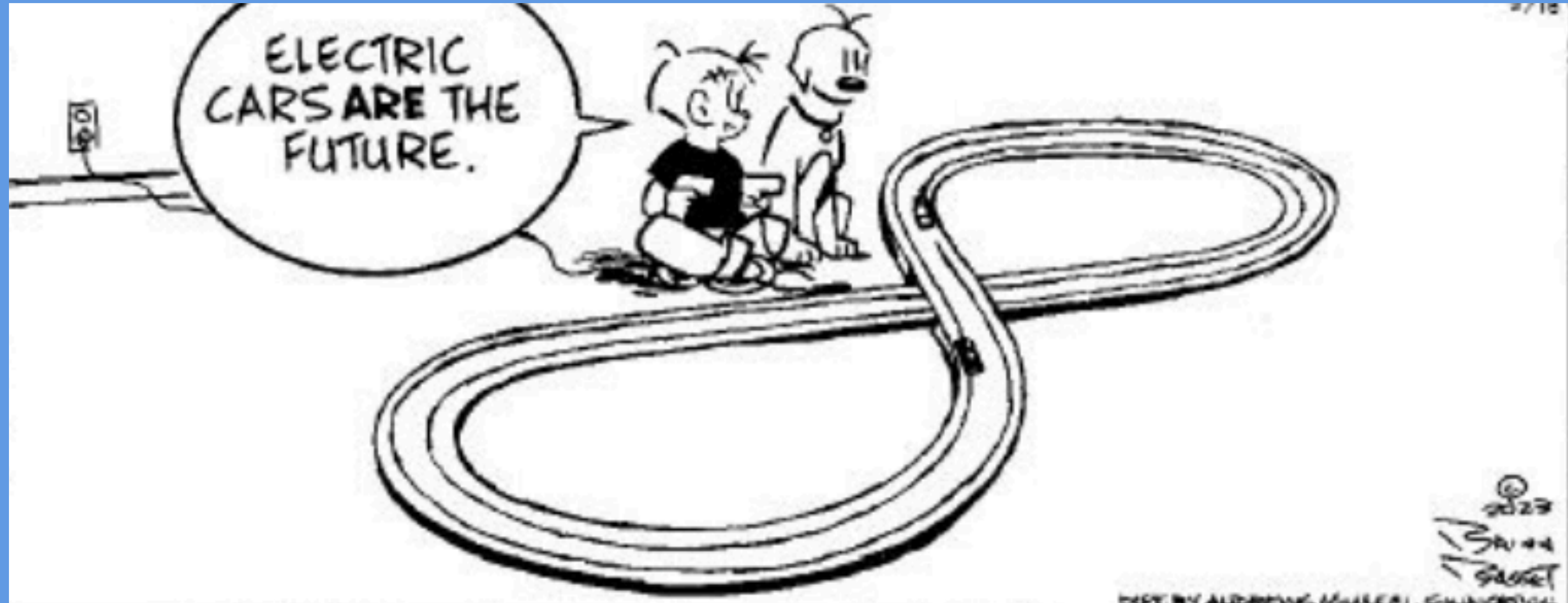


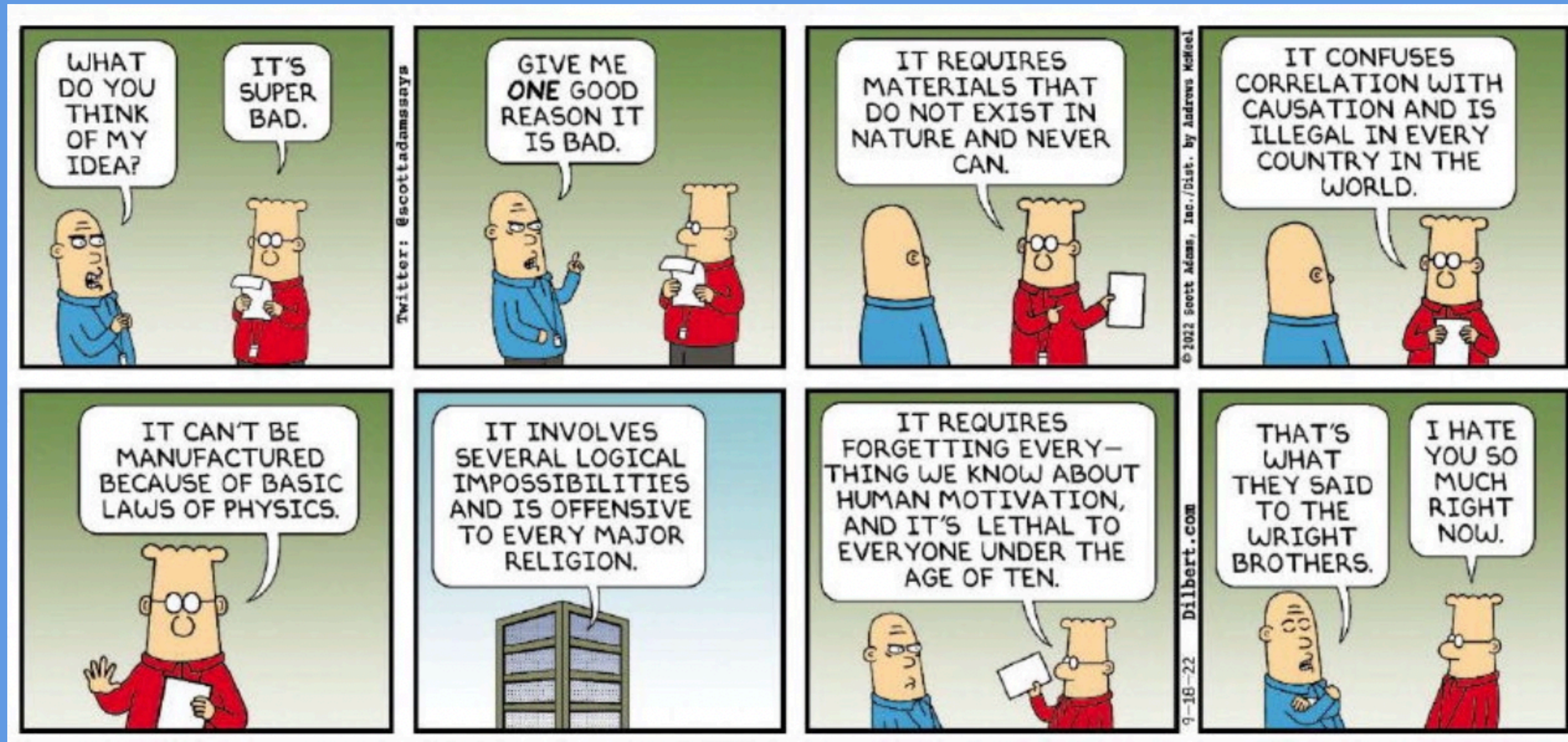
Looking Into Electric Cars

Session 1 : Intro



Looking Into Electric Cars

Session 1 : Intro



The focus of the study group is battery only EVs, but some questions about hybrids could be answered. This group is suitable for new and returning members, as new information will be discussed.

Looking Into Electric Cars

Session 1 : Intro

**Breaking News : new guidelines for tax credit
go into effect April 18th**

A couple comments to get started

VW on way to college runs out of charge

Don't think like gas

Looking Into Electric Cars

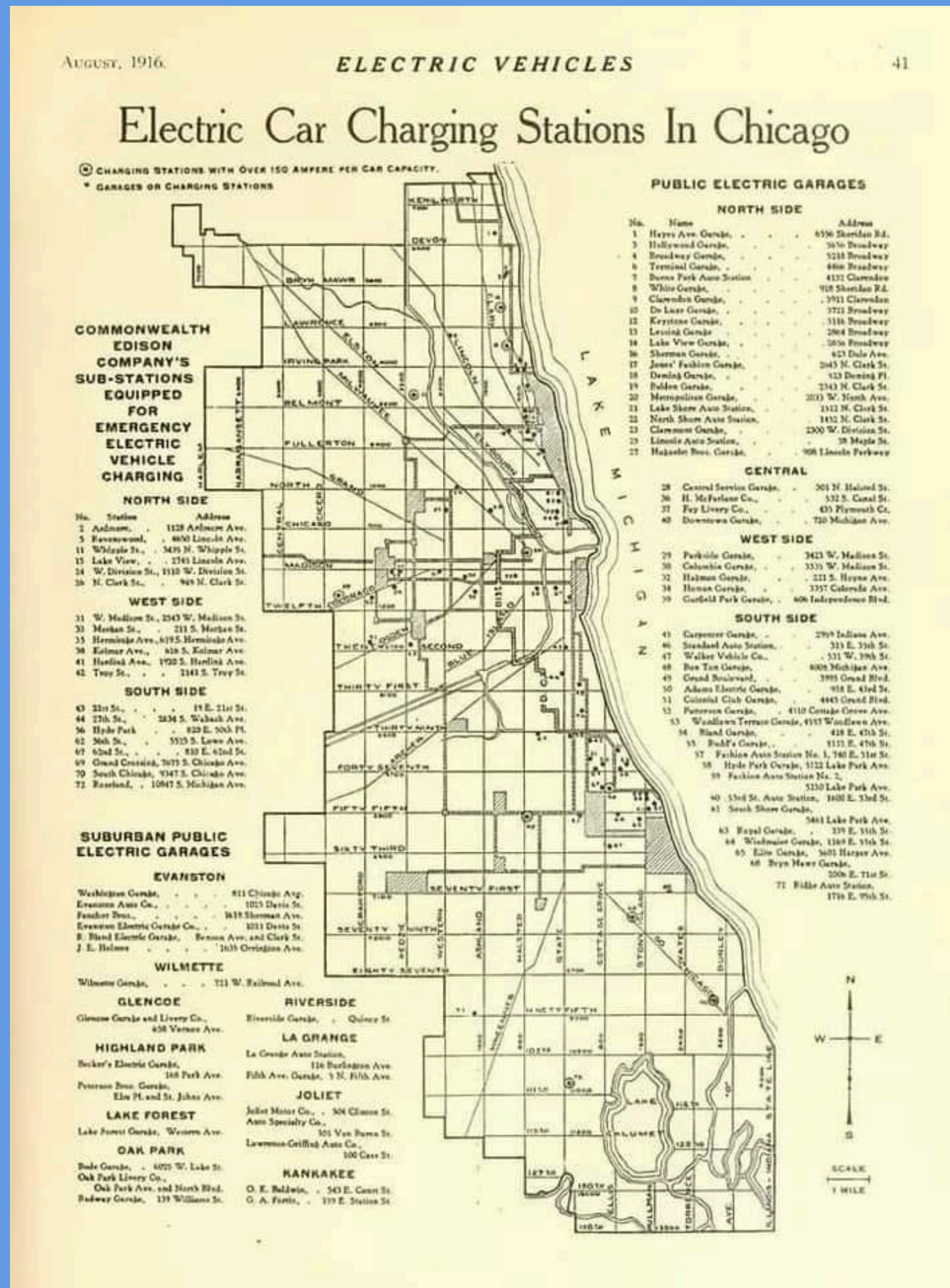
Session 1 : Intro

Upcoming Sessions

2. Chargers
- 3 Charging
- 4 Range
- 5 A Short list of EVS currently available
- 6 Alphabet soup BIB = NEVI = CEJA = IRA
(& things might change a little)
(will change a little with questions)

Looking Into Electric Cars

Session 1 : Intro



The History of Electric Vehicles Is Older Than You Think

Danny Chadwick @jdannychadwick

Feb 4, 2023, 9:00 am EST | 6 min read



Year and make of this car not mentioned in article

The roots of EVs go back to the early 1800s. With the first electric car dating to about 1830.

August 1916 map of EV chargers

All cars are basically the same



Mini-Cooper EV

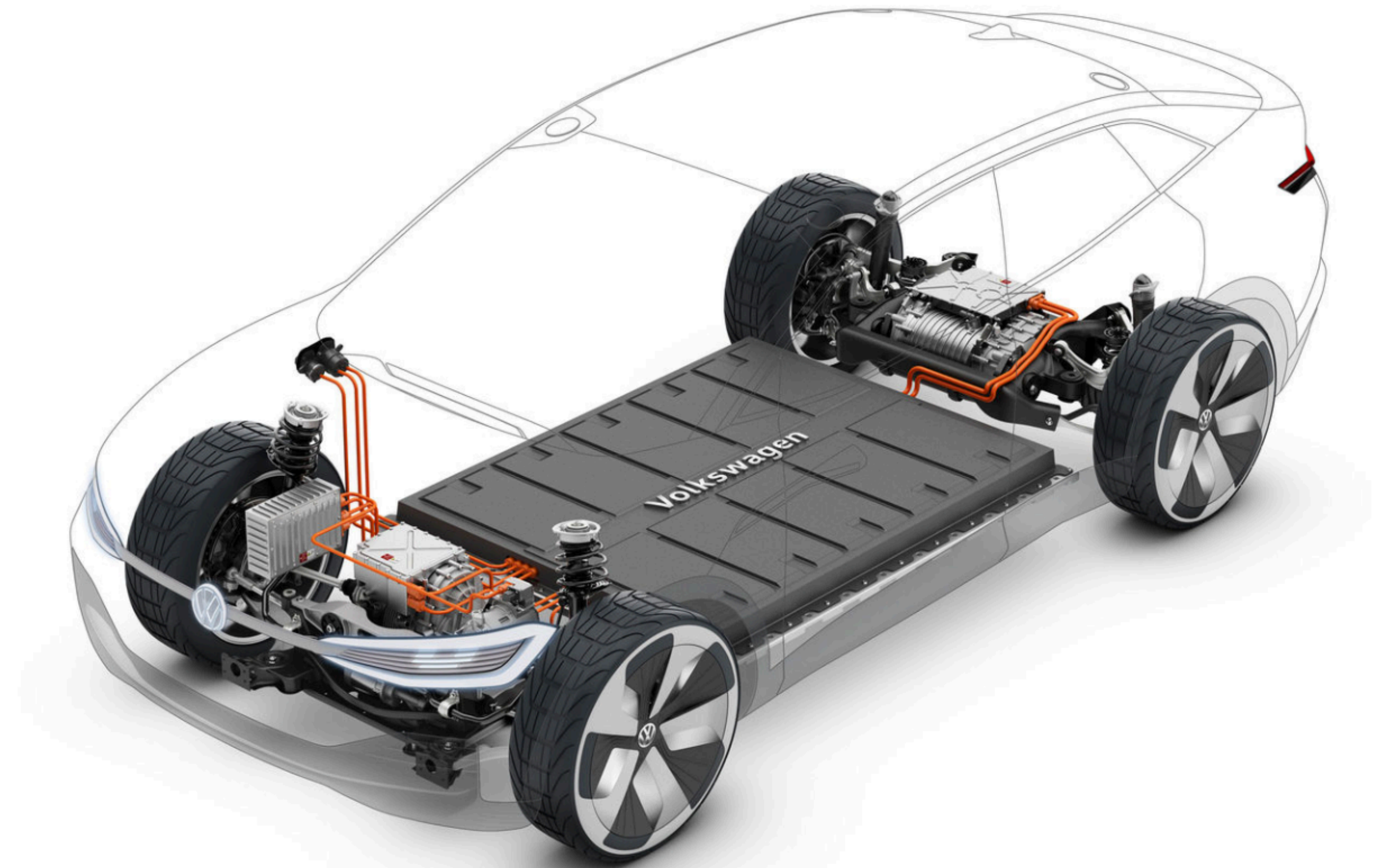
The only one that they currently plan to make. That's one vehicle - not one model



BMW i3

I have a BMW i3 (2017) purchased during 2020 covid lockdown.
The Mini-Cooper is built on the same platform.

This is the VW MEB Platform
All EVs are built on a similar platform and somehow manage to make very different cars.



1,600 x

All cars are basically the same

And sometimes its
the exact same
platform - all of
these are on the
VW MEB platform



Audi Q4 e-tron



VW ID.4

**European Ford
Explorer**



Looking Into Electric Cars

Session 1 : Intro

Charge door is in terrible spot.

Terrible range in the cold.

Constant electrical draw keeping batteries warm.

Terrible interface.

Climate control (pre warming) would work when it wanted to.

Liftgate would drip water/road scum on you.

Can't lift up wipers to scrape the snow/ice off windshield b/c they tuck under the hood for aero.

Charge door wouldn't close due to snow/ice.

Range guessometer... oy.

If you have a bikerack on the hitch, expect sudden/harsh breaking as it thinks you are going to crash into something.

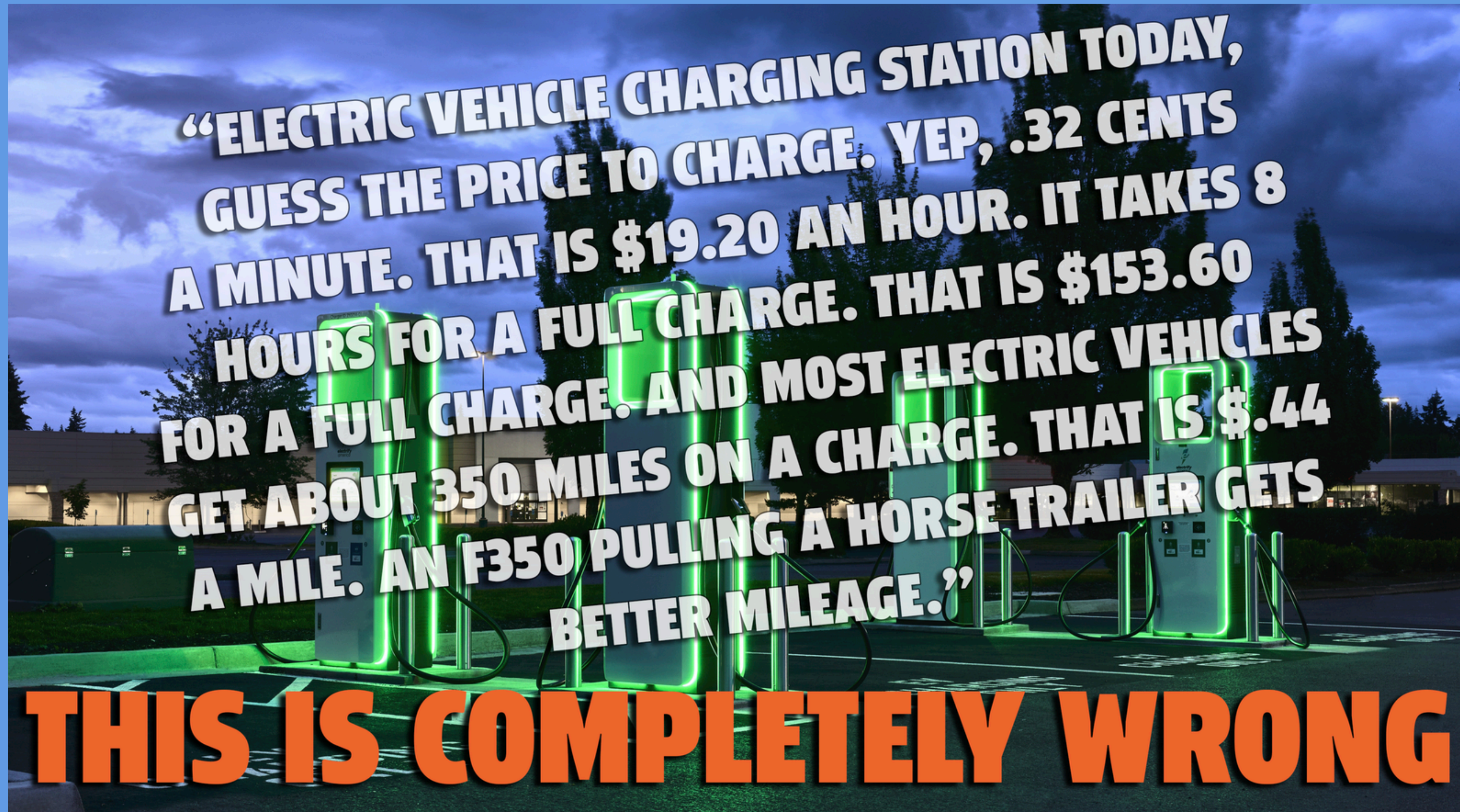
Charge network *sucks*. Chargers down, chargers slow, on tech support to deal with chargers? No thanks....

Sold our ID.4 after less than 2k miles

[id4gone](#)



**Some people
won't adapt to
the differences**



6.6 kW AC	
Charging duration: May 17, 2022, 9:46 AM - 10:31 AM	
Energy	
4.5323 kWh @	1.13
\$0.25/kWh	
9:46:33 AM - 10:31:51 AM	
<hr/>	
Total	\$1.13



ChargePoint
Equals about \$.08/mile

At Home I get about \$.025/mile

Electrify America \$.13/mile
(Note charging speed 12 times
faster) I consider the extra money
well spent since I get to leave 3
hours sooner.

Study: Electric Vehicles Involved in Fewest Car Fires

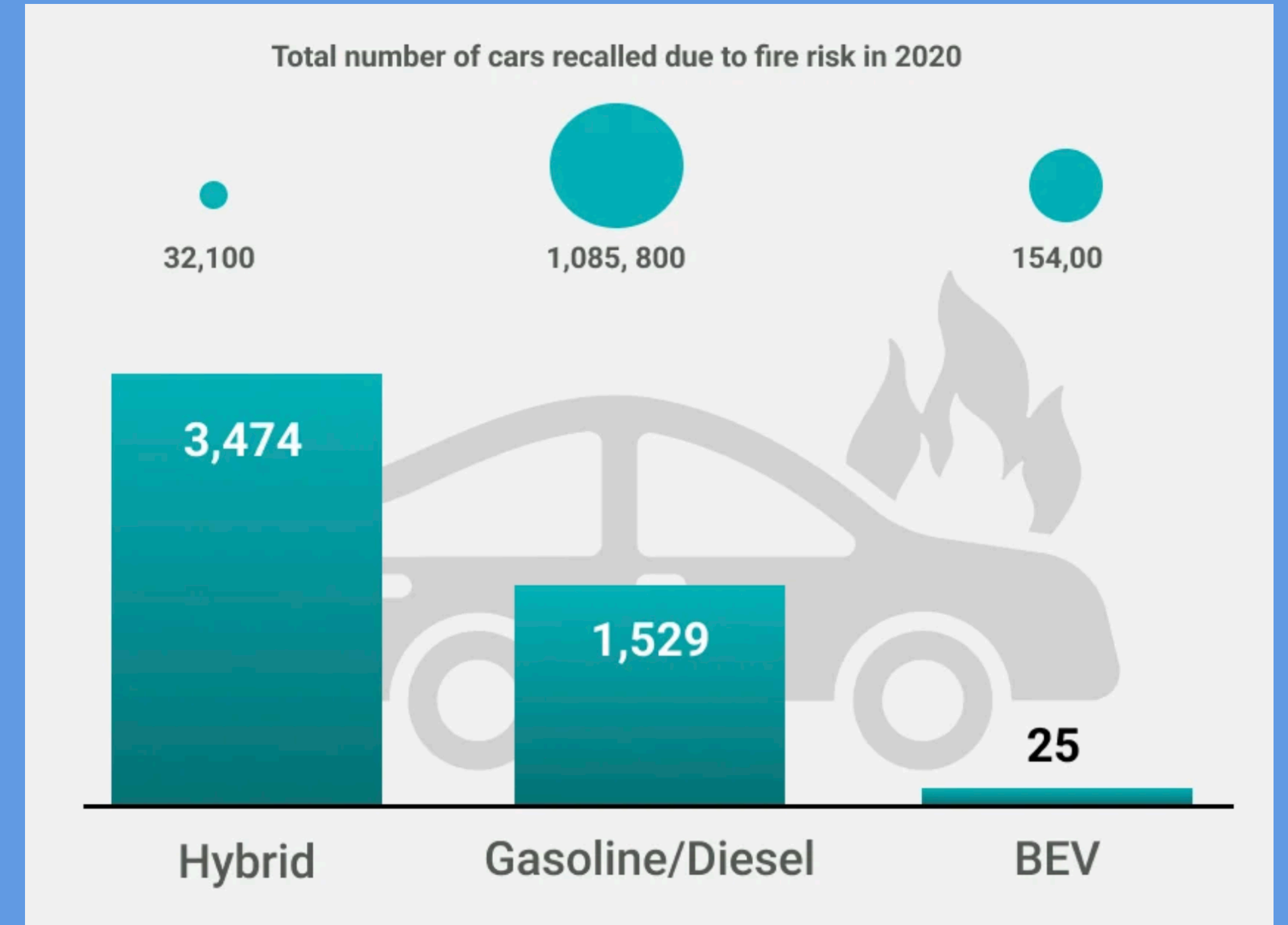
01/28/2022 9:28am



Electric cars have been subject to several high-profile recalls over fire risk. Yet, a new study shows they are less likely to cause a vehicle fire than either gas-powered cars or hybrid vehicles.

Kelley Blue Book

A few myths



Its nice that when someone mentions an EV fire, Almost immediately there is a gas car fire I can counter with.

Note: that hybrids have the most.

Electric Vehicles Could Match Gasoline Cars on Price This Year

Competition, government incentives and falling raw material prices are making battery-powered cars more affordable sooner than expected.

Feb. 10, 2023



A few myths EVs are expensive.

**2023 Nissan Leaf S starts at
MSRP \$28,040**

Minus the Federal Tax credit - \$7500.

(Oops rule change)

(Also, IL rebate \$4000 -now gone)

(Maybe)

So the Leaf is \$28,040 (NEW)

Chevy Bolt 1LT \$26,500

**This price becomes \$19000 after fed credit
I will check on Illinois rebate before session 5**

**This is just the purchase price and doesn't take
into account the lower total cost of ownership.**



A few myths

The grid can't handle the load of EV charging.

When home AC became popular, they said the same thing. And the grid was OK.

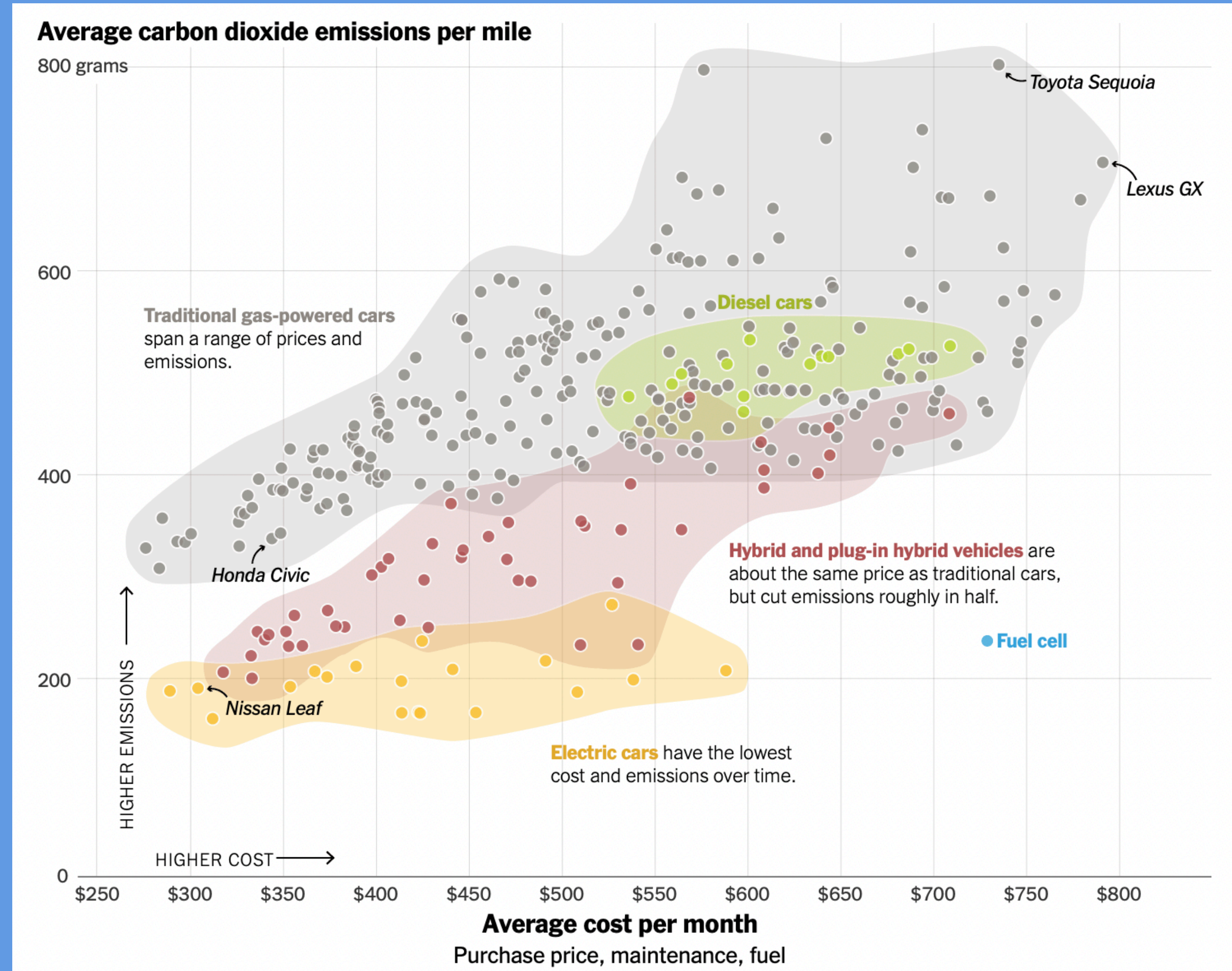
Now with V2X EVs actually help the grid.

“The long tail pipe” -EVs powered by coal plants

7. Electric vehicles are worse for the environment. EVs are fundamentally more efficient than gas-powered vehicles. While a gas engine only converts **around 20%** of gasoline’s stored energy to power at the wheels, an EV motor converts about 60% to **77%** of the energy from the battery. This means that **even on a coal-powered grid**, EVs are better for the climate than gas cars.

Article on Freethink June 2022

Illinois electricity is about the national average at 25% coal.
And the 12th cleanest in the US.



Cost is one reason to like EVs.

But wait - there's More.

New York Times

GMC Hummer EV Pollutes As Much As Small Gasoline-Powered Cars, Says Study

Rhian Hunt • — Mar 9, 2023



GMAuthority

And some are just a little misleading

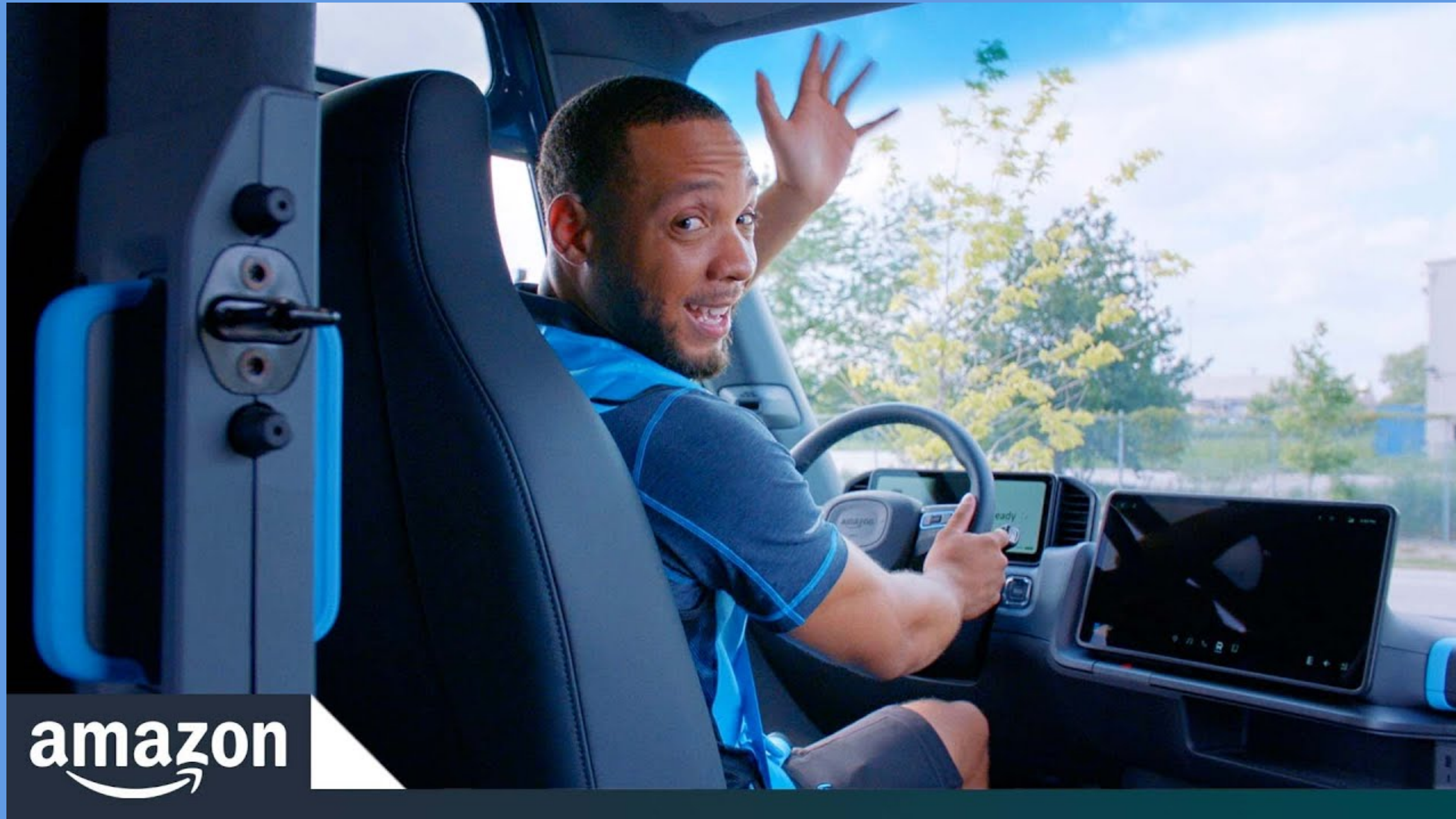
An apple to oranges comparison that sounds OK . . . until you think about it.

Will show very few videos. They run sooooo long
I will mention some and put a link in the downloads.

**Most of the EV videos ramble on more than I do.
So many of them talk and talk. After 30 minutes to an hour, you realize they
said very little.**

**There was one where a gas and electric pickup truck with a huge trailer did a
range test. No surprise the gas went farther. A surprise for me, neither truck
made it to the destination without stopping.**

Amazon Loves Their Rivian Delivery Vans (Update EV vans have now delivered over 75 million packages)





Private sector fleet managers like saving money. A big item is how EVs have lower maintenance and reduced down time.

Then there is the lower energy costs. A lot of EVs have an MPGe around a hundred. MPGe is based on the energy of a gallon of gas



Update

The PO has accepted the money to go EV, but is frequently changing what percentage that is .

Except for the US postal service. At one time the largest private fleet of vehicles (now second) The federal Government is offering money to cover the cost of buying EVs to convert fleet to as close to 100% electric as possible. The little trucks that drive past my house are estimated to save \$8000 per year per vehicle.

Police chief explains how Tesla Model Y patrol car will save them \$80,000

Fred Lambert



Why people love them

Police cars like “last mile” delivery vehicles spend long hours in service. The long hours and miles generate large fuel savings. And large savings on maintenance costs and less downtime.

EVs are better cars than gas

too quiet - Kinda bad – can scare people

too quick - Kinda bad – speed is tempting

Cost of energy - very low especially in town

**Cost of maintenance - very low
most items are per time interval not mileage.
Things like cabin air filter and tire rotation.**

It drives better

Always nice and smooth

I like driving mine more than the Mercedes roadster convertible I used to have.

(But sometimes I miss the top down part.)

Love Hate \Leftrightarrow One Pedal Driving

EVs help reduce air pollution.



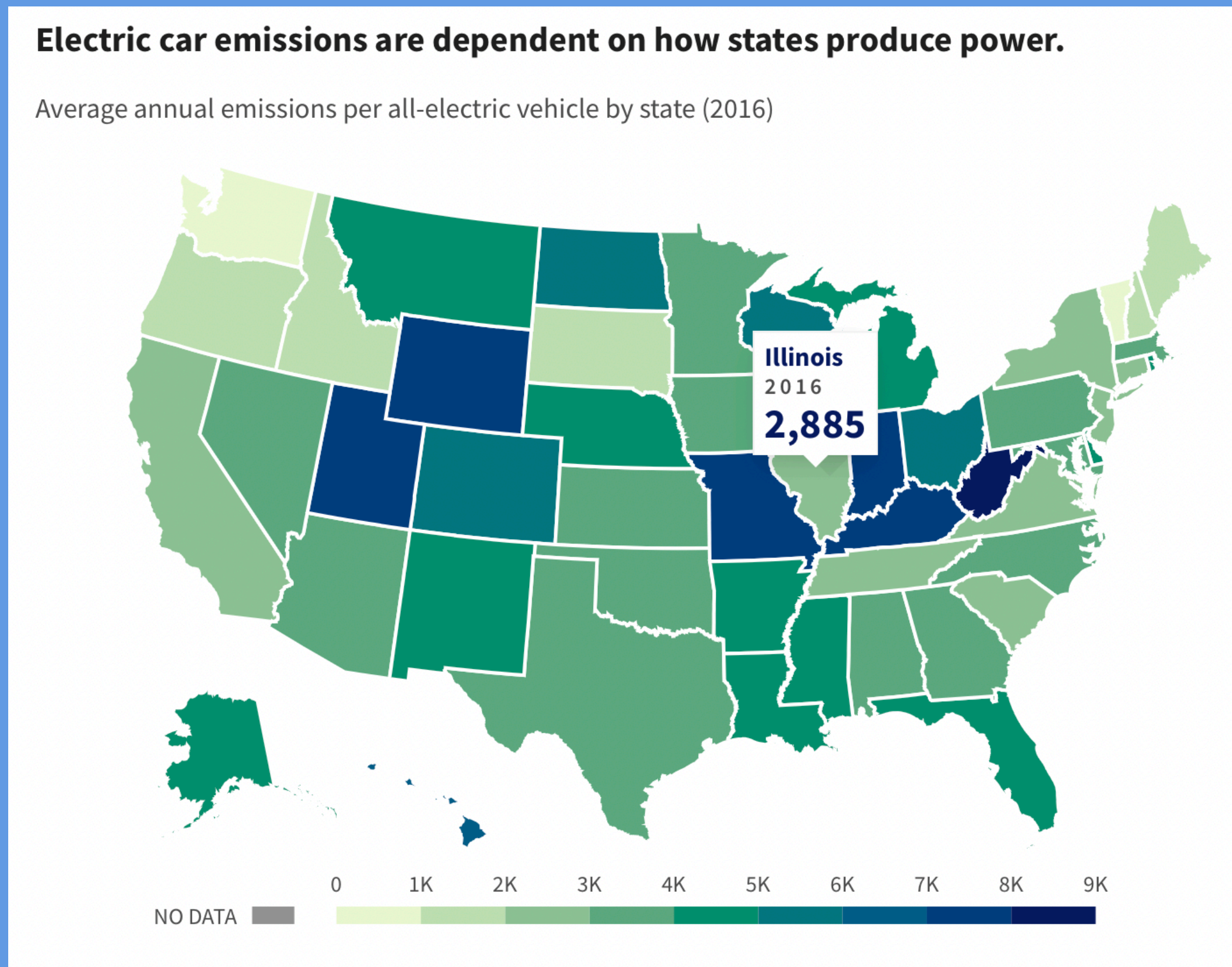
Cars, trucks, and buses powered by fossil fuels are major contributors to air pollution. In fact, transportation emits more than half of nitrogen oxides in our air, and is a major source of global warming emissions in the US. ;Studies have linked pollutants from vehicle exhaust to adverse impacts on nearly every organ system in the body.

Experts Issue Warning About Carbon Monoxide Dangers Ahead of Hurricane Ian

Cara Murez Sep 28, 2022 Updated Sep 28, 2022



Automobile exhaust is still dangerous.



USAFacts

Illinois is 12th
cleanest grid for
electric cars

A profound change is coming to American school buses

Within a decade, advocates say electric school bus will supplant the old polluting ones

Michael Birnbaum • October 26, 2022 at 6:30 a.m. EDT



Driver John Walters plugs in his bus for recharging in Bethesda, Md. (Bill O'Leary/The Washington Post)

Studies show that students that ride on Diesel Buses have a higher rate of respiratory illnesses including asthma.

Electric cars may reduce severe asthma attacks, improve lung health: study

Brooke Kato



They discovered that for every 20 electrical vehicles per 1,000 people, there was a 3.2% decrease in annual emergency room visits due to asthma-related incidents.

Keck School of Medicine at USC

The End