Federal guidance suggests applying no more than 30 years for analytical purposes after project completion.

Travel Time Parameters

Statewide Average Hourly Wage (\$/hr.)	\$32.94	\$35.22	California values extracted from BLS data. Values updated to 2022 values using GDP Deflator.
Heavy and Light Truck Drivers Average Hourly Wage (\$/hr.)	\$25.06	\$26.80	California values extracted from BLS data for 2021. Values updated to 2022 values using GDP Deflator.
Heavy and Light Truck Drivers Benefits and Costs (\$/hr.)	\$12.47	\$14.25	California values extracted from BLS data for 2021. Values updated to 2022 values using GDP Deflator.
Automobile/Personal (\$/hr./per)	\$16.20	\$19.60	For calculation methodology, see Cal-B/C tech doc. (Volume 4), pp. II-37 to II-38. From USDOT Guidance. Link : https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009451-cal-bctechsupplementvol4v4-a11y.pdf
Truck/Business (\$/hr./veh.)	\$35.90	\$33.50	For calculation methodology, see Cal-B/C tech doc. (Volume 4), pp. II-37 to II-38. From USDOT Guidance. Link: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009451-cal-bctechsupplementvol4v4-a11y.pdf
Auto & Truck Composite/All Purpose (\$/hr./veh)	\$22.40	\$26.20	Applicants should apply their own distribution of business versus personal travel if available. Cal-B/C calculates its own value.
Transit/Transit Rail Operators (\$/hr./per)	\$16.20 (passenger)	\$19.60 (local personal travel)	Cal-B/C only values “transit” per passenger. Federal guidance states, for wait times, the value should be doubled. Values for personal travel based on local travel values and intercity personal travel are described in US DOT’s Value of Travel Time guidance. A valuation of the “transit operator” is also not a factor in the Cal-B/C model. From USDOT Guidance.
		\$25.10 (intercity personal travel)	
		\$63.30 (transit rail operator)	

Average Fuel Price

Automobile (regular unleaded) (\$/gal)	\$3.81	\$4.07	<p>Fuel prices for gasoline and diesel were extracted the US Energy Information Administration's 2019 Petroleum and Other Liquids annual report. California Gasoline and Diesel Retail Prices (eia.gov)</p> <p>For calculation methodology, see Cal-B/C tech doc. (Volume 4), pp. II-37 to II-38. pp. II-37 to II-46. Values updated to 2022 values using GDP Deflator.</p> <p>Link: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009451-cal-bctechsupplementvol4v4-a11y.pdf</p>
Truck (diesel) (\$/gal.)	\$3.87	\$4.14	<p>Fuel prices for gasoline and diesel were extracted the US Energy Information Administration's 2019 Petroleum and Other Liquids annual report. California Gasoline and Diesel Retail Prices (eia.gov). Values updated to 2022 values using GDP Deflator.</p> <p>Link: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009451-cal-bctechsupplementvol4v4-a11y.pdf</p>
State Sales Tax (gasoline)	2.25%		Value is applicable to California.
State Sales Tax (diesel)	13.00%		Value is applicable to California.
Average Local Sales Tax	0.50%		Value is applicable to California.
Federal Fuel Excise Tax (gasoline) (\$/gal.)	\$0.183		
Federal Fuel Excise Tax (diesel) (\$/gal.)	\$0.243		
State Fuel Excise Tax (gasoline) (\$/gal.)	\$0.511	\$0.539	Value is applicable to California. Updated to 2022 value.
State Fuel Excise Tax (diesel) (\$/gal.)	\$0.389	\$0.41	Value is applicable to California. Updated to 2022 value.

Non-Fuel Cost Per Mile			
Automobile	\$0.356	\$0.38	Federal guidance does not provide an estimate. This was updated to 2022 values using the GDP Deflator.
Truck/Light Duty Vehicles	\$0.44	\$0.471	Cal-B/C breaks out fuel and non-fuel costs. US DOT Guidance factors in fuel costs when estimating vehicle operation costs. This was updated to 2022 values using the GDP Deflator.
Commercial Trucks		\$1.32	Cal-B/C does not separate Commercial Trucks from non-Commercial Trucks. Cal-B/C breaks out fuel and non-fuel costs for commercial trucks. US DOT Guidance factors in fuel costs, repair, insurance, permits, license, etc.

Accident Cost Parameters			
Cost of Fatality/Killed	\$11.8M	\$12.5M	Accident costs are based on reported federal benefit-cost guidance rate for 2022. The assumed rate in the 2022 Cal-B/C model differs. From USDOT Guidance.
Level A (Severe)/Incapacitating	\$536,800	\$1,188,200	Accident costs are based on reported federal benefit-cost guidance rates. The assumed rate in 2022 Cal-B/C model differs. From USDOT Guidance.

Level B (Moderate)/Non-incapacitating	\$146,200	\$233,800	<p>Accident costs are based on reported federal benefit-cost guidance rates. The assumed rate in the 2022 Cal-B/C model differs. From USDOT Guidance.</p>
Level C(Minor)/Possible Injury	\$74,700	\$111,700	<p>Accident costs are based on reported federal benefit-cost guidance rates. The assumed rate in the 2022 Cal-B/C model differs. From USDOT Guidance.</p>
Cost of Property Damage (PDO)	\$2,900	\$5,000	<p>Accident costs are based on reported federal benefit-cost guidance rates. From USDOT Guidance.</p>

Pollutant Emissions

CO	\$80 - \$170	\$85 - \$185	<p>Cal-B/C estimates are based on Corporate Average Fuel Economy for MY2017-MY2025 Passenger Cars and Light Trucks (August 2012), page 922, Table VIII-16, "Economic Values Used for Benefits Computations (2010 dollars)". Values are inflated from 2010 dollars using the GDP deflator. Cal-B/C rates vary depending on project location. Cal-B/C calculation methodology can be viewed in its tech. doc. vol. 4, pp. II-51 to II-61. Cal-B/C value differs based on geographic three regional categories within California. This was updated to 2022 values using the GDP Deflator.</p> <p>Link: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009451-cal-bctechsupplementvol4v4-a11y.pdf</p> <p>No value identified in the federal guidance document, thus, no value assessed.</p>
CO₂	\$48	\$211	<p>This is from USDOT Guidance and Cal-B/C converts the Metric Ton values USDOT recommends to Short Tons and uses the current year values.</p> <p>https://www.transportation.gov/sites/dot.gov/files/2022-03/Benefit%20Cost%20Analysis%20Guidance%202022%20%28Revised%29.pdf</p>
NO_x	\$15,100-69,200	\$18,235	<p>This is from USDOT Guidance and Cal-B/C converts the Metric Ton values USDOT recommends to Short Tons and uses the current year values. Cal-B/C value differs based on three regional categories within California.</p>
PM₁₀	\$116,700 -566,800	\$0	<p>USDOT recommends to not estimate emissions for larger particles such as PM₁₀.</p>
PM_{2.5}	\$0	\$873,809	<p>This is from USDOT Guidance and Cal-B/C converts the Metric Ton values USDOT recommends to Short Tons and uses the current year values. Cal-B/C value differs based on three regional categories within California.</p>
SO_x	\$59,000-\$213,000	\$48,807	<p>This is from USDOT Guidance and Cal-B/C converts the Metric Ton values USDOT recommends to Short Tons and uses the current year values. Cal-B/C value differs based on three regional categories within California.</p>
VOC	\$1,110 - \$4,300	\$1,190 - \$4,600	<p>USDOT has no recommendation for VOC. This was updated to 2022 values using the GDP Deflator. Cal-B/C value differs based on three regional categories within California.</p>