

SAFE SYSTEM CASE STUDY

Altering development patterns in California

KEY TAKEAWAY: California reduced systemwide injury risk by aligning environmental review and housing policy with Safe System principles, shifting development toward higher density and away from roadway expansion that increases exposure and crash severity.

SAFETY LEVERS



The Safe Systems Pyramid, grounded in public health and injury-prevention principles, shows that interventions at the socioeconomic level deliver the greatest population-wide safety gains. These strategies reshape exposure by influencing where people live, how far they travel and the transportation options available to them. Recent reforms to the California Environmental Quality Act (CEQA) have strengthened these base-of-the pyramid approaches by aligning development impact review with climate and safety goals. Replacing level-of-service (LOS) analysis with vehicle miles traveled (VMT) metrics and streamlining the process of adding more low-VMT housing reduces overall driving and supports abundant, affordable and transit-proximate housing, lowering systemwide exposure. The [Joint Secretary's Policy on Road Safety](#), led by the state's transportation and health and human services agencies, further strengthens these principles. See [this video](#) from the California State Transportation Agency.



Metropolitan Transport Commission, San Francisco

California went from mitigating driving delays ...

Planning and evaluating projects using LOS and roadway widening

Under LOS-based CEQA analysis, vehicle delay was treated as an environmental impact, incentivizing roadway widening and intersection expansions to mitigate congestion. These actions increased vehicle speeds, added conflict points and induced additional VMT. LOS-based analysis also penalized infill, transit and active transportation projects by applying uniform mitigation requirements regardless of safety outcomes.

... to taking steps to reduce driving

Planning and evaluating projects using VMT and systemwide risk

Beginning in 2020, California [replaced LOS with VMT](#) as the transportation impact metric under CEQA. This shift links project review to changes in total driving rather than delay, supports infill and multimodal development, reduces incentives to widen roads or increase speeds and prioritizes operational and design strategies that lower crash likelihood and severity. Local agencies have adopted VMT thresholds, screening maps and mitigation programs that redirect resources toward Safe System-aligned projects rather than additional lane miles.

California went from onerous approvals for infill development ...

Treating infill and affordable housing the same as greenfield development

Traditional CEQA processes and discretionary approvals created delays and uncertainty for low-VMT development projects. These obstacles limited new housing near jobs and transit, increasing long-distance driving and reinforcing auto-dependent growth served by high-speed, high-risk arterials.

... to encouraging new housing near jobs and transit

Streamlining processes to encourage low-VMT development patterns

California enacted a series of housing reforms (e.g., [SB 35](#), [SB 79](#), [SB 423](#), [AB 2011](#), [AB 253](#), [AB 1061](#), [SB 9](#), [AB 1154](#), [AB 1308](#), [SB 543](#), [AB 130](#)) that remove CEQA barriers for qualifying projects, expand ministerial (streamlined) approvals for infill and transit-proximate development, accelerate affordable housing production and reduce pressure for fringe growth. These changes alter fundamental system inputs — where people live and how far they travel. Making nonvehicle trips more viable for more people lowers exposure at the population scale.

California went from making fixes in response to crashes and complaints ...

... to proactively managing system risk

Reacting to safety challenges site-by-site

Project-by-project safety responses prioritize politically vocal locations and miss widespread systemic risk created by land use patterns and high-speed roadway design.

Preventing risk through coordinated, upstream policy

The shift to VMT-based analysis allows agencies to anticipate exposure during planning, identify high-VMT and high-risk areas proactively and deploy safety strategies earlier in the development process, before roadway design and land use decisions lock in elevated injury risk. This shift, along with the reforms around housing construction, also help align housing, transportation and environmental goals.

California went from agencies working in silos ...

... to agencies working together for safety

Transportation, housing and environmental decisions moving on their own tracks

This separation reinforced patterns that increased VMT, conflict points and speed systemwide.

Cross-agency collaboration to reduce system risk

Implementation of VMT metrics and housing reforms required coordination among the California State Transportation Agency, planning officials in the governor's office, local planning and public works departments, metropolitan planning organizations and housing agencies. This alignment is reshaping safety outcomes at the system level.

What levers did this intervention pull?

 **PRIMARY:** By reducing VMT through infill, transit-oriented development and policies to improve jobs-housing balance, California's reforms lower the amount of time people spend in high-risk travel environments, reducing **exposure** at a population scale.

 **SECONDARY:** The changes reduced **severity** by shifting away from peak-hour, delay-based mitigation. Previous practices had resulted in an overbuilt system with higher operating speeds, especially during off-peak periods.

 **SECONDARY:** California lowered the **likelihood of a crash** by reducing the number of roadway widenings and high-speed arterials. This has led to fewer uncontrolled conflict points and simplified street networks.

State and local DOTs can reduce crash injuries by lowering one or more of the following

SAFETY LEVERS:

	EXPOSURE	how much people drive
	SEVERITY	how fast vehicles travel and how heavy they are
	LIKELIHOOD OF A CRASH	how often road users come into conflict

What else can be done?

Rapid-deployment steps: Localities can pair streamlined infill development with quick-build multimodal access improvements (e.g., crossing enhancements, curb management, protected bikeways) and speed management to reduce severity and likelihood risks that may [otherwise increase when housing is developed on high-injury corridors in infill areas](#). Potential tensions between evacuation concerns and Complete Streets designs can be addressed through collaboration with emergency response leaders, including preapproval of quick-build interventions.

Policy/process trigger: Localities can embed Safe System principles, including target speeds, speed management, VMT mitigation and conflict reduction, into comprehensive land use and transportation plans (such as general plan circulation and housing elements), capital improvement programs, transportation impact assessments and transportation impact fees. State and regional funding incentives can reward Safe System-consistent design aligned with frameworks such as Caltrans' [DIB 94](#) Complete Street Design standards and the San Francisco Bay Area Metropolitan Transportation Commission [Transit Oriented Communities](#) parking reform for local jurisdictions.

Data collection: Track changes in VMT per capita, development location relative to high-injury networks and the share of mitigation funding directed toward demand management and first- and last-mile safety improvements.