

On-road Mobile Sources

Federal Regulations

Section 209(a) of the Clean Air Act (CAA) preempts states other than California from adopting or enforcing standards for on-highway vehicles. Nevertheless, emissions reduction credit for federal on-highway vehicle controls was accounted for because federal control effectiveness has been incorporated into the MOVES model which the Utah Division of Air Quality (UDAQ) uses to calculate on-road emissions.

In 2014, on-road mobile sources were responsible for approximately 68.8% of NO_x, 41.7% of VOC, 44.0% of direct PM_{2.5}, 6.2% of NH₃, and 50.8% of SO₂ in the Provo Nonattainment Area. Among total on-road source emissions, gasoline vehicles were the largest component of total mobile emissions at 65.9%, followed by diesel vehicles at 32.0%, with the remainder being comprised of other fuel types. Gasoline vehicle emissions were predominated by *light-duty vehicles*, starting with passenger cars and closely followed by passenger trucks. The remaining gasoline emissions came from light commercial trucks, followed by single unit short-haul trucks, and then other vehicle types combined. Diesel vehicles were predominated by *heavy-duty vehicles*, starting with combination long-haul trucks and followed in order by single unit short-haul trucks, combination short-haul trucks, and the remaining categories. Current and past federal regulations for on-highway vehicles have been established to cover all of the above sources as shown in the table below.

Table 1 -- Federal On-road Regulations

Engine category	Type/Fuel	CFR Cite for regulations establishing emission standards	Rulemakings (categories and subcategories)	Final Rulemaking	FR Date
Motorcycles	SI	40 CFR Part 86	Emission regulations for 1978 and later new motorcycles	42 FR 1126	January 5, 1977
Motorcycles	SI	40 CFR Part 86	Emissions from highway motorcycles	69 FR 2398	January 15, 2004
Passenger cars and trucks	SI and diesel	40 CFR Part 86	New motor vehicles: tier 2 motor vehicle emissions standards and gasoline sulfur control requirements	65 FR 6698	February 10, 2000
Passenger cars and trucks	SI and diesel	40 CFR Part 86	Motor vehicles: tier 3 motor vehicle emission and fuel standards	79 FR 23414	April 28, 2014
Heavy-duty highway vehicles and engines	SI and diesel	40 CFR Part 86	Highway heavy-duty engines	62 FR 54694	October 21, 1997

Heavy-duty highway vehicles and engines	SI and diesel	40 CFR Part 86	2004 and later model year heavy-duty highway engines and vehicles; revision of light-duty on-board diagnostics requirements	65 FR 59896	October 6, 2000
Heavy-duty highway vehicles and engines	SI and diesel	40 CFR Part 86	New motor vehicles: heavy-duty engine and vehicle standards and highway diesel fuel sulfur control requirements	66 FR 5002	January 18, 2001

Anticipated emissions reductions from on-road mobile federal regulations are sizable. For example, combined NOx + VOC emissions were reduced by 96.7% and PM emissions were reduced by 97% between the Tier 1 to Tier 3 light-duty vehicle standards. Similarly, the latest round of heavy-duty vehicles standards, which was phased-in between 2007 and 2010, reduced both NOx and PM emissions by 90%. Taken as a whole, UDAQ anticipates federal on-road mobile emissions regulations will continue to result in dramatic reductions in on-road mobile source emissions in the Provo Nonattainment Area as older vehicles are replaced over time.

State Regulations

Utah Code Annotated 41-6a-1642 gives authority to each county to implement and manage a vehicle Inspection and Maintenance (I/M) program to attain and maintain any National Ambient Air Quality Standard (NAAQS). An I/M program was implemented in Utah County – the only county in the Provo Nonattainment Area – in 1986. This program has been effective in both identifying vehicles that no longer meet the emission specifications for their respective makes and models and ensuring that those vehicles are repaired in a timely manner.

Utah County’s current I/M program consists of a decentralized test-and-repair network for the testing of all model year 1968 and newer vehicles, except for exempt vehicles registered in Utah County. Vehicles less than two years old as of January 1 on any given year are exempt from an emissions inspection. Vehicles from two to five years old as of January 1 on any given year are inspected every other year. All vehicles six years old and older as of January 1 on any given year are inspected annually. Vehicles 1996 and newer are subject to an on-board diagnostics (OBD) II inspection. Vehicles 1995 and older are subject to a two-speed idle test. To ensure that analyzers are of the highest quality and to take advantage of improved technology, Utah County recently updated the test analyzers used in its I/M program.

During its 2018 General Session, the Utah State Legislature passed H.B. 101, which established a pilot program to require diesel vehicle emissions inspections in Utah County. While diesel I/M programs have not historically been awarded SIP emissions reduction credit, UDAQ nevertheless anticipates additional NOx and PM emissions reductions from this newly-established program.