

*Rethinking California's Planning Frameworks to Support Senate Bill 375:
A White Paper on Local, Regional, State and Federal Climate Change Policy Reform*

ABSTRACT

Regulatory reform addressing travel behavior policies that reduce vehicle-miles-traveled (VMT) and improve transportation network management is needed if California is to reduce the transportation sector's 38 percent contribution to total greenhouse gas emissions (GHG) in the State. This white paper introduces how such policy changes can be used to support California's goals of climate change stability, economic vitality, and communities that encourage healthier lifestyles. Further, it poses essential questions pertaining to regulatory reform for the 3-C issues of consistency, conformity, and concurrency that the State will need to address through actively engaging with multiple stakeholders and other government organizations. The white paper includes an analysis of the theory and practice of California's land use/transportation planning structure, environmental review process, and funding allocation framework by examining local, regional, state, and federal roles in the implementation of key climate change and sustainable transportation laws. Analyzing the Sacramento Area Council of Government's Blueprint-based Metropolitan Transportation Plan under existing State frameworks reveals needed policy reform in order to successfully implement SB 375's "Sustainable Communities Strategies".

Without a secure, long-term transit funding source, land use patterns that promote cost-effective and quality transit, statewide pricing mechanisms, and changes to local codes and standards, California's MPOs will not be able to achieve ambitious per capita GHG reductions under SB 375. The paper also finds a need to incorporate federal resource agencies in the development of Regional Transportation Plans, establish statewide GHG thresholds for projects within a regional context, and prioritize network management over capacity enhancing transportation project. Further, it proposes to "decouple" VMT growth from transportation revenue sources by incentivizing local government to reduce VMT and improve network management under a "Low Carbon Transportation Fund" funded by cap-and-trade auction revenues. The State of California is seeing unprecedented challenges and opportunities to create a more flexible and durable funding framework that directly ties new performance metrics to projects and plans. These changes will better reflect the array of values and concerns from Californians as the State struggles to fund an antiquated system that largely does not reflect the 3-E sustainability metrics of the economy, equity, and the environment.

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Four Circle Approach to GHG Reduction from Travel Behavior

(see full thesis text for citations)

Characteristics of the Built Environment

Density: 10-14%
VMT Reduction

Density: 20-40%
VMT/Capita Reduction

A U.S. Department of Energy funded study by TRB analyzed the relationship between land use patterns and vehicle travel. The results find that reliable estimates for doubling residential density across a region may **lower household VMT 5 to 12 percent**; further, it finds that this figure may increase to **25 percent** when coupled with higher employment concentrations public transit, diverse land uses, and other transportation demand management

A TRB study finds that efforts to reduce congestion and improve traffic flow through system operations or intersection treatments have the potential to reduce GHG emissions by increasing operating speeds; however, the **induced traffic** effects must be **mitigated** through strategies such as **congestion pricing**.

Traffic & Speed Management

“Eco-Driving”
Education:
15% GHG
Reduction

All Circles:
50% GHG
Reduction

Fuel Price
Increase:
3% VMT
Reduction

Pricing Policies

PAYD
Insurance:
8% VMT
Reduction

Convert
Existing Lanes
to HOT:
1.4% VMT
Reduction

Suppressed Demand:

11.8% of commuters changed their work schedule and 7.8% changed their commute mode during the closure of I-5 in Sacramento

The Sacramento Area Council of Governments reported a decline in **VMT of 2.9%** with **the 20.3% increase in average fuel price** between July 2007 and July 2008.

PeMS data (traffic volumes) from Caltrans District 4 indicates that during the five days (Thursday to Monday) of the San Francisco-Oakland Bay Bridge closure, VMT was reduced by 3.7 percent while BART ridership increased 26% when compared to the previous Thursday to Monday.

Suppressed Road Capacity