

JAN 20 2012

---

# A BILL FOR AN ACT

RELATING TO ROADWAY PARTICULATE MATTER POLLUTION CONTROL.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that roadway particulate  
2 matter pollution, which is disbursed into the environment from  
3 the dust and debris emanating from road materials as motor  
4 vehicle tires traverse over pavement, is a serious environmental  
5 threat. Roadway particulate matter pollution enters Hawaiian  
6 waters as storm water runoff, causing harm to fisheries, live  
7 coral reefs, and agriculture and aquaculture production.  
8 Stormwater runoff from roadways contain many pollutants and  
9 metals, including zinc from tires and barium, cadmium, nickel,  
10 copper, lead, zinc, and antimony from brakes. Stormwater runoff  
11 of pollutants and metals has been documented to be deposited in  
12 Hawaii's waterways and marine environment.

13           The legislature also finds that inhalation of roadway  
14 particulate matter pollution particles is a health risk.  
15 Particles penetrate into and are deposited into the various  
16 regions of the respiratory tract. The adverse health effects  
17 from roadway particulate matter pollution include increased  
18 hospital admissions and emergency room visits, school absences,



1 work loss days, changes in lung function, respiratory symptoms,  
2 lung tissue changes, alteration to respiratory defense  
3 mechanisms, and premature death. Children, the elderly,  
4 pregnant women, and those who suffer from pulmonary diseases are  
5 particularly at risk to roadway particulate matter pollution.

6 The United States Environmental Protection Agency has  
7 concluded that, based on a qualitative assessment of the  
8 epidemiological evidence of the effects associated with exposure  
9 to roadway particulate matter pollution, individuals with  
10 respiratory disease are at greater risk of premature mortality  
11 and hospitalization; individuals with infectious respiratory  
12 disease are at greater risk of premature mortality and  
13 morbidity, the concomitant hospitalization and aggravation of  
14 respiratory symptoms, and susceptibility to respiratory  
15 infections; elderly individuals are at greater risk of premature  
16 mortality and hospitalization for cardiopulmonary problems;  
17 children are at greater risk of increased respiratory symptoms  
18 and decreased lung function; and asthmatic individuals are at  
19 risk of exacerbation of symptoms associated with asthma and of  
20 an increased need for medical attention.

21 The legislature further finds that Hawaii's economy and the  
22 quality of life of its residents rely on the health, quality,



1 and cleanliness of the riparian and marine environment. During  
2 storm events, roadway particulate matter pollution sediments are  
3 transported directly to storm sewers and then into streams where  
4 it can contaminate the food chain with the bioaccumulation of  
5 metal contaminants and modify the ecological health of the  
6 ecosystem. For example, research conducted by the University of  
7 Hawaii at Manoa has shown very high levels of contamination in  
8 the Manoa watershed from roadway particulate matter pollution.  
9 The National Contaminant Biomonitoring Program of the United  
10 States Fish and Wildlife Service found that fish from Manoa  
11 Stream have the highest concentrations of lead in the nation.  
12 Further research showed that copper, zinc, and lead in the Manoa  
13 watershed were anthropogenically generated. The authors  
14 concluded that automotive emissions plus vehicle wear were the  
15 primary contributors of trace metal concentrations.

16 Research findings of the University of Hawaii at Manoa also  
17 show that there is a general pattern of increasing trace metal  
18 concentrations downstream as the fluvial network traverses the  
19 lower portions of the watershed. Hawaii's high population  
20 densities and significant traffic densities probably contribute  
21 to the elevated contamination levels. Road-deposited sediments  
22 have very high contaminant concentrations, and ultimately these



1 sediments are flushed into stream systems where they can  
2 potentially have adverse effects. The legislature further finds  
3 that trace metal pollution in Honolulu streams will not improve  
4 as long as sediments are allowed to flush directly into stream  
5 systems untreated.

6 The legislature finds that tourism is very dependent on the  
7 health of coral reefs. The average annual value of the coral  
8 reef ecosystem among the main islands of Hawaii amounts to a  
9 total of \$364,000,000, eighty-five per cent of which stems from  
10 recreational value, according to research funded by the National  
11 Oceanic and Atmospheric Administration, Coastal Ocean Program.

12 Additional research findings on roadway particulate matter  
13 pollution demonstrate that pollutant emission at street-level,  
14 the most damaging urban environmental pollution which is due  
15 largely to road traffic, can be two to four times higher than  
16 that routinely measured on top of buildings or at typical air  
17 quality monitoring stations; particulate air pollution is  
18 associated with adverse health effects; pregnant women who live  
19 near high traffic areas are ten to twenty per cent more likely  
20 to have premature and low birth weight babies; and damage to  
21 aquatic ecosystems and human health can be substantial. One-  
22 sixth of hydrocarbons and up to one-half of suspended solids



1 reaching streams originate from highways, according to estimates  
2 of the United States Environmental Protection Agency. Vehicle-  
3 related particulates in highway runoff come mostly from tire and  
4 pavement wear, engine and brake wear, and settleable exhaust.

5 Accordingly, the purpose of this Act is to establish a  
6 pilot program to:

- 7 (1) Require each state agency to purchase, install, and  
8 maintain aftermarket equipment certified by the  
9 director of transportation to directly capture and  
10 remove from the environment re-entrained particles and  
11 tire and brake wear emissions from all wheels of state  
12 agency motor vehicles;
- 13 (2) Extend to twenty-four months the vehicle inspection  
14 period for vehicles that are installed with  
15 aftermarket equipment certified by the director of  
16 transportation to directly capture and remove from the  
17 environment re-entrained particles and tire and brake  
18 wear emissions;
- 19 (3) Require the director of transportation to certify  
20 aftermarket equipment to directly capture and remove  
21 from the environment re-entrained particles and tire  
22 and brake wear emissions; and



1           (4) Require that the registered owner or lessee of a fleet  
2           of twenty-five or more commercial motor vehicles,  
3           commercial trailers, or passenger automobiles  
4           periodically verify, as a condition of initial and  
5           renewal of registration of those vehicles, the  
6           installation and operation of aftermarket equipment  
7           that is certified by the director of transportation to  
8           directly capture and remove from the environment re-  
9           entrained particles and tire and brake wear emissions.

10           SECTION 2. Chapter 286, Hawaii Revised Statutes, is  
11           amended by adding a new section to be appropriately designated  
12           and to read as follows:

13           "§286-     Roadway particulate matter pollution equipment.  
14           Beginning January 1, 2013, the director of transportation shall  
15           certify aftermarket motor vehicle equipment designed to directly  
16           capture and remove from the environment re-entrained particles  
17           and tire and brake wear emissions from motor vehicles."

18           SECTION 3. Section 196-9, Hawaii Revised Statutes, is  
19           amended by amending subsection (c) to read as follows:

20           "(c) With regard to motor vehicles and transportation  
21           fuel, each agency shall:



- 1           (1) Comply with Title 10, Code of Federal Regulations,  
2                    Part 490, Subpart C, "Mandatory State Fleet Program",  
3                    if applicable;
- 4           (2) Comply with all applicable state laws regarding  
5                    vehicle purchases;
- 6           (3) Once federal and state vehicle purchase mandates have  
7                    been satisfied, purchase the most fuel-efficient  
8                    vehicles that meet the needs of their programs;  
9                    provided that life cycle cost-benefit analysis of  
10                  vehicle purchases shall include projected fuel costs;
- 11          (4) Purchase alternative fuels and ethanol blended  
12                  gasoline when available;
- 13          (5) Evaluate a purchase preference for biodiesel blends,  
14                  as applicable to agencies with diesel fuel purchases;
- 15          (6) Promote efficient operation of vehicles;
- 16          (7) Use the most appropriate minimum octane fuel; provided  
17                  that vehicles shall use 87-octane fuel unless the  
18                  owner's manual for the vehicle states otherwise or the  
19                  engine experiences knocking or pinging;
- 20          (8) Beginning with fiscal year 2005-2006 as the baseline,  
21                  collect and maintain, for the life of each vehicle  
22                  acquired, the following data:



- 1 (A) Vehicle acquisition cost;
- 2 (B) United States Environmental Protection Agency
- 3 rated fuel economy;
- 4 (C) Vehicle fuel configuration, such as gasoline,
- 5 diesel, flex-fuel gasoline/E85, and dedicated
- 6 propane;
- 7 (D) Actual in-use vehicle mileage;
- 8 (E) Actual in-use vehicle fuel consumption; and
- 9 (F) Actual in-use annual average vehicle fuel
- 10 economy; [~~and~~]
- 11 (9) Beginning with fiscal year 2005-2006 as the baseline
- 12 with respect to each agency that operates a fleet of
- 13 thirty or more vehicles, collect and maintain, in
- 14 addition to the data in paragraph (8), the following:
- 15 (A) Information on the vehicles in the fleet,
- 16 including vehicle year, make, model, gross
- 17 vehicle weight rating, and vehicle fuel
- 18 configuration;
- 19 (B) Fleet fuel usage, by fuel;
- 20 (C) Fleet mileage; and





1 (D) Overall annual average fleet fuel economy and  
2 average miles per gallon of gasoline and  
3 diesel [-]; and

4 (10) Beginning January 1, 2013, purchase, install and  
5 maintain aftermarket equipment certified by the  
6 director of transportation under section 286- to  
7 directly capture and remove from the environment re-  
8 entrained particles and tire and brake wear emissions  
9 from all wheels of motor vehicles."

10 SECTION 4. Section 286-26, Hawaii Revised Statutes, is  
11 amended by amending subsections (a) and (b) to read as follows:

12 "(a) The following vehicles shall be certified as provided  
13 in subsection (e) once every year:

14 (1) Trucks, truck-tractors, semitrailers, and pole  
15 trailers having a gross vehicle weight rating of more  
16 than 10,000 pounds;

17 (2) Buses;

18 (3) Rental or U-drive motor vehicles two years of age or  
19 older; and

20 (4) Taxicabs [-];

21 [~~Ambulances~~] provided that ambulances shall be certified as  
22 provided in subsection (e) once every six months [-], and



1 vehicles under this subsection that are equipped with  
2 aftermarket equipment certified under section 286- to directly  
3 capture and remove from the environment re-entrained particles  
4 and tire and brake wear emissions from all wheels shall be  
5 certified every twenty-four months.

6 (b) All other vehicles, including motorcycles, trailers,  
7 semitrailers, and pole trailers having a gross vehicle weight  
8 rating of 10,000 pounds or less, and antique motor vehicles as  
9 defined in section 249-1, except those in subsections (c) and  
10 (d), shall be certified as provided in subsection (e) every  
11 twelve months; provided that [~~any~~]:

12 (1) Any vehicle to which this subsection applies shall not  
13 require inspection within two years of the date on  
14 which the vehicle was first sold[-]; and

15 (2) Beginning January 1, 2013, vehicles under this  
16 subsection that are equipped with aftermarket  
17 equipment certified under section 286- to directly  
18 capture and remove from the environment re-entrained  
19 particles and tire and brake wear emissions from all  
20 wheels shall be certified every twenty-four months."



1 SECTION 5. Section 286-53.5, Hawaii Revised Statutes, is  
2 amended by amending its title and subsections (a) to (c) to read  
3 as follows:

4 " ~~[+]§286-53.5[]—Permanent registration]~~ Registration of  
5 fleet vehicles[-]; certification of emission control equipment.

6 (a) ~~[Notwithstanding any other law to the contrary, the]~~ The  
7 registered owner or lessee of a fleet of twenty-five or more  
8 vehicles consisting of commercial motor vehicles, commercial  
9 trailers, or passenger automobiles may apply to the director of  
10 finance of the county in which the vehicles are to be operated,  
11 for permanent license plates, decals, and registration cards;  
12 provided that the vehicle shall not be registered in any other  
13 state.

14 (b) The application for initial issuance of ~~[permanent]~~  
15 registration shall be filed in such form as the director of  
16 finance shall require. Upon initial application and payment of  
17 the required fees, the director of finance shall issue a  
18 distinguishing license plate or decal which indicates the  
19 vehicle has been registered under this section. An initial  
20 registration shall not be issued to a registered owner or lessee  
21 unless every fleet vehicle owned or leased by that owner or  
22 lessee is equipped with aftermarket equipment certified under



1 section 286- to directly capture and remove from the  
2 environment re-entrained particles and tire and brake wear  
3 emissions from all wheels. Any initial fleet registration that  
4 has been issued prior to January 1, 2013, shall re-register in  
5 accordance with this subsection within months.

6 (c) Upon submission of the renewal of registration form  
7 and payment of normally required fees, the license plates,  
8 decals, and registration cards issued pursuant to this section  
9 for the vehicle shall remain valid; provided that a fleet  
10 vehicle registered under this section may be deleted from such  
11 identified fleet upon notification of the director of finance by  
12 the registered owner on the proper form, and if the  
13 distinguishing license plates, decals, and registration cards  
14 issued for the vehicle are surrendered. Failure to comply with  
15 the preceding sentence shall require payment by the fleet owner  
16 of fees due for registration of the vehicle as though the  
17 vehicle remained part of the fleet. Display of the  
18 distinguishing license plate or decal and registration card  
19 shall constitute prima facie evidence that the vehicle is  
20 currently registered.

21 The registered owner or lessee of any vehicle registered  
22 pursuant to this section shall display in a conspicuous place on



1 both the right and the left side of each vehicle, the name,  
2 trademark, or logo of the company. The display of the name,  
3 trademark, or logo shall be printed in sharp contrast to the  
4 background of the vehicle and shall be of such size, shape, and  
5 color as to be readily identifiable during daylight hours from a  
6 distance of fifty feet.

7 A renewal registration shall not be issued to a registered  
8 owner or lessee unless every fleet vehicle owned or leased by  
9 that owner or lessee is equipped with aftermarket equipment  
10 certified under section 286- to directly capture and remove  
11 from the environment re-entrained particles and tire and brake  
12 wear emissions from all wheels."

13 SECTION 6. Statutory material to be repealed is bracketed  
14 and stricken. New statutory material is underscored.

15 SECTION 7. This Act shall take effect upon its approval  
16 and shall be repealed on December 31, 2016.

17

INTRODUCED BY:

J. Kalani English  
By Request



**Report Title:**

Roadway Particulate Matter Pollution; Emissions; Re-entrained Particles

**Description:**

Requires state agencies to purchase, install, and maintain aftermarket equipment of state vehicles certified to capture and remove environment re-entrained particles and tire and brake wear emissions; extends to twenty-four months the certificates of inspection for motor vehicles with such equipment; requires the director of transportation to certify such equipment; requires fleet vehicles to be equipped with such equipment as a condition of initial and renewal registration. Sunset 12/31/16.

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

