

Caltrans Transportation Equity Index (EQI) in comparison with the federal Climate and Economic Justice Screening Tool (CJEST)¹ and CalEnviroScreen²

Similarities

- All three tools are spatial, associating demographic and other conditions by geographies. As such, they are not well-suited to addressing issues that may be relevant to equity but that are not geographically grouped.
- All three tools include demographic indicators though in different ways.
- All three tools capture impacts from the transportation system through various spatial indicators, such as areas with high traffic volumes.

Differences

- **Granularity:** Caltrans' EQI differs from the other tools in its higher spatial granularity by focusing on Census blocks rather than tracts. This addresses the fact that conditions can vary widely across a Census tract.
- **Number of demographic indicators:** Caltrans' EQI is based median household incomes, as defined in AB 1550, with additional consideration for areas that are majority non-white. The other tools include other demographic variables that were determined to not substantially change Census blocks screened for inclusion under the EQI.
- **Access to destinations:** Uniquely among the tools, EQI assesses access to destinations, based on findings developed by Caltrans.
- **Stronger emphasis on transportation indicators:** While other tools utilize annual average daily traffic (AADT) data, the EQI goes further by weighting AADT for truck volumes—which are correlated with disproportionate emissions and other impacts on environmental justice communities—and by pinpointing areas with high crash risks even if they have low traffic volumes. Additionally, the other tools include a wide variety of indicators that are less likely to be improved or worsened by changes to the transportation system. Some such factors appearing in the other tools include: proximity of hazardous waste, lead paint in homes, and agricultural land loss. More related to transportation, both include air quality indicators; however, because emissions come from both transportation and other sources, EQI focuses on the transportation-related sources—operationalized as truck-weighted AADT—that can be more directly impacted by Caltrans' policy project development and design.

Table 1 provides a concise account of EQI's content in comparison to the other tools.

¹ Climate and Economic Justice Screening Tool (CJEST), White House Council on Environmental Quality, 2022. Available at <https://screeningtool.geoplatform.gov/>

² CalEnviroScreen 4.0, California Office of Environmental Health Hazard Assessment, 2021. Available at <https://oehha.ca.gov/calenviroscreen>

TAB 15 - PINK MEETING HANDOUT (Supplementary attachment)

Table 1. EQI in comparison to CJEST and CalEnviroScreen.

	EQI	CJEST	CalEnviroScreen	Notes
Geographic Scale	Census block	Census tract	Census tract	Conditions vary widely throughout a tract. Blocks are smaller and more accurate in describing conditions.
Transportation Indicators	Truck-weighted AADT; crash history	AADT	AADT	Weighting for trucks helps capture the greater sources of emissions. Crash data helps identify areas of hazard that may not have large AADT.
Access to Destinations	Walking and transit access to nonwork destinations ³	Not included	Not included	Though access to destinations is a core concept, consistent data is not always readily available and other tools do not include it. Caltrans has developed this data for use in EQI and other applications.
Demographic Indicators	Household income (per AB 1550); Race/ethnicity	Federal poverty level; Median income; Educational attainment; Housing cost burden; Linguistic isolation; Unemployment; Asthma; Diabetes; Heart disease; Low life expectancy	Federal poverty level; Educational attainment; Housing cost burden; Linguistic isolation; Unemployment; Asthma; Cardiovascular disease; Low birth weight infants	Most representations of disadvantage track closely to income. Adding other variables would bring in areas with high incomes but low education, high income and high unemployment, and so forth. Such areas are rare and arguably should be excluded due to income. Caltrans does include majority non-white areas, even where incomes are higher, to reflect historical disadvantage that transcends income.

³ Current EQI maps show access to work destinations. Caltrans is completing the development of a non-work access to destinations indicator which will replace the work access to destinations layer in short order. Additionally, Caltrans is exploring how to operationalize bicycle access to destinations as part of the calculations for relative multimodal access to destinations.