

# In-State Transport

In 2013 24.7 billion vehicle miles were travelled in Nevada; or 8500 miles per capita. Almost all of this was by light vehicle; cars and trucks.

Four main factors determine the energy use in transport. First one needs to know the fuel/electricity usage (mpg or kWh/mile). Second, one needs to know to what extent transport is electrified. Third, one needs to know how the electricity is generated; fossil fuels vs renewables. Fourth, one needs to know how many miles are travelled by car versus rail and bus.

## Level 1

We assume that total vehicle miles traveled increase due to a population increase of 1.5% a year reaching 42 billion miles by 2050. We do not electrify transport and thus use no electricity in this scenario.

## Level 2

We assume 42 billion miles travelled in 2050 with fuel economy reaching 80 mpg on average resulting in 1.9 GW of primary energy consumed in the form of gasoline and zero electricity consumption.

## Level 3

Electrify transport using 0.33 kWh/mile. With the same vehicle miles travelled as in Levels 1 and 2 we have 1.54 GW of electricity consumed per year. If this is generated from renewables, emissions are reduced to almost zero.

## Level 4

We electrify transport as in level 3 but 60% of the trips are taken by public transport. This reduces electricity consumption to 0.9 GWe.

