## Key Variables

For transparency, key variables used in the modeling process have been extracted and described in Table 1.

Table 1 Key Variables used in the Transport Sector Modeling

| # | **Variable Name** | **Definition** | **Solutions Using Variable** | **Value** | **Units** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | ICE Car price | Average purchase price of new internal combustion engine (ICE) light duty vehicle (LDV) | Cars, E-bikes, EV, Mass Transit, Walkable Cities. | $25,252 | 2014$US | Segment-weighted, Country-weighted, EIA[[1]](#footnote-1) data. |
| 2 | ICE Car fuel intensity | Average amount of fuel used when driving | Bike Infrastructure, Cars, E-bikes, EV, Mass Transit, Ridesharing, Walkable Cities. | 0.056 (PT) | Liters per passenger-km | Averaged from 11 data-points |
| 3 | ICE Car lifetime | The average total mobility that one LDV provides before being retired or scrapped | Cars, E-bikes, EV, Mass Transit, Ridesharing, Walkable Cities. | 222,189 | Vehicle-km | Averaged from 17 data-points |
| 4 | ICE Car indirect emissions | The average amount of emissions produced in production and delivery of an ICE LDV | Cars, E-bikes, EV, Mass Transit, Walkable Cities. | 10.4 | Metric tons of CO2-eq per car | Averaged from 28 data-points |
| 5 | Average car occupancy | The average number of people in any car trip globally | Cars, E-bikes, EV, Mass Transit, Ridesharing, Walkable Cities. | 1.47 | Persons per car | Average of several countries’ data |
| 6 | Gasoline price | Average global petrol price from 2005 - 2014 | Cars, E-bikes, EV, Mass Transit, Ridesharing, Walkable Cities. | $1.04 | 2014$US/ liter | From International Energy Agency |
| 7 | Diesel price | Average global diesel price from 2005 - 2014 | Trains, Trucks. | $1.31 | 2014$US/ liter | From International Energy Agency |
| ~~8~~ | ~~Battery price~~ | ~~Average global unit price of installing battery capacity~~ | ~~E-bikes.~~ | ~~$391~~ | ~~2014$US/ kWh of installed capacity~~ | ~~This is for e-bike batteries only.~~ |
| 9 | Consumer Electricity price | Average global electricity supply price for consumers | E-bikes, EV. | $0.14 | 2014$US/ kWh supplied | Country-weighted average of 509 estimates |
| 10 | Commercial Electricity price | Average global electricity supply price for commercial entities | HSR, Mass Transit, Telepresence, Trains. | $0.09 | 2014$US/ kWh supplied | Country-weighted average of 838 estimates |
| 11 | Public Sector Discount Rate | Time cost of money for all public entities | Bike Infrastructure, HSR. | 6.91% | Percent | Averaged from 23 data-points |
| 12 | Consumer Discount Rate | Time cost of money for all private individuals | Cars, E-bikes, EV, Mass Transit, Ridesharing, Walkable Cities. | 4.2% | Percent | Averaged from 10 data-points |
| 13 | Commercial Discount Rate | Time cost of money for all private companies | Airplanes, Ships, Telepresence, Trains, Trucks. | 9.22% | Percent | Averaged from 5 data-points |

1. The US Energy Information Administration [↑](#footnote-ref-1)