

**Project Information Form**

Project Title	Cloud Forming Potential of Aerosol from Light-Duty Gasoline Direct Injection Vehicles
University	University of California, Riverside
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Funding Source(s) and Amounts Provided (by each agency or organization)	U.S. Department of Transportation - \$104,323.62
Total Project Cost	\$ 104,323.62
Agency ID or Contract Number	DTRT13-G-UTC29 UCR-DOT-204
Start and End Dates	July 1, 2015 - December 1, 2017
Brief Description of Research Project	<p>This project investigates the water-uptake of aerosols from gasoline direct injection (GDI) vehicles using a mobile environmental chamber that has been designed and constructed to characterize secondary emissions, or emissions that have undergone atmospheric transformations. The cloud condensation nuclei (CCN) ability of aged aerosols are compared to fresh measurements. The fresh and aged emissions are characterized for CCN properties for a total of six light-duty GDI vehicles. Testing includes GDI vehicles with low and high mileage, vehicles operated with ethanol blends, and vehicles retrofitted with prototype gasoline particle filters.</p> <p>The results of this study have important implications for the assessment of cloud-aerosol indirect effects of salt-seeded and black carbonaceous aerosol cores. The researchers concluded that in aerosol emissions from new generation GDI vehicles will have significant influence on the impacts of the secondary and primary aerosols on climate.</p>
Describe Implementation of Research Outcomes (or why not implemented)  (Attach Any Photos)	



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Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	<a href="https://ncst.ucdavis.edu/project/cloud-forming-potential-of-aerosol-from-light-duty-gasoline-direct-injection-vehicles/">https://ncst.ucdavis.edu/project/cloud-forming-potential-of-aerosol-from-light-duty-gasoline-direct-injection-vehicles/</a>