

Date: June 18, 2025

To: Keller Planning and Zoning Commission

From: Michael Sivertsen

Re: In opposition to the SUP for a EV charging station in Keller Town Center

P&Z Members:

I am opposing the SUP for 1000 Keller Parkway to contain an electric vehicle charging station. The attached information has been carefully researched and assembled in support of my opposition. Thank you for reviewing this prior to the June 24 P&Z meeting. I will be speaking to the high points during the Public Hearing portion.

Signed

A handwritten signature in cursive script that reads "Mike Sivertsen".

Mike Sivertsen



Keller, TX 76248

Electric Vehicle Charging Stations in Keller: What You May Not Know

by

Michael Sivertsen

Keller, Texas

Date: June 18, 2025

Table of Contents

Introduction.....	5
Decline of the EV.....	6
AAA: Americans Slow to Adopt Electric Vehicles.....	6
Huge Percentage Of EV Owners Want To Go Back To Normal Cars.....	7
Auto Mfrs Losing Millions—Retreating from EV Production and Sales.....	8
GM 'Giving Up' on Green Goals.....	8
Ford's EV sales fell by 40% in April 2025.....	8
Ford's \$120,000 Loss Per Vehicle Shows California EV Goals Are Impossible.....	8
Half of Ford's dealers still don't want to sell electric cars and trucks.....	8
Half of Buick Dealers Take Buyouts to Avoid Having to Sell GM's Electric Cars.....	9
Hertz will shed EVs and buy more gas-powered cars after 100,000-Tesla order in 2021.....	9
Hertz CEO Resigns After Blowing Big Gamble on EVs.....	9
Taxpayers Are Subsidizing Rich Electric-Vehicle Owners—To the Tune of Billions.....	10
Big Picture Trend is Clear.....	11
Electric Vehicle Fires.....	12
Tesla BURNS underwater.....	12
EV Hybrid bursts into an Inferno at Gatwick airport.....	13
Homeowner questions EV safety after fire destroys her Nocatee, FL, home.....	14
Electric Car Starts Shaking And Then Bursts Into Flames On The Highway.....	15
Tesla spontaneously combusts on California freeway.....	16
Chinese Electric Vehicles Are On Fire.....	17
While they were asleep, their Teslas burned in the garage.....	18
Why Tesla, GM And Other EV Companies Have A Fire Problem.....	19
Electric Cars Are Hot . . . Literally.....	19
Burning Batteries: The Toxic Truth Behind Our Green Energy Illusion.....	19
“Don’t Park That Here!”.....	19
Scratched EV battery? Your insurer may have to junk the whole car.....	20
EV Charging Stations.....	21
EV Charger Hacking Poses a ‘Catastrophic’ Risk.....	21
EV Charger Cable Theft.....	21
Nearby charging stations.....	22
Excessive Weight Wears Infrastructure, Poses Hazards.....	23
Electric Buses Weigh More, Raising Infrastructure Costs.....	23
US official warns of risks posed by heavy electric vehicles.....	24
Electrical Generation Inadequate for EV Transition.....	25
The Coming Future Of Electric Vehicles: Something Here Does Not Add Up.....	25
Conclusion.....	26
About the Author.....	27

Introduction

This paper has been carefully researched from numerous sources to provide helpful advice and insight to the Keller Planning and Zoning Commission regarding a proposed electric vehicle (EV) charging station on Town Center property.

I will show that chasing a dwindling market in hopes of driving shoppers to Town Center with an EV charging station is ill advised for several reasons:

- Consumers are buying less EVs now and in the immediate future
- Half of those owning EVs will buy hybrid EVs or gas cars in the future
- Auto manufacturers are drastically reducing production of EVs
- Battery fire risks are very real and pose a threat to nearby citizens and to our firefighters
- Charging stations have been fraught with cybersecurity issues, connectivity and other problems in many venues.

Decline of the EV

AAA: Americans Slow to Adopt Electric Vehicles

<https://newsroom.aaa.com/2025/06/aaa-ev-survey/>

Likelihood to Buy a Fully Electric Vehicle

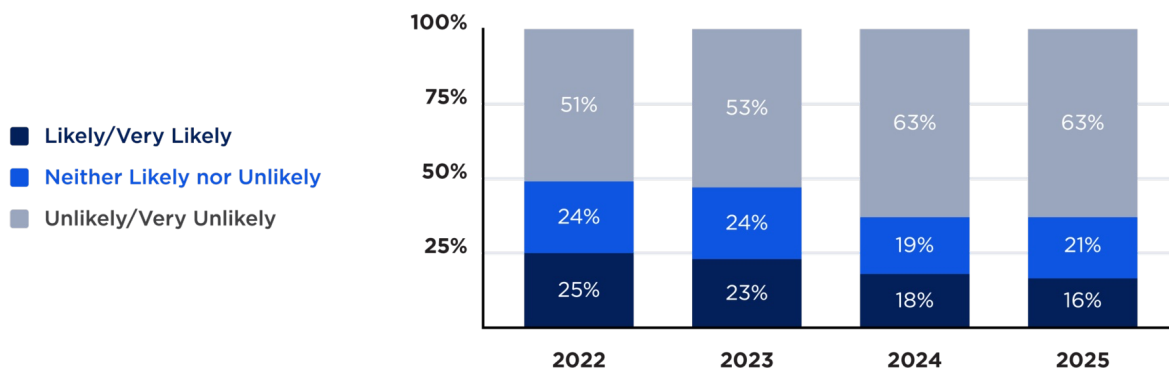


Figure 1: Four year decline in EV purchase likelihood - AAA Survey – March 2025

This AAA survey indicates a long term decline in EV purchasing — now the lowest since 2019. Results from the 2024 Presidential election will foster additional decline in EV purchases.

“Only 16% of U.S. adults report being “very likely” or “likely” to purchase a fully electric vehicle (EV) as their next car, **the lowest percentage recorded of EV interest since 2019**. The percentage of consumers indicating they would be “unlikely” or “very unlikely” to purchase an EV rose from 51% to 63%, the highest since 2022.”

“According to AAA’s 2024 Your Driving Cost analysis, EVs had the second-highest total ownership costs due to depreciation, purchase prices, and finance charges.”

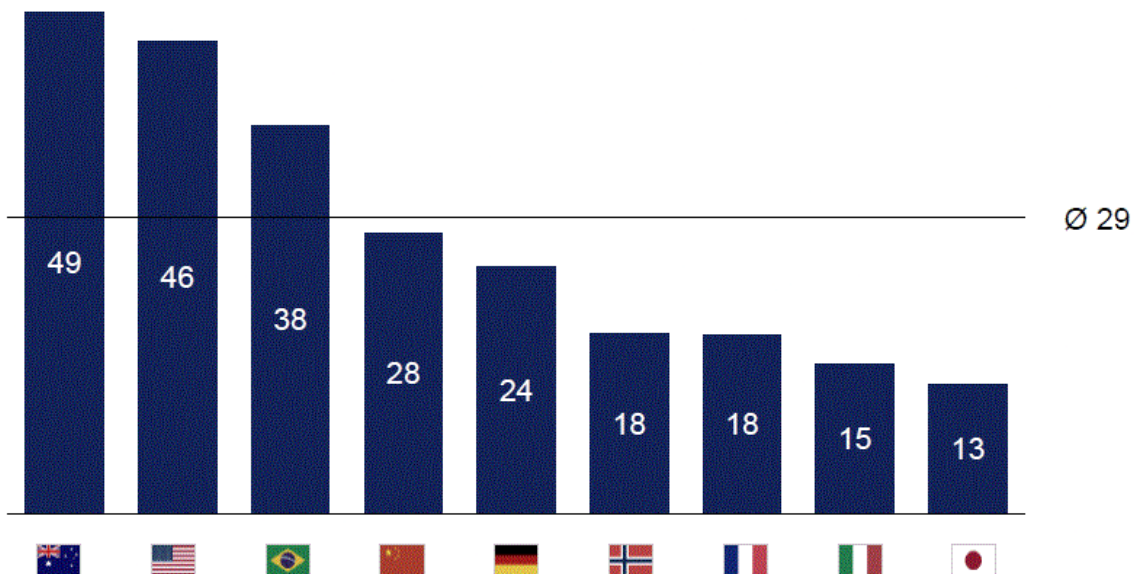
Huge Percentage Of EV Owners Want To Go Back To Normal Cars

<https://dailycaller.com/2024/06/20/electric-vehicle-owners-40-percent-gas-cars-mckinsey/> (Jun24)

“Nearly half of American electric vehicle (EV) owners want to buy an internal combustion engine model the next time they buy a car, according to a new study from McKinsey and Company, a leading consulting firm.

“Moreover, 58% of Americans are very likely to keep their current cars for longer, and 44% are likely to postpone a possible switch to EVs, McKinsey’s study found.”

Likelihood of current EV owners to switch back to ICE



Source: MCFM Mobility Consumer Insights, Annual MCFM Mobility Consumer Survey 2024, dated February 2024, global N = 36,954

Data available for: 

Auto Mfrs Losing Millions—Retreating from EV Production and Sales

GM 'Giving Up' on Green Goals

<https://www.westernjournal.com/american-manufacturing-titan-quietly-giving-green-goals/> (June 2025)

“With demand for EVs in low gear, GM is investing \$4 billion to make more gasoline-powered vehicles and to do so in the United States, according to Axios. Michigan, Kansas, and Tennessee plants are expected to start more production in 2027. GM’s Detroit-area Orion Assembly plant, once touted as the home for EV production, will instead be making gas-powered full-size SUVs and pickups.

Ford’s EV sales fell by 40% in April 2025

<https://electrek.co/2025/05/01/fords-ev-sales-fell-40-in-april-now-its-adjusting-project/>

“Despite higher sales of internal combustion engine (ICE) and hybrid vehicles, Ford sold significantly fewer electric vehicles last month. Ford sold 4,859 fully electric vehicles in April, which is nearly 40% less than the 8,019 sold in April 2024.

“All three of Ford’s electric vehicles —the F-150 Lightning, Mustang Mach-E, and E-Transit —had double-digit sales declines last month.”

Ford's \$120,000 Loss Per Vehicle Shows California EV Goals Are Impossible

<https://archive.ph/sHXDe> (ZeroHedge, May 2024)

“On April 24, Ford reported it lost \$132,000 for each of its 10,000 electric vehicles sold in the first quarter of 2024, according to CNN. The sales were down 20 percent from the first quarter of 2023 and would “drag down earnings for the company overall.

“The losses include “hundreds of millions being spent on research and development of the next generation of EVs for Ford. Those investments are years away from paying off.” Ford is the only major carmaker breaking out EV numbers by themselves. But other marques likely suffer similar losses.”

Half of Ford's dealers still don't want to sell electric cars and trucks

<https://www.businessinsider.com/ford-dealers-dont-want-to-sell-electric-cars-trucks-2023-12>

“Just over half of Ford's nearly 3,000 dealerships in the US have opted out of the investments necessary to sell electric vehicles like the F-150 Lightning and Mustang Mach-e, Ford says.”

“Ford dealers were among the first to raise alarm bells on waning electric vehicle demand earlier this year [2023] when some stores started turning down Mustang Mach-E allocations. Later in the year, some Ford dealers told Business Insider they were struggling to fill orders for the Lightning.”

Half of Buick Dealers Take Buyouts to Avoid Having to Sell GM's Electric Cars

<https://www.breitbart.com/economy/2023/12/20/half-of-buick-dealers-take-buyouts-to-avoid-having-to-sell-gms-electric-cars/>

Sourced from a *Wall Street Journal* Dec 2023 report.

“Almost half of Buick dealers across the United States have opted to take buyouts from General Motors (GM) to avoid having to sell Electric Vehicles (EVs) at a time when consumer reports show Americans are increasingly turned off by the cars.

...

“The move comes as U.S. car dealers are so concerned with EV sales that they are urging Biden to abandon his EV mandates and carbon emission regulations that would effectively force all-electric cars on consumers.”

Hertz will shed EVs and buy more gas-powered cars after 100,000-Tesla order in 2021

<https://fortune.com/2024/01/11/hertz-sheds-evs-after-100000-tesla-order-in-2021/>

Hertz Auto Rental made headlines in January 2024 when it completely reversed its earlier support for rental EVs. The company took a \$348 million loss and the CEO resigned in March 2024.

Hertz CEO Resigns After Blowing Big Gamble on EVs

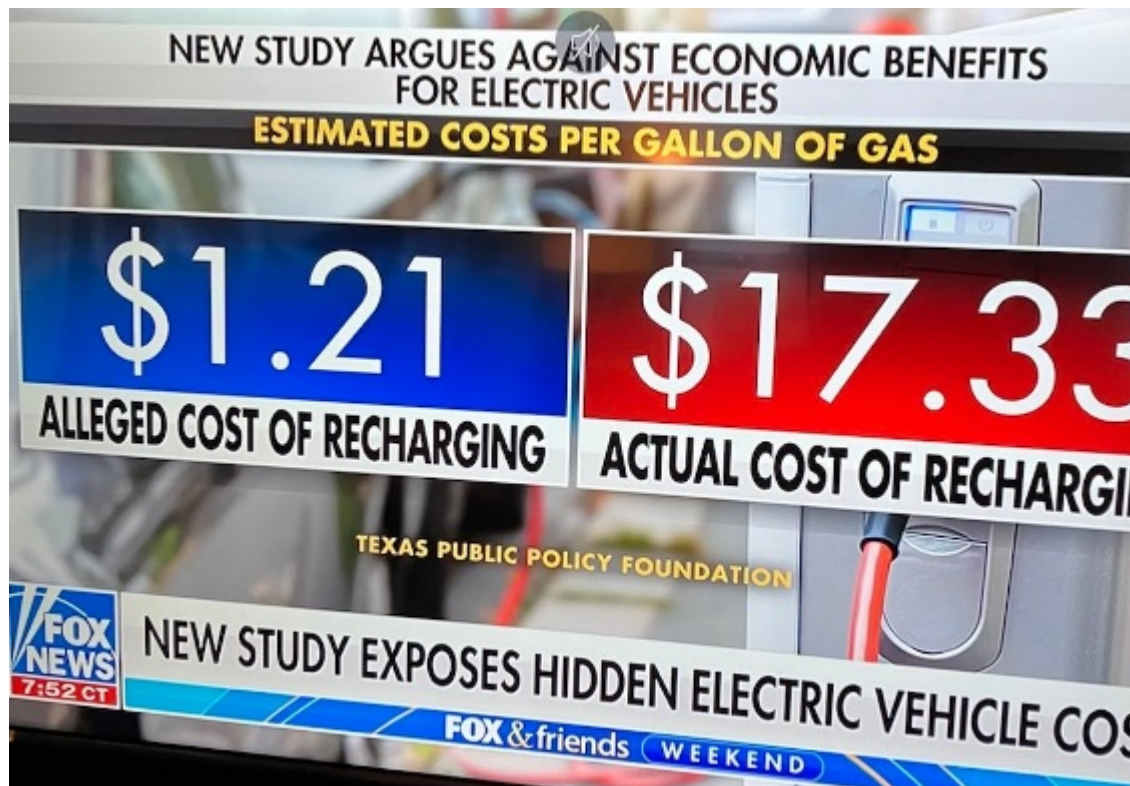
<https://www.climatedepot.com/2024/03/18/hertz-ceo-resigns-after-blowing-big-gamble-on-evs/>

Taxpayers Are Subsidizing Rich Electric-Vehicle Owners—To the Tune of Billions

<https://www.heritage.org/government-regulation/commentary/taxpayers-are-subsidizing-rich-electric-vehicle-owners-the-tune>

(Nov 2023)

Summarizes October 2023 paper by the Texas Public Policy Foundation that was picked up by many news outlets. It was the only study that determined what charging EVs really cost taxpayers in light of massive subsidies from the Federal government.



“... \$22 billion in government handouts to EV owners and manufacturers absorb the extra expense at every stage of the vehicle’s life, from raw-material sourcing to battery charging.

“Examining the numbers behind recharging makes this very clear.

“While EV advocates claim charging costs are equivalent to \$1.21-per-gallon gasoline, the real amount is an order of magnitude more.

“Including the charging equipment, subsidies from governments and utilities and other frequently excluded expenses, **the true cost of charging an EV is equivalent to \$17.33-per-gallon gasoline—but the EV owner pays less than 7% of that.**

“Over 10 years, almost \$12,000 of costs per EV are transferred to utility ratepayers and taxpayers, effectively socializing the price of recharging an EV while keeping the benefits private.

“Due to high entry price points—the average EV costs \$58,000, the average gas vehicle \$33,000—most EV consumers are affluent.”

Big Picture Trend is Clear

- Consumers are buying less EVs now and in the immediate future
- Half of those owning EVs will buy hybrid EVs or gas cars in the future.
- Auto manufacturers are drastically reducing production of EVs

A Keller Town Center EV charging station would be chasing a dwindling market with decreasing use.

The second part of my presentation will address the risks of EV fires and EV charging stations. These are not trivial and can impact our fire department, town liability, and more.

Electric Vehicle Fires

An internal combustion engine (ICE) car fire takes somewhere between 750 and 1,000 gallons of water to put out. An EV fire can take 8,000 gallons or much more to be extinguished and can reignite later!

ICE car fire: 1,500 degrees F, once out it's out. It will not reignite.

EV fire: 5,000 degrees F, can reignite multiple times and up to days later.

EV fires shown here are unique as they occur in the absence of an accident and are due to the inherent instability of the 1,000 lb. lithium-ion battery carried in each car.

Tesla BURNS underwater

<https://www.youtube.com/watch?v=cUVZR7Olelk> (Oct 2023)

A Tesla Model X launching a jet ski in Hollywood, Florida, rolled down the ramp and into the salt water where it ignited and burned in the water. The car was allowed to burn itself out. However, the fire department had to load it on a special carrier and follow it with a fire engine to the salvage yard in case of re-ignition — which EVs have done after the initial fire. Two similar incidents, one with a hybrid battery, are discussed by a Fire Department Captain from Michigan. [His StacheD Training channel](#) depicts bus EV fires, Amazon van EV fires, and more from a mechanical engineer and fire fighter perspective.

The relevance to a proposed Keller EV charging station is that EV fires require extraordinary measures to extinguish. Where will the resources for that come from, who will pay, etc.? Who will be liable for injuries or property damages from EV fires?



Figure 3: Tesla burning in water off boat ramp

EV Hybrid bursts into an Inferno at Gatwick airport

<https://www.youtube.com/watch?app=desktop&v=Q8RFCWxFNFY&t=13s> (April 2025)

The vehicle is a 2024 Volkswagen Tiguan Plug-in Hybrid Electric (PHEV) with a 1.5 litre engine. It has a 19.7kwh battery and a 12 gallon gas tank.

This fire indicates that hybrids as well as full battery EVs are susceptible to thermal runaway of the lithium-ion battery. A battery fire, combined with a gasoline tank, is extremely dangerous. A 12 gallon tank would burn out quickly. The extent of this fire indicates a battery fire.



Figure 4: Gatwick airport PHEW fire - April 2025

Many EV fires and other reliability concerns are deliberately under-reported in legacy news so as to skew public opinion.

Homeowner questions EV safety after fire destroys her Nocatee, FL, home

<https://www.youtube.com/watch?v=SlpXkQhq1ps&t=2s> July 2023, 3 min. news report



This loaner EV fire ruined a home in Florida with damage totaling over \$1 million dollars. The owner was interviewed on a local news station. The loaner Mercedes Benz EV from the dealership was itself the subject of a recall because it may not alert drivers to a battery malfunction. It was not being charged when it burst into flames.

The St. Johns County Fire Marshall is urging EV owners to be aware of the risks associated with lithium-ion batteries. Home owner: "I would not recommend buying one [EV] anytime soon."

Figure 5: EV burning in Florida garage



Figure 6: Burned out EV in driveway with damaged home

Electric Car Starts Shaking And Then Bursts Into Flames On The Highway

<https://web.archive.org/web/20230512135229/https://washingtonengager.com/2023/05/electric-car-bursts-flames>

This man's comments in the news report indicates how close he may have come to losing his children due to an EV fire.



Figure 7: EV battery fire

“A resident from Elk Grove narrowly escaped a life-threatening incident when his Tesla erupted in flames while he was driving on Saturday.

“The victim, Bishal Malla, expressed gratitude for surviving the terrifying ordeal. Malla reported that he had been running errands nearby and was preparing to enter Highway 99 when he felt his car begin to shake.

Assuming it was a flat tire, he proceeded to investigate, but upon opening the door, he was met with smoke emanating from the vehicle's undercarriage.

“The smoke, he said, quickly turned into large flames. **He said he was acutely aware, however, of the two empty car seats in the back. I was about to go home, take the family and the kids, and go to a party,”** he said.

“Malla said it was hard not to wonder how this could have been different if his family had been in the vehicle at the time of the fire, remembering the extra minutes it takes to get the children out of their seats.

“I’m just speechless right now,” he said.” ...

“This sounds truly terrifying and it really makes you question the safety of electric vehicles.”

Tesla spontaneously combusts on California freeway

<https://www.abc10.com/article/traffic/traffic-50-folsom-blvd/103-ee4bb857-f36b-438d-b763-1a710135b54c> Jan 2023



Figure 8: EV catches fire while driving on highway

“Sacramento Metro Fire crews arrived on scene to a Tesla Model S engulfed in flames. They say the **battery compartment spontaneously caught fire when driving at freeway speeds.**

“Officials say 6,000 gallons of water were used to extinguish the fire and cool the car battery.”

Chinese Electric Vehicles Are On Fire

<https://carnewschina.com/2022/04/18/chinese-electric-vehicles-are-on-fire/>



Figure 9: EV burning on road

NOTE that the majority of EV fires are NOT due to a collision.

“Among the 86 reported fire accidents, the four main types of fire accidents were: fire while charging, fire while driving, fire while parked, and fire after a collision. Among those four types of fire accidents, excluding 7 accidents with unknown causes, **31 occurred while parked, 22 occurred during charging (including fires at charging piles), 20 occurred during driving, and 6 occurred after a collision with other objects. 38.5% of fire accidents occurred in a static state, and 27.5% of fire accidents occurred in a charging state, according to the Beijing Institute of Technology.**

“When an electric vehicle battery uses DC fast charging under an ultra-low temperature environment, if the electronic control system fails to preheat the battery, the battery is at risk of fire. Another cause of the fire is lithium carbonate precipitation and the formation of lithium dendrites in ternary lithium batteries and lithium iron phosphate batteries. The addition of relatively cheap electric vehicles to car-hailing fleets also represents an additional risk due to high usage and more fast charging.

“Additionally, 66% of the fires happen in the hot months of the year and 34% in the cold months. It seems that there is more risk of fire in winter when charging. In summer, there is more risk of fire due to overheating.”

While they were asleep, their Teslas burned in the garage

<https://archive.ph/viILM> (Washington Post, Aug 2021)

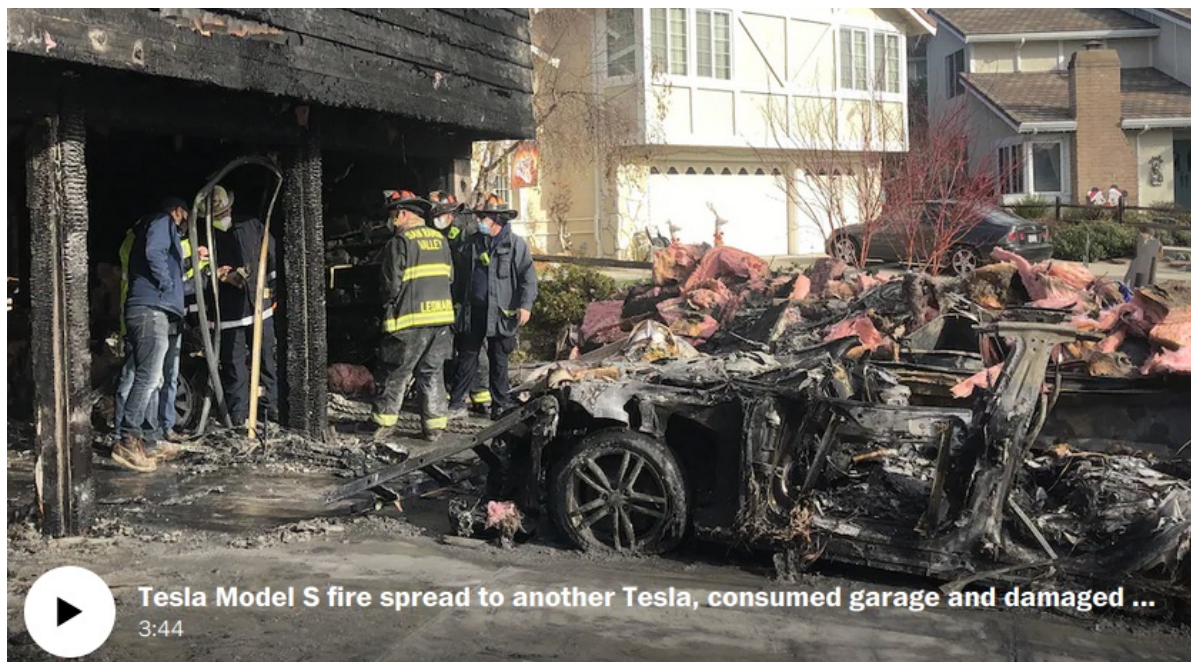


Figure 10: EV fire destroys home garage

“A fire inspector cited the thermal management system in one of the Tesla Model S sedans as one of two possible causes of the blaze, which showed what can happen when one electric car ignites another in a garage.” . . .

“Yogi and Carolyn Vindum were still asleep late last year when their Tesla Model S beamed an alert that charging was interrupted. Twelve minutes after that, they awoke to a blaring car alarm and a fire consuming their house in San Ramon, Calif. The blaze had started in one of the two electric vehicles in their garage and spread to the other.

“If we had lived upstairs in this house, we’d be dead,” said Yogi Vindum, a retired mechanical engineer.

“The fire, which has not previously been reported, is one in a string of recent examples showing what can happen when electric cars are left parked in garages to charge overnight. The issue is causing mounting concern as a number of electric-vehicle makers have warned owners not to leave the cars charging unattended in certain circumstances, or sitting fully charged in garages.

“Vindum eventually replaced the Teslas with a gasoline-powered Audi . . . The fire at his home changed his perspective on whether vehicle fires present a unique risk for owners of electric cars.

“Gasoline driven cars don’t catch fire in the garage when they’re sitting there. And that’s the difference,” he said. “I don’t worry about [my] Audi catching fire downstairs when it’s not running.”

Why Tesla, GM And Other EV Companies Have A Fire Problem

<https://www.youtube.com/watch?v=XWq-Mq1Uqpw&t=2s> Jan 2022

CNBC 12 minute video describing battery challenges and costly recalls due to fire risk.

Electric Cars Are Hot . . . Literally

<https://www.ericpetersautos.com/2021/08/17/electric-cars-are-hot-literally/>

“EVs have two unique problems that make them fire-prone when at rest – in addition to being more likely to burn when hit. The first is a function of their high-voltage battery packs, which are a lattice-like maze of individual interconnected cells. **A defect in materials or workmanship in any one of these cells can result in a short circuit and what’s known as thermal runaway – which can very quickly lead to a very high-temperature chemical fire that is extremely difficult to stop once it starts and which can re-start, even if all the flames are extinguished – for the same thermal runaway reasons.**

...

“There is also a third way electric cars can catch fire. **Thermal runaway risk increases during charging – in particular, what is styled “fast” charging** (which takes many times as long as it takes to refuel a non-electric car). Anyone familiar with electric devices knows that high heat attends high voltages, particularly when instilled from source to battery. The “faster” you try to charge up a battery, the more likely the thermal runaway. It is why electric cars have elaborate electronics to modulate the rate at which they are charged and why they cannot be fully “fast” charged.

“It is necessary – for safety – to partially charge them, to avoid a thermal runaway – and also because it is harmful to the battery pack’s longevity to “fast” charge it to 100 percent of its capacity. The usual top-off limit is 80 percent of capacity. Which means, of course, that you are 20 percent shy of capacity – and lose 20 percent of whatever the electric car’s advertised maximum range is.”

Burning Batteries: The Toxic Truth Behind Our Green Energy Illusion

<https://reinettesenumsfoghornexpress.substack.com/p/burning-batteries-the-toxic-truth> (Jan 2025)

This article highlights the numerous fires attributed to lithium-ion batteries. The toxic fumes released during an EV fire are extremely hazardous and would impact citizens and firemen in close proximity. Many cars have been recalled or removed from the market for much less fire risk.

“Don’t Park That Here!”

August 2023 report on insurance increases for all drivers due to EV fires.

<https://www.ericpetersautos.com/2023/08/07/dont-park-that-here/>

Scratched EV battery? Your insurer may have to junk the whole car

<https://www.reuters.com/business/autos-transportation/scratched-ev-battery-your-insurer-may-have-junk-whole-car-2023-03-20/>

Insurance companies recognize the liability exposed by fragile battery technology. As a result electric vehicles in even minor accidents are being totaled to avoid future liabilities. Insurance premiums are being adjusted upward accordingly. This article highlights a systemic problem with EV technology that increases costs and subsequent pollution due to discarded batteries.



Figure 11: EVs junked due to battery concerns

“A Reuters search of EV salvage sales in the U.S. and Europe shows a large portion of low-mileage Teslas, but also models from Nissan Motor Co, Hyundai Motor Co, Stellantis, BMW, Renault, and others.

“EVs constitute only a fraction of vehicles on the road, making industry-wide data hard to come by, but **the trend of low-mileage zero-emission**

cars being written off with minor damage is growing. Tesla's decision to make battery packs "structural" - part of the car's body—has allowed it to cut production costs but risks pushing those costs back to consumers and insurers. . . .

“Unless Tesla and other carmakers produce more easily repairable battery packs and provide third-party access to battery cell data, already-high **insurance premiums will keep rising as EV sales grow and more low-mileage cars get scrapped after collisions, insurers and industry experts said.**

"The number of cases is going to increase, so the handling of batteries is a crucial point," said Christoph Lauterwasser, managing director of the Allianz Center for Technology, a research institute owned by Allianz.

“Lauterwasser noted EV battery production emits far more CO₂ than fossil-fuel models, meaning EVs must be driven for thousands of miles before they offset those extra emissions.

"If you throw away the vehicle at an early stage, you've lost pretty much all advantage in terms of CO₂ emissions," he said."

EV Charging Stations

Intertwined Internet access, smartphone apps, and the electrical grid at these charging stations is highly complex and therefore problematic.

EV Charger Hacking Poses a ‘Catastrophic’ Risk

<https://www.wired.com/story/electric-vehicle-charging-station-hacks/> (July 2023)

“In recent years, security researchers and white-hat hackers have identified sprawling vulnerabilities in internet-connected home and public charging hardware that could expose customer data, compromise Wi-Fi networks, and, in a worst-case scenario, bring down power grids.

...

“This is a major problem,” says Jay Johnson, a cybersecurity researcher at Sandia National Laboratories. “It is potentially a very catastrophic situation for this country if we don't get this right.”

“Vulnerabilities in EV charger security aren’t hard to find. Johnson and his colleagues summarized known shortcomings in a paper published last fall in the journal *Energies*. They found everything from the possibility of hackers being able to track users to vulnerabilities that “may expose home and corporate [Wi-Fi] networks to a breach.” Another study, led by Concordia University and published last year in the journal *Computers & Security*, highlighted more than a dozen classes of “severe vulnerabilities,” including the ability to turn chargers on and off remotely, as well as deploy malware.”

Would a Keller EV charging station address the hardware, software, and supporting policies to guard against the threats noted in the *Wired* article?

EV Charger Cable Theft

<https://keithlehmann.substack.com/p/ev-quick-hits-dog-days-of-summer> (Aug 2024)

“Vandals are cashing in on a relatively easy way to make a few bucks by cutting the charging cables at EV charging stations and selling the cables to outlets that would be expected to pay the current commodity price of around \$4.50 per pound (approximately \$22.50 for a five-pound cable).

“Public charging stations, even in the best of circumstances, have downtime issues already, either through their inability to connect to a smartphone app, increased rolling blackouts, or as a result of a broken-down charger that has yet to be fixed. Now, drivers are rolling up to a public EV charging center only to find that, if they have been targeted for charging cable theft, ALL of the cables have been swiped, not just a few.”

EVs lose 15% of their range above 95 degrees Fahrenheit and battery damage can become an issue.

Nearby charging stations

There are several charging stations within a few minutes of Town Center.

- Kohl's on Hwy 377
- Near Target and Wal-Mart on Precinct Line Rd.
- Sam's Club on Golden Triangle
- 950 North Main Street – Keller

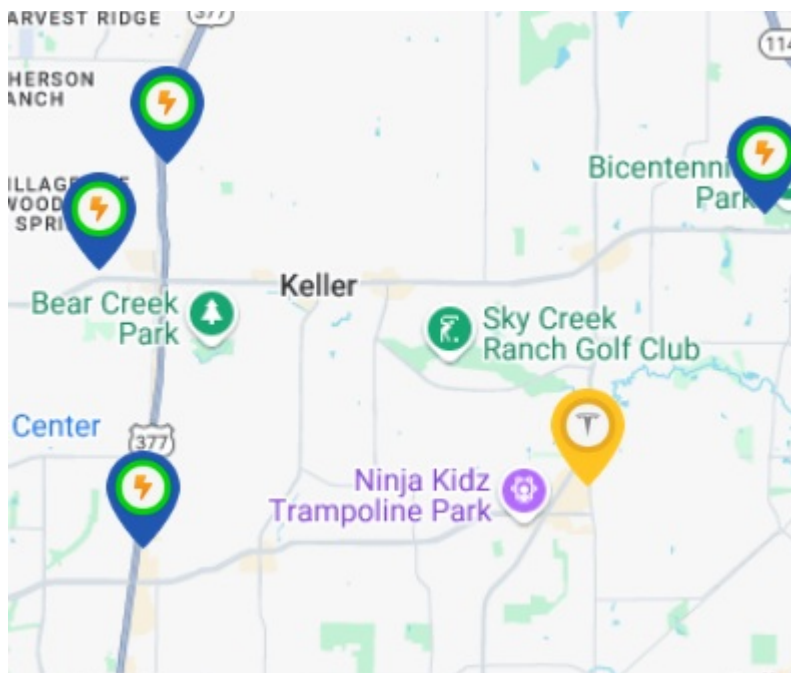


Figure 12: Charging stations in or near Keller

Plus many more destinations with much more to offer than Town Center, e.g., Alliance Corridor, Hwy 114, Grapevine, and Southlake.

Excessive Weight Wears Infrastructure, Poses Hazards

Electric Buses Weigh More, Raising Infrastructure Costs

<https://ti.org/antiplanner/?p=20931> – May 2023

A real-life demonstration of the damages caused by extremely heavy electric vehicles, in this case buses.



Figure 13: Indiana electric bus

“Electric buses weigh more and put more stress on infrastructure than regular buses, as Indianapolis transit agency Indygo realized when it discovered that the streets it paved for its bus rapid transit lines were wearing out after less than three years of service. Now it is repaving those streets, which is causing problems for businesses and annoying residents along the routes.

“The Indianapolis Department of Public Works had urged Indygo to use thicker pavement, but Indygo — which was already spending four years and too much money on a bus line that it could have started practically overnight at little cost — decided to save money on a part of the project that would be less visible to most people. After all, the point of the project was to please politicians with colorful buses and flashy bus stops, not to provide better transportation service....

“A couple of years ago, anti-auto groups fretted that the extra weight of electric cars and light trucks were going to create problems for highways. But increasing the weight of a car from 3,000 to 5,000 pounds or a pickup from 5,000 to 8,000 pounds isn’t going to make much difference to roads designed to support 20,000 to 30,000 pound vehicles. **However, increasing the weight of buses from 28,000 pounds (for a 40-foot Diesel bus) to 53,000 pounds (for the electric buses used by Indygo) can make a big difference.**

“The 2021 infrastructure bill included \$5 billion for electric buses, but the authors of the bill obviously did not consider the side effects, including the need to repave roads to support those buses. Electric buses supposedly emit fewer greenhouse gases, but any savings could be wiped out by the extra greenhouse-gas cost of installing new pavement.”

US official warns of risks posed by heavy electric vehicles

<https://www.washingtontimes.com/news/2023/jan/11/us-official-warns-of-risks-posed-by-heavy-electric/> Jan 2023



Figure 14: NTSB official warns of weight risks

"The head of the National Transportation Safety Board expressed concern Wednesday about the safety risks that heavy electric vehicles pose if they collide with lighter vehicles.

"The official, Jennifer Homendy, raised the issue in a speech in Washington to the Transportation Research Board. She noted, by way of example, that an electric GMC Hummer weighs about 9,000 pounds, with a battery pack that alone is 2,900 pounds - roughly the entire weight of a typical Honda Civic.

"I'm concerned about the increased risk of severe injury and death for all road users from heavier curb weights and increasing size, power, and performance of vehicles on our roads, including electric vehicles," Homendy said in remarks prepared for the group.

"The extra weight that EVs typically carry stems from the outsize mass of their batteries. To achieve 300 or more miles of range per charge from an EV, batteries have to weigh thousands of pounds. . . .

"Homendy noted that Ford's F-150 Lightning EV pickup is 2,000 to 3,000 pounds heavier than the same model's combustion version. The Mustang Mach E electric SUV and the Volvo XC40 EV, she said, are roughly 33% heavier than their gasoline counterparts.

"That has a significant impact on safety for all road users," Homendy added. . . .

"Michael Brooks, executive director of the nonprofit Center for Auto Safety, said he, too, is concerned about the weight of EVs because buyers seem to be demanding a range of 300 or more miles per charge, requiring heavy batteries.

"Setting up a charging network to accommodate that may be a mistake from a safety perspective, Brooks said.

"These bigger, heavier batteries are going to cause more damage," he said. "It's a simple matter of mass and speed."

"Brooks said he knows of little research done on the safety risks of increasing vehicle weights. **In 2011, the National Bureau of Economic Research published a paper that said being hit by a vehicle with an added 1,000 pounds increases by 47% the probability of being killed in a crash.**

"He points out that electric vehicles have very high horsepower ratings, allowing them to accelerate quickly even in crowded urban areas. "People are not trained to handle that type of acceleration. It's just not something that drivers are used to doing," Brooks said."

Electrical Generation Inadequate for EV Transition

The Coming Future Of Electric Vehicles: Something Here Does Not Add Up

<https://www.manhattancontrarian.com/blog/2023-1-7-the-coming-future-of-electric-vehicles-something-here-does-not-add-up>

This article calculates the increased electrical load if internal combustion engine (ICE) vehicles are replaced with EVs on the US grid. It is not possible with current forecasts of grid additions.

“...the additional 3.93 quadrillion BTUs of electricity would represent approximately a **30.5% addition to the current capacity of our electricity generation system.**”

“Are there any plans afoot for anything like that? Here’s another chart from EIA showing their projections of growth in U.S. electricity generation capacity out to 2050, from their 2022 Annual Energy Outlook.

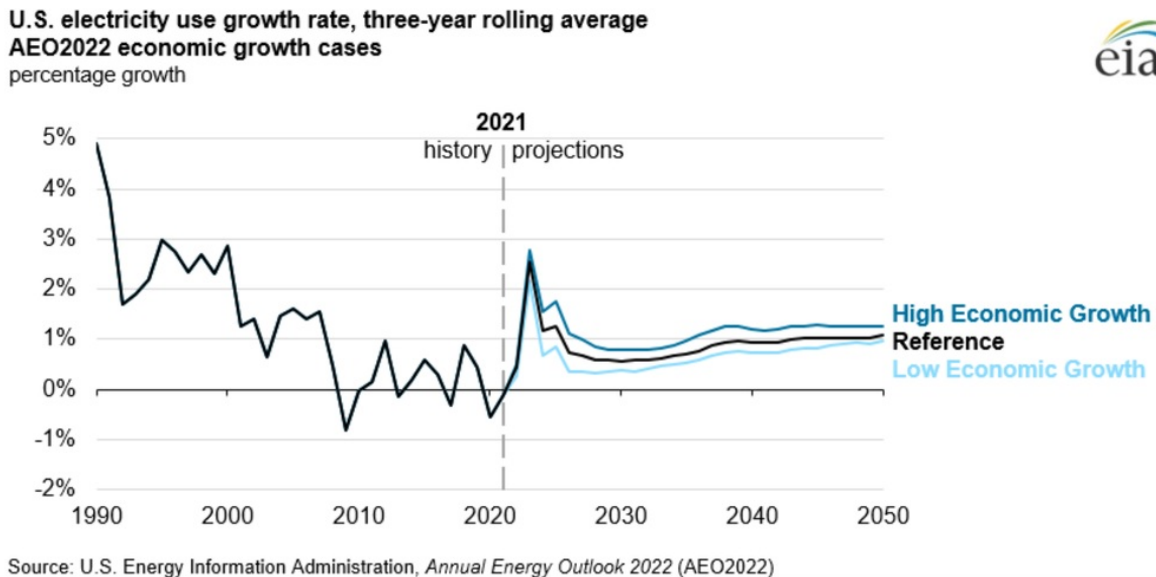


Figure 15: U.S. electric use growth rate

“...And note that this projection, at least for the earlier years, is largely based on the plans of utilities to add capacity — or not. And to the extent anyone is adding capacity, it is likely to be wind and solar, which will be completely useless for charging these vehicles on calm nights and lots of other times.

“So where is the surge in generation capacity to support a 30% or so additional need for electricity to electrify all cars? It sure doesn’t look to me like it is there. **Could it be that nobody really believes that this conversion to electric cars is actually going to occur? That would be my take.**”

Conclusion

Chasing a selective and dwindling market in hopes of driving shoppers to Town Center with an EV charging station is ill advised for several reasons:

- Consumers are buying less EVs now and in the immediate future
- Half of those owning EVs will buy hybrid EVs or gas cars in the future.
- Auto manufacturers are drastically reducing production of EVs
- Battery fire risks are very real and pose a threat to nearby citizens and to our firefighters
- Charging stations have been fraught with cybersecurity issues, connectivity and other problems in many venues.

About the Author

Michael (Mike) Sivertsen received an undergraduate degree in Physics from the University of Minnesota in 1979 and a Master of Knowledge Management degree from California State University, Northridge, in 2009. He earned a Certified Systems Engineering Professional (CSEP) designation from the International Council on Systems Engineering (INCOSE) in 2008. Mike has held numerous positions in three major industries (electric utility, IT, and aerospace). These have included: Health Physicist, Nuclear Engineering Instructor, Business Systems Analyst, Leadership Development Consultant, Lessons Learned Project Engineer, and Systems Engineer. After his retirement in 2021 he served on the Board of Directors for a North Texas electrical co-op for three years. He can be reached at [REDACTED]