

ELECTRIC VEHICLES AND MOTOR FUEL TAX REVENUE



Data from 2019



Vehicle Miles Traveled
9,859,000,000



Tax Rate
\$0.23/Gal
 (both unleaded and diesel)



Fuel Sold
762,000,000 Gal
 (both unleaded and diesel)



MFT Revenue Collected
\$175,260,000



Licensed Drivers
559,887
 (561,000 current)



Registered Vehicles
 Passenger **466,248**
 Pickup **279,837**
 Truck **89,746**
Total 835,831

As electric vehicle (EV) use continues to grow in North Dakota, the state must consider how to address the impact on the state's motor fuel tax (MFT) revenue. Because EVs do not require gasoline to operate, they do not contribute to the MFT that helps fund North Dakota's transportation system. North Dakota currently charges an annual \$120 registration fee for fully-electric EVs, \$50 for plug-in hybrid EVs, and \$20 for fully-electric motorcycles in addition to the typical annual registration fees (see N.D.C.C. § 39-04-19.2)

What does the average vehicle currently generate in MFT?

North Dakota DOT conducted a study based on historic state travel data and vehicle registration data to estimate the average contribution of MFT from different vehicle categories. Data from 2019 was used as the base.

Using a cell phone validated travel demand model, the impacts to current MFT from out of state drivers was estimated. Because fuel can currently be purchased out of state for miles driven within North Dakota, the state's total VMT is not an accurate representation of the revenue generated from in-state driving. It is estimated that 94.63% of Commercial Truck VMT are paying MFT and 97.51% of Passenger VMT are paying MFT.

Using a combination of the cell phone validated travel demand model and data from NDDOT, the average mileage driven per year, gallons of fuel consumed per year, MFT collected per vehicle per year, and total MFT collected by vehicle class were estimated.

Fuel Consumption and Revenue by Vehicle Class

The estimates indicate that the average passenger vehicle generates \$104 per year in MFT, while the average commercial truck generates \$1,090. The actual contribution by vehicle will differ based on mileage driven and the vehicle's fuel efficiency, with less efficient vehicles contributing more MFT for every mile driven.

With a \$120 EV registration fee in place, the state collects \$16 more per year on average through the EV supplemental registration fee than the average MFT.

However, the \$120 registration fee is substantially less than the \$1,090 estimated revenue collected from commercial trucks. While the use of batteries or hydrogen for commercial vehicles may be years away, their relative effects on revenue will be substantially higher per vehicle than that of passenger vehicles. It should also be mentioned that commercial interstate trucking is highly regulated and subject to interstate agreements such as IFTA and IRP that will impact how fees are assessed and collected from these carriers.

Passenger/Pickup



9,947
Avg VMT/ Reg. Veh.

22.00
MPG (Assumed)

452
Gal./Year

\$104
MFT/Year

\$77,589,523
MFT/Year/Class

Commercial Truck



23,701
Avg VMT/ Reg. Veh.

5.00
MPG (Assumed)

4740
Gal./Year

\$1,090
MFT/Year

\$97,844,335
MFT/Year/Class

