

SB 743: Mitigation and VMT Reduction

Overview

Implementing SB 743 requires new metrics and new considerations for transportation impact analysis under CEQA. Resources related to Vehicle Miles Traveled (VMT) reduction and mitigation are shown below. They are intended as useful tools and links for the process of identifying potential VMT-reducing measures. More citations will be added as they become available.

As the [Technical Advisory on Evaluating Transportation Impacts in CEQA](#) states, “When a lead agency identifies a significant impact [in an environmental document], it must identify feasible mitigation measures that could avoid or substantially reduce that impact. (Pub. Resources Code, § 21002.1, subd. (a).) Additionally, CEQA requires that an environmental impact report identify feasible alternatives that could avoid or substantially reduce a project’s significant environmental impacts.”

1. Regulations, Policy and Guidance

- a. [2019 CEQA Statutes and Guidelines](#)
- b. [OPR Transportation Impacts Page](#)
- c. [CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals](#)
- d. [Governor’s Executive Order N-19-19](#)

2. Tools

- a. [Evaluation of Sketch-Level VMT Quantification Tools \(Lee et al., 2017\)](#)
- b. [NCST Smart Growth Trip-Generation Adjustment Tool](#)

3. Presentations

- a. [Webinar: Quantifying Vehicle Miles Traveled](#)
- b. [SANDAG Webinar: A Shift to VMT Mitigating Transportation Impact](#)
- c. [Training Course: Shifting from Maintaining LOS to Reducing VMT: Case Studies of Analysis and Mitigation for Implementing SB 743](#)

4. Local and Regional resources

- a. [City of San Jose VMT metric](#)
- b. [LA DOT Modernizing Transportation management](#)
- c. [SANDAG TDM Planning Resources](#)
- d. [SCAG TDM Strategic Plan](#)
- e. [San Francisco County Transportation Authority TDM Evaluation Tool](#)
- f. [SB 743 Vehicle Miles Traveled Implementation \(Nevada County Transportation Commission\)](#)
- g. [Western Riverside COG SB 743 Implementation Pathway and Screening Tool](#)

5. Research –final reports, white papers, and articles for various subject areas

- Policy
 - [Cutting Greenhouse Gas Emissions is Only the Beginning: A Literature Review of the Co-Benefits of Reducing Vehicle Miles Traveled](#) (Fang; Volker, 2017)
 - [A Framework for Projecting the Potential Statewide Vehicle Miles Traveled \(VMT\) Reduction from State-Level Strategies in California](#) (Handy; Boarnet, 2016)
 - [Leaving level-of-service behind: The implications of a shift to VMT impact metrics](#) (Lee; Handy, 2018)
 - [Measuring Incremental SB743 Progress: Accounting for Project Contributions Towards Reducing VMT Under California's Senate Bill 743](#) (Ferrell, 2019)
 - [Policy brief: Increasing Highway Capacity Unlikely to Relieve Traffic Congestion](#) (Handy, 2015)

- Synthesis
 - [Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures](#) (California Air Pollution Control Officer's Association, 2010)
 - [State-Level Strategies for Reducing Vehicle Miles of Travel](#) (Byars et al., 2017)

- VMT Mitigation Banks
 - [Implementing SB 743: An Analysis of Vehicle Miles Traveled Banking and Exchange Frameworks](#) (Elkind et al., 2019)
 - [VMT Mitigation Through Banks and Exchanges: Understanding New Mitigation Approaches](#) (Fehr and Peers)

- VMT Reduction Measures
 - Active Transportation
 - [Heightening Walking above its Pedestrian Status: Walking and Travel Behavior in California](#) (Blumenberg, et al. 2016)
 - [High Impact Prioritization of Bike Share Program Investment to Improve Underserved Communities' Access to Jobs and Essential Services](#) (Qian, Niemier, 2016)
 - [Making Bicycling Comfortable: Identifying Minimum Infrastructure Needs by Population Segment using a Video Survey](#) (Handy; Fitch, 2019)
 - [An Overview of System Design Issues Related to Safety Aspects of Bicycle Infrastructure](#) (Botha, 2016)
 - [Toward Accurate and Valid Estimates of Greenhouse Gas Reductions from Bikeway Projects](#) (Matute et al., 2016)
 - Forecast and Analysis
 - [From LOS to VMT, VHT and beyond through data fusion: application to integrated corridor management](#) (Bayen et al., 2016)

- [Incorporating Long-Distance Travel into Transportation Planning in the United States](#) (Hall, 2018)
- [Long Distance Travel in the California Household Travel Survey \(CHTS\) and Social Media Augmentation](#) (Goulias; Janowicz, 2017)
- [Methodologies Used to Estimate and Forecast Vehicle Miles Traveled \(VMT\)](#) (Williams et al., 2017)
- Future Mobility
 - [Automated Vehicle Scenarios: Simulation of System-Level Travel Effects Using Agent-Based Demand and Supply Models in the San Francisco Bay Area](#) (Rodier, 2018)
 - [Congestion Pricing in a World of Self-driving vehicles: an Analysis of Different Strategies in Alternative Future Scenarios](#) (Simoni et al., 2018)
 - [The Environmental Effects of New Mobility Services](#) (Rodier, 2017)
 - [Estimation of Program Effects from Cross-Sectional Observational Surveys – Case Studies of the Effect on Travel Behavior of the Adoption of \(i\) Future Mobility Options like Carsharing, and \(ii\) Telecommuting](#) (Mishra, 2017)
 - [Exploring the Relationships Among Travel Multimodality, Driving Behavior, Use of Ridehailing and Energy Consumption](#) (Circella; Lee; Alemi, 2019)
 - [A Framework for Integrating Transportation Into Smart Cities](#) (Shaheen et al., 2019)
 - [Partnerships between Ridehailing Companies and Public Transit Agencies: An Exploration of Inter-agency Learning about Pilot Programs](#) (Pike; Kazemian, 2019)
- Land Use/ Infill
 - [Affordable Housing Trip Generation Strategies and Rates](#) (Clifton et al. (2018)
 - [Housing and Mobility Toolkit for San Mateo County](#) (Alexander et al., 2019)
 - [Institutional Response to Transit Oriented Development in the Los Angeles Metropolitan Area: Understanding Local Differences Through the Prism of Density, Diversity, and Design](#) (Banerjee; Bahl, 2018)
 - [The Potential for Shared Use Mobility in Affordable Housing Complexes in Rural California](#) (Pike; Rodier; Martinez, 2017)
 - [Tracking Land Use Changes that Support Sustainable Mobility](#) (Sciara, 2017)
 - [The Effect of State and Federal Housing Policies on Vehicle Miles of Travel](#) (Niemier; Palm, 2017)
 - [Smart Growth Trip Generation](#) (Handy, 2013)

- [Urban Spatial Structure and the Potential for VMT Reduction](#) (Boarnet, 2016)
- Parking
 - [Getting the Prices Right: An Evaluation of Pricing Parking by Demand in San Francisco](#) (Pierce; Shoup, 2013)
 - [Parking prices and the decision to drive to work: Evidence from California](#) (Khordagui, 2019)
 - [Sensors and the City: Urban Challenges for Parking Occupancy Detection and Pricing](#) (Dey et al., 2018)
- Pricing
 - [Assessing the net overall distributive effect of a congestion charge](#) (Anable; Goodwin, 2018)
 - [Congestion Pricing in a World of Self-driving vehicles: an Analysis of Different Strategies in Alternative Future Scenarios](#) (Simoni et al., 2018)
 - [Equity Effects of Congestion Charges: An Exploratory Analysis with MATSim](#) (Frietas et al., 2017)
 - [Influencing Factors in Congestion Pricing Acceptability: A Literature Review](#) (Selmoune et al. 2019)
 - [The potential of road pricing schemes to reduce carbon emissions](#) (Cavallaro et al., 2018)
 - [Reducing traffic externalities by multiple-cordon pricing](#) (Tsai; Lu, 2018)
 - [Regulating dynamic congestion externalities with tradable credit schemes: Does a unique equilibrium exist?](#) (Bao et al., 2019)
 - [White Paper: Social Equity Impacts of Congestion Management Strategies](#) (Shaheen et al., 2019)
 - [Zone Pricing in Theory and Practice](#) (Daganzo, 2016)
- Transportation Demand Management
 - [Effectiveness of Land Use and Demand Strategies in Reducing VMT and GHG Emissions - Passenger](#) (Salon, 2015)
 - [Exploring the Relationship between Travel Demand and Economic Growth](#) (FHWA, 2012)
- Transit
 - [Next-Generation Transit System Design Under Revolution of Shared Mobility](#) (Fan, 2018)
 - [Potential Greenhouse Gas Emissions Reductions from Optimizing Urban Transit Networks](#) (Madanat; Horvath, 2016)
 - [The Potential for Using Loyalty Rewards and Incentives Programs to Encourage Transit Ridership and Regional Transportation and Land Use Integration](#) (Ferrell, 2019)

6. Links to other sites

- [CALCOG Policy Tracker](#)
- [MJ Bradley and Associates Transportation Policy Toolkit](#)
- [SB 743.org](#)
- [Victoria Transport Policy Institute - TDM Encyclopedia](#)