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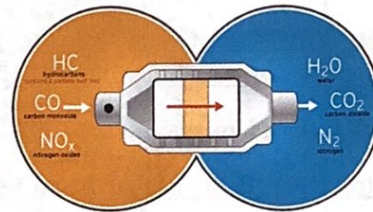
## Transportation Emissions

### Vehicle Statistics

- As of 2015 there are 870 vehicles per 1000 people in America an almost 1:1 ratio
  - o Roughly 263.6 million vehicles
- .7% of vehicles are Alternatively fueled with 93% of that percent being E85 vehicles
- Current trends show efficiency increasing but the average age of a vehicle on road is 11 years

### Vehicle Pollution

- CO<sub>2</sub> 5436 million metric tons 34% of all fossil fuels
- NO<sub>x</sub>, PM2.5 and PM10 HC, CO, VOCS, SO<sub>2</sub>
- 27% of all greenhouse gas emissions
- Photochemical smog
- Engine Combustion
  - o IN: HC, O<sub>2</sub>, N<sub>2</sub>
  - o OUT: H<sub>2</sub>O, CO<sub>2</sub>, N<sub>2</sub>, CO, NO<sub>2</sub>, non-combusted Hydrocarbons



### Major impacts

- Increased risk and exposure during commuting: increased mortality rates
- Increased risk for closer proximity to roadways: increased mortality rates
- 58,000 premature deaths
- More likely to die of vehicle pollution than a car crash
- Homes near major roadways are significantly cheaper
  - o Pollution disproportionately impacts low income families
- 10microgram increase in PM2.5 death rate increases by 7.3%

### EPA projections for 2030, with current fuel standards in place

- Prevention of
  - o 40,000 premature deaths
  - o 34,000 avoided hospitalizations
  - o 4.8 million work days lost

### Refinery Hazards

- Toxic air pollutants: BTEX, PM CO H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>x</sub>, Various carcinogens
- Groundwater contamination