



Texas Department
of Motor Vehicles
HELPING TEXANS GO. HELPING TEXAS GROW.



2016
Texas Registered Vehicles
Report by Fuel Type

Table of Contents

The Texas Department of Motor Vehicles (TxDMV).....	3
Legislative Authority	3
Texas Vehicle Registrations	3
Decoding the Vehicle Identification Number	4
Data Limitations	4
Fuel Types	4
Gasoline	5
Diesel.....	5
Methanol.....	5
Ethanol	6
Propane or Liquefied Petroleum Gas (LPG)	6
Compressed Natural Gas (CNG).....	6
Flexible	7
Convertible.....	7
Electric Vehicle.....	7
Hybrid: Electric and Gas.....	7
Hybrid: Electric and Diesel	7
Hydrogen Fuel Cell	8
Appendix A – Texas Registered Vehicles by Fuel Type	9
Appendix B – House Bill 735 (84R).....	10

The Texas Department of Motor Vehicles

The Texas Department of Motor Vehicles (TxDMV) is a dynamic state agency whose mission is “to serve, protect and advance the citizens and industries in the state with quality motor vehicle related services.”

A nine member, governor-appointed board that is the agency’s policymaking arm oversees TxDMV. Daily operations are overseen by the agency’s executive director.

Each year, TxDMV oversees the issuance of more than 24 million vehicle registration stickers and more than eight million vehicle titles. The agency awards grants to law enforcement agencies to reduce vehicle burglaries and theft, and licenses approximately 34,000 motor vehicle dealers and a variety of other entities engaged in the motor vehicle sales and distribution industry, as well as salvage vehicle dealers. TxDMV credentials more than 60,000 commercial motor carriers, issues more than 700,000 oversize/overweight permits, and investigates approximately 14,000 complaints annually against dealers and commercial motor carriers.

Legislative Authority

House Bill 735, 84th Legislative Session, requires TxDMV to establish a program to collect information on the number of alternatively fueled vehicles in the state, and to submit an annual report on these findings to the Legislature. The report must, at a minimum, show the number of vehicles registered in this state that use electric plug-in drives, hybrid electric drives, compressed natural gas drives, and liquefied natural gas drives.

Texas Vehicle Registrations

TxDMV is responsible for the titling and registration of motor vehicles and trailers in the State of Texas. The population in Texas continues to increase every year, resulting in an approximate two percent growth in annual vehicle registration. The largest vehicle classification in the state is passenger cars and light trucks under 6,000 pounds.

The number of registered vehicles in Texas is comprised of vehicles that utilize various types of fuel to propel the vehicle. The department is able to determine the fuel type of a vehicle from the Vehicle Identification Number (VIN) provided by the manufacturer for vehicles manufactured after 1965.

Decoding the Vehicle Identification Number

The vehicle identification number (VIN) used to identify a vehicle has evolved over time, with significant differences and placement of the identifying number existed through the early 1950s. By the mid-1950s, the placement of the identifying number typically was located on the body or the frame; however, the format of the number itself still varied widely.

Effective with all 1968 passenger vehicles manufactured in the United States, the VIN was required to be visible through the driver's side of the windshield.

The United States National Highway Traffic Safety Administration standardized the format in 1981 requiring all over-the-road vehicles sold to contain a 17-character VIN. This standard established a fixed format with unique manufacturer identifiers and applies to all passenger cars, multi-purpose passenger vehicles, trucks, buses, incomplete vehicles, and motorcycles. The VIN contains information regarding the fuel type a vehicle utilizes for propulsion as it was built from the vehicle manufacturer. The VIN will not contain information regarding any after-market modifications that have been made to the vehicle post-production.

TxDMV decoded the VIN for all currently registered vehicles to determine the number of registered vehicles based on fuel type for the purposes of this report.

Data Limitations

There are 3.7 million (15.54%) vehicle records where the fuel type could not be determined using the VIN decoding software. VINs do not include a fuel type indicator for vehicles manufactured before 1965 and, therefore, the fuel type for these vehicles cannot be identified at this time. Additionally, there are vehicle records for which the Department was unable to determine a fuel type because of an error in the decoding process. Further, the Department does not require vehicle owners to report vehicle fuel types during annual vehicle registration. This limits the Department's ability to determine the fuel type for vehicles that have been modified or retrofitted from the fuel type intended by the manufacturer. Lastly, there are vehicles contained in this database, such as trailers, which are not self-propelled and do not utilize fuel.

Fuel Types

Manufacturers have been producing vehicles that utilize various types of fuel since the earliest days of the automotive industry. Vehicles have evolved from some of the original steam-powered automobiles to the all-electric vehicles available today thanks to phenomenal leaps in technology. Below are definitions of the various fuel types in use today taken from Texas

statutes as well as from the United States Department of Energy and other transportation-sector resources.

Gasoline

Gasoline, or motor fuel, is the most common fuel utilized for the operation of a motor vehicle. Over 16 million (69.17%) Texas vehicles utilize gasoline as their source of propulsion. Gasoline is a transparent, petroleum-derived liquid that is used primarily as a fuel in internal combustion engines. Texas statutes define motor fuel or gasoline as a fuel that is “volatile hydro-carbon fuel, free from water and suspended matter, and shall be practicable and/or suitable for use as fuel in internal combustion engines.”



Diesel

Texas Tax Code, Chapter 162, defines diesel fuel as “...kerosene or another liquid, or a combination of liquids blended together, offered for sale, sold, used, or capable of use as fuel for the propulsion of a diesel-powered engine. The term includes products commonly referred to as kerosene, light cycle oil, #1 diesel fuel, #2 diesel fuel, dyed or undyed diesel fuel, aviation jet fuel, renewable diesel, biodiesel, distillate fuel, cutter stock, or heating oil, but does not include compressed natural gas, liquefied natural gas, gasoline, aviation gasoline or liquefied gas.” There are approximately 1.3 million (5.52%) diesel fueled vehicles registered in Texas.

Methanol

Methanol (CH_3OH), also known as wood alcohol, is considered an alternative fuel under the Energy Policy Act of 1992. As an engine fuel, methanol has chemical and physical fuel properties similar to ethanol.

TxDMV does not have any records indicating there are any currently registered Texas vehicles utilizing this type of fuel.

Ethanol



Ethanol is an alcohol fuel produced using plant material such as corn, sugar cane, or grasses. Fuel ethanol in the United States must be anhydrous (less than 1% water). Fuel ethanol may be denatured (made unfit for human consumption) by adding two to five percent petroleum by volume. Fuel ethanol is used principally for blending in low concentrations with motor gasoline as an oxygenate or octane enhancer. In high concentrations, it is used to fuel alternative-fuel vehicles specially designed for its use.

TxDMV does not have any records indicating there are any currently registered Texas vehicles utilizing this type of fuel.

Propane or Liquefied Petroleum Gas (LPG)

“Propane gas” means a normally gaseous hydrocarbon defined as propane by the United States Energy Information Administration or its successor agency.

According to the United States Department of Energy, “Propane is a three-carbon alkane gas (C₃H₈). Stored under pressure inside a tank, propane turns into a colorless, odorless liquid. As pressure is released, the liquid propane vaporizes and turns into gas that is used for combustion. An odorant, ethyl mercaptan, is added for leak detection.” Propane is a fossil fuel that can be used to power internal combustion engines. There are 1,038 (.004%) propane fueled vehicles registered in Texas.



Compressed Natural Gas (CNG)



Texas statute defines CNG as “...natural gas primarily consisting of methane in a gaseous state that is compressed and used, stored, sold, transported, or distributed for use by or through a CNG system.” It can be used in the form of CNG or liquefied natural gas (LNG) to fuel cars and trucks.

Dedicated natural gas vehicles are designed to run on natural gas only while bi-fuel vehicles can also run on gasoline or diesel. Conventional gasoline and diesel vehicles can be retrofitted for CNG. However, the VIN would not indicate the engine has been converted. There are 3,889 (.02%) CNG fueled vehicles registered in Texas.

Flexible

Flexible fuel vehicles have engines that are capable of operating with gasoline or gasoline-ethanol blends of up to 85% ethanol (E85). The engine is substantially similar to gasoline-only engines. This class of vehicle represents approximately 2.1 million (8.85%) vehicles in Texas. When added together with gasoline-powered vehicles, these two types of vehicles represent 78% of the registered vehicles in Texas.



Convertible

Convertible vehicles have engines that are easily convertible from gasoline to propane. This vehicle type represents 6,549 (.003%) vehicles statewide.

Electric Vehicle

All-electric vehicles (EVs) run on electricity only. They are propelled by one or more electric motors powered by rechargeable battery packs. There are 8,397 (.04%) electric vehicles registered in Texas.



Hybrid: Electric and Gas

Electric and gas hybrid vehicles are capable of utilizing electricity as a source of fuel for the vehicle's motor in addition to using a gasoline-powered motor. There are varying degrees in which the vehicle utilizes the electric motor versus the gasoline-powered motor. In some instances, the two motors work together in parallel with both motors providing power to the drivetrain. In other instances, the gasoline motor is only used as a source of recharging the batteries for the electric motor.

There are 199,096 (.83%) electric and gas hybrid vehicles registered in Texas.

Hybrid: Electric and Diesel

Electric and diesel hybrid vehicles are capable of utilizing electricity as a source of fuel for the vehicle's motor in addition to using a diesel-powered motor. There are varying degrees in which the vehicle utilizes the electric motor versus the diesel-powered motor. In some instances, the two motors work together in parallel with both motors providing power to the drivetrain. In other instances, the gasoline motor is only used as a source of recharging the batteries for the electric motor.

TxDMV does not have records indicating there are any currently registered Texas vehicles utilizing this type of fuel.

Hydrogen Fuel Cell

Hydrogen fuel cell vehicles utilize a chemical reaction to create electricity that is then used to power an electric motor. This makes them similar to electric hybrid vehicles. This is a relatively new technology for use in the motor vehicle industry, and therefore, there are not many vehicles available for general consumers.

TxDMV does not have records indicating there are any currently registered Texas vehicles utilizing this type of fuel.



Appendix A – Texas Registered Vehicles by Fuel Type

FUEL TYPE	NUMBER OF REGISTERED VEHICLES	PERCENT OF TOTAL
Gasoline	16,622,760	69.17%
Flexible	2,127,669	8.85%
Diesel	1,327,585	5.52%
Hybrid: Electric and Gasoline	199,096	.83%
Electric	8,397	.04%
Convertible	6,549	.03%
Compressed Natural Gas	3,889	.02%
Propane	1,038	.00%
Fuel Type Not Disclosed*	555	.00%
Ethanol	-	-
Methanol	-	-
Hydrogen Fuel Cell	-	-
Hybrid: Electric and Diesel	-	-
VIN not decoded, VINerror set, or no fuel type returned**	3,734,699	15.54%
Total Number of Registered Vehicles	24,032,237	100%

* This fuel type is a reported code from the manufacturer that does not disclose a fuel type.

** TxDMV does not have the ability to decode VINs for vehicles prior to 1965, and certain vehicles that are not self-propelled, such as trailers, are included in this number.

AN ACT

relating to the collection of information regarding the number of alternatively fueled vehicles registered in this state.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Subchapter A, Chapter 502, Transportation Code, is amended by adding Section 502.004 to read as follows:

Sec. 502.004. INFORMATION ON ALTERNATIVELY FUELED VEHICLES. (a)
In this section, "alternatively fueled vehicle" means a motor vehicle that is capable of using a fuel other than gasoline or diesel fuel.

(b) The department by rule shall establish a program to collect information about the number of alternatively fueled vehicles registered in this state.

(c) The department shall submit an annual report to the legislature that includes the information collected under this section. The report must, at a minimum, show the number of vehicles registered in this state that use:

- (1) electric plug-in drives;
- (2) hybrid electric drives;
- (3) compressed natural gas drives; and
- (4) liquefied natural gas drives.

SECTION 2. This Act takes effect September 1, 2016.