

The Expansion of California's Freeway Service Patrol Program is Delivering Benefits to Motorists and the Environment

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The Freeway Service Patrol (FSP) program has the goal of reducing congestion by using fleets of roving tow and service trucks to quickly clear disabled vehicles and address other minor accidents on California's freeway. The FSP program is jointly managed by Caltrans, the California Highway Patrol (CHP), and regional transportation agencies. Approximately \$21.25 million in State transportation funds are provided each year to eligible regional transportation agencies for the FSP program using a formula-based allocation. The Road Repair and Accountability Act of 2017 (SB 1) directs an additional \$25 million per year to the FSP Program in 2017-18 and thereafter. Of this \$25 million, \$9.05 million is available for allocation to support new or expanded service.

To gain a better understanding of the performance and benefits of the FSP program expansion supported by \$9.05 million dollars from SB 1, a near-term cost effectiveness evaluation of the program was performed by UC Berkeley researchers affiliated with the Institute of Transportation Studies and the California PATH Program. The evaluation quantified the SB 1 funded benefits in delay savings (e.g., congestion reduction), motorist fuel savings, and transportation-related emissions reduction.

Key Research Findings

The findings presented below represent outcomes from evaluating the first year of the FSP program expansion facilitated by the \$9.05 million dollar investment from SB 1.

The FSP program expansion provided over 118,000 assists to California's motorists. Whether fixing a flat tire, towing a disabled vehicle to a safe location, clearing debris from a lane of traffic, or providing a gallon of gasoline to a motorist that has run out of fuel, California's FSP roving tow trucks find congestion-causing incidents and clear them quickly. California's FSP tow-truck drivers provide direct assistance to stranded motorists, increasing safety and security for them in a moment of need. Additionally, the FSP services reduce

traffic delays for other motorists by maintaining the capacity of our highway system and increase safety for motorists by clearing hazards that may cause secondary incidents.

Motorists saved about 2 million person-hours that would have been spent in traffic. By clearing freeway-incidents quickly, the FSP program directly reduced non-recurrent traffic congestion on California's urban freeways by over 1.7 million vehicle-hours (or 2 million person-hours) in its first year of implementation (i.e., FY 2018-19). These traffic delay reductions, in turn, saved motorist 2.9 million gallons of fuel, which resulted in additional mobile source emission reductions.

On average, the FSP expansion provided 5 times as much benefit to California's motorists relative to the State's investment.

The FSP expansion delivered \$47 million dollars worth of benefits (e.g., fuel savings and time saved) to motorists at a cost of about \$9 million dollars. Overall, the weekday peak period FSP expansions (with a benefit-to-cost ratio of 6.0) were more cost effective than the midday and weekend FSP expansions. This is most likely due to the fact that the weekday peak periods are when California's freeways tend to be the most congested. Even with that, the weekend and midday FSP expansions still paid back 3 times more benefit to motorists as these services cost the State.

The FSP expansion is helping to reduce greenhouse gas emissions.

The FSP expansion reduced the transportation-related carbon dioxide (CO_2) emissions by over 28 tons during its first year of implementation in addition to reducing reactive organic gases (ROG) by 140 kg/year, carbon monoxide (CO) by 1,672 kg/year, nitrous oxide (N_2O) by 400 kg/year, and methane (CH_4) by 1,082 kg/year. In turn, the FSP program helps to reduce pollution emissions from the transportation, delivery and sale of gasoline (called "upstream emissions") due to reduced petroleum use. Upstream emissions are a significant portion of vehicle emissions that contribute to unhealthy air, and can be expected to account for up to 25 percent of vehicle-related emissions by 2020.¹

Further Reading and More Information

This policy brief was drawn from the "Monitoring the Cost Effectiveness of the Caltrans Freeway Service Patrol (FSP) SB 1 Funded Expansion" technical report prepared by Michael Mauch, Alexander Skabardonis, and Ben McKeever with the University of California, Berkeley. The report can be found here: <http://www.ucits.org/research-project/monitoring-the-cost-effectiveness-of-the-caltrans-freeway-service-patrol-fsp-sb1-funded-expansion>.

For questions and/or comments concerning the information presented in this brief, please contact Michael Mauch at mmauch@berkeley.edu. More information on California's FSP programs can be found on the FSP partner and/or FSP managing agency websites:

- California Department of Transportation (Caltrans), <http://www.dot.ca.gov/trafficops/tm/fsp.html>
- California Highway Patrol, <https://www.chp.ca.gov/programs-services/services-information/freeway-service-patrol>
- Sacramento Transportation Authority, <http://www.sacta.org/fsp.html>
- El Dorado County Transportation Commission, <https://www.edctc.org>
- Placer County Transportation Planning Agency, <http://pctpa.net/featured/freeway-service-patrol>
- Metropolitan Transportation Commission, <https://mtc.ca.gov/tags/freeway-service-patrol>
- Santa Cruz County Regional Transportation Commission, <https://sccrtc.org/services/motorist>
- Transportation Agency for Monterey County, <https://www.tamcmonterey.org/programs/freeway-tow-trucks>
- Santa Barbara County Association of Governments, <http://www.sbcag.org/freeway-service-patrol.html>
- Fresno Council of Governments, <https://www.fresnocog.org>
- Metropolitan Transportation Authority, <https://www.metro.net/projects/fsp>
- San Bernardino County Transportation Authority, <https://www.gosbcta.com/get-around/freewayservicepatrol.html>
- Riverside County Transportation Commission, <https://www.rctc.org/fsp-25-years>
- San Joaquin Council of Governments, <https://www.sjcog.org/143/Freeway-Service-Patrol>
- San Diego Association of Governments, <https://www.sandag.org/index.asp?projectid=68&fuseaction=projects.detail>
- Orange County Transportation Authority, <https://www.octa.net/Projects-and-Programs/Motorist-Services/Freeway-Service-Patrol>

'FACT SHEET: Air Quality and Health Impacts of Greenhouse Gas Emissions and Global Warming, American Lung Association of California, webpage: http://www.dnrec.delaware.gov/dwhs/Info/Regs/Documents/alac_impacts_fs.pdf

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