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## Annual Report on Energy-Efficient Purchasing, Motor Vehicle Management, Fiscal Year 2014-2015

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Department of  
General Services



# Annual Report on Energy-Efficient Vehicles

Fiscal Year 2014 - 2015

Department of General Services | Motor Vehicle Management | December 2015



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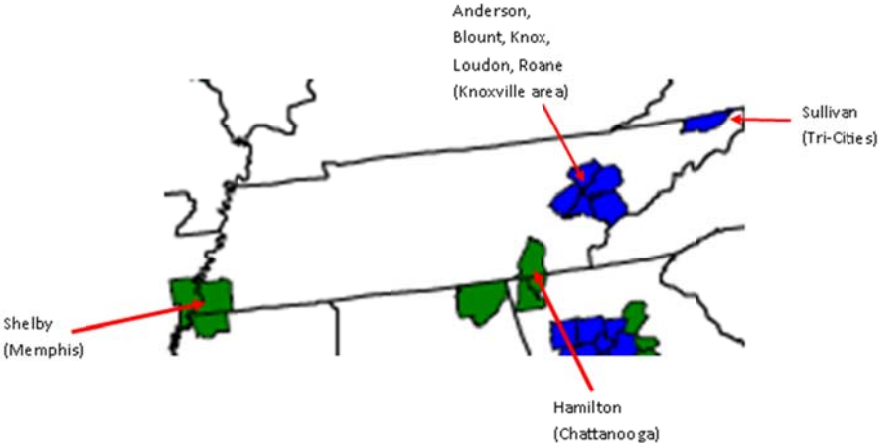


# PROCUREMENT REQUIREMENTS

Procurement of energy-efficient motor vehicles is mandated by Tennessee Code Annotated § 4-3-1109, which requires the following:

- Each year, every effort should be made to achieve a target goal that one hundred percent (100%) of newly purchased passenger motor vehicles be energy-efficient or alternative fuel motor vehicles.
- The department shall ensure that at least twenty-five percent (25%) of newly purchased passenger motor vehicles procured for use in areas designated by the United States Environmental Protection Agency (EPA) as nonattainment areas shall be hybrid-electric vehicles or vehicles powered by natural gas; provided that such vehicles and fueling infrastructure are available at the time of procurement and such vehicles are purchased at competitive prices. In the event that such vehicles or fueling infrastructure is not available at the time of procurement, the department may instead meet this mandate by procuring compact fuel-efficient vehicles<sup>1</sup>.
- In areas not designated by the EPA as nonattainment areas, the department shall ensure that at least twenty-five percent (25%) of newly purchased passenger motor vehicles are hybrid-electric vehicles, vehicles powered by natural gas, or compact fuel-efficient vehicles; provided, that such vehicles are purchased at competitive prices.

Within the state, the areas designated by the EPA as nonattainment areas include the following counties:



<sup>1</sup> A compact fuel-efficient vehicle is defined as a vehicle powered by unleaded gasoline that has a United States EPA estimated highway gasoline mileage rating of at least twenty-five miles per gallon (25 mpg) or greater for the model year purchased.

T.C.A. § 4-3-1109 defines a passenger motor vehicle as a motor vehicle designed for carrying six (6) or fewer adult passengers and used for the transportation of persons; provided, that vans, including cargo vans, trucks, sport utility vehicles, and police pursuit vehicles shall not be considered passenger motor vehicles.

T.C.A. § 4-3-1109 further defines an energy-efficient motor vehicle as a passenger motor vehicle that is:

- An alternative fuel vehicle as defined by the Energy Policy Act of 1992 (Public Law 102-486);
- A flexible fuel vehicle (FFV) utilizing ethanol, biodiesel, or any other commercially available alternative fuel approved by the United States Department of Energy;
- A hybrid-electric vehicle (HEV);
- A compact fuel-efficient vehicle, defined as a vehicle powered by unleaded gasoline that has a United States EPA estimated highway gasoline mileage rating of at least twenty-five miles per gallon (25 mpg) or greater for the model year purchased;
- An electric vehicle (EV);
- A vehicle powered by natural gas; or
- A vehicle powered by ultra low sulfur diesel fuel that meets Bin 5, Tier II emission standards mandated by the EPA and that has an EPA estimated highway mileage rating of at least thirty miles per gallon (30 mpg) or greater for the model year purchased.

## REPORTING REQUIREMENTS

In accordance with T.C.A. § 4-3-1109, this report provides information on the procurement of energy-efficient motor vehicles for fiscal year 2015. The code requires information to be compiled and maintained on the nature of passenger motor vehicles that are owned by the state, including the number of passenger vehicles purchased during the fiscal year categorized by energy efficiency and the number of passenger motor vehicles owned as of June 30 of each year categorized by energy efficiency.

Additionally, in accordance with T.C.A. § 4-3-1109, the report shall include:

- Problems or concerns the state may have experienced in meeting the target goal set relative to obtaining such energy-efficient motor vehicles;
- Any savings or increased expenditures to the state in the purchase of, as well as the operation and maintenance cost of, such motor vehicles;
- Plans for integrating energy-efficient motor vehicles into the state passenger motor vehicle fleet;
- The volume of gasoline or diesel displaced by the usage of energy-efficient or alternative fuel vehicles; and
- The emissions reduction achieved by the usage of energy-efficient or alternative fuel vehicles.

# MOTOR VEHICLE MANAGEMENT ANALYSIS

## State of Tennessee Fleet

As of June 30, 2015, the state owned 584 energy-efficient passenger motor vehicles. The 584 state-owned energy-efficient passenger motor vehicles include:

Energy Efficient Category	Number of Vehicles
Flex Fuel (FFV)	427
Hybrid	87
Electric	5
≥ 25 MPG Highway	65
<b>Total</b>	<b>584</b>

## FY 2015 Acquisitions

During fiscal year 2015, the state purchased 143 passenger vehicles, all of which were energy-efficient. The following table lists the vehicle purchases for fiscal year 2015.

Vehicle Description	Category	Number Purchased
Chevrolet Equinox	FFV	1
Chevrolet Impala	FFV	97
Chevrolet Malibu	MPG ≥ 25	3
Dodge Charger	FFV	1
Dodge Journey	MPG ≥ 25	7
Ford Taurus	FFV	16
Jeep Cherokee	MPG ≥ 25	3
Jeep Patriot	MPG ≥ 25	6
Nissan Altima 2.5	MPG ≥ 25	3
Nissan Murano	MPG ≥ 25	2
Toyota Camry 3.5	MPG ≥ 25	1
Toyota Camry Hybrid	Hybrid	3
<b>TOTAL</b>		<b>143</b>

## Additional Data

- Based on U.S. Department of Energy calculations, Toyota Camry hybrid vehicles increase fuel economy by an estimated 46%, reduce greenhouse gas emissions by 47%, and displace an estimated 798 gallons of gasoline over its life compared to a non-hybrid Toyota Camry. **The estimated additional life cycle cost to operate a Toyota Camry hybrid is \$1,248 higher per vehicle compared to a non-hybrid Toyota Camry.**

- In fiscal year 2015, MVM purchased four (4) models of flex fuel (E-85) vehicles: Chevrolet Equinox, Chevrolet Impala, Dodge Charger, and Ford Taurus. **Based upon current pricing estimates and due to a reduction in fuel economy when operating FFVs on E-85, the estimated additional cost of operating an FFV on E-85 is \$600-\$700, per vehicle each year.** The exact calculation of gasoline displaced by the use of E-85 is unknown; however, during fiscal year 2015, we can report that the total gallons of E-85 purchased for operating FFVs was 15,265. While these vehicles are considered energy efficient because they can utilize E-85 fuel, the only benefit to using E-85 is the ability to reduce the United States' dependence on petroleum. This benefit is further impaired due to the limited availability of fueling stations for E-85.