

Banking and Exchange Programs to Mitigate Greenhouse Gas Emissions and Vehicle Miles Traveled

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Background

Transportation is responsible for over 40 percent of California’s greenhouse gas (GHG) emissions and is a leading contributor to emissions of health-harmful air pollutants such as particulate matter and nitrogen oxides. To reduce these emissions and address climate impacts and public health, California will need to achieve significant reductions in vehicle miles traveled (VMT). The California Air Resources Board’s [2022 Scoping Plan for Achieving Carbon Neutrality](#)—the state’s roadmap for climate strategies—calls for VMT per capita reductions of 30 percent below 2019 levels by 2045. This VMT reduction is essential to achieve California’s statewide goals to reduce GHG emissions to 85 percent below 1990 levels and achieve carbon neutrality by 2045.

Mitigation “bank” and “exchange” programs (MBEx) present a promising opportunity to achieve the significant VMT and GHG reductions necessary to meet CARB’s targets and other state policy goals. Under the California Environmental Quality Act (CEQA), government agencies are required to mitigate (where feasible) the environmental impacts of new discretionary projects, including impacts to VMT and GHG emissions.

MBEx programs would enable agencies and project developers to fund or implement offsite mitigation measures under CEQA to reduce VMT and GHG emissions at the local or regional scale when it is infeasible to mitigate all impacts at the project site. For example, a new housing development that cannot mitigate VMT or GHGs through on-site design features could fund a local biking infrastructure project or public transit expansion project to facilitate VMT or GHG reductions in the vicinity of the project site. These programs offer local governments a crucial tool to achieve rapid reductions in a cost-effective and practical manner while promoting a range of development and transportation goals.

Previous research from [UC Berkeley’s Center for Law, Energy & the Environment \(CLEE\)](#) and [others](#) has shaped a preliminary framework for how local and state agencies might craft MBEx programs. CLEE’s 2022 report, [Implementing SB 743: Design Considerations for Vehicle Miles Traveled Bank and Exchange Programs](#), provided guidance for

state, regional, and local leaders developing plans for VMT MBEx programs. It gave recommendations on program design elements including geographic scope and administrative design, project prioritization and selection, pricing and fiscal matters, mitigation monitoring, additionality, and equity.

Advancing Mitigation Bank and Exchange Policy

In a new research project sponsored by the California Air Resources Board (CARB) based on feedback received from the public, CLEE is building on its existing research to provide further guidance to state and local governments on the best framework, practices, and protocols to design and implement VMT and GHG MBExes. CARB is sponsoring this research project to further the CEQA mitigation recommendations found in the [Local Actions Appendix \(Appendix D\)](#) of the [2022 Scoping Plan](#), with a goal of identifying and evaluating potential cost-effective and equitable approaches for reducing VMT and GHG emissions from development projects in a manner supportive of and consistent with State climate goals. CLEE will investigate challenges and opportunities to developing these programs by:

- Analyzing proposed and existing designs for MBExes throughout California;
- Conducting expert interviews with a range of stakeholders; and
- Assessing considerations of project costs, administrative costs, benefit quantification, additionality, and equity.

Based on its research and expert interview findings, CLEE will identify a set of best practices for the development and implementation of VMT and GHG MBEx programs. These best practices can provide local and state government agencies with the tools to invest in public transit, active transportation infrastructure, infill housing, urban forestry, and other VMT and GHG mitigation projects.

Through flexible and locally appropriate investments, MBExes can help maximize mitigation projects to address climate impacts, improve public health, protect vulnerable populations from air pollutants, and achieve the state's climate and sustainable transportation goals. By evaluating emerging best practices and key considerations from these programs around California, this new research project will assess progress to date and move toward consensus on program design for the future.

For more information, visit <https://www.law.berkeley.edu/research/clee/research/land-use/vehicle-miles-traveled/>.