

Maricopa County	Internal Policy	Number: A2326
	Title: County Vehicles and Environmental Responsibility Policy	Issue Date: November 14, 2007
Policy Category: Policy	Initiating Department: Equipment Services	Revision: N/A
Reviewed by:	Approved by: Fulton Brock, Chairman, Board of Supervisors	Revision Date: N/A

A. Introduction

The purpose of this policy is to provide County Departments and Special Districts direction regarding the responsibilities Maricopa County has in relation to the vehicles that the County operates and their impact to the environment.

B. Background

The County must purchase and operate vehicles in order to conduct its business in an orderly and timely manner. The costs of vehicle procurement and usage must be managed in a responsible and prudent manner with funding that comes from the taxes, fees and grants. Funding for vehicle replacement is governed by the Policy for Vehicle Replacement (B4002).

Additionally, the County has a responsibility to the citizens to conduct business in a manner that will impact the environment as little as possible. The Environmental Protection Agency has determined that driving a car is the single greatest polluter individuals engage in, as emissions from millions of vehicles on the road aggregates to extensive pollution.

This policy provides guidelines for County Departments to follow in an effort to reduce the amount of impact on the environment caused by vehicles.

C. Definitions

Air Pollution Score reflects pollutants that cause health problems and smog. The Environmental Protection Agency determines the Air Pollution Score by examining the amounts of the following pollutants: Oxides of Nitrogen, Non-Methane Organic Compounds, Carbon Monoxide, Particulate Matter and Formaldehyde. The score is from 0 to 10, where 10 is best.³

Carbon dioxide is a product of perfect combustion and does not directly impair human health. It is, however, a gas that traps the earth's heat and contributes to the potential for global warming.¹

Carbon Footprint reflects pollutants that cause health problems and smog. The carbon footprint is a combination of the following pollutants: Oxides of Nitrogen, Non-Methane Organic Compounds, Carbon Monoxide, Particulate Matter and Formaldehyde. The Environmental Protection Agency reviews these pollutants through their "Air Pollution Score."

Carbon monoxide is a product of incomplete combustion and occurs when carbon in the fuel is partially oxidized rather than fully oxidized to carbon dioxide. It reduces the flow of oxygen in the bloodstream and is particularly dangerous to persons with heart disease.¹

E-85 Fuel is fuel comprised of 85% Ethanol, which is a cleaner burning substance compared to unleaded gasoline.

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Flex Fuel Vehicles are automobiles that can use multiple sources of fuel, either mixed in the same tank or with separate tanks and fuel systems for each fuel. A common example is a vehicle that can accept gasoline mixed with varying levels of bio-ethanol. Some cars carry a natural gas tank and one can switch from gasoline to gas.

Greenhouse Gas Score reflects the exhaust emissions of carbon dioxide. The Environmental Protection Agency determines the Greenhouse Gas Score by the vehicle's estimated fuel economy and its fuel type. The lower the fuel economy, the more carbon dioxide is emitted as a by-product of combustion. The amount of carbon dioxide emitted per gallon of fuel burned varies by fuel type, since each type of fuel contains a different amount of carbon per gallon. A higher score means a vehicle is expected to emit less carbon dioxide.³

Hybrid Vehicles are vehicles that use two or more distinct power sources such as an on-board rechargeable energy storage system (RESS) and a fueled power source.

Hydrocarbon emissions result when fuel molecules in the engine do not burn or burn only partially. Hydrocarbons react in the presence of nitrogen oxides and sunlight to form ground-level ozone, a major component of smog. Hydrocarbon pollutants also escape into the air through fuel evaporation.¹

Light Duty Vehicles is a vehicle designation for common automobiles such as sedans, compact and full-sized trucks and sport utility vehicles as well as vans (up to 15 passengers).

Nitrogen Oxides are precursors to the formation of ozone, and also contribute to the formation of acid rain. Under high pressure and temperature conditions in an engine, nitrogen and oxygen atoms in the air react to form various nitrogen oxides.¹

Ozone is a form of molecular oxygen that consists of three oxygen atoms linked together. Ozone in the upper atmosphere occurs naturally and protects life on earth. Ozone at the ground level is a noxious pollutant and is the major component of smog and is the country's most intractable urban air quality problem.²

SmartWay is a designation placed on a vehicle by the Environmental Protection Agency and is earned by those vehicles that score 6 or better on both the Air Pollution and Greenhouse Gas Scores and achieve a combined score of at least 13 when added together. SmartWay vehicles are good environmental performers.³

SmartWay Elite is a designation placed on a vehicle by the Environmental Protection Agency and is given to those vehicles that score 9 or better on both the Greenhouse Gas and Air Pollution Scores. Vehicles that receive this designation are superior environmental performers relative to other vehicles.³

D. Guidelines

The County will reduce the amount of impact on the environment caused by vehicles by employing the following guidelines:

1. Appropriate reporting by County Departments and Special Districts on vehicle usage, condition and maintenance.

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2. Reduction of the carbon footprint and greenhouse gas emissions through reduction of the County Fleet of under utilized vehicles.
3. Reduction of the carbon footprint and greenhouse gas emissions by selecting appropriately sized vehicles that utilize hybrid or flex fuel technologies whenever possible.
4. Reduction of the carbon footprint by adhering to the preventative maintenance schedule for all vehicles as determined by Equipment Services.

The Environmental Protection Agency's Air Pollution Scores and Greenhouse Gas Scores will be utilized in determining a vehicle's impact to the carbon footprint and greenhouse gas.

Footnotes

1. "Automobile Emissions: An Overview", U.S. Environmental Protection Agency Office of Mobile Sources, EPA 400-F-92-007, Fact Sheet OMS-5, August, 1994
2. "Automobiles and Ozone", U.S. Environmental Protection Agency Office of Mobile Sources, EPA 400-F-92-006, Fact Sheet OMS-4, January, 1993.
3. "Green Vehicle Guide", U.S. Environmental Protection Agency Office of Mobile Sources, <http://www.epa.gov/greenvehicles>.