

Electric vs. Gas: Tesla research

Konstantin Kozhenov

ECON 2505

Instructor: Prof. Sean MacDonald

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**The time is right for electric cars –
in fact, the time is critical.
- Carlos Ghosn**

Average gas powered car

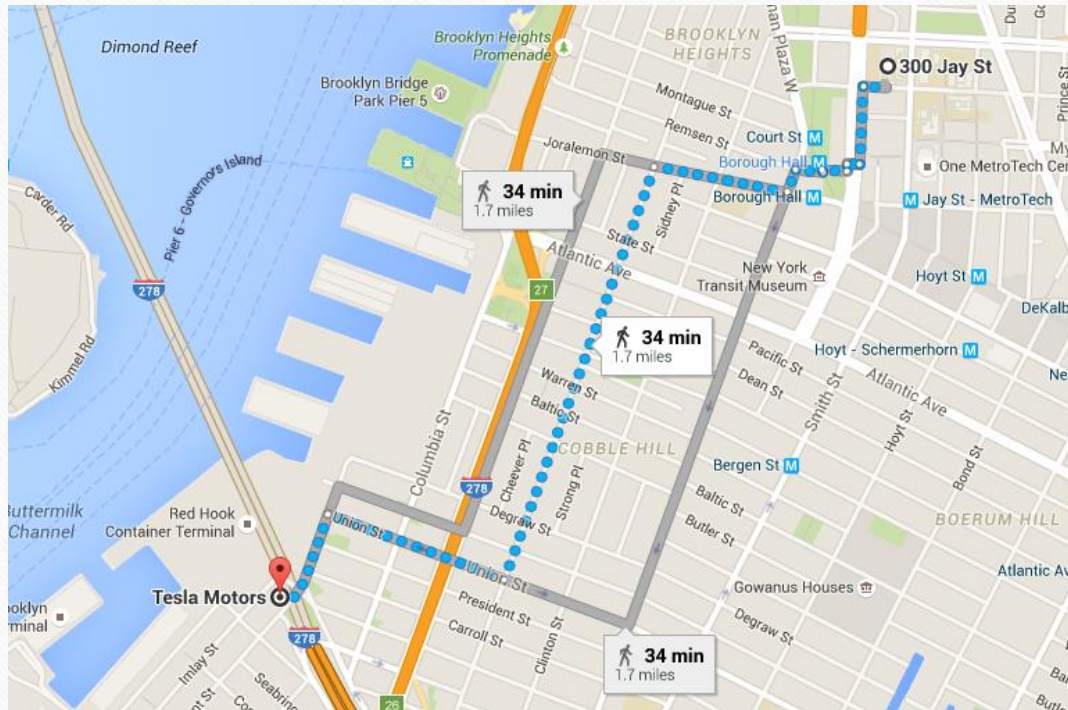


Tesla Model S 90D fully electric car



Field based research at Tesla Store Brooklyn

160 Van Brunt St, Brooklyn, NY 11231



- Firsthand Tesla experience;
- Informal discussion with company's representative;
- Test drive;
- Real-time Autopilot experience.

Fuel cost per mile

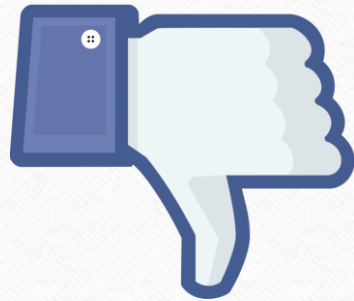
Gas Powered Cars

(Average)

Fuel economy: **23.2** miles/gallon ¹

Gas price: **2.45** \$/gallon ²

Cost per mile: **10.6 ¢**



- Sources:
1. [United States Department of Transportation](#)
 2. <http://www.newyorkgasprices.com/>
 3. <https://www.teslamotors.com/models>
 4. [U.S. Energy Information Administration](#)

Electric cars

(Tesla Model S 90D)

Battery capacity: **90** kWh ³

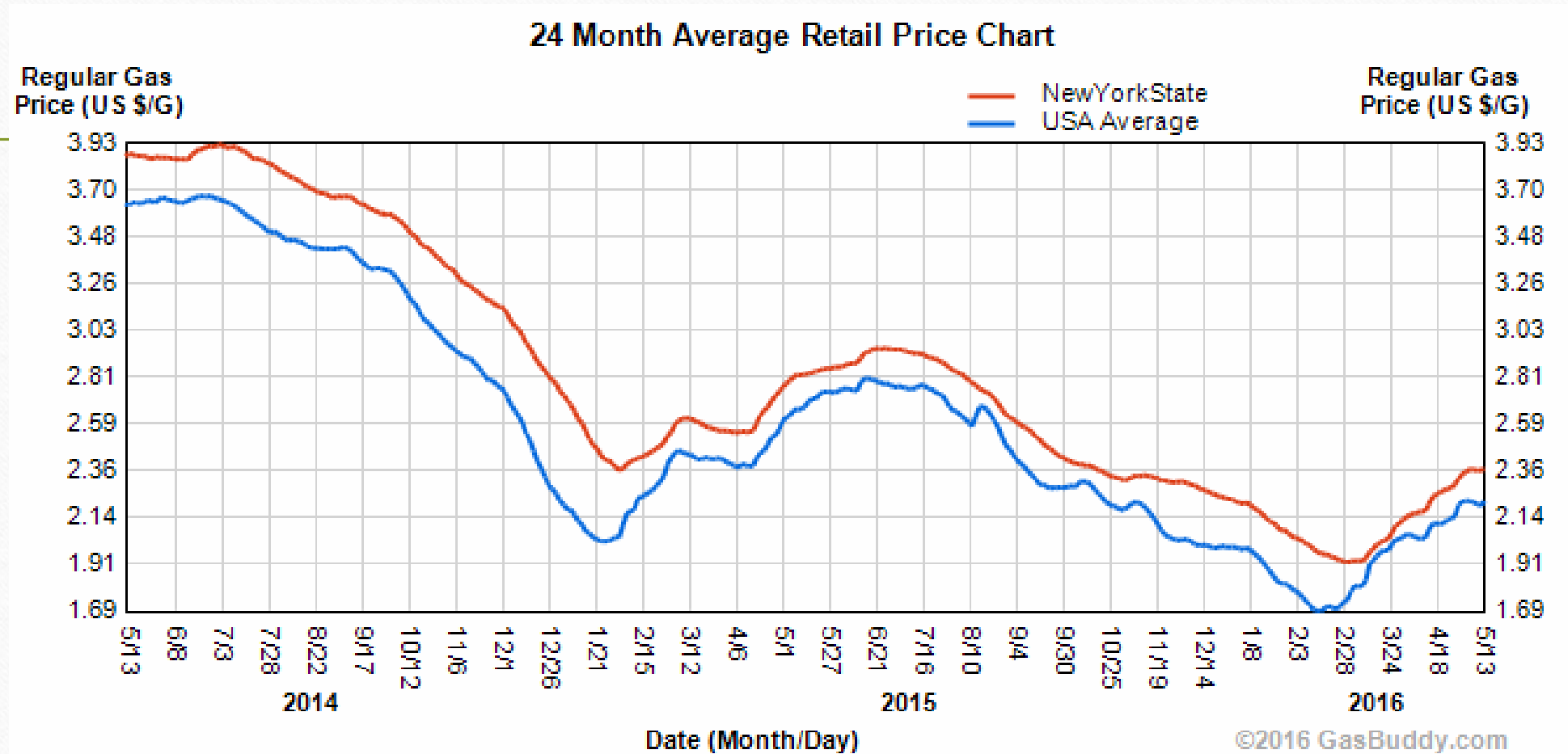
Mile range: **294** miles ³

Electricity cost: **12.5 ¢**/kWh ⁴

Cost per mile: **3.8¢**

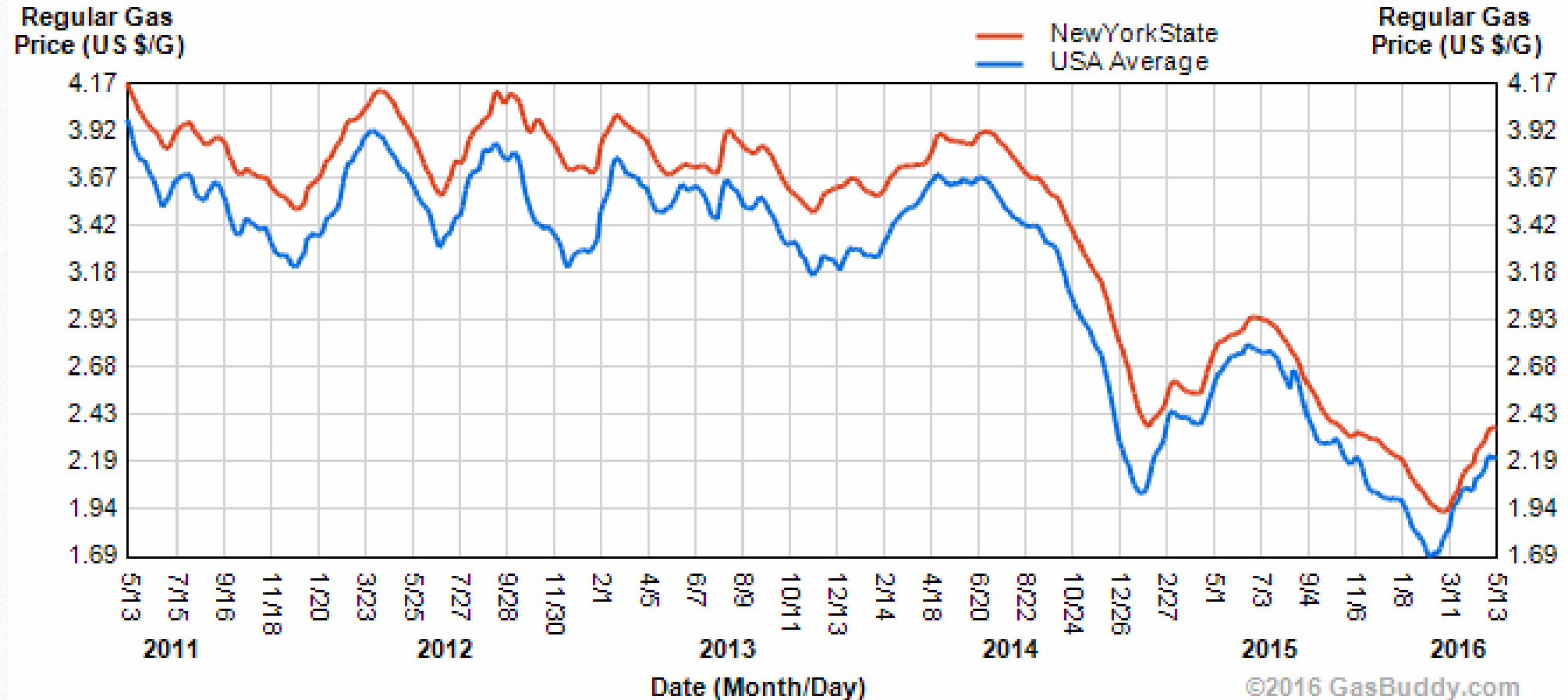


Unstable Gas Prices

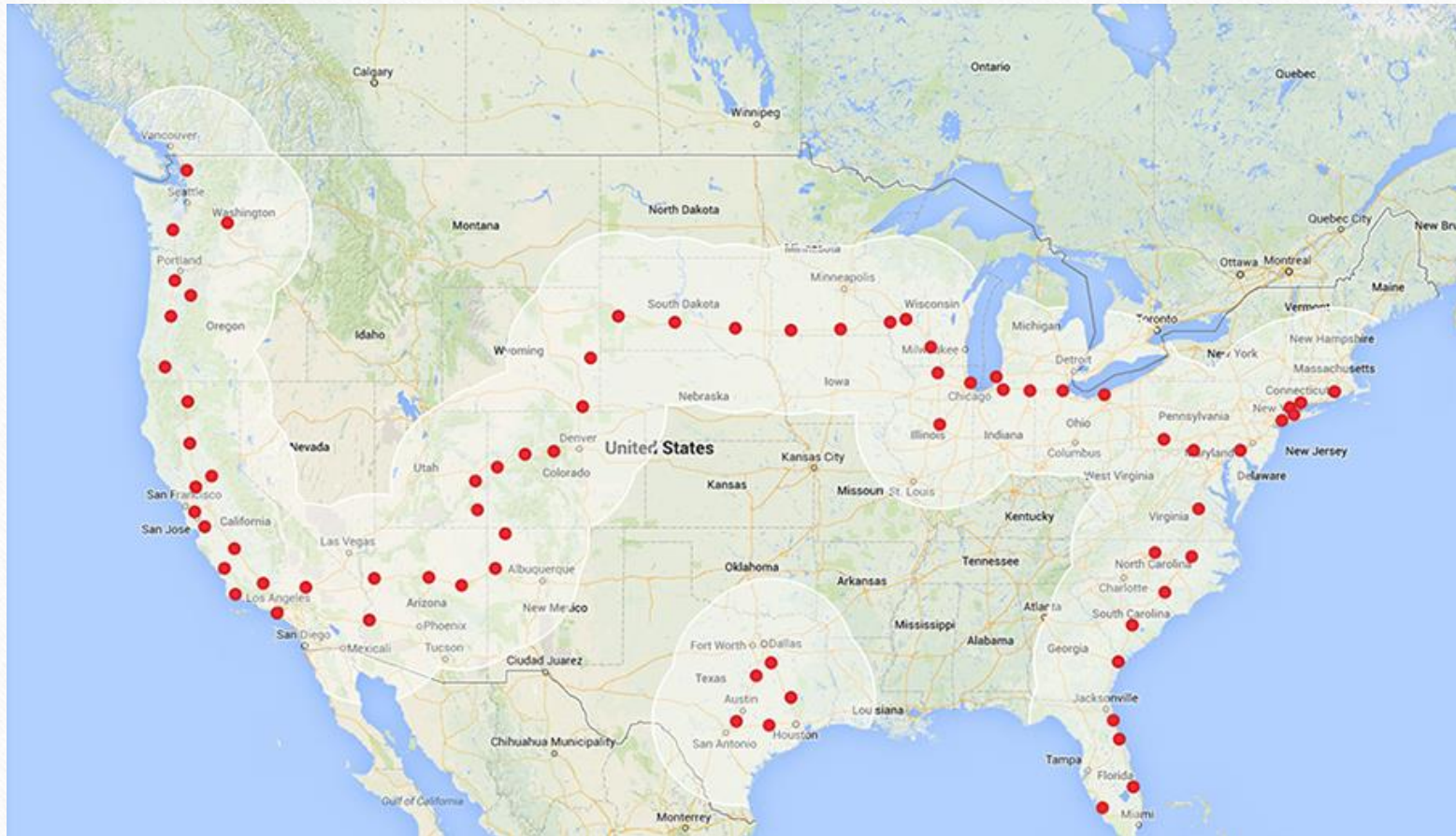


Unstable Gas Prices

60 Month Average Retail Price Chart

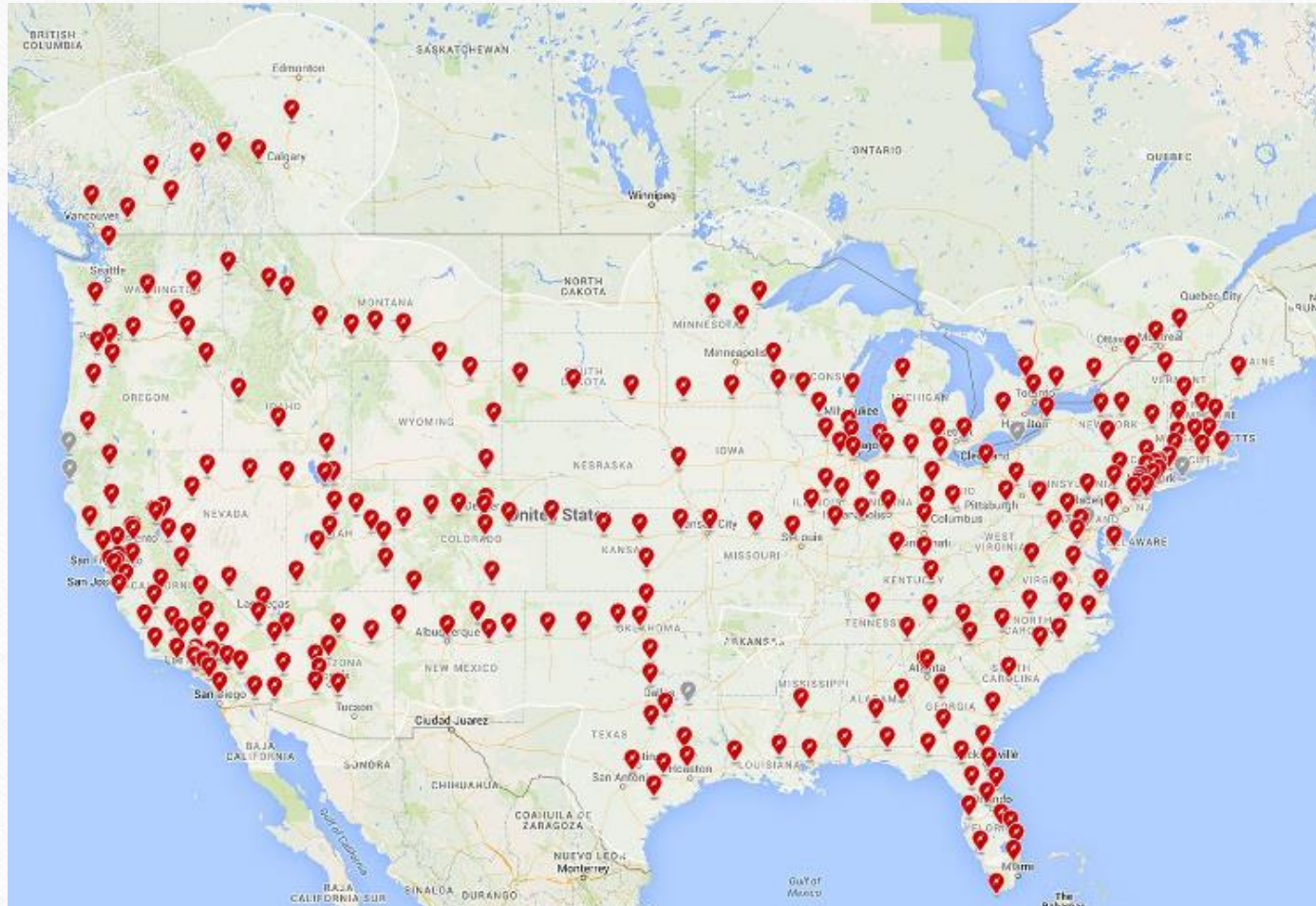


Free Tesla Superchargers



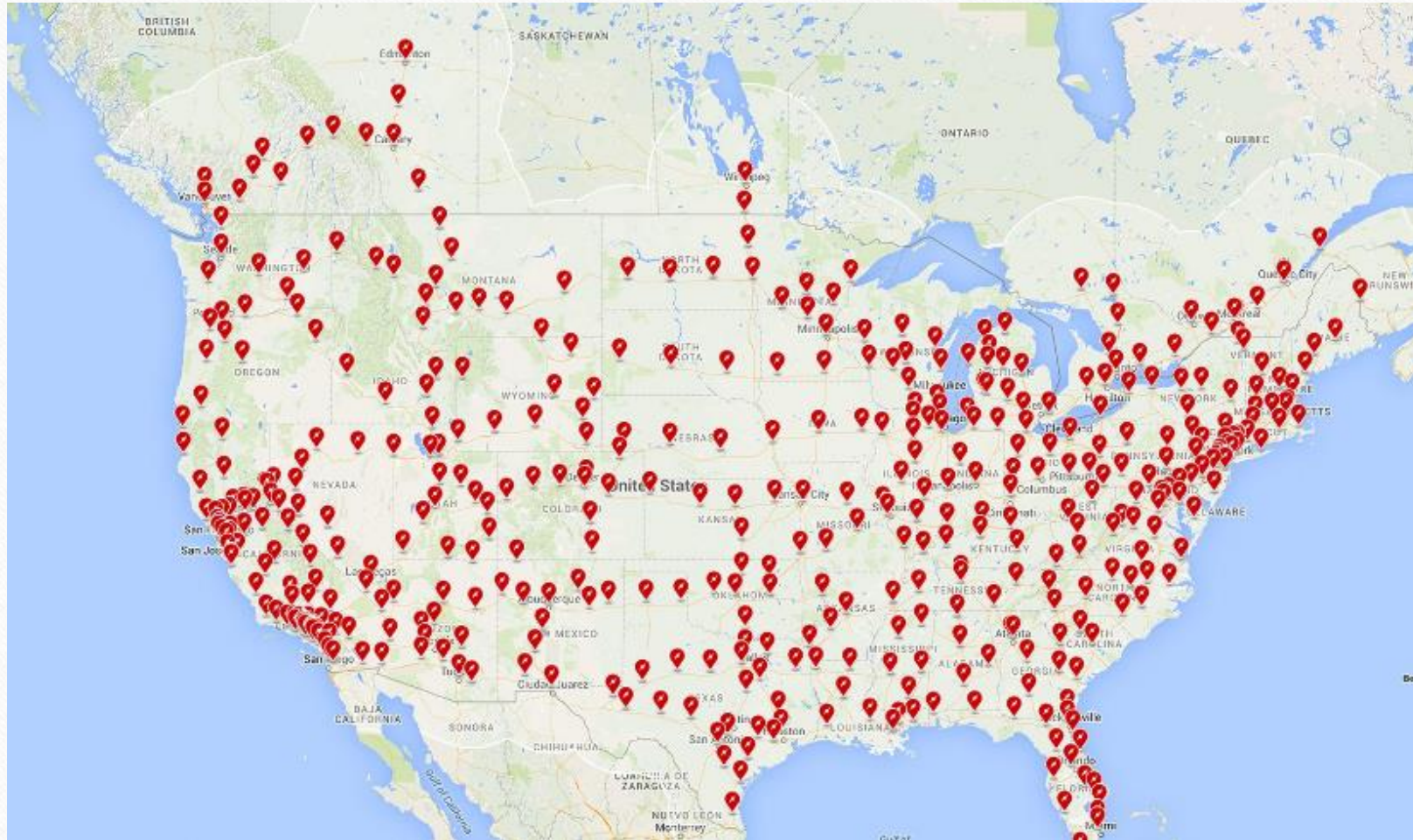
2013

Free Tesla Superchargers



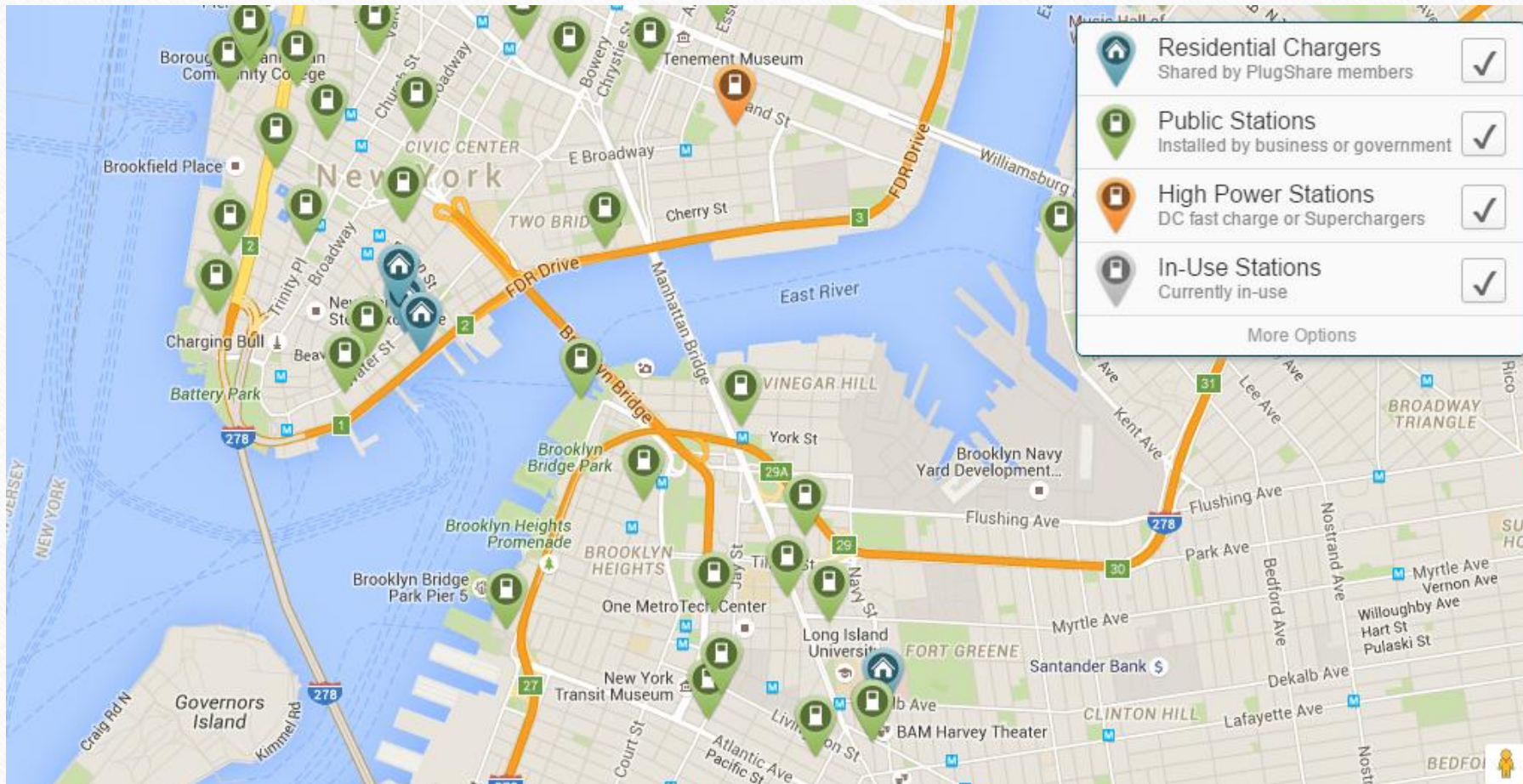
Today

Free Tesla Superchargers



by the end
of 2016

www.plugshare.com



CO2 emissions per mile

Gas Powered Cars

(Average)

Average mpg: 23.2 ¹

Pounds of CO2 per gallon of gas: 19.64 ²

CO2 per mile: 383 grams

Sources: 1. [United States Department of Transportation](#)
2. [U.S. Energy Information Administration](#)
3. <http://blueskymodel.org/kilowatt-hour>

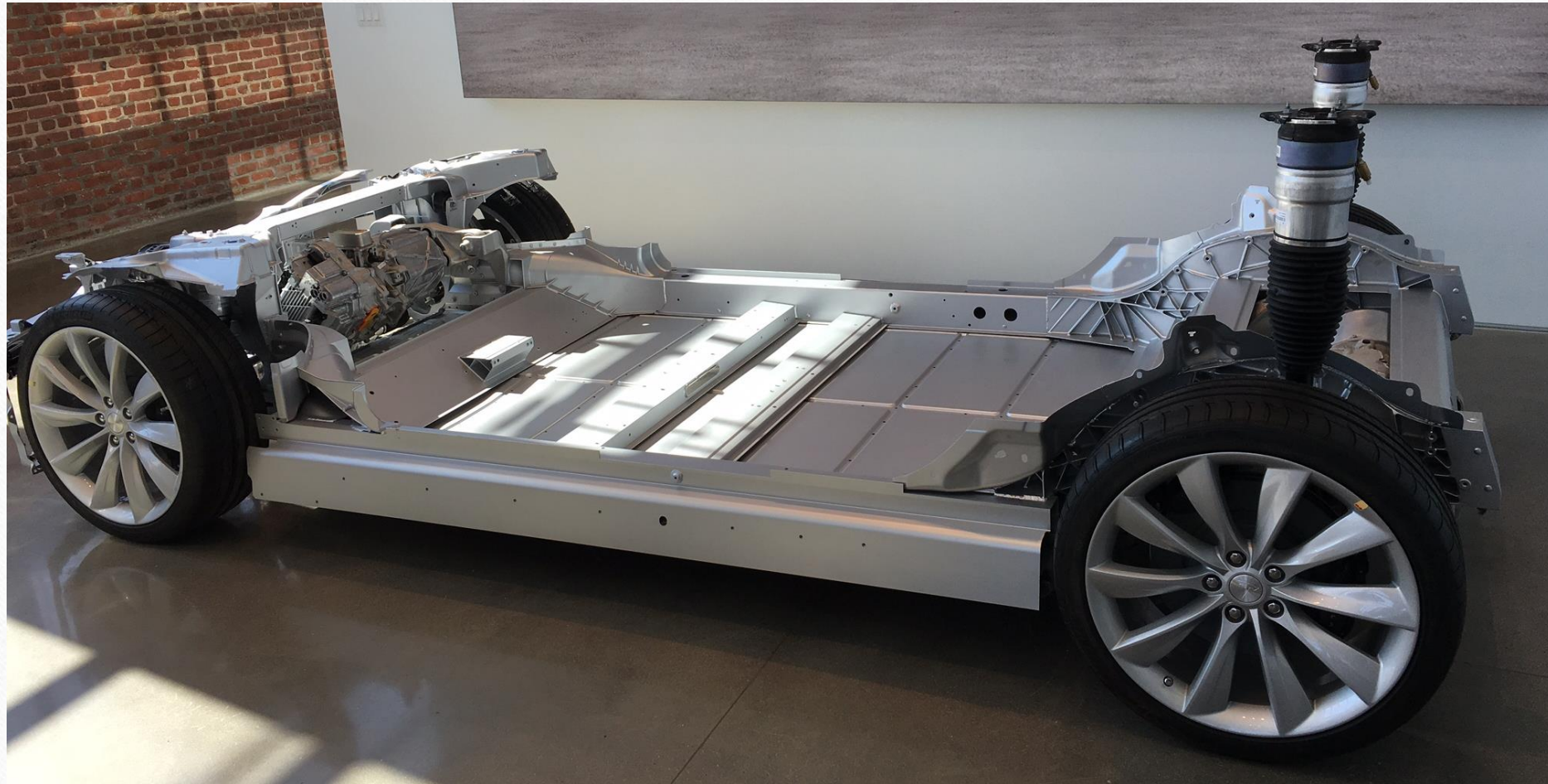
Electric cars

(Tesla Model S 90D)

Depends on source: ³

- Coal: 278 grams
- Natural gas: 142 grams
- Solar power: 32 grams
- Wind power: 4 grams
- Nuclear power: 1.8 grams
- Hydro-electric: 1.2 grams

Tesla Model S base



Additional Benefits

Average Gas Powered Cars



Tesla Model S



Additional Benefits

Maintenance: Less mechanical parts;
Less repairs;
No oil changes;
No fuel filters, etc.

Safety: Little chance of getting on fire
after an accident;
Tesla Model S is the safest car in
the history of cars. ¹

Sources: 1. http://www.huffingtonpost.com/2013/08/20/tesla-model-s-safest-car_n_3786294.html

Disadvantages

Price: - Average new car price in US: **\$34,000** ¹

- Tesla Model S 90D price: from **\$89,000**

But: - Savings of up to **100%** on fuel

- Federal tax credit of **\$7,500** from the government ²

- On 3/31/2016 Elon Musk announced Tesla Model 3 starting at **\$35,000**.

Chargers: - Lack of infrastructure

But: - Fast growing system of charging stations all over US

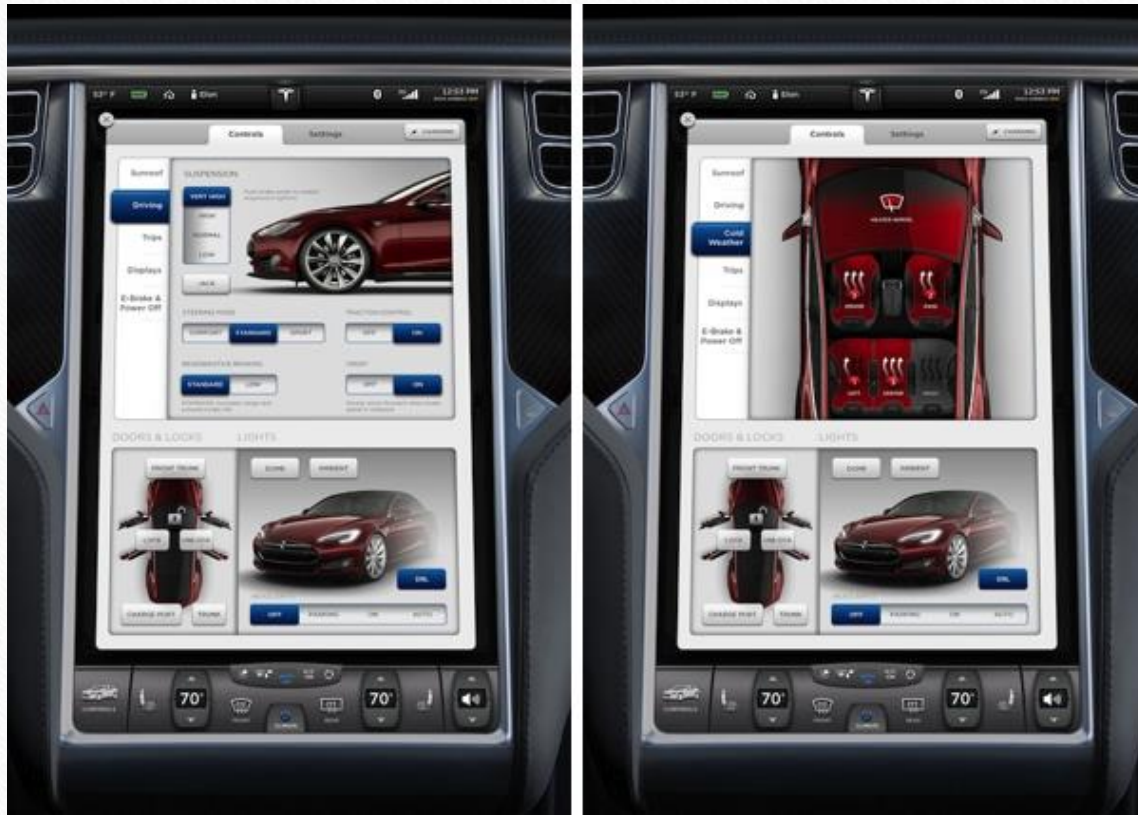
- www.plugshare.com provides a map of available chargers ³

Sources: 1. <http://mediaroom.kbb.com/record-new-car-transaction-prices-reported-december-2015>
2. <https://www.fueleconomy.gov/feg/taxevb.shtml>
3. <http://www.plugshare.com/>

Tesla Autopilot in Action



Tesla Control Center



- Control everything from one place.
- Real-time car statistics.
- Navigation with Google Maps.