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APPLICATION OF ENTERGY TEXAS, INC. FOR AUTHORITY TO CHANGE RATES	**§** **§** **§**	**PUBLIC UTILITY COMMISSION OF TEXAS**

DIRECT TESTIMONY
of
JEREMIAH W. CUNNINGHAM

on behalf of

SOUTHWESTERN PUBLIC SERVICE COMPANY

(Filename: CunninghamDirect.doc; *Total Pages:* 119)

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
Commission	Texas Public Utility Commission
DCFC	Direct Current Fast Charger
EV	Electric Vehicle
EVSI	Electric Vehicle Supply Infrastructure
EVSE	Electric Vehicle Supply Equipment
FHWA	Federal Highway Administration
HHI	Herfindahl-Hirschman Index
IRA	Inflation Reduction Act
NEHC	National Electric Highway Coalition
NEVI	National Electric Vehicle Infrastructure Plan
NSPM	Northern States Power Company, a Minnesota Corporation
NSPW	Northern States Power Company, a Wisconsin corporation
Operating Companies	NSPM, NSPW, PSCo, and SPS
PSCo	Public Service Company of Colorado
SPS	Southwestern Public Service Company, a New Mexico corporation
TERP	Texas Emissions Reduction Plan
TCEQ	Texas Commission on Environmental Quality
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

LIST OF ATTACHMENTS

Attachment	Description
JWC-1	List of Prior Testimony (*Non-Native Format)*
JWC-2	Letter from Governor on Electric Vehicle Charging dated March 22, 2022 (*Non-Native Format*)
JWC-3	Texas Electric Vehicle Infrastructure Plan (*Non-Native Format*)
JWC-4	Approval Letter from the Federal Highway Administration for the Texas Electric Vehicle Infrastructure Deployment Plan (*Non-Native Format*)

DIRECT TESTIMONY
OF
JEREMIAH W. CUNNINGHAM

I. WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Jeremiah W. Cunningham. My business address is 790 S. Buchanan St., 7th Floor, Amarillo, Texas 79101.

Q. On whose behalf are you testifying in this proceeding?

A. I am filing testimony on behalf of Southwestern Public Service Company, a New Mexico corporation ("SPS") and wholly-owned electric utility subsidiary of Xcel Energy Inc. ("Xcel Energy"). Xcel Energy is a utility holding company that owns several electric and natural gas utility operating companies, a regulated natural gas pipeline, and three electric transmission companies.[1]

Q. By whom are you employed and in what position?

A. I am employed by SPS as Manager – Rate Cases.

Q. Please briefly outline your responsibilities as Manager – Rate Cases.

A. I am responsible for managing the development, filing, and processing of rate cases and other regulatory filings for SPS. More specifically, I direct case teams from various areas within SPS and Xcel Energy Services Inc. ("XES") and provide

[1] Xcel Energy is the parent company of four utility operating companies: Northern States Power Company, a Minnesota corporation ("NSPM"); Northern States Power Company, a Wisconsin corporation ("NSPW"); Public Service Company of Colorado, a Colorado corporation ("PSCo"); and SPS (collectively, "Operating Companies"). Xcel Energy's natural gas pipeline company is WestGas InterState, Inc. Through a subsidiary, Xcel Energy Transmission Holding Company, LLC, Xcel Energy also owns three transmission-only operating companies: Xcel Energy Southwest Transmission Company, LLC; Xcel Energy Transmission Development Company, LLC; and Xcel Energy West Transmission Company, LLC, all of which are regulated by the Federal Energy Regulatory Commission.

direction and overall management support for rate case and other filing preparations. My department facilitates the development of policy issues and advocacy to be included in regulatory filings, and it coordinates the overall preparation of filed testimony, attachments, schedules, and workpapers to produce filings in accordance with applicable rules and procedures in the regulatory jurisdictions in which SPS operates.

Q. Please describe your educational background.

A. I graduated from Southeastern Oklahoma State University with a Bachelor of Arts degree in English in 2003.

Q. Have you attended any courses or seminars related to public utilities?

A. Yes. I have completed the Public Utilities Report Guide training and attended Essentials of Regulatory Finance hosted by S&P Global Market Intelligence.

Q. Please describe your professional experience.

A. After a ten-year career in the field of education, I began my utilities career with SPS in October 2013, as a regulatory administrator.

In April 2014, I accepted a promotion to Case Specialist in the Rates and Regulatory Affairs department. In that role, I managed SPS regulatory case filings before the Public Utility Commission of Texas ("Commission"), with an emphasis on energy efficiency and rate-case expenses. I also assisted with the preparation and prosecution of multiple base-rate cases in both the Texas and New Mexico jurisdictions. In July 2016, I accepted my current position as Manager – Rate Cases.

Q. Have you filed testimony before any regulatory authorities?

A. Yes. A list of my prior testimonies is provided as Attachment JWC-1.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of SPS's testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to address the Commission's question of:

> "is it appropriate for an electric utility in a vertically integrated area to own charging facilities or other transportation electrification and charging infrastructure, or should ownership of such facilities be left to competitive providers?"[2]

Furthermore, while my testimony does not specifically address the question of whether or not Entergy Texas Inc. should be allowed to own transportation electrification and charging infrastructure, it does address whether such ownership should be wholly left to customers or third parties.

Q. Is SPS an electric utility in a vertically integrated area of Texas?

A. Yes. SPS is a vertically integrated utility that serves approximately 400,000 electric customers in 95 communities across the Texas Panhandle, Texas South Plains, and eastern and southeastern New Mexico. SPS's service territory spans 52,000 square miles and includes thousands of miles of federal, state, and county highways that connect the southwestern population centers of Amarillo, Plainview, and Lubbock in the Texas Panhandle and South Plains along with transportation arteries running through SPS's service territory which connect the Dallas-Fort Worth metroplex,

[2] *Application of Entergy Texas, Inc. for Authority to Change Rates,* Docket No. 53719, Preliminary Order (August 4, 2022).

Oklahoma City, Midland-Odessa, Denver, Albuquerque, Clovis, Roswell, Carlsbad, and Hobbs.

Q. Please summarize your testimony and recommendations.

A. The question posed by the Commission in this proceeding is presented as a binary inquiry – should vertically integrated utilities own Electric Vehicle ("EV") charging infrastructure or should third-party, competitive providers own such facilities? The two options presented – vertically integrated utility ownership and competitive provider ownership – are not mutually exclusive, as both ownership types can coexist alongside one another. Vertically integrated utilities should not be precluded or prohibited from owning charging infrastructure.

The presence of utility investment in this sector can stimulate market activity, investment, and participation to the benefit of the State of Texas, utility customers, communities, commuters/travelers, and other EV market participants. In the case of the Texas Panhandle and South Plains region, investment by SPS is needed to support the EV market where other market participants have not demonstrated material interest through charging infrastructure investment and deployment commensurate with current or expected EV adoption. Central to this discussion is Governor Greg Abbott's letter[3] noting that access to EV charging is key for "Texans to easily get from Beaumont to El Paso and Texline to Brownsville in an EV – with a focus on rural placement and connectivity." The fact is: any

[3] Provided as Attachment JWC-2.

artificial barrier that prohibits capable entities of meeting the need to develop EV charging infrastructure in the state of Texas is contrary to that access.

The approved Texas National Electric Vehicle Infrastructure ("NEVI") Plan[4] indicates on page 16 that in years three through five of implementation, statewide coverage inclusive of charging in each of the 254 counties in the state will be achieved. Based on private market activity to date, it appears likely that market economics in at least some, if not all areas of Texas, may predicate the need for vertically aligned utilities to consider providing charging infrastructure where other vendors opt to not pursue opportunities to install. Further, I note that the mere existence of charging infrastructure installed in an area does not ensure that the amount of charging infrastructure in and around that location is adequate, nor that it meets drivers' expectations for safety, reliability and affordability. Based on the evidence I present herein, in order to meet statewide goals, it is incumbent that vertically integrated utilities not be precluded from owning EV charging infrastructure. Doing otherwise would unnecessarily impair the state's ability to fully deliver the benefits of electric transportation to all citizens of Texas.

Q. How is your testimony organized?

My testimony presents a discussion of the existing EV policy framework in Texas, an overview of the various types of vehicle charging infrastructure in relation to the existing electric grid, as well as a quantitative study evaluating the current concentration of the Texas EV market. In combination, based on this data one can

[4] Provided as Attachment JWC-3.

conclude that: 1) utility investment in this sector serves the public interest, will not impede competitive forces in the EV infrastructure market, and should not be prohibited or restricted by policy decisions of the Commission in this or future proceedings; and 2) the EV market in Texas is highly concentrated, meaning competition has been ineffective, and the State needs vertically integrated utilities as well as other market participants to invest in EV infrastructure development and fill potential gaps in areas the market may neglect.

Q. Was Attachment JWC-1 prepared by you or under your direct supervision or control?

A. Yes.

Q. Are Attachments JWC-2 through JWC-4 true and correct copies of the documents you represent them to be?

A. Yes.

III. CURRENT EV POLICY LANDSCAPE IN TEXAS

Q. Does the State of Texas support transportation electrification?

A. Yes. There is strong support for adoption of EVs as well as specific state policy frameworks and action plans to support EV accessibility in Texas, specifically through incentivizing investment in EV infrastructure. Since 2018, the State of Texas has offered tax credits to incentivize the purchase and lease of a wide range of EVs through the Texas Commission on Environmental Quality's ("TCEQ") Light-Duty Motor Vehicle Purchase or Lease Incentive Program. These tax credits are currently worth $2,500 for participating Texas residents in addition to federal tax incentives. Other state incentives include grants administered by TCEQ for clean fleets, clean school buses, clean vehicles and infrastructure, government fleets, and heavy-duty vehicles and equipment, as well as light-duty alternative fuel vehicle rebates.[5]

Furthermore, on March 22, 2022, and in support of the Texas Electric Vehicle Infrastructure Plan, Governor Greg Abbott issued a letter requesting that the Texas Department of Transportation lead the way in developing a plan to ensure all Texans have access to the EV infrastructure with a focus on rural placement and connectivity. As Governor Abbott stated in his March 22, 2022 letter to the Executive Director of TxDOT, Texas' sheer volume of roadway miles leaves ample opportunity for EV charging development. Further, Governor Abbott stated that

[5] Texas Emissions Reduction Plan (TERP) - Texas Commission on Environmental Quality - www.tceq.texas.gov.

Texas' Electric Vehicle Infrastructure Deployment Plan should ensure that every Texan can access the infrastructure they need to charge an EV.

TxDOT submitted its Electric Vehicle Infrastructure Plan on July 28, 2022 to the Federal Highway Administration ("FHWA"), describing how it will use its NEVI funds, in collaboration with the TCEQ and the State Energy Conservation Office at the Texas Comptroller. The Texas Electric Vehicle Infrastructure Plan was approved by the FHWA on September 27, 2022.[6] The FHWA's approval letter recognized the role of the Texas Electric Vehicle Infrastructure Plan in putting the United States on a path to a nationwide network of EV chargers that can ensure a convenient, affordable, reliable, and equitable charging experience for all users. A key component of this nationwide network in the State of Texas as defined in the state's NEVI plan is the establishment of charging in each of the State's counties within the five-year planning horizon.

Q. Are there additional policies and initiatives which support transportation electrification and the build out of EV infrastructure in Texas?

Yes. Xcel Energy and other Texas utilities have also joined the National Electric Highway Coalition ("NEHC") committing to create a network of direct current fast charging ("DCFC") stations connecting major highway systems from the Atlantic Coast to the Pacific Coast of the United States. NEHC utility members agree, subject to regulatory authority, to ensure efficient and effective fast charging deployment plans that enable long distance EV travel, avoiding duplication among

[6] Provided as Attachment JWC-4.

coalition utilities, and complement existing corridor DCFC sites. Xcel Energy is one of the more than 60 coalition member companies who collectively serve more than 120 million U.S. electric customers across 48 states and the District of Columbia.[7]

Further, significant federal policy has promoted transportation electrification and the development of charging infrastructure. The Inflation Reduction Act ("IRA") aims to bring down the sticker price of electric vehicles by providing tax credits to purchase new and used electric vehicles. Other tax incentives under the IRA may make investment from the private sector in EV charging more appealing. The Federal Infrastructure Investment and Jobs Act, signed into law on November 15, 2021, established the NEVI Formula Program. NEVI will provide funding to states to deploy EV charging infrastructure along public roads to establish an interconnected network across the state and nation. For fiscal years 2022-2026, Texas will receive $407.8 million.[8]

Q. Is EV adoption increasing in Texas?

A. Yes. Across the United States, EV adoption is growing in all 50 states with every state showing year over year growth of at least 32%. In Texas, year over year growth in EV registrations from 2020 to 2021 was more than 55%. Furthermore, as of 2021 more than 5% of all registered EVs in the United States were registered

[7] National Electric Highway Coalition | (eei.org)

[8] Bipartisan Infrastructure Law - 5-year National Electric Vehicle Infrastructure Funding by State | Federal Highway Administration (dot.gov)

in Texas.[9] This evidence shows the EV market in Texas is growing and the EV charging infrastructure is needed to ensure the mobility of the State's economy.

Furthermore, EV adoption and the availability of charging infrastructure represent a circularly correlated relationship. When drivers can depend on a convenient network of charging stations it reduces their "range anxiety." Countless surveys have documented the market barrier of range anxiety as a top concern of car shoppers when considering an EV purchase.[10] Fortunately, research has demonstrated that access to public EV charging can not only increase EV adoption but is one of the more effective ways of doing so, in addition to policies and programs that reduce the upfront cost of EVs and help increase awareness of the benefits of EVs.[11] As charging infrastructure becomes more readily available in all areas of the state, a corresponding increase in the adoption of EVs will follow due to reduced range anxiety and increased customer awareness. Parallel to this trend, as there is an increase in the adoption of EVs in the state, the market for additional

[9] Current EV registrations in the US: How does your state stack up and who grew the most YOY? | Electrek.

[10] See Plug in America, "The Expanding EV Market: Observations in a year of growth," 2022, at https://pluginamerica.org/wp-content/uploads/2022/03/2022-PIA-Survey-Report.pdf; and Consumer Reports, "Battery Electric Vehicles and Low Carbon Fuel: A Nationally Representative Multi-Mode Survey," 2022, at https://article.images.consumerreports.org/prod/content/dam/surveys/Consumer_Reports_BEV%20AND%20LCF%20SURVEY_18_FEBRUARY_2022 .

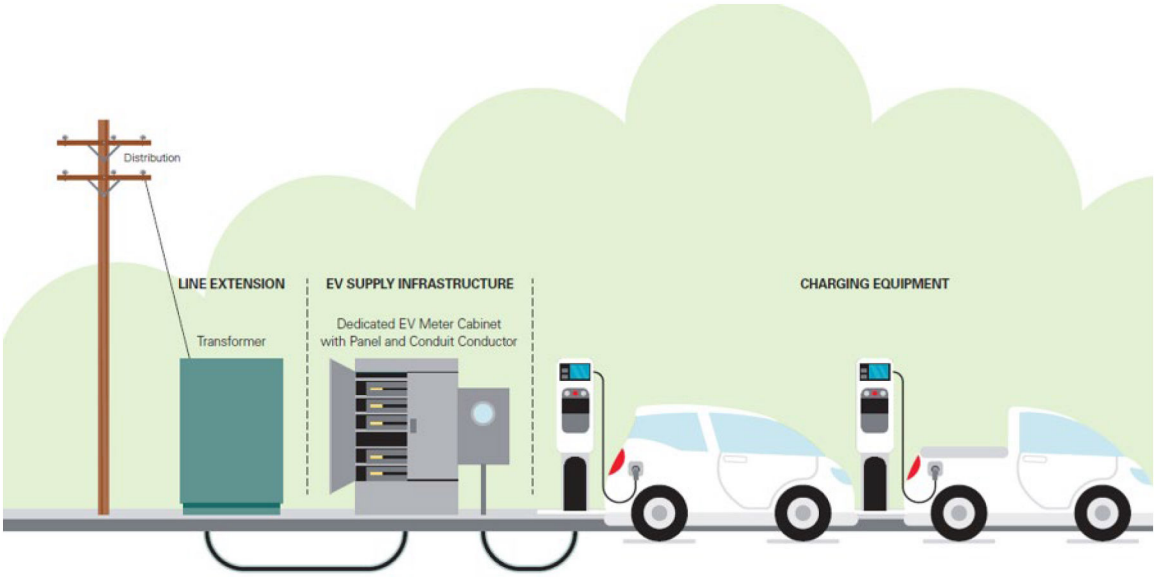
[11] See Li et al, "The Market for Electric Vehicles: Indirect Network Effects and Policy Design," Journal of the Association of Environmental and Resource Economists, March 2017; Clinton, Bentley C and Daniel C. Steinberg, "Providing the Spark: Impact of financial incentives on battery electric vehicle adoption." Journal of Environmental Economics and Management, November 2019; Scott et al, "The effectiveness of financial purchase incentives for battery electric vehicles – A review of the evidence," Renewable and Sustainable Energy Reviews, 2017.

charging resources will increase, also opening new markets for competitive participants.

Q. Please describe the components of EV charging infrastructure.

A. Figure JWC-1 below shows some of the basic components of EV charging infrastructure.

Figure JWC-1 – EV Charging Infrastructure



The figure illustrates the equipment that is needed to support EV charging, starting on the left with the distribution system and the line extension needed for the EV charging installation, followed by EV Supply Infrastructure (EVSI) and EV Supply Equipment (EVSE). EVSI is often defined as the infrastructure that goes beyond the "traditional" line extension, extending beyond the traditional point of connection and continuing up to the charger, and can include panels, conduit, wiring and associated equipment. The design of the specific site will determine how much EVSI is needed. EVSE is the EV charger itself. EVSE is available in a wide

variety of capacities, capable of delivering electricity for fueling through one or multiple ports.

Q. Please describe the current EV charging infrastructure in Texas.

A. According to the U.S. Department of Energy, 2,216 active charging stations are located in Texas.[12] A charging station is defined as a site with one or more EVSE ports at the same address.[13] Examples include a parking garage or a mall parking lot. At the aforementioned Texas charging stations there are 5,568 EVSE ports.

When level 2 ports, which are not fast enough[14] to conveniently serve the needs for long-distance trips[15], are removed the public charging landscape in Texas becomes much more sparse. To support the roughly 80,000 registered EVs in Texas, there are only 279 fast charging station locations with 1,252 EVSE ports.[16]

Excluding propriety charging stations owned by Tesla, Texas only has 189 public DCFC stations with 321 EVSE ports available.[17] Strikingly, 128 counties in the State of Texas, or approximately 50%, currently have no publicly accessible

[12] U.S. Department of Energy, Alternative Fuels Data Center. Texas charging stations as of 10/21/2022.

[13] Alternative Fuels Data Center: Developing Infrastructure to Charge Electric Vehicles (energy.gov)

[14] Level 2 Charging may take between 4-10 hours to fully charge the battery of a battery-electric vehicle (BEV). See U.S. Department of Transportation, "Electric Vehicle Charging Speeds," https://www.transportation.gov/rural/ev/toolkit/ev-basics/charging-speeds .

[15] DC Fast charging can provide up to 15 miles of range per minute of charging for some vehicle models, depending on charger and vehicle specifications and the state of charge of its battery pack.

[16] U.S. Department of Energy, Alternative Fuels Data Center. Texas charging stations as of 10/21/2022.

[17] U.S. Department of Energy, Alternative Fuels Data Center. Texas charging stations as of 10/21/2022.

EV charging infrastructure available.[18] Of these 128 counties with no charging infrastructure, 124 are rural[19] and 74 are low/moderate income counties.[20]

Q. Under the Texas Electric Vehicle Infrastructure Plan, where will TxDOT prioritize infrastructure development?

A. A first priority for the state is placing high powered chargers along the 3,615 miles of designated Alternative Fuel Corridors within Texas.[21] In Year Two of the NEVI implementation a series of EV charging stations will be established in Metropolitan Planning Organizations and major rural connectivity routes as defined in the map below in this section. As previously noted, years 3-5 will see similar charging infrastructure established around the county seat in each of the State's 254 counties that are not already addressed prior to that timeframe.

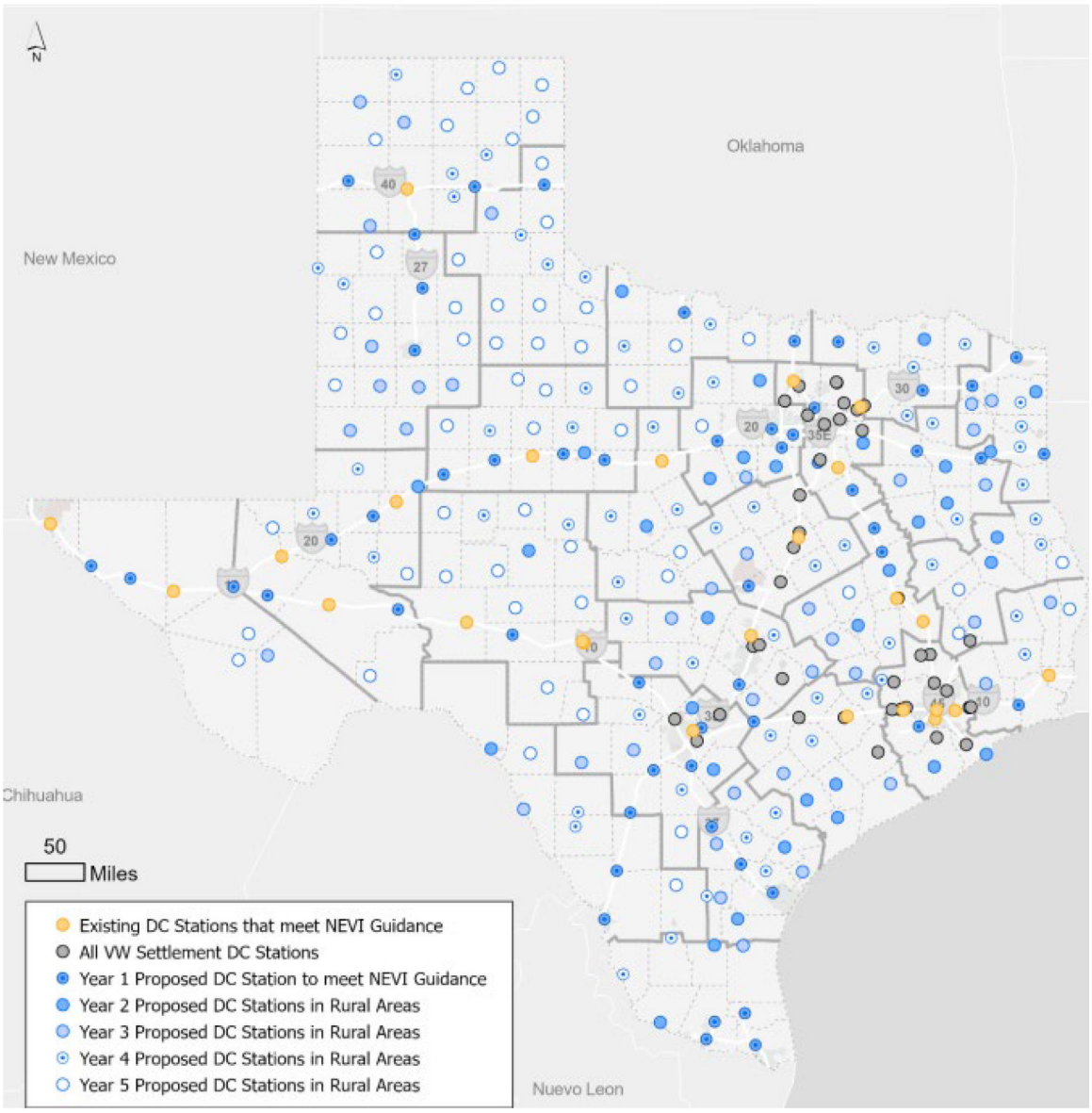
[18] Alternative Fuels Data Center: Alternative Fueling Station Locator (energy.gov)

[19] https://www.arts.texas.gov/initiatives/rural-initiatives/rural-texas-counties/

[20] 74 have per capita income less than or equal to the median per capita income in Texas. https://txcip.org/tac/census/morecountyinfo.php?MORE=1011

[21] Attachment JWC-3, page 13.

Figure JWC-2 – TXDOT Plan for Year Three and Beyond[22]



[22] Attachment JWC-3, page 16.

Q. Have areas of SPS's service territory been identified as Electric Alternative Fuel Corridors under the Texas NEVI Plan?

A. Yes. The interstate corridors of I-40 and I-27 have been identified by TxDOT as an Electric Alternative Fuel Corridor.[23] I-40 and I-27 have been defined in TxDOT's Statewide Planning Map as part of the roll-out of six new charging stations in the Texas NEVI Plan Year One focus. In addition, I-40, I-27, along with highway 87 and highway 60 are major transportation systems in the Texas panhandle that TxDOT expects will have a significant increase in future traffic.

Q. Has sufficient charging infrastructure been developed in the Texas Panhandle and South Plains region?

A. No. While in the cities of Amarillo and Lubbock there are approximately 1,000 registered EVs[24], in the Texas Panhandle and South Plains regions, there are less than 30 public charging stations, the vast majority of which are level 2 chargers located at private businesses. Excluding level 2 chargers, which are not practical for long-distance travel, and proprietary chargers,[25] according to publicly available

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[23] https://www.txdot.gov/apps/statewide_mapping/StatewidePlanningMap.html?coords=35.215805,-101.099201&z=8

[24] According to the Dallas Fort-Worth Clean Cities Coalition and the North Central Texas Council of Governments.

[25] In referencing proprietary chargers, the Company is referring to chargers that have historically been accessible to a limited network of users such as drivers of Tesla vehicles. The Company notes that the White House announced on June 28, 2022 that "Later this year, Tesla will begin production of new Supercharger equipment that will enable non-Tesla EV drivers in North America to use Tesla Superchargers," which could provide additional public fast charging access moving forward. The Company will continue to monitor this and any other market developments. See https://www.whitehouse.gov/briefing-room/statements-releases/2022/06/28/fact-sheet-biden-harris-administration-catalyzes-more-than-700-million-in-private-sector-commitments-to-make-ev-charging-more-affordable-and-accessible/. To the Company's knowledge, Tesla has not disclosed a timeframe or plan for opening its stations to non-Tesla drivers.

resources there is only one networked DCFC located in Amarillo, Texas (in SPS's service territory) and one limited port option in Lubbock, Texas.

Figure JWC-3

Map of Public DC Fast Charging Stations in SPS Service Territory

Q. What is the impact of the limited availability of public fast charging infrastructure?

A. The number of available chargers and sites is not sufficient to adequately support Texas's current EV market, let alone support commuting traffic from neighboring states, resolve range anxiety, or stimulate further EV adoption. In areas such as

SPS's service territory, the distinct lack of charging infrastructure in rural counties leaves many portions of the state unserved. And the areas that are "served" have only handful of EVSE ports at the most. This is not a sufficient network to meet the charging needs of today, let alone of 2026 or 2030.

IV. ASSESSMENT OF THE COMPETITIVE MARKET FOR CHARGING INFRASTRUCTURE

Q. Has SPS evaluated data on EV charging market concentration in Texas?

A. Yes. SPS has evaluated how many, or how few, companies control the EV charging market in Texas. A commonly accepted basis metric for market concentration, or the competitive intensity of a particular industry, is the Herfindahl-Hirschman Index (HHI). The HHI approaches zero when a market is occupied by a large number of firms of relatively equalize size and reaches its maximum of 10,000 points when a market is controlled by a single firm. Thus, the lower the score the more competition is present in a given market. According to the United States Department of Justice, an HHI over 1,500 indicates a concentrated market. An HHI of 2,500 indicates a highly concentrated market.[26]

Q. What is Texas's DC fast charging market HHI?

A. Based on the number of installed EVSE ports owned by a small number of companies, SPS has calculated that Texas's DCFC market HHI is 5,785, concluding that the Texas market is more than highly concentrated. This means a handful of firms hold a significant portion of the market share and competition in the market is insufficient. Furthermore, the inclusion of level 2 ports only decreases the HHI score to a highly concentrated 2,784 points.

[26] https://www.justice.gov/atr/herfindahl-hirschman-index#:~:text=The%20term%20%E2%80%9CHHI%E2%80%9D%20means%20the,then%20summing%20the%20resulting%20numbers.

Q. Has Texas witnessed a similar trend in other technology development needed to provide essential services to Texas residents?

A. Yes. EV Charging infrastructure development appears to be following similar patterns to early high-speed internet/broadband infrastructure development. Market forces for technological adoption in the State of Texas dictate that urban areas of middle to high-income will be early adopters of new technology. This makes the development of infrastructure to support that technology profitable for the competitive market. As such, the infrastructure build-out occurs early and often in these concentrated areas. Meanwhile, low- and moderate-income areas and rural areas tend to have a lower number of adopters and later adopters of new technologies. As a result, competitive forces tend to delay or even neglect the establishment of key infrastructure to advance technology in these areas due to low adoption rates versus high development costs. The state of Texas has addressed this through the creation of the Texas Broadband Development Office and through legislation allowing electric utilities to lease excess fiber capabilities to internet service providers in high need areas. For purposes of equity and the development of the EV charging infrastructure to support the Texas economy, vertically integrated utilities should not be prohibited from investing, particularly in geographic areas where traditionally competitive market forces may deem installation of charging less desirable.

Q. Are more market participants needed to support the state's EV infrastructure goals?

A. Yes. Texas does not yet have the public charging infrastructure necessary to power a rapid adoption of EVs for both personal and commercial uses. As discussed below, thousands of public fast charging ports within the State of Texas, including in SPS's service territory, must be added over the coming decade to both keep up with and help induce EV adoption. Third party charging providers have not filled these gaps to date and precluding vertically integrated utilities from supporting this infrastructure expansion is inconsistent with state policy objectives.

As noted in Section III of my testimony, there are economic reasons for third party charging providers to focus development efforts in areas with high early adoption rates and customer demand. However, given the current high concentration in the State's EV charging infrastructure market, it does not make sense to limit the ability of a capable entity, such as a vertically integrated utility, to develop additional infrastructure. Specifically, with the NEVI goal of establishing charging in each county in Texas; all capable entities must be available to help meet those needs. Further, given the circular relationship between adoption and EV charging infrastructure it would be expected that once basic infrastructure is in place more charging demand will emerge and *extend further competitive opportunities* to the EV charging infrastructure market.

V. MEETING THE NEEDS OF SPS CUSTOMERS

Q. In what other ways does utility investment in EV infrastructure and provision of EV programs benefit the public and customers?

A. There are several ways in which utility investment in EV infrastructure and EV programs can benefit the public and utility customers. Utilities play a critical role in clearing barriers to EV adoption, making infrastructure accessible, supporting equitable access to the benefits of transportation electrification, and encouraging efficient use of the grid. Regulators and policymakers in other jurisdictions in which Xcel Energy operates have acknowledged these benefits.[27]

As I discussed earlier in this testimony, public research demonstrates that increased access to charging stations is correlated with increasing EV adoption as it reduces range anxiety. Thus, investing to reduce range anxiety and offering advisory and education services help to clear barriers for customers to move to transportation electrification. Utilities can also support equitable access to EV charging by offering customers affordable rates to charge their vehicles at home or on the go. For example, Xcel Energy's residential charging rates in other jurisdictions encourage customers to charge at times that are better for the grid and offer affordable off-peak pricing equivalent to fueling at one dollar per gallon of gasoline or less.

[27] See February 1, 2019 ORDER MAKING FINDINGS AND REQUIRING FILINGS, Minnesota Public Utilities Commission Docket No. E-999/CI-17-879, In the Matter of a Commission Inquiry Into Electric Vehicle Charging and Infrastructure. See also Colorado Senate Bill 19-077.

Q. Please describe the information and awareness gap which must be addressed in regard to Transportation Electrification.

A. With most emerging technology, awareness and information drives further adoption. Awareness among Texas residents as to transportation electrification is directly correlated to the adoption of the technology. Both historically and going forward, as more EVs are visible on the road as the result of increased EV charging infrastructure, the interest in transportation electrification will increase as well. According to a recent study by Consumer Reports, nearly two-thirds of respondents were not familiar with the fundamentals of EV ownership.[28] Despite this, in 2021 NREL expected the number of EVs on the road nationally to reach 7 million by 2025. Furthermore, major manufacturers have announced plans for EVs to comprise 50% of all new vehicle sales by 2030.[29] The trend is clear – there is a gap in consumer understanding of electric vehicles, yet EV adoption is projected to scale rapidly in the next decade. Further amplifying consumer awareness of electric transportation is needed to help spur this adoption.

As a result, customers are seeking information regarding EVs from a trusted energy advisor and their electric utility provider is often their reliable source. As customers adopt EVs there is considerable, and often complex, information to sort through. Customers need to understand varying charging speeds, different

[28] See Consumer Reports, "Battery Electric Vehicles and Low Carbon Fuel: A Nationally Representative Multi-Mode Survey," 2022, at https://article.images.consumerreports.org/prod/content/dam/surveys/Consumer_Reports_BEV%20AND%20LCF%20SURVEY_18_FEBRUARY_2022 .

[29] 2021 NREL Report

connector types, changes in range depending on varying weather conditions, and estimating potential cost savings. For fleet operators, considering electrifying fleets may require changes in business operations. Improved education and outreach can help address the barrier, and Xcel Energy has experience providing similar advisory services in other jurisdictions. Thus, SPS believes it is important not only for utilities to have the ability to contribute to building out EV charging infrastructure in Texas, but also to address barriers to EV adoption related to lack of information. Just like with other energy related issues, SPS will play a key role in helping our customers make informed decisions about EV adoption.

Q. Please describe how SPS is prepared to address the impacts of Transportation Electrification on EV and Non-EV customers.

A. As the number of EVs rises in the SPS service territory, EVs could become a beneficial resource to the grid or create challenges depending on when and how they charge. Customers need appropriate incentives to drive optimal charging behavior. SPS and other utilities are uniquely positioned to help manage demand through a combination of pricing and optimized charging programs to minimize costs to the system of this new EV load.

Q. What impact will utility owned EV charging infrastructure have on the competitive market?

A. Coordinated utility and government support (such as the TXDOT EV Charging Infrastructure Plan) in the near term can help stimulate the public charging market in Texas to grow to meet the expected charging demand in coming years. Utility owned charging infrastructure can target areas of the state where barriers exist, and

the utility is particularly well-positioned to help address many of these barriers. For example, it can target areas of the state where the competitive market is not currently investing in public charging infrastructure and is unlikely to invest based on economic considerations – to support current and future adoption for all customers.

This policy contemplation would benefit from research into the amount of public fast charging that is necessary to support future adoption and that which exists today. Further, the nature of public charging means that some locations will likely see material increases in utilization over time while others are likely to be utilized less frequently due to their proximity to less densely populated areas and lower utilized transportation corridors. As Governor Greg Abbott has recognized, these lower utilization locations, however, are essential to a complete, convenient, and reliable charging network that can meet the needs of EV drivers today and into the future.[30] However, there are only a limited number of use cases where these investments economically justify themselves. More could become economically viable with support from the utility in supplying EV charging infrastructure. As such, access to fast public charging may not be equitable, or may not be sufficiently distributed across the state, and in particular in SPS's service territory, without the utility supporting the efforts by owning EV charging stations and equipment.

Finally, EV adoption is both a catalyst and a result of an increase in public charging infrastructure. Prospective EV drivers often cite the lack of availability

[30] Attachment JWC-2.

of public charging as a barrier to purchasing an EV.[31] Research has shown that an increase in public charging availability in a given location increases EV adoption.[32] Thus, allowing regulated utilities in the state to make early investment in public fast charging infrastructure can increase EV adoption rates and, therefore, increase the viability of the competitive EV charging market.

[31] See Consumer Reports, "Battery Electric Vehicles and Low Carbon Fuel: A Nationally Representative Multi-Mode Survey," 2022, at https://article.images.consumerreports.org/prod/content/dam/surveys/Consumer_Reports_BEV%20AND%20LCF%20SURVEY_18_FEBRUARY_2022 .

[32] See Li et al, "The Market for Electric Vehicles: Indirect Network Effects and Policy Design," Journal of the Association of Environmental and Resource Economists, March 2017; Clinton, Bentley C and Daniel C. Steinberg, "Providing the Spark: Impact of financial incentives on battery electric vehicle adoption." Journal of Environmental Economics and Management, November 2019.

VI. REQUESTS OF THE COMMISSION

Q. What is SPS requesting of the Commission in this docket?

A. At this time, SPS requests that the Commission not adopt a policy which would prohibit or restrict a vertically integrated utility from owning, operating, and maintaining EV charging infrastructure for the benefit of its customers and drivers in its service territory.

Q. Does this conclude your pre-filed direct testimony?

A. Yes.

AFFIDAVIT

STATE OF TEXAS)
)
COUNTY OF POTTER)

JEREMIAH W. CUNNINGHAM, first being sworn on his oath, states:

I am the witness identified in the preceding testimony. I have read the testimony and the accompanying attachment(s) and am familiar with the contents. Based upon my personal knowledge, the facts stated in the testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid, and accurate.

J. C

JEREMIAH W. CUNNINGHAM

Subscribed and sworn to before me this 21st day of October, 2022 by JEREMIAH W. CUNNINGHAM.

MARY C. JOHNSON
Notary Public, State of Texas
Comm. Expires 08-28-2024
Notary ID 12084834

Mary C Johnson

Notary Public, State of Texas

My Commission Expires: 8·28·2024

CERTIFICATE OF SERVICE

I certify that on October 26, 2022 this instrument was filed with the Public Utility Commission of Texas and a true and correct copy of it was served on the parties of record in this docket.

/s/ Jeremiah W. Cunningham

Southwestern Public Service Company

List of Prior Testimonies

Regulatory Commission	Docket/Case Number	Description of Proceeding	Year	Party on Whose Behalf Testimony was Submitted
PUCT	46328	*Review of Rate Case Expenses Incurred by Southwestern Public Service Company and Municipalities in Docket No. 45524*	2017	SPS
PUCT	47588	*Review of Rate-Case Expenses Incurred by Southwestern Public Service Company in Docket No. 47527*	2019	SPS
PUCT	49690	*Application of Southwestern Public Service Company for Authority to Implement a Net Refund for Over-Collected Fuel Costs*	2019	SPS
PUCT	50556	*Application of Southwestern Public Service Company for Authority to Implement A Net Refund for Over-Collected Fuel Costs*	2020	SPS
PUCT	50804	*Application of Southwestern Public Service Company to Adjust Its Energy Efficiency Cost Recovery Factor*	2020	SPS
PUCT	51644	*Application of Southwestern Public Service Company for Authority to Implement a Net Surcharge Associated with Docket No. 49831*	2020	SPS
PUCT	51625	*Application of Southwestern Public Service Company for Authority to Revise its Fuel Factor Formula and Related Relief*	2020	SPS
PUCT	51665	*Application of Southwestern Public Service Company to Change its Fuel Factor and Related Relief*	2020	SPS
PUCT	52072	*Application of Southwestern Public Service Company to Adjust Its Energy Efficiency Cost Recovery Factor*	2021	SPS
PUCT	52451	*Application of Southwestern Public Service Company for Approval of Advanced Metering System (AMS) Deployment Plan, AMS Surcharge, and Non-Standard Metering Service Fee.*	2021	SPS
PUCT	53540	*Application of Southwestern Public Service Company to Adjust Its Energy Efficiency Cost Recovery Factor*	2022	SPS

Southwestern Public Service Company

List of Prior Testimonies

PUCT	53556	*Application of Southwestern Public Service Company for Authority to Implement an Interim Net Surcharge for Under-Collected Fuel Costs*	2022	SPS
PUCT	53766	*Application of Southwestern Public Service Company for Authority to Implement a Net Surcharge Associated with Docket No. 51802*	2022	SPS

GOVERNOR GREG ABBOTT

March 22, 2022

Mr. Marc D. Williams, P.E.
Executive Director
Texas Department of Transportation
125 East 11th Street
Austin, Texas 78701

Dear Mr. Williams:

As you are aware, the United States Congress passed, and President Biden signed, the Infrastructure Investment and Jobs Act (IIJA) in November 2021. As part of the highway reauthorization, the bill also includes the creation of funding programs for electric vehicle (EV) charging infrastructure.

With the release of the federal guidance for the EV programs contained in the IIJA, including requirements for each state to submit an Electric Vehicle Infrastructure Deployment Plan, I request that the Texas Department of Transportation (TxDOT) lead in drafting the plan with input from impacted state agencies and stakeholders.

Texas' sheer volume of roadway miles leaves ample opportunity for EV charging deployment. The plan should ensure that every Texan can access the infrastructure they need to charge an EV. Additionally, I direct TxDOT and stakeholders to include in the plan a way for Texans to easily get from Beaumont to El Paso and Texline to Brownsville in an EV–with a focus on rural placement and connectivity.

My staff is ready to assist with this effort. Please keep me and my office apprised of any needs during the development of the plan.

Sincerely,

Greg Abbott
Governor

GA:bcd

cc: Daniel Avitia, Interim Executive Director, Texas Department of Motor Vehicles
Thomas Gleeson, Executive Director, Public Utility Commission of Texas
Brad Jones, Interim President and Chief Executive Officer, Electric Reliability Council of Texas
Toby Baker, Executive Director, Texas Commission on Environmental Quality
Mike Arismendez, Executive Director, Texas Department of Licensing and Regulation
Carter Smith, Executive Director, Texas Parks and Wildlife Department
Eddy Trevino, Director, State Energy Conservation Office

Texas Electric Vehicle Infrastructure Plan

Version 0.62 - July 8, 2022

Plan Approvals by Agency

TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT)

Signed: DocuSigned by: 0E1B35AE191749E... Date: 7/14/2022

Marc Williams P.E., Executive Director

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)

Signed: DocuSigned by: Toby Baker 3E6EFF600F60408... Date: 7/27/2022

Toby Baker, Executive Director

STATE ENERGY CONSERVATION OFFICE (SECO)
TEXAS COMPTROLLER OF PUBLIC ACCOUNTS (TCPA)

Signed: DocuSigned by: Lisa Craven 3FDAEC4A6C664B3... Date: 7/14/2022

Lisa Craven, Deputy Comptroller

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Introduction

The Texas Electric Vehicle (EV) Charging plan is a comprehensive framework to enable passenger EV travel across the state and spur economic development. The network will give Electric Vehicle drivers confidence and flexibility when traveling for work, recreation, or exploration regardless of distance traveled or weather conditions. In accordance with guidance, the plan will focus on interstate routes then transition to off interstate routes and urban areas. The plan was developed in cooperation with the Texas Commission on Environmental Quality, State Energy Conservation Office, Texas Parks and Wildlife, Texas Department of Transportation, the Electric Reliability Council of Texas, Public Utility Commission, Councils of Government, Counties, Metropolitan Planning Organizations (MPOs), utilities, energy service providers, and advocacy groups in Texas. The EV Plan supports the goals of Optimizing System Performance (economic development, connectivity, mobility, reliability) and Fostering Stewardship of the state's natural, historic, and cultural resources as outlined in the Texas Transportation Plan 2050.

TxDOT participated in numerous listening sessions with utilities, grid operators, consultants, fueling station providers, non-profits, and think tanks to better understand the needs, landscape, and trajectory of charging infrastructure in the state.

Recurring themes during listening sessions:

- Adequate power, emphasis to reach 350kW charging as soon as possible
- Competitive bidding process based on merit of proposals / How to submit proposals
- Amenities at charging locations
- Standardized ports (CCS)
- Identifying profitable locations
- Contracting methods
- EV adoption rates
- Placement of stations in rural / urban areas
- User payment methods
- Data collection and reporting frequency
- Operations and Maintenance / Demand Charges

Initial planning for the network began with the passage of the Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58 (Nov. 15, 2021). In late 2021, TxDOT began internal discussions with planning and legislative staff to understand the law and potential impacts/opportunities. Various scenarios were developed to conceptualize the network and begin the familiarization process on the topic. Early in 2022, existing EV charging stations and corridors from the US Department of Energy Alternative Fuel Data Center were published on the department's Statewide Planning Map to provide a single source of truth for planning, analysis, and education. An EV Dashboard was created to visualize and quantify types of EV charging and track changes over time. In mid-March 2022, TxDOT published EV study areas on the Statewide Planning Map to begin the review and analysis process for industry and interested parties. EV study areas were included in public involvement materials developed by TxDOT and posted to the department's website.

Critical to the Texas EV Charging plan are the Alternative Fuel Corridors. Starting in 2015 and working with planning partners across the state, TxDOT nominated sections of interstate highways to the Electric Alternative Fuel Corridors. In the latest round of nominations (round 6 opened on Feb. 10, 2022), TxDOT took the opportunity to nominate almost all remaining non-business interstate highways as Corridor Pending segments. Detailed descriptions of the nomination process and results can be found in the Alternative Fuel Corridor section of this document.

FHWA Round 6 - Electric Alternative Fuel Corridor Definitions

Corridor Ready	Corridor Pending
Public DC Fast Charging: • No greater than 50 miles between one station/site and the next on corridor. • No more than 1 mile from Interstate exits or highway intersections along the corridor. • Stations should include four Combined Charging System (CCS) connectors - Type 1 ports (simultaneously charging four electric vehicles). • Site power capability should be no less than 600 kW (supporting at least 150 kW per port simultaneously across 4 ports). • Maximum charge power per DC port should not be below 150 kW.	A strategy/plan and timeline for public DC Fast Charging stations separated by more than 50 miles. Location of station/site- no more than 1 mile from Interstate exits or highway intersections along the corridor.

Dates of State Plan for Electric Vehicle Infrastructure Deployment Development and Adoption

The Texas EV Plan was developed in the spring of 2022, following the initial National Electric Vehicle Infrastructure (NEVI) Formula Program Guidance from FHWA. Upon completion of the plan and submittal to FHWA for review, TxDOT will transition to drafting the solicitation for EV charging stations. The goal is to have the solicitation published by October 1, 2022 (one day after FHWA plan approval deadline).

February - July 2022

- Draft EV Plan
- Public Involvement
- Nominate additional non-business Interstate Highway segments to the Electric Alternative Fuel Corridors
- Texas Electric Vehicle Plan signed by Texas Commission on Environmental Quality (TCEQ), State Energy Conservation Office (SECO), Texas Department of Transportation (TxDOT)

August 1, 2022

- Submit Texas Electric Vehicle Plan to Federal Highway Administration

Fall 2022

- Publish Solicitation

Winter 2022/2023

- Evaluate Proposals

Spring 2023

- Award Contract(s) for Stations on Electric Alternative Fuel Corridors

State Agency Coordination

Cross-Agency Coordination

Early in 2022, TxDOT established a cross agency EV Working Group to collaborate on the EV Charging plan. The group met twice a month until plan adoption by TxDOT, SECO, and TCEQ. Members attended regular meetings and contributed to the overall creation, review, and final acceptance of the EV Charging plan.

In March of 2022, TxDOT received a lessons learned briefing from the Texas Commission on Environmental Quality covering their experience administering VW Settlement grants for DC Fast Charging in Texas. This information was used to better understand the difficulties of the task and prepare the workgroup drafting the state EV plan. The main difference between the Texas Volkswagen Environmental Mitigation Program for DC Fast Charging and this plan will be the competitive nature of the proposals. TxDOT will develop a scoring mechanism to evaluate proposals and award contracts that provide the best value to the state. Scoring will be based on cost, quality, capacity, and satisfaction of NEVI guidance (categories are listed for reference, not in order of importance).

Each member of the EV Workgroup contributed to the drafting and review of the EV plan. TxDOT members utilized a shared document for review and editing. EV workgroup members outside TxDOT were emailed documents for their review and editing purposes.

The EV plan reflects close coordination between TxDOT, TCEQ and SECO. Coordination was critical to ensure DC Fast Charging stations developed by VW Settlement funds were included in overall network analysis.

EV Workgroup members:

- Texas Commission on Environmental Quality
- State Energy Conservation Office
- Texas Department of Transportation
- North Central Texas Council of Government (NCTCOG)
- Houston-Galveston Area Council (H-GAC)

Public Engagement

Stakeholders Involved in Plan Development

Following passage of the Bipartisan Infrastructure Bill in November 2021, TxDOT met with private sector companies, utilities, advocacy groups, and other interested parties. Information gathered from these meetings helped inform the plan and guide development of the overall Electric Vehicle Infrastructure program in Texas.

Organization Type	Number of Stakeholders Met With
Convenience Store	3
Non-Profit	3
Civil Engineering	4
Motor Vehicle Manufacturing	4
Engineering Consultant	5
Software Services	5
Retail	5
Tribal Government	6
Construction	7
Advocacy Group	11
Government	13
Utility	13
Consultant	17
Lobbyist	23
Miscellaneous	26
EV Charging	28
Grand Total	**173**

Public Outreach

In a short time, the TxDOT Public Involvement team put together a public involvement plan and resources for the Texas Electric Vehicle Infrastructure Plan. The resources included a landing page for the program, social pinpoint site with surveys, map based public input method for suggested charging locations, social media posts, and a virtual public meeting to discuss the plan. These resources opened a line of communication with the public for the program and input from the public was used to draft the plan. TxDOT will maintain these resources going forward as we develop the program.

Key Public Involvement dates and resources:

- March 25, 2022 - Launch of Texas Electric Vehicle Infrastructure landing page
- March 25, 2022 - Launch of the Online Engagement Site (Social Pinpoint)
- May 23, 2022 - Facebook and Twitter Announcements of EV Planning Process and Resources
- May 23, 2022 - Email blast on the Draft Texas Electric Vehicle Infrastructure Plan
- June 7, 2022 - Virtual Public Meeting
- June 10, 2022 - Public Meeting Announcements (Twitter and Facebook)
- June 14, 2022 - Multi-state tribal outreach and consultation
- June 22, 2022 - Comment deadline for Virtual Public Meeting

Public Involvement Results (ending June 22, 2022)

Public Involvement Method	Count
Unique Webpage Visitors (EV Landing Page)	4,751
Webpage Visits	7,056
Webpage Views	8,041
Facebook Views	42,566
Facebook Comments	258
Facebook Reactions	261
Facebook Shares	47
Twitter Views	6,414
Twitter Likes	20
Twitter Retweets	18
Twitter Comments	1
Completed Surveys	692
Emails to TxDOT_NEVI@txdot.gov	192
Map - Comments	115
Map - Charging Location Suggestions	381
Texas EV Plan downloads	698
Pre-Recorded Virtual Public Meeting – Views	593
Written plan reviews from interested parties	32

Plan Vision and Goals

Plan Vision

The Statewide EV plan for Texas is a multi-year plan to enable current and future drivers of electric vehicles to confidently travel across the state for work, recreation, and exploration. One measure of success of the plan for Electric Alternative Fuel Corridors will be how well it meets FHWA requirements of 50-mile spacing for DC Fast Chargers, 1 mile from the interstate exit, rated at 150kW or greater. The same power and minimum port requirements will be applied to stations at or near County Seats but since most County Seats are not on the Alternative Fuel Corridors the minimum spacing requirements do not apply. Spacing off the corridors could be slightly greater (70 miles) in rural counties due to distances between population centers and electrical supply lines in west Texas. Large urban areas will utilize a combination of DC and Level II charging across their respective areas. The mix and location of chargers will be determined based on equipment cost, access to power, community identified needs, and how long a vehicle is parked.

General execution of the plan:

- Expand Electric Alternative Fuel Corridors to include almost all non-business Interstate routes.
- Work with the private sector to install DC Fast Charge stations along Electric Alternative Fuel Corridors according to FHWA requirements. TxDOT will not own or operate the charging equipment.
- Work with Metropolitan Planning Organizations to identify suitable locations to install a combination of Level II and DC Fast Charging infrastructure inside large urban areas.
- Work with rural counties and small urban areas to install DC Fast Charge stations at or near county seats across the state.
- Collect data from the network to assess usage and identify trends for future development

High level goals of the EV Charging Network

Redundancy – The density, distribution, and power of the EV network outlined in this plan is targeted to support 1 million electric vehicles when built out (see page 22 for EV estimates). DC Fast charging stations will be 50 miles apart on the Electric Alternative Fuel Corridors and usually 70 miles apart anywhere else in the state. Drivers will have multiple options for EV Charging along their intended travel route. Each location will have at least four ports with pull through spaces for passenger vehicles pulling trailers or recreational vehicles. When drivers arrive at a location with four or more ports, it is likely a stall will be available even if several ports are occupied, down for maintenance, or otherwise unavailable. Locations will be discoverable online at the US Department of Energy Alternative Fuel Data Center and various third-party applications.

Adequate power – Each individual charging connector on the Alternative Fuel Corridors will be rated to deliver at least 150kW of power to the vehicle (4-port installations would require 600kW per location and scale up proportionally from there). In some cases, the maximum power provided could be higher if supply and costs for that power are not excessively high. In most cases 150kW power can recharge a vehicle from 10% to 80% in about 30 minutes. Charging speeds will vary by manufacturer, equipment installed on the vehicle, and battery characteristics like age and temperature.

Pull-through capability – Each DC Fast Charge station on the Alternative Fuel Corridors or near county seats can have at least one pull-through space for light duty vehicles pulling trailers or RV campers when space is available at the host location. Locations will not include spaces for heavy duty freight trucks or trailers. Freight charging will be addressed pending guidance from FHWA in the fall of 2022. Light duty panel trucks or delivery vans could utilize pull through spaces if they can safely navigate the location.

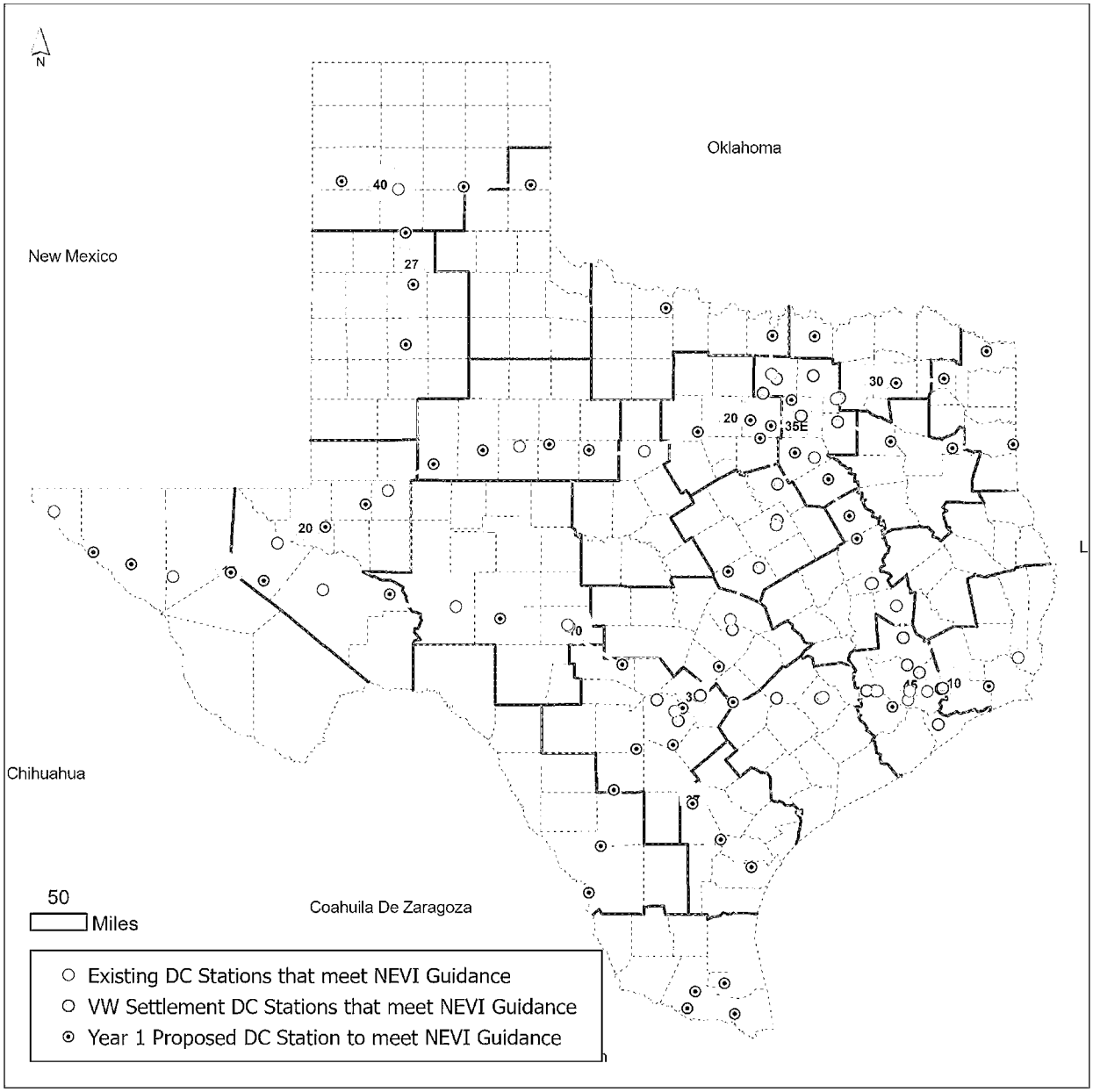
Standardization – Per FHWA requirements for DC Fast Charge stations on Alternative Fuel Corridors, a minimum of 4 CCS ports will be available at each location. Stations at or near county seats are expected to have a minimum of 4 CCS ports but conditions in the area will ultimately determine the number of ports and power levels. Cable length should accommodate vehicles with charge ports in various vehicle locations. Stations will have adequate lighting, signage, and instructions for station usage and reporting inoperable stations.

Education – Outreach materials will be developed to educate the public on good charging habits, station location, station usage, equipment capability, and how to provide feedback on the network.

Evaluation – As required by guidance, TxDOT will develop a framework to collect and evaluate station usage information from equipment owners and adjust the network as needed based on this information.

Charging Network Timeline

Year One will focus on building out the Electric Alternative Fuel Corridors to meet FHWA guidance. This will include rapid re-evaluation of the network to assess private sector development outside the National Electric Vehicle Infrastructure (NEVI) program. Approximately 55 new locations will be needed to satisfy the 50-mile maximum spacing requirements from FHWA. The 55 new locations will complement 27 existing locations installed by the private sector and 26 planned locations resulting from VW settlement grants that meet FHWA requirements. A full list of Electric Alternative Fuel Corridors and Stations can be found in the Existing and Future Conditions section of this document.

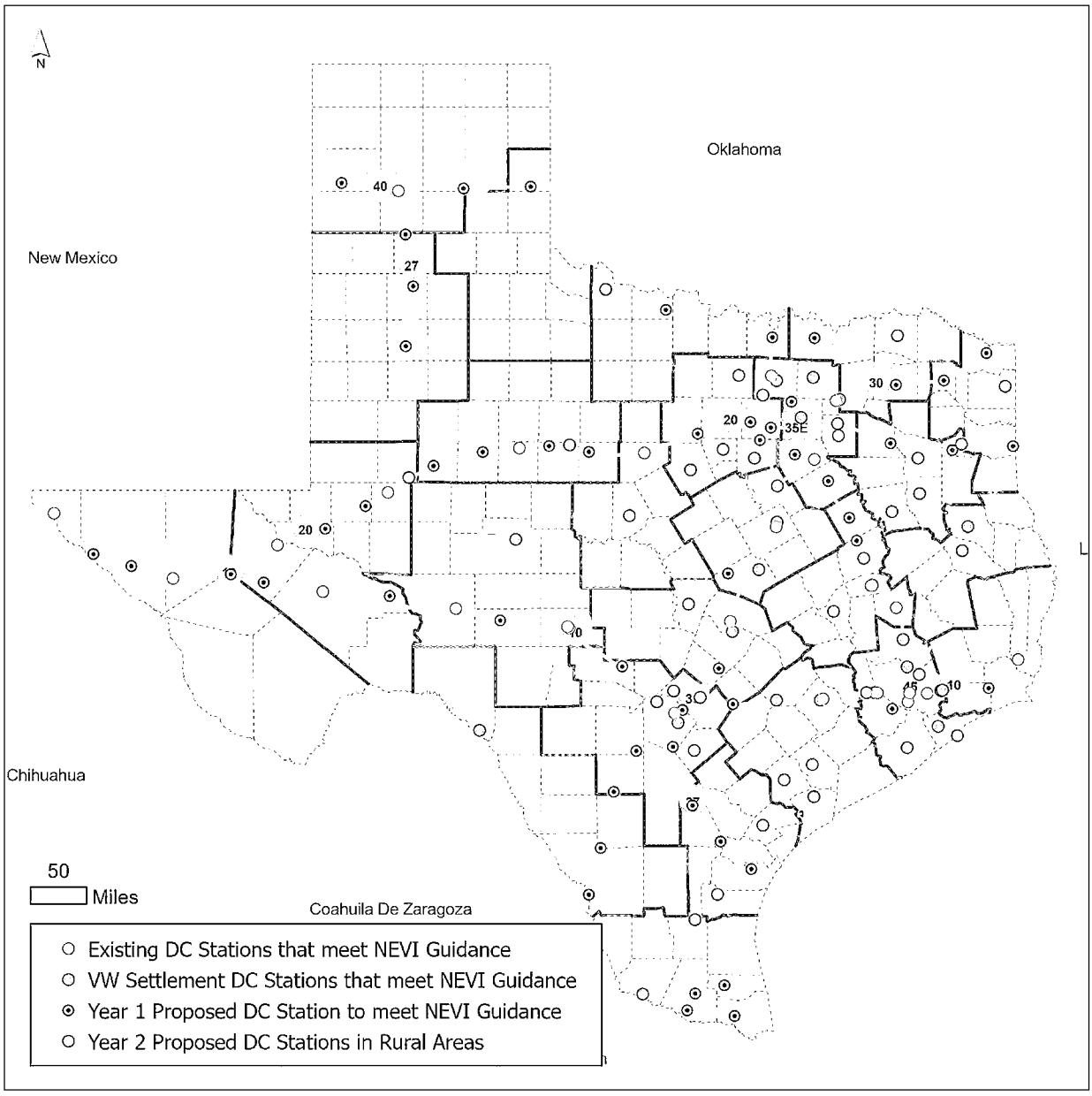


Year Two (or after Electric Alt Fuel Corridors are completed) will focus on rural counties, small urban areas, and MPOs. TxDOT will utilize a modified formula from our Unified Transportation Program to estimate funds for EV Charging inside MPOs (not shown on the map). Large urban areas will require a combination of Level II charging and DC Fast Charging dependent on the time a vehicle is parked at a location. Ultimately, placement decisions and power ratings will be proposed by the MPOs and consistent with FHWA requirements.

In rural areas the focus will be installing DC Fast Charging stations at or near County Seats. County seats are usually centrally located in the county (all roads lead to the county courthouse) and provide good spacing between urban clusters in rural areas. Vehicle Miles Traveled (VMT) was used to establish a priority list of most traveled non-interstate routes through rural areas. Installing DC Fast Charge stations at county seats with a power rating of 150kW and minimum four ports will fill gaps across rural Texas for off-interstate travelers and enable local farm and work trucks to access the charging network.

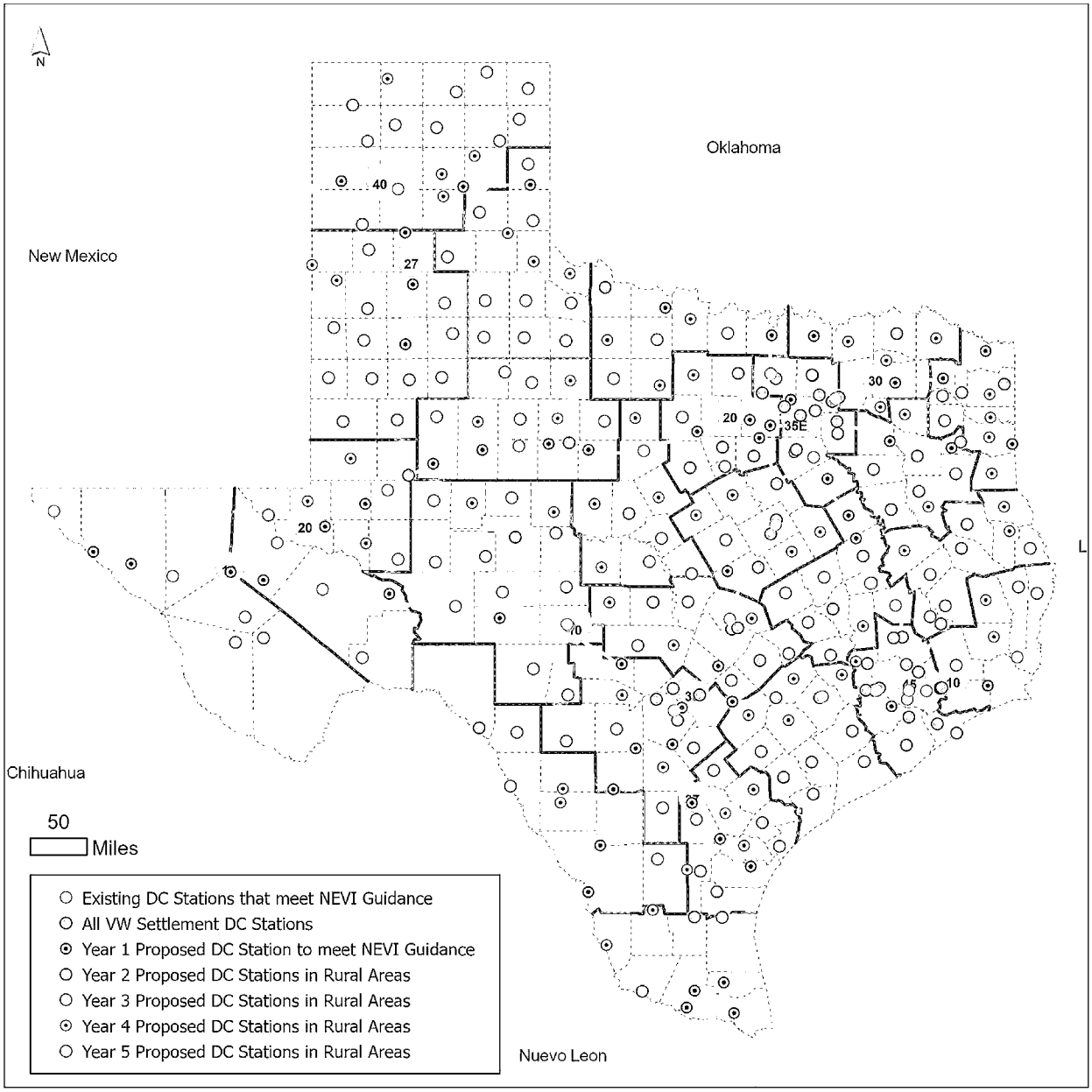
Multiple vendors could be engaged to complete the work and TxDOT will balance contractual agreements to ensure rural and urban areas are represented and progress at an equal rate. The Year two map is on the next page.

Year two map (lists of VW Settlement and existing DC Stations meeting NEVI requirements can be found on pages 29 and 30).



Year Three and beyond will continue the work of building out charging infrastructure inside rural counties, small urban areas, and MPOs. Statewide coverage will improve, and the network will progress into more rural areas of the state. As the charging network spreads to more rural areas the equipment installed may adjust to accommodate varying power supply in the region. A combination of solar/battery equipment may be placed between the charging equipment and the power grid to minimize demand charges and ensure adequate power for 4 ports rated at 150kW per connector.

As with Year Two, multiple vendors could be engaged to complete the work and TxDOT will balance contractual agreements to ensure rural and urban areas are represented and progress at an equal rate.



Contracting

TxDOT will contract with private sector entities on a competitive basis to develop EV charging stations across the state. A solicitation with standards and expectations will be developed to collect, evaluate, and award contracts. Contracting language will include all federal requirements and guidelines.

Each selected vendor will work to identify specific installation sites within TxDOT identified EV Study Areas and work with property owners, utilities, and municipalities to complete the installation. The vendor will be responsible for all federal requirements and guidelines and working with TxDOT on environmental clearance. It is anticipated that EV Study Areas could shift/expand during the siting process to better meet FHWA requirements.

Language will be added to the contract to outline 5 years of operations and maintenance as needed per location. Language will also be added to handle situations where the owner/operator chooses not to continue station operation after the 5-year operation and maintenance assistance ends. This will ensure another operator can be located/contracted to keep the station open and accessible to the public.

Solicitation will have two creation/approval tracks for charging stations depending on whether the location is inside or outside an MPO.

- Alternative Fuel Corridor or Non-Alternative Fuel Corridor Outside an MPO
    - TxDOT determines charging station types and general locations
    - TxDOT drafts solicitation
    - TxDOT scores responses
    - TxDOT awards
    - Vendor(s) begin siting, permits, environmental clearance, installation, and operation
    - TxDOT manages until completion
    - TxDOT monitors usage over time
- Inside MPOs
    - TxDOT/MPO propose charging station types and general locations
    - TxDOT/MPO draft solicitation
    - TxDOT/MPO scores responses
    - TxDOT awards
    - MPO updates TIP (group projects to avoid tip updates for individual stations)
    - Vendor(s) begin siting, permits, environmental clearance, installation, and operation
    - TxDOT manages until completion
    - TxDOT monitors usage over time

Buy America

In April 2022, the Office of Management and Budget (OMB) released a memo, directed at federal agencies titled, "Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure." In part, the memo reads, "This guidance applies to all Federal financial assistance... whether or not funded through IIJA—where funds are appropriated or otherwise made available and used for a project for infrastructure." "Federal financial assistance" refers to aid that non-federal organizations (for example, states or local governments) receive or administer in the form of cooperative agreements, grants, donations of property, loans, etc. In that light, TxDOT will adhere to Buy America requirements issued for NEVI. TxDOT understands that FHWA has continued to interpret and apply Buy America requirements based on a 100% domestic content and domestic assembly threshold for iron, steel, and protective coatings, save for a de minimis threshold of $2,500 or one-tenth of one percent of the total value of the contract, whichever is greater. TxDOT notes that other agencies under USDOT have more flexible/workable definitions of Buy America compliance. While TxDOT hopes for a more flexible definition than what FHWA has implemented to date, or for reasonable allowance of waivers, the agency is prepared to adhere to whatever requirements FHWA issues, both in the initial April 2022 guidance and beyond. It should be noted, however, that the stricter the requirements are, the greater the risk to prompt deployment due to limited equipment availability and/or supply chain concerns.

Current EV Ownership in Texas

134,072 electric vehicles are registered in the state of Texas as of July 5, 2022. Of the 254 counties across Texas, there are electric vehicles registered in 233 counties. Registered EV distribution is 73.8% Battery Electric and 26.2% Plug-In Hybrid Electric. Non-Tesla vehicle models make up nearly half of all EVs registered across the state. Also, over a quarter of electric vehicles are 2021 models. Electric vehicles currently constitute under 1% of all vehicles registered in Texas. However, since 2020, the total number of electric vehicles across Texas has nearly tripled as more people adopt the technology. With rapidly growing adoption rates, it is necessary to ensure Texas will be able to meet the demand of these new vehicles on the road.

For EV registration data, The Texas Department of Motor Vehicles is the authoritative source of current Texas vehicle registrations and publishes an annual report. The North Central Texas Council of Governments uses DMV data and summarizes it to create an interactive EV dashboard that's updated every 2 weeks (EV Registration Dashboard).

Current and Future temperature and precipitation

Texas experiences a wide range of temperatures and extreme weather events, including ice and snowstorms, tornados, hurricanes and tropical storms, and wildfires in dry conditions. Performance during extreme weather events is important, particularly when we anticipate it will affect infrastructure such as power and communications outages, etc. We learned during the February 2021 winter storm that not all electric grids are fully resilient under some conditions. Charging stations need to be reliable for continued travel, and ready to help the public evacuate from extreme conditions, especially in remote areas. We will include the need to plan for emergencies in choosing the sites for charging stations. Keeping stations near interchanges and crossroads that are easily accessible, suitable commercial or public sites, adequate power aligned to priority grid capabilities, communications and security are all considerations not only for operational feasibility, but also to support the public in extreme conditions. Below we identify our general climate conditions. Later in the plan we provide early thoughts on resiliency risk reducing actions, and the need for physical and cyber security.

Current and future temperature and precipitation patterns provided by John Nielsen-Gammon, Texas State Climatologist, Texas A&M University.

Texas has a warm climate, with hot summers throughout the state, mild winters in southern Texas, and cooler winters in northern Texas. Normal July maximum temperatures are typically above 90 °F, while average January minimum temperatures vary from the 20s °F in the north to the 40s and 50s °F in the south. All present-day climate statistics are based on the standard normals period of 1991-2020 unless otherwise noted.

The number of days in which the temperature reaches 100 °F is less than once per year (fewer than thirty times in thirty years) along the Gulf Coast and mountains in West Texas. Most of the state sees on average between 5 and 20 100 °F days per year. More than 30 100°F days per year are common in western portions of South Texas and along the Rio Grande and Pecos River in West Texas. Days reaching 110 °F are extremely rare, with frequencies of once per year found only in West Texas along the Rio Grande and Pecos River and near Childress in northwestern Texas.

The period 1991-2020 was unusual in Texas for the absence of extreme cold compared to the 1980s and 2021-2022. To obtain more representative statistics, extreme cold is examined for the 41-year period 1981-2021. Temperatures drop below freezing less than once per year along the Texas coast and westward to the Laredo area, while in the Panhandle over 90 days per year have temperatures below freezing. Below-zero (°F) temperatures did not occur at all in the southern half of the state, while the extreme northern Panhandle averaged two per year.

Normal annual precipitation varies dramatically from west to east across the state. Low-altitude far western locations, such as El Paso, average less than 10 inches per year, while the southeast corner of the state near Beaumont averages over 60 inches per year. Heavy rain is common in southeast Texas and rare in west Texas. Much of western Texas did not experience a single day with more than 5 inches of rainfall during 1991-2020, while for the Houston and Beaumont areas it was almost an annual occurrence.

Measurable snow is extremely rare at the southern end of the state and quite common at the northern end. Typical annual snowfall totals during 1890-2021 were less than 3 inches in the southern half of the state and over 8 inches in the Panhandle.

According to CMIP6 global climate model simulations and recent historical observations, Texas temperatures may be expected to increase by about 1.25 °F for every 1 °F of global temperature increase, with the relative increase smallest along the coast. If global temperatures increase by an additional 2 °F, which the IPCC assesses could happen in some scenarios around the middle of the 21st century, it could double the number of 100 °F days in most areas of the state and could make 110 °F days considerably more common. The number of extremely cold days could decrease slightly.

Precipitation over the past century has had little trend in western Texas but has increased by about 15% in eastern Texas. Global climate model projections are mixed, with the overall model consensus being a slight decrease in annual precipitation. Rainfall intensity during the wettest days of the year has increased across the state by an average of about 10-15% and is expected to continue increasing at a rate of about 3-4% per 1°F of global rise in temperature. Snow frequency and intensity is expected to decrease, because the amount and frequency of snow in Texas is limited by the frequency of below-freezing temperatures during wintertime storm events.

EV Adoption and Market Conditions

The Electric Reliability Council of Texas (ERCOT) estimates there will be 1 million electric vehicles on the road in Texas by 2028. Using current growth trends for EVs the Texas Department of Motor Vehicles estimates Texas will reach 1 million EVs by 2031. As part of the network evaluation process in this plan TxDOT will monitor the adoption rate of EVs in Texas and adjust/develop the network going forward.

The production of battery electric vehicles is increasing in the US with notable developments in Texas. Likewise major automakers are rapidly developing battery production capacity in the US to electrify their vehicle lineups.

Existing and planned battery factories in North America:

Owner/Operator	Location	Annual Capacity	Planned Year
Tesla/Panasonic	Sparks, NV	38 GWH	2022
Tesla	Fremont, CA	10 GWH	2022
Tesla	Austin, TX	100 GWH	2022 +
GM/LG	Lordstown, OH	30-35 GWH	2022
GM/LG	Spring Hill, TN	30-35 GWH	2023
GM/LG	Lansing, MI	5 GWH	2022/2023
Ford	Memphis, TN	43 GWH	2025
Ford/SK Innovation	Kentucky	86 GWH	2025
Stellantis/LG	Windsor, Ontario	45 GWH	2025
Stellantis/Samsung SDI	Kokomo, IN	33 GWH	2025 +
SK Innovation	Atlanta, GA	21.5 GWH	2023
Toyota	Greensboro, NC	200,000 vehicles	2025
Volkswagen	Chattanooga, TN	TBD	TBD
Mercedes/Envision	Bibb County, AL	TBD	2024
Various Manufacturers	VA	80 GWH	2022 +
1 GWH = 13,000 electric vehicles with a battery pack capacity of 77 kWH			
Annual Capacity refers to the yearly output of battery capacity produced at each factory			

Grid Capacity and Considerations

Texas has been an energy leader for many years with strong growth in wind generation since 2000 and more recently from solar generation. In 2006, Texas became the #1 state for wind power and is now showing similar rapid growth in solar power. Short-term ERCOT projections show these trends accelerating at least through 2024.

The document titled "Report on the Capacity, Demand and Reserves (CDR) in the ERCOT Region, 2022-2031" published by ERCOT provides power generation estimates from 2022 – 2031. The first 5 years are displayed in the table below.

	2022	2023	2024	2025	2026
Firm Peak Load	74,977 MW	76,542 MW	77,767 MW	78,795 MW	79,819 MW
Total Capacity	92,884 MW	106,684 MW	110,179 MW	110,521 MW	110,683 MW
Reserve Margin	23.9%	39.4%	41.7%	40.3%	38.7%

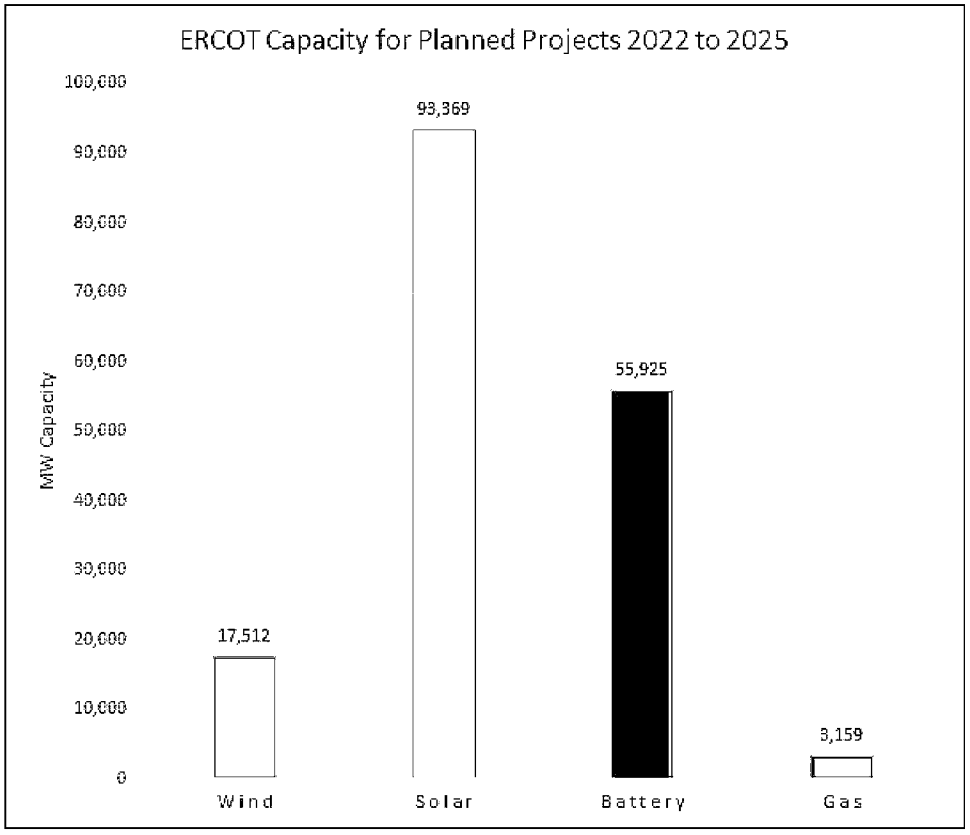
Theoretical max energy consumption of the EV Charging Network outlined in this plan is 666.7 MW (see page 37 for details).

The newest and rapidly growing "source" on the Texas grids is battery storage, breaking 500MW in 2021. Appropriately sited battery storage could reduce variability and congestion issues. More detail can be seen on page 24 from the June 2022 Generator Interconnection Status report provided by ERCOT.

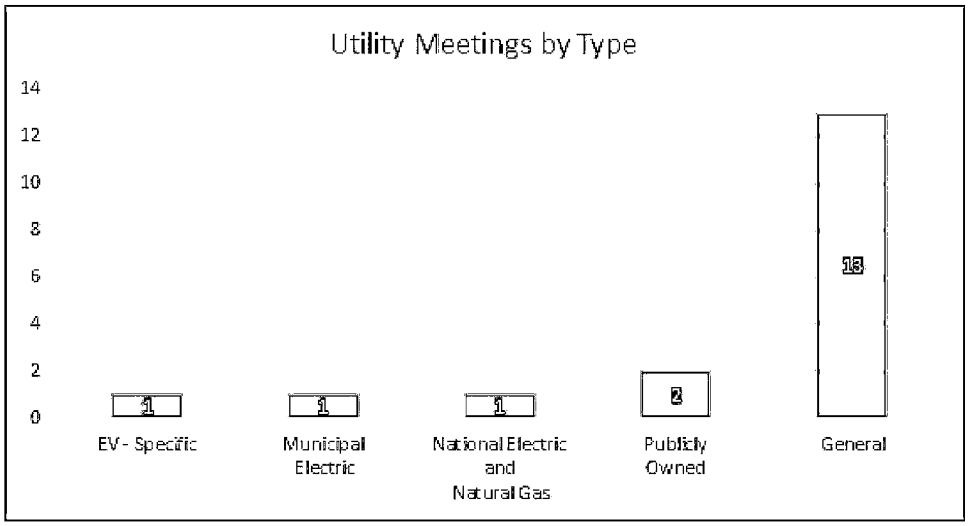
Texas is a unique state in the number and variety of grids to be considered, spanning all three major grids in the contiguous USA.

1. ERCOT is fully contained within Texas and services about 90% of electrical demand. ERCOT is isolated with a few minor connections to the Eastern Interconnect and to Mexico, typically representing around 0.25% of annual net ERCOT electricity.
2. Portions of West Texas are serviced by the Western Interconnect, the portion in Texas by El Paso Electric.
3. Portions of East and North Texas are serviced by two separate Independent System Operators (ISOs) within the Eastern Interconnect- the Southwest Power Pool (SPP) and the Midcontinent ISO (MISO).
4. NOTE: the Lubbock area is in transition from the Southwest Power Pool to ERCOT.

Forecast new installations for Wind, Solar, Battery, and Gas from the ERCOT Generator Interconnection Status Report June 2022 (with and without interconnection agreements or full interconnection studies)



TxDOT held numerous meetings with utility stakeholders while developing the plan. The topics included estimated power supply, expected usage, demand charges, and sufficient lead time for program roll out in rural areas. Numerous utility stakeholders submitted comments on the plan including the Texas Public Utility Commission and the Electric Reliability Council of Texas. Texas Electric Cooperatives is using the plan to facilitate conversations with rural electric providers about plans for electric vehicle charging.



State Geography, Terrain, Climate and Land Use Patterns

Texas enjoys varied geography across vast distances from the coastal Barrier Islands along the Gulf of Mexico to the Franklin Mountains in El Paso. Each region has its own unique properties and flair that distinguishes itself from equally stunning far-flung reaches of the state. The transportation system is the backbone of the state carrying people and goods between sea and inland ports, agricultural regions, energy sectors, and metropolitan areas. Varied terrain and geography are not a deterrent to travel as Texans move about the state year-round.

Population continues to grow with the majority estimated to occur inside large metro areas. Vehicle miles traveled are expected to rebound following the pandemic as Texans return to traditional travel patterns. The transportation system in Texas will continue to connect people and places in the most remote regions of the state. The addition of infrastructure under the NEVI program will enhance the travel experience and provide options for future growth and development in Texas.

See the Current and Future temperature and precipitation sub section in the Existing and Future Conditions Analysis Section for the Climate summary.

State Travel Patterns, Public Transportation Needs, Freight and Other Supply Chain Needs

Texas has over 3,400 centerline miles of interstate highways, and interstates represent the largest percentage of vehicle miles traveled in the state. TxDOT agrees focusing on Electric Alternative Fuel Corridors and the interstate highways first is the best way to build out a statewide charging network. We look forward to guidance from FHWA on freight and heavy-duty vehicles.

FHWA guidance recommended a minimum of 4 ports rated at 150kW per connector. However, in this plan each location can have up to 8 ports per location depending on traffic volume, urban area size, and special considerations like evacuation routes.

The ongoing equipment, labor, precious metals, and microchip shortages have the potential to lengthen timelines and limit private sector capabilities. TxDOT acknowledges the difficulties brought on by these situations and will do our best to work with vendors and planning partners to complete the network/installation process as soon as possible.

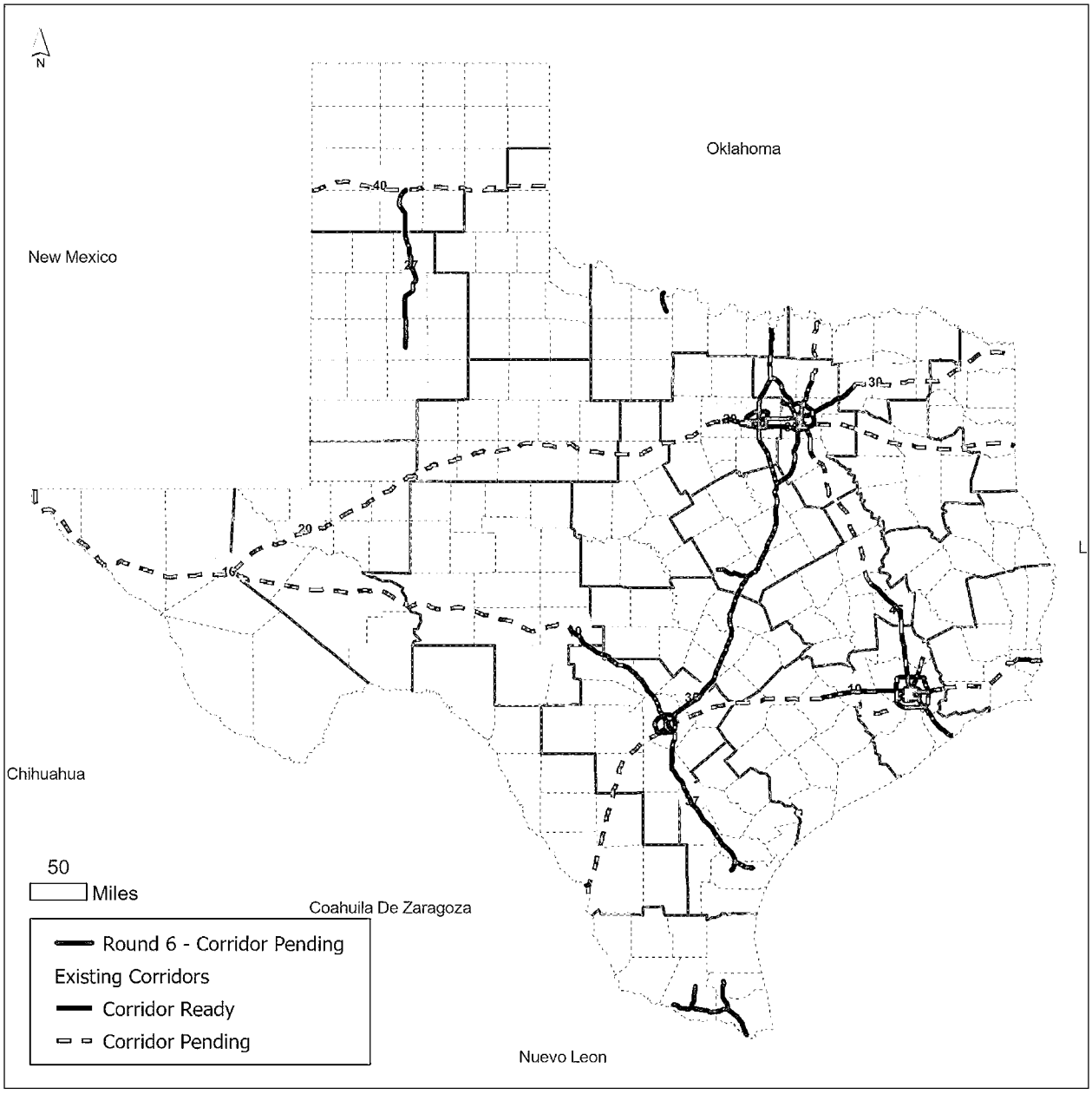
Alternative Fuel Corridor - Corridor Networks

TxDOT nominated segments in the table below to the Electric Alternative Fuel Corridors as Corridor Pending (nominations were accepted by FHWA in July of 2022). Each segment lacks sufficient infrastructure to be considered Ready. However, as part of the NEVI grant and formula programs, we believe the corridors will rapidly develop to meet Corridor Ready requirements. The Texas EV Plan prioritizes the Electric Alternative Fuel Corridors, and the corridors will form the backbone of the EV charging network.

Round 6 additions bring all non-business interstate routes to Corridor Pending status for the electric fuel type. Consideration for activities in adjoining states are included in anticipation of and complimentary to EV plans for interstate travel. Finally, round 6 additions provide connectivity for almost all MPOs in Texas. Connectivity to remaining MPOs (San Angelo, Bryan-College Station, and Victoria) will be evaluated during the next round of nominations or after the Electric Alt Fuel Corridors are built out.

ID	State	Fuel	Corridor Pending – Round 6 Additions
1	Texas	Electric	IH0002 - Entirety of Route IH0014 - Entirety of Route IH0027 - Entirety of Route IH0037 - Entirety of Route IH0044 - Entirety of Route IH0069W - From River Bank Rd. to .352 miles west of IH0035 IH0069C - From IH0002 to FM0490 IH0069E - From SS0425 near Mexican border to US0077W/Conley Rd. IH0069E - From IH0037 to .419 miles west of FM0892 IH0410 - Entirety of Route

Electric Alternative Fuel Corridors in Texas



Existing Locations of Charging Infrastructure Along AFCs

TxDOT utilized station location information from the US Department of Energy Alternative Fuel Data Center to identify private sector charging stations that met FHWA round 6 guidance. TxDOT will continue to re-evaluate private sector charging stations as the program evolves.

Existing DC Fast Charge Stations as of June 28, 2022 (source: Alternative Fuel Data Center):

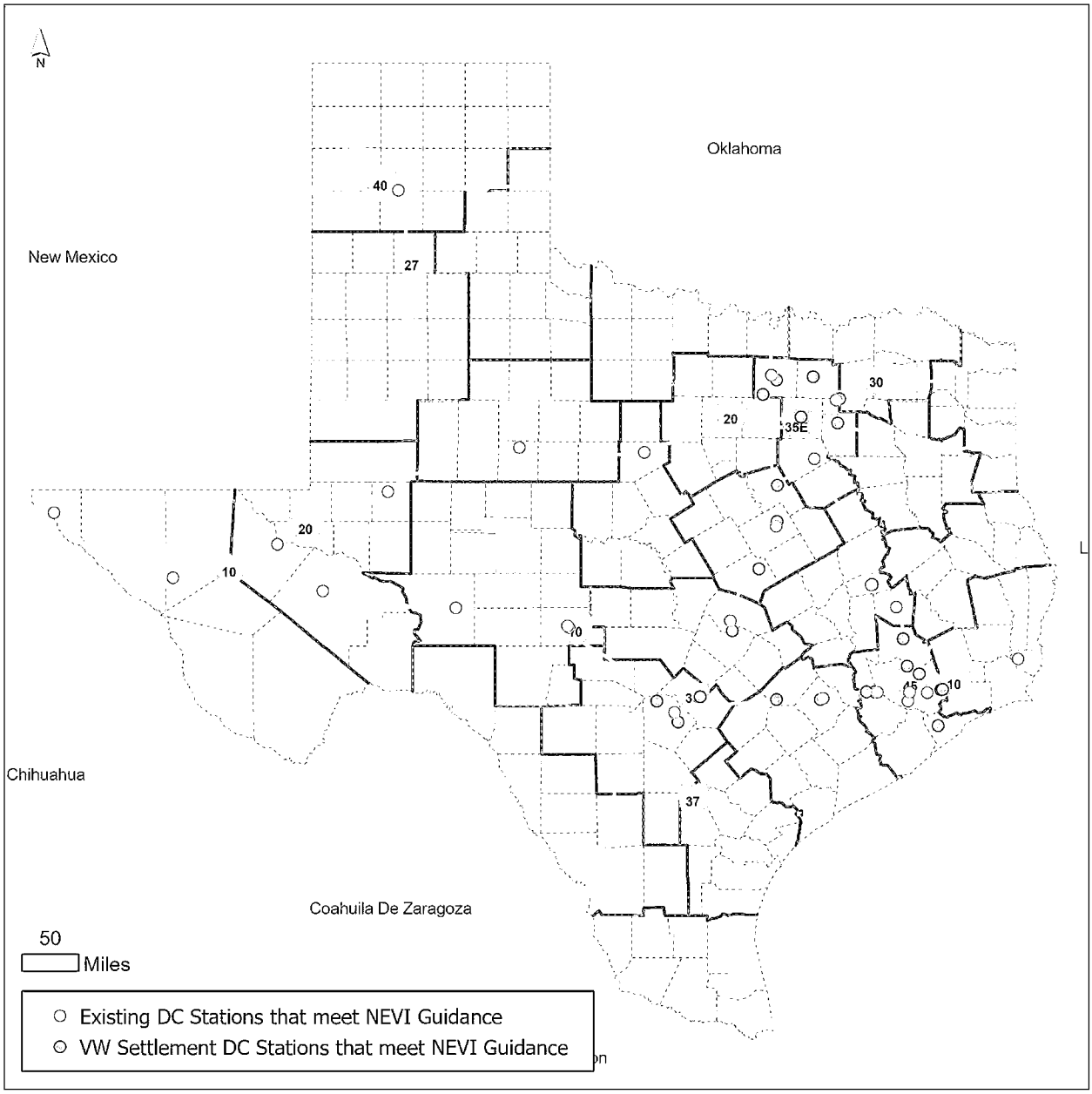
ID	Level	Route	Latitude	Longitude	Plugs	EV Network
121817	DCFC	IH0040-KG	35.185169	-101.940833	4	Electrify America
121829	DCFC	IH0035-KG	33.231573	-97.168083	6	Electrify America
121834	DCFC	IH0020-KG	32.403314	-98.792891	4	Electrify America
121840	DCFC	IH0045-KG	30.714547	-95.569776	4	Electrify America
121841	DCFC	IH0035-KG	30.566381	-97.691596	10	Electrify America
121842	DCFC	IH0010-KG	30.491826	-99.753775	4	Electrify America
121849	DCFC	IH0010-KG	29.708349	-96.504324	4	Electrify America
122241	DCFC	IH0035-KG	31.60057	-97.105852	6	Electrify America
122600	DCFC	IH0010-KG	31.75124	-106.341503	4	Electrify America
122652	DCFC	IH0020-KG	32.452939	-100.393829	4	Electrify America
123054	DCFC	IH0010-KG	30.143099	-94.012908	4	Electrify America
123484	DCFC	IH0010-KG	31.040115	-104.823968	4	Electrify America
123638	DCFC	IH0010-KG	30.894987	-102.907409	4	Electrify America
123687	DCFC	IH0020-KG	31.974518	-102.072571	4	Electrify America
124686	DCFC	IH0010-KG	29.769435	-95.176436	6	Electrify America
127441	DCFC	IH0045-KG	30.956893	-95.895882	4	Electrify America
127935	DCFC	IH0030-KG	32.964816	-96.342516	4	Electrify America
133327	DCFC	IH0045-KG	32.332069	-96.620116	4	Electrify America
134004	DCFC	IH0010-KG	29.772613	-95.399876	6	Electrify America
145373	DCFC	IH0020-KG	31.402787	-103.484656	4	Electrify America
170246	DCFC	IH0010-KG	30.706702	-101.205709	4	Electrify America
170512	DCFC	IH0010-KG	29.775785	-95.810792	4	Electrify America

Additional DC Fast Charge stations are under development using VW Settlement funds administered by TCEQ. While not deployed yet, they will meet FHWA requirements for quantity, power level, and distance from exits on Electric Alternative Fuel Corridors. Therefore, we considered them when determining new locations along Alternative Fuel Corridors.

VW Settlement DC Fast Charge Stations as of June 28, 2022:

Contract ID	Level	Route	Latitude	Longitude	Plugs	Network
582-22-32339-VW	DCFC	IH0035-KG	32.04545815	-97.09077127	4	TBD
582-22-32340-VW	DCFC	IH0045-KG	32.78320073	-96.78692011	4	TBD
582-22-32096-VW	DCFC	IH0035-KG	31.65067093	-97.0989728	4	TBD
582-22-32341-VW	DCFC	IH0010-KG	29.80084788	-94.9999238	6	TBD
582-22-32490-VW	DCFC	IH0045-KG	30.96554184	-95.88057272	6	TBD
582-22-32240-VW	DCFC	IH0030-KG	32.97918486	-96.29529893	6	TBD
582-22-32241-VW	DCFC	IH0010-KG	29.77908038	-95.84572843	6	TBD
582-22-32343-VW	DCFC	IH0035W-KG	33.02437666	-97.27802603	6	TBD
582-22-32344-VW	DCFC	IH0020-KG	32.71680454	-96.321195	6	TBD
582-22-32345-VW	DCFC	IH0035-KG	31.13640155	-97.3291671	6	TBD
582-22-32346-VW	DCFC	IH0010-KG	29.44352921	-98.36129103	4	TBD
582-22-32285-VW	DCFC	IH0035-KG	29.72699233	-98.07891268	6	TBD
582-22-32286-VW	DCFC	IH0035E-KG	33.17917046	-97.10161686	6	TBD
582-22-32034-VW	DCFC	IH0045-KG	30.96467007	-95.88425764	4	TBD
582-22-32098-VW	DCFC	IH0045-KG	30.36694123	-95.48392646	4	TBD
582-22-32099-VW	DCFC	IH0045-KG	29.40187936	-95.0333429	4	TBD
582-22-32100-VW	DCFC	IH0035-KG	30.45656862	-97.66792003	4	TBD
582-22-32153-VW	DCFC	IH0010-KG	29.67629861	-98.63458553	4	TBD
582-22-32035-VW	DCFC	IH0010-KG	29.7778568	-95.95186611	4	TBD
582-22-32243-VW	DCFC	IH0010-KG	29.69532848	-97.10342963	4	TBD
582-22-32244-VW	DCFC	IH0069-KG	29.98137796	-95.2760761	4	TBD
582-22-32245-VW	DCFC	IH0010-KG	29.69379236	-96.539667	4	TBD
582-22-32348-VW	DCFC	IH0010-KG	30.50909936	-99.77284623	4	TBD
582-22-32037-VW	DCFC	IH0010-KG	29.80395297	-94.98131383	4	TBD
582-22-32039-VW	DCFC	IH0045-KG	30.06581275	-95.43345066	4	TBD

Existing DC Fast Charge and VW Settlement locations that meet NEVI requirements:



Known Risks and Challenges

TxDOT began tracking the development of DC Fast Charge stations in Texas on February 10, 2022. Existing stations that met FHWA guidance were combined with planned stations from the VW Settlement funds administered by the Texas Commission on Environmental Quality. Gaps were identified and candidate locations were proposed that meet FHWA guidance. It is anticipated that TxDOT will be able to meet or exceed requirements for DC Fast Charge station spacing and power ratings in most locations.

Two sections of IH 10 in far west Texas will be dependent on a small number of private sector businesses hosting stations due to the sparsely populated nature of the region. If during site selection these locations are found unviable TxDOT will update the Discretionary section of the plan.

Any additional deficiencies identified along the corridors during site selection will be documented in the Discretionary section of the plan in the annual update. TxDOT will rapidly re-evaluate the network to assess impacts of private sector non-NEVI stations added to highways that meet FHWA guidance and refine candidate locations accordingly. This will allow TxDOT to better fund other areas and increase the overall density of the charging network.

The ongoing equipment, labor, precious metals, and microchip shortages have the potential to lengthen timelines and limit private sector capabilities. TxDOT acknowledges the difficulties brought on by these situations and will do our best to work with vendors and planning partners to complete the network as soon as possible.

TxDOT acknowledges the risk posed to charging infrastructure from natural and man-made disasters and will rely on our experience working with planning partners, fellow state and federal agencies, and the private sector to mitigate issues. As with the adoption of any new technology, acceptance of infrastructure for electric vehicle charging comes with risks of vandalism and general acceptance that could impact serviceability and user experience of EV charging locations. Methods to mitigate these risks and recover from issues will be evaluated in vendor proposals.

EV Charging Infrastructure Deployment

TxDOT will partner with the private sector to develop the EV Charging Network. Per FHWA guidance the plan will start with the Electric Alternative Fuel Corridors then work with rural/small urban areas and MPOs across the state. Non-Alternative Fuel Corridors will be ranked by VMT and developed in succession. County Seats will be the primary focus in rural areas with DC Fast Charge stations and MPOs will install a combination of DC and Level II stations determined by the MPOs.

Typical specifications for Electric Alternative Fuel Corridor and Rural County Seat locations:

- CCS Connector (industry standard)
- 150-350kW Max Power (higher power acceptable assuming costs are not prohibitive)
    - 400-800 volts, 150-600 amps, 3 phase
- Any shared circuits provide 150kW or more per connector
    - Example: 1 port powering 2 connectors should be capable of providing 150kW or more to each connector at the same time
- Idle fee after charging complete
- Minimum 4 DC Fast Charge connectors per location
- Maximum 8 DC Fast Charge connectors per location (due to funding not technical limits)
- At least 1 pull through space for light duty vehicles with trailers when the host location will support it
- Open 24/7 and Publicly Available (without requirements to purchase goods or services from businesses hosting the EV stations)
- Adequate lighting, restrooms, ADA compliant
- Plug to Charge Preferred (payment handled by vehicle when plugging in) payments by phone/app/card will also be acceptable
- Spaces Marked EV Only
- Signs recommending charging to 80%
- Station location, operational status, and cost/fees published online
- Vendor required to make usage data per plug available to TxDOT quarterly
- Signage directing users to charging locations

After Electric Alternative Fuel Corridors are built out TxDOT will balance the rollout of the network between urban and rural areas splitting funds per year on a 50/50 basis.

Typical specifications for Level II charging (useful inside MPOs for retail/workplace charging)

- J1772 Connector (industry standard)
- 6-10 kW Max Power (higher power acceptable assuming costs are not prohibitive)
    - 240 volts, 15-50 amps, single phase
- Same requirements for signage, markings, and plug to charge capability as DC Fast Charging

Funding Sources

TxDOT will develop a program where third parties fund the non-federal share of the NEVI Formula Program. Operations and Maintenance funds will be available for the first five years of station operations for select locations (typically rural). Third parties will collect fees from station operation and be responsible for maintenance going forward.

Estimated cost to develop an EV Charging Network in Texas:

Description	Locations	DC Fast*	Level II	Federal	Private Sector	5 YR Operations & Maintenance (Fed)
Alt Fuel Corridors	55	308	0	$36.96M	$9.24M	$11.55M
County Seats	190	1,014	0	$121.68M	$30.42M	$38.02M
Inside MPOs**	TBD	1,274	25,150	$151.56M	$37.89M	$47.36M
Totals		2,596	25,150	$310.2M	$77.55M	$96.93M

* 150kW minimum on Alt Fuel Corridors and County Seats, could vary based on situation, estimated at $150K per connector.

**MPOs will propose the quantity of DC or Level II locations in their areas up to the target dollar amount, estimate for DC stations inside MPOs is 50K per connector at 50kW max power, Level II is estimated at 5K per connector at 10kW max power.

2022 Infrastructure Deployments/Upgrades

For Electric Alternative Fuel Corridors, TxDOT examined existing charging locations using the Alternative Fuel Data Center and applied round 6 requirements to identify stations that met requirements. TCEQ planned locations were examined and filtered by round 6 requirements as well. Resulting coverage gaps greater than 50 miles were examined for suitable electrical supply and candidate locations were placed near communities or incorporated cities.

After Alternative Fuel Corridors are complete the focus will shift to rural areas and MPOs. County seats will be the location of choice for DC Fast Charge stations in rural areas due to their central location in the region. County seats along the gulf coast will have more ports per location to assist with peak demand during evacuation scenarios. Larger cities and MPOs without interstate access will also have more ports per location.

List of Stations

The following DC Fast Charge stations deployment map depicts general locations along Alternative Fuel Corridors and County Seats. Orange dots represent existing DC Fast Charge stations that meet round 6 requirements. Dark Blue circles with dots represent proposed charging locations that meet round 6 requirements on the Electric Alternative Fuel Corridors. Dark Gray dots represent planned charging locations from the VW settlement funds administered by TCEQ. Light Blue and White dots represent proposed DC Fast Charge locations at County Seats. Stations inside MPOs will be determined after Electric Alternative Fuel Corridors are built out.

*See appendix for full list of stations

Estimates for EV Charging inside MPOs – Activities inside MPOs begin after building out Electric Alternative Fuel Corridors (preference will be toward maximizing resources for installation).

ID	MPO Name	Allocation (Fed + Private)	5 YR Operations & Maintenance
1	Abilene MPO	$765,303	$191,326
2	Alamo Area MPO	$18,672318	$4,668,079
3	Amarillo MPO	$1,452,407	$363,102
4	Bryan-College Station MPO	$1,200,824	$300,206
5	CAMPO	$18,342,083	$4,585,521
6	Corpus Christi MPO	$1,775,402	$443,850
7	El Paso MPO	$5,941,734	$1,485,434
8	Grayson County MPO	$1,224,867	$306,217
9	HGAC	$53,588,122	$13,397,030
10	Killeen-Temple MPO	$2,324,076	$581,019
11	Laredo Webb County Area MPO	$1,063,244	$265,811
12	Longview MPO	$794,230	$198,557
13	Lubbock MPO	$1,486,663	$371,666
14	North Central Texas COG	$64,497,274	$16,124,319
15	Permian Basin MPO	$1,915,692	$478,923
16	Rio Grande Valley MPO	$6,325,223	$1,588,056
17	San Angelo MPO	$548,860	$137,215
18	South East Texas RPC	$2,502,701	$625,675
19	Texarkana MPO	$389,114	$97,279
20	Tyler MPO	$1,453,176	$363,294
21	Victoria MPO	$719,299	$179,825
22	Waco MPO	$1,846,634	$461,658
23	Wichita Falls MPO	$593,756	$148,439

Estimates are based on a modified Category 2 formula from TxDOT's Unified Transportation Program. Allocation estimates include 20% of private sector funds. Each attribute percentage is calculated based on the sum (inside MPOs) of each attribute. The attributes are 2020 Population, 2020 Vehicle Miles Traveled, Lane Miles, EV Ownership and Non-Attainment status.

Formula (each attribute divided by sum (inside MPOs) and converted to percent, then averaged):

((MPO POP/POP)*100 + (MPO VMT/VMT)*100 + (MPO LM/LM) + (MPO EV/EV)*100) + Non-Attainment Factor)/5 = MPO %

Abilene Example:

((133449/25617630)*100 + (2775942/555360389)*100 + (2547/309446)*100 + (84/47807)*100) + 0)/5 =.00403

.00403 * $189.45M = $756,303 ($756,303 * .25 = $191,326 for 5 years of O&M)

Energy Usage Estimates

Estimating energy usage is difficult since owners do not charge their cars at the same time and vehicles do not charge at the same rate throughout a battery charging cycle.

Realistically, electric vehicles cannot sustain a high charge rate over the entire session. Batteries with a low state of charge will accept the high rate for a few minutes then start tapering down as battery pack voltage increases. However, it is easy to estimate a theoretical max usage scenario for illustration purposes.

The following table displays estimates for theoretical max power consumption by area and type.

Area	Type	Max Power (KW)	Connectors	Est. Max Power (MW)
Alt Fuel Corridors (50%)	DC Fast	150	154	23.1
Alt Fuel Corridors (35%)	DC Fast	250	107	26.75
Alt Fuel Corridors (15%)	DC Fast	350	47	16.45
Near County Seats (80%)	DC Fast	150	811	121.65
Near County Seats (15%)	DC Fast	250	152	38
Near County Seats (5%)	DC Fast	350	50	17.5
Inside MPOs (50%)	DC Fast	50	637	31.85
Inside MPOs (25%)	DC Fast	150	318	47.7
Inside MPOs (15%)	DC Fast	250	191	47.75
Inside MPOs (10%)	DC Fast	350	127	44.45
Inside MPOs	Level II	10	25,150	251.5
Totals			27,744	666.7

In summary, if all DC and Level II charging stations in this plan were utilized at the same time at their max rate, they would consume 666.7 MW of electricity from the grid. The Electric Reliability Council of Texas hosts an assortment of dashboards displaying near real time grid conditions. On May 3rd Operating Reserves ranged from 3,751 MW to 6,066 MW. The potential impact on the overall statewide grid appears minimal for the type and quantity of EV Chargers outlined in this plan.

Upgrades of Corridor Pending Designations to Corridor Ready Designations

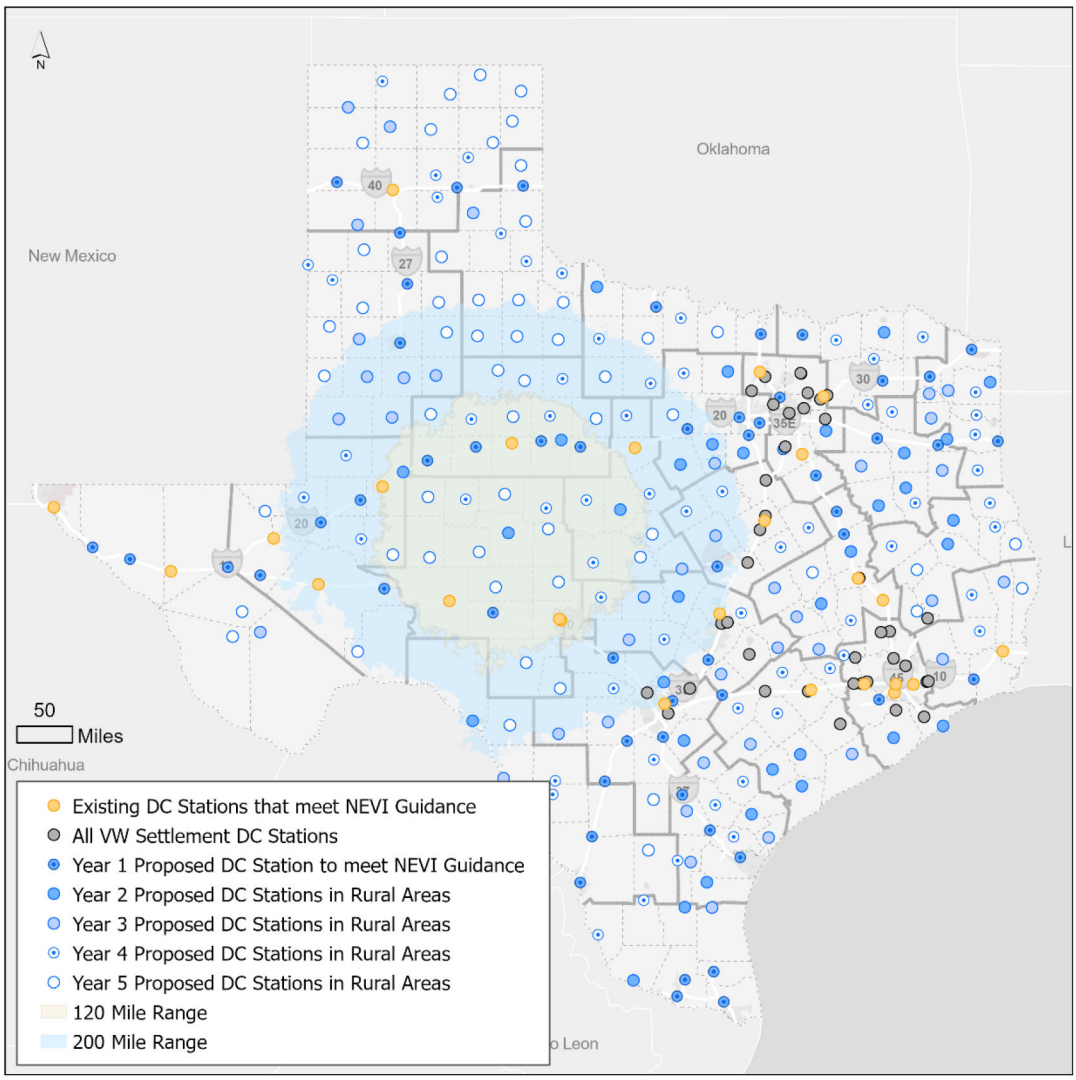
TxDOT elected to nominate missing non-business Interstate routes to the Electric Alternative Fuel Corridors as pending segments. This was done in anticipation of cities, counties, and other municipal entities pursuing grant funds as part of the $2.5B program. Expanding the corridors to all Interstate routes also connected as many MPOs as possible across the state. It should be noted that San Angelo, Bryan-College Station, and Victoria MPOs are not on Interstate routes. TxDOT was careful not to nominate too many segments to the Electric Vehicle Corridors due to the FHWA requirement to finish the corridors before spending funds on other roadways.

Increases of Capacity/Redundancy along Existing AFC

TxDOT applied FHWA guidance for station spacing, power ratings and number of ports to the Alternative Fuel Corridors. We evaluated the estimated range of an 80% charge from a 30-minute charge session for low and mid-range electric vehicles.

On the low end, a 150-mile range electric vehicle would have an estimated 120-mile range after completing an 80% charge. A 250-mile mid-range electric vehicle would have an estimated 200-mile range after completing an 80% charge. Resulting range from a recommended 80% charge would provide EV drivers ample options to traverse the state when the network is fully built out.

The following map depicts an estimated range of 120 miles and 200 miles resulting from an 80% charge at a proposed DC Fast Charge station in San Angelo. It is clear from the estimated range map that users of the network would have numerous options for traveling across the state.



Minutes to Charge for 100 Miles of Range:

	Tesla Model 3	Nissan LEAF	Ford Mustang Mach-E	Ford F-150	Volvo XC40 Recharge	Rivian R1T
Level I	1,080	1,400	1,560	1,560	1,720	2,040
Level II	135	175	195	195	215	255
DC 50kW	35	42	47	47	52	61
DC 150kW	11	14	16	16	17	20
DC 350kW*	5	6	7	7	7	9

Source: Grid Integration of EV Charging Infrastructure: A Workshop to Share Knowledge between the Grid Industry and States (NASEO GridWise Alliance) 3/14/2022 (Ford F-150 added by TxDOT and charges at the same max rate as Mach-E).

*It should be noted that none of the vehicles in this list will support a charge rate of 350kW. At present one electric vehicle on the market can briefly reach a charge rate of 350kW before tapering down.

Electric Vehicle Freight Considerations

TxDOT will address freight following the release of FHWA guidance in the fall of 2022.

Public Transportation Considerations

Transit agencies in the metropolitan areas of Texas have already deployed electric buses through grants received through the FTA Low or No Emission Vehicle Program and plan to increase the number of electric buses in the future. Dallas Area Rapid Transit currently has seven transit buses and will purchase up to 10 more electric buses before the end of FY 2024. Trinity Metro, which serves Tarrant County in North Texas, has six transit buses and plans to add eight more electric buses in the future. STAR Transit, a smaller transit provider in the Dallas-Fort Worth area, will deploy eight electric transit vehicles in 2023-2024 with funds received through the Rebuilding American Infrastructure with Sustainability and Equity Grant program.

FY23-26 Infrastructure Deployments

TxDOT will concentrate on the Alternative Fuel Corridors first then move to County Seats and MPOs. The following table outlines approximate years for each region and charging type. This is an early estimate and subject to change going forward. Additional FY would be added until funds are expended.

Year	Description	Location	DC Fast Connectors	Level II Connectors
FY 2023	Alt Fuel Corridors	55	308	0
FY 2024	MPO	TBD	424	8,383
FY 2024	County Seats	63	338	0
FY 2025	MPO	TBD	424	8,383
FY 2025	County Seats	63	338	0
FY 2026	MPO	TBD	424	8,383
FY 2026	County Seats	63	338	0

State, Regional, and Local Policy

The EV Plan will rely on third party entities to coordinate with local property owners and municipalities on zoning and permitting. Discussions with equipment providers during the development of the EV Plan demonstrated third party providers were well equipped to handle these tasks as part of their normal business practices. TxDOT will monitor developments at the state and local level during the implementation of this plan and provide updates to state and local officials when requested.

Implementation

Strategies for EVSE Operations & Maintenance

Vendors receiving awards will follow agreed-upon requirements for operation and maintenance. Monitoring and service level agreements for station performance will be specified in the contract and TxDOT will monitor station up time through vendor reported usage data and general user satisfaction on publicly accessible third-party charging web sites. Operation and maintenance costs were estimated at 5% of installation cost and will be evaluated per location over time. Enforcement of idle fees will be the responsibility of the vendor/station operator.

Strategies for Identifying Electric Vehicle Charger Service Providers and Station Owners

TxDOT will use existing solicitation methods to advertise, select, and award contracts to electric vehicle charging equipment service providers/property owners. As part of the discovery process for EV plan development, it became clear charging equipment companies and private sector entities have the expertise and ability to locate suitable locations for charging stations within TxDOT's recommended EV study areas. TxDOT will monitor progress with regular meetings between the vendor and project team as spelled out in the contract.

Strategies for EVSE Data Collection & Sharing

Contracts with vendors will include requirements to provide anonymized quarterly usage for analysis. Data and trends from charging station usage will be published on the Statewide Planning Map, and ArcGIS Online dashboards like the EV Dashboard published during EV Plan creation. Data will be reported to FHWA and be available on TxDOT's Open Data Portal for visualization or analysis by the public, researchers, or other interested parties.

Strategies to Address Resilience, Emergency Evacuation, Snow Removal/Seasonal Needs

As stated earlier, charging stations need to be reliable for continued travel, and ready to help the public evacuate from extreme conditions. We will include considerations to address extreme weather, infrastructure degradations, and cyber and physical security. We will explore and establish readiness capabilities to mitigate these risks. It starts with placing charging stations in suitable locations near interchanges and crossroads that are easily accessible, near commercial or public sites, and with adequate physical and cyber security, communications systems, and power aligned to priority grid capabilities. Beyond that, there are several developing capabilities which we will assess and implement when proven capable and needed.

There is a fledgling industry for mobile EV charging for these types of events. AAA currently offers this service to EV drivers in states such as Oregon and Colorado, where it has installed a large battery with Level II or DC Fast Charge capability on a truck. Similarly, Tesla installed super chargers on semi-truck trailers to provide surge capacity at high volume stations, a strategy that state DOTs could adopt in the future to assist motorists during emergency evacuation events.

There are also companies such as Ample that are pioneering modular, building-block-style EV battery technology that allows batteries to be changed in minutes and can accommodate any make, design, model, or driving profile. With a small footprint equivalent to two parking spots, they can be located at gas stations, grocery stores, or the side of the road on an evacuation route.

Strategies to Promote Strong Labor, Safety, Training, and Installation Standards

TxDOT expects vendors selected under this program to emphasize safety in all aspects of station development, installation, and maintenance. Various programs are available to ensure local contractors are knowledgeable and trained on the subject and the selected vendor is expected to take advantage of those resources. TxDOT will add training and certification criteria to the scoring matrix for vendor evaluation in the solicitation process.

Certification programs for EV Charging equipment

https://evitp.org/

Or other registered Electrical Apprenticeship program that includes EVSE-specific training.

Civil Rights

All proposed planned guidelines and recommendations for the deployment of Electric Vehicle (EV) charging stations will be created pursuant to all federal, state, and local laws, regulations, and statutes to ensure compliance with the Americans with Disabilities Act (ADA) and Title VI of the Civil Rights Act of 1964 (Title VI). The ADA prohibits discrimination against persons with qualified disabilities regarding the usability and/or participation of all programs, services, activities, or benefits offered by TxDOT. TxDOT ensures that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity.

To support the assurances provided by the Executive Director of the agency, the following steps should be integral to the deployment and plan:

To comply with the ADA -

1. TxDOT will develop EV charging stations in accordance with ADA standards related to accessible parking spaces, including but not limited to Public Right-of Way Accessibility Guidelines (PROWAG) and Texas Department of Licensing and Registration (TDLR) guidelines.
2. TxDOT will follow the procedures based on the swim lane outlined in the ADA Transition Plan.
3. Procedures require signature authorization outlined in the ADA Transition Plan.
4. Recommend that TxDOT's Design Division (DES) leads the ADA compliance effort as it has with the design of curb ramps, sidewalks, and other accessibility requirements.
5. Public outreach events must be held in accordance with Section 504 of the Rehabilitation Act of 1973 (as amended) to generate public feedback from the disability community.
6. Recommend that the EV charging stations be included in the State Transportation Planning Map and included in the ADA "living" Transition Plan (Web App Viewer Tool).

To comply with Title VI -

1. Develop and complete an environmental checklist to meet program requirements.
2. TxDOT provides training to districts/division personnel regarding EV charging stations.
3. Educate the public regarding the availability of EV charging stations.
4. Conduct necessary public outreach events providing translation and interpretation services as needed to generate public feedback.

Any construction using federal funds will require the utilization of Disadvantaged Business Enterprises.

Equity Considerations

Identification and Outreach to (DACs) in the State

TxDOT and the state are committed to addressing not only initial EV range anxiety, but to enabling EV growth across the state regardless of location, demographics or economic levels. Not surprisingly, initial EV growth in the state is largely in urban areas and related to areas with greater wealth, directly correlating with the high prices of initial EVs and the early needs to charge them at home or access limited charging sites. As the vehicle industry grows, and the models and prices decrease, we expect more overall affordability and access to passenger and light truck vehicles, either through direct ownership or shared vehicle services. As cities and metro regions commit local resources and are awarded grants, they will also be able to support transit fleets and local delivery freight.

Texas is aware some of its communities do not have sufficient resources or experience with EV and need both to improve their opportunities and access to their benefits. With the NEVI funding, we are equitably planning for EV charging capabilities between our rural and urban areas. Texas has extensive rural regions not only in the western half of the state, but also along the Texas-Mexico border, and areas along our borders with Oklahoma, Arkansas and Louisiana. In the rural areas, we understand the initial densities of EVs may be lower but must ensure that the infrastructure reliably enables the long-range travel common in those areas as well as provide assurance that initial charging infrastructure is sufficiently nearby to supplement charging for local needs. To address this, approximately half of the NEVI formula funding for Texas is for proposed locations in rural areas. In addition to the charging stations along our alternate fuel corridors, which are through many of our rural areas, we have proposed charging stations near every county seat in the state. Those locations are at the crossroads of every county and are strong opportunities to support those areas with initial capabilities. This also ensures an expected common level of capability in every county. After the Electric Alternative Fuel Corridors are complete, TxDOT will host public outreach for counties and the communities they represent to validate the county seat approach. We are following a similar approach in the urban areas. We will start by using formulas to plan allocations according to similar approaches used in our infrastructure planning and accepted by our MPOs. This will allocate approximately half of the NEVI formula funding for Texas. We are engaging the MPOs to collaborate with all their communities and develop local needs, that recognize already existing infrastructure and focus on where needs aren't addressed in underserved areas. In both our rural and urban areas, we will develop those plans with local leaders informed by their communities. Outreach to communities will occur through TxDOT Social Media channels and invitations to community leaders to attend statewide planning and coordination meetings with local governments during site selection and rollout. As we contract for capabilities, we will require the selected vendor to review, evaluate, and site locations within the TxDOT EV Study Area using federal requirements and guidelines made available by the Joint DOT/DOE office.

Process to Identify, Quantify, and Measure Benefits to DACs

TxDOT is experienced with measuring performance and reporting according to FHWA requirements. We recognize the value of performance-based planning and decision-making. As stated above, TxDOT and the state are committed to addressing not only initial EV range anxiety, but to enabling EV growth across the state regardless of location or economic levels. We anticipate the Joint DOE/DOT office or FHWA will establish national standards for measuring the benefits to the public such as air quality or job creation. In the meantime, there are examples from industry, other states, and current practices that we'll adapt to begin to internally track, measure and assess our performance through the lifecycle of managing the EV program. TxDOT will use resources made available on DriveElectric.gov to identify disadvantaged areas across the state. This information will be made available to planning partners and vendors to assist in site planning and analysis.

Benefits to DACs through this Plan

TxDOT acknowledges there may be initial difficulties measuring direct or indirect benefits in this plan. As mentioned earlier, we anticipate the Joint DOE/DOT office or FHWA will establish national standards for measuring the benefits. For example, installing charging stations in disadvantaged communities in both rural and urban areas does little for households with low vehicle ownership rates. However, the presence of charging stations could increase access to locally owned businesses while travelers charge their vehicles, providing additional income to local economies that can translate to overall growth in prosperity and wealth. Further indirect benefits shared by the greater community would be improved air quality due to zero mobile emission rates of electric vehicles. Finally, as electric vehicles become more available to all, access to charging stations will present decreased cost of ownership and operation.

Using resources available from DriveElectric.gov, TxDOT compared disadvantaged census tracts with proposed EV Study Areas on Alternative Fuel Corridors and County Seats. At the time of this draft 161 of 245 (65.7%) EV Study Areas are in census tracts identified as disadvantaged. $135M of $198M (68.1%) of the estimated funds for Alternative Fuel Corridors and County Seats are in census tracts identified as disadvantaged.

Labor and Workforce Considerations

Texas is quickly becoming a hub of innovation and activity for the EV workforce. On December 1, 2021, Tesla relocated its corporate headquarters to its "Gigafactory Texas" just outside of Austin. As the largest EV vehicle manufacturer in the world and one of the largest owners of charging infrastructure, Tesla's presence in Central Texas has already begun to attract related sectors and corollary activities such as charging infrastructure.

But even prior to Tesla's arrival, Texas had already begun to ramp up its EV workforce. The Texas Advanced Energy Business Alliance (TAEBA) reported that Texas had 48,800 jobs in advanced electricity generation (i.e., solar, bioenergy, natural gas, wind, and nuclear power), 13,200 jobs in advanced grid and energy storage (i.e., battery storage, microgrid, and other grid technologies), 17,300 jobs in advanced vehicles (i.e., hybrid, electric, natural gas, and fuel cell vehicles).[1] More specifically, TAEBA reports that the electric transportation sector specifically employed more than 7,000 workers in more than 1,200 companies across the state in 2019. The number of workers is expected to grow to over 13,000 workers by 2024, and there are more than 5,000 Texas companies and more than 400,000 Texans in industries that could directly benefit from growth in the electric transportation sector.[2] Throughout the NEVI Formula Program, TxDOT expects the capacity of Texas' EV-related workforce to expand greatly and supply TxDOT with increasingly more and better providers to contract work with.

In support of TxDOT's Equal Employment Opportunity (EEO) Policy Statement, Affirmative Action Plan, and its ongoing commitment to integrating diversity, equity, and inclusion throughout all levels of the agency, TxDOT has a long history of contracting with federally identified disadvantaged business enterprises (DBEs) as either prime providers or subcontractors. TxDOT will require each proposal for a NEVI contract to submit a DBE Performance Plan as part of a responsive proposal.

[1] TAEBA, Advanced Energy Jobs in Texas 2020, at https://www.texasadvancedenergy.org/hubfs/TX-Fact-Sheet-2020-TAEBA.pdf.
[2] TAEBA, Electric Transportation Supply Chain in Texas, at https://info.aee.net/hubfs/TAEBA/TAEBA-TX-Supply%20Chain-Study-2020.pdf.

Cybersecurity

TxDOT is committed to ensuring that critical infrastructure transportation technologies of the future, including Electric Vehicle Charging Networks, do not pose a cybersecurity or personal privacy risk to Texas or the United States. Third parties contracted will own, operate, and maintain the EV charging stations as well as the data produced. They will be required to provide TxDOT anonymized data on a recurring basis. Third Parties will also be required to publish station location, power ratings, and costs to the various sites tracking EV charging stations, including the US Department of Energy Alternative Fuel Data Center.

As part of the contract, prior to issuance of the award or other funding, the third party will be required to provide a cybersecurity plan that demonstrates the cybersecurity maturity of the recipient and its compliance with applicable Texas, regulatory, and Federal cybersecurity requirements. The plan must also demonstrate how the recipient will maintain and improve cybersecurity throughout the life of the proposed solution. This will include requirements to maintain compliance with current and future cybersecurity requirements as well as alerting TxDOT and the Cybersecurity and Infrastructure Security Agency (CISA) of any known or suspected network or system compromises. At the end of the project the third party must provide evidence that the cybersecurity plan was properly implemented.

Program Evaluation

Using tools developed to draft the EV plan, TxDOT will re-evaluate the network on an annual basis. This includes monitoring private sector development, examining usage data returned from installed equipment, and working with our planning partners to develop new locations and make necessary adjustments to existing locations.

Charging statistics and summaries will be included in the annual roadway inventory report found on TxDOT's website. Charging locations will be found in the departments Statewide Planning Map, and the EV Dashboard will continue tracking charging stations with weekly data updates from the Alternative Fuel Data Center.

Discretionary Exceptions

TxDOT will document exceptions for DC Fast Charge stations that cannot meet FHWA requirements. At the time of this draft, TxDOT does not anticipate any issues meeting FHWA requirements for DC Fast Charge stations on the Electric Alternative Fuel Corridors. Any potential issues with placement, utilities, communications, or security for stations in rural areas of Texas will be communicated and coordinated with FHWA as the program develops.

Glossary of Terms

AC – Alternating Current

AFC – Alternative Fuel Corridor

CCS – Combined Charging System or plug type for DC Fast Charging

Connector – Plug that connects the electric vehicle to the charging equipment

Corridor Pending – Corridor does not satisfy FHWA requirements

Corridor Ready – Corridor meets FHWA requirements

DC – Direct Current

DC Fast Charging – High power charging 400-800 volt, 150-600 amps, 3 phase

DOE – Department of Energy

DOT – US Department of Transportation

EV – Electric Vehicle

EVSE – Electric Vehicle Service Equipment

FHWA – Federal Highway Administration

Justice40 – Federal program outlining 40% of federal climate investments go directly to frontline communities most affected by poverty and pollution

kW – Kilowatt (1,000 watts)

kWH – Kilowatt Hour (1,000 watts for 1 hour)

Level I – Low power charging 120-volt, 10-20 amps, single phase

Level II – Medium power charging 240-volt, 15-50 amps, single phase

Location – Physical location where electric vehicles charge

MPO – Metropolitan Planning Organization

mW – Megawatt (1,000 kilowatts)

mWH – Megawatt Hour (1,000 kilowatts for 1 hour)

NEVI – National Electric Vehicle Infrastructure

Port – Charging hardware, usually a pedestal design with connectors for charging electric vehicles

PIP – Public Involvement Plan

SECO – State Energy Conservation Office

TCEQ – Texas Commission on Environmental Quality

TxDOT – Texas Department of Transportation

3 Phase – Electrical supply from 3 power lines

Appendix - EV Charging Infrastructure Development - List of Stations

Lat/Long provided for reference, not a specific site. NEAREST (mi) is Geodesic length to next DC location on corridor.

ID	LEVEL	CORRIDOR	CITY NAME	LATITUDE	LONGITUDE	PLUGS	YEAR	NEAREST (mi)
1	DCFC	Corridor Pending	Sugar Land	29.599259	-95.621616	8	1	13.11
2	DCFC	Corridor Ready	Arlington	32.675808	-97.174513	8	1	12.32
3	DCFC	Corridor Ready	Carrollton	32.953967	-96.911068	8	1	13.81
4	DCFC	Corridor Ready	Fort Worth	32.735865	-97.436854	8	1	15.21
5	DCFC	Corridor Ready	Selma	29.584500	-98.305398	8	1	6.60
6	DCFC	Corridor Ready	Buda	30.045982	-97.840347	8	1	26.23
7	DCFC	Corridor Pending	McAllen	26.192108	-98.244858	8	1	14.75
8	DCFC	Corridor Ready	Burleson	32.541304	-97.313688	8	1	12.32
9	DCFC	Corridor Pending	San Benito	26.127911	-97.638202	8	1	25.51
10	DCFC	Corridor Pending	Killeen	31.092090	-97.722385	8	1	23.51
11	DCFC	Corridor Pending	Sherman	33.634403	-96.616112	4	1	29.02
12	DCFC	Corridor Pending	Wichita Falls	33.934934	-98.517834	8	1	33.30
13	DCFC	Corridor Pending	Lubbock	33.546684	-101.844987	8	1	44.26
14	DCFC	Corridor Pending	Winnie	29.828987	-94.389200	8	1	31.26
15	DCFC	Corridor Pending	Laredo	27.511444	-99.503084	8	1	37.52
16	DCFC	Corridor Ready	Gainesville	33.642243	-97.155628	8	1	28.31
17	DCFC	Corridor Pending	Corpus Christi	27.801082	-97.424512	8	1	32.20
18	DCFC	Corridor Ready	Waxahachie	32.385844	-96.867809	8	1	14.95
19	DCFC	Corridor Pending	Corsicana	32.098885	-96.440897	4	1	19.19
20	DCFC	Corridor Pending	Odessa	31.827271	-102.359371	8	1	19.68
21	DCFC	Corridor Pending	Sulphur Springs	33.134957	-95.574128	4	1	35.63
22	DCFC	Corridor Pending	Rolling Meadows	32.433202	-94.853786	4	1	45.51
23	DCFC	Corridor Pending	Van	32.506818	-95.644292	4	1	42.05
24	DCFC	Corridor Pending	Mt Pleasant	33.181377	-94.962017	4	1	35.63
25	DCFC	Corridor Pending	Buffalo	31.451229	-96.076395	4	1	18.07
26	DCFC	Corridor Pending	New Boston	33.475127	-94.417473	4	1	37.45
27	DCFC	Corridor Pending	Fairfield	31.700579	-96.171601	4	1	18.07
28	DCFC	Corridor Pending	Waskom	32.476105	-94.076490	4	1	45.51
29	DCFC	Corridor Pending	Sandy Oaks	29.175879	-98.427168	8	1	18.86
30	DCFC	Corridor Pending	Luling	29.651199	-97.659593	8	1	25.75
31	DCFC	Corridor Pending	Big Spring	32.263084	-101.489077	4	1	38.21
32	DCFC	Corridor Pending	Merkel	32.477497	-100.010847	4	1	22.44
33	DCFC	Corridor Pending	IH20 and US281	32.610687	-98.109994	8	1	40.17
34	DCFC	Corridor Pending	Clyde	32.413882	-99.501839	4	1	30.06
35	DCFC	Corridor Pending	Edinburg	26.385425	-98.142289	6	1	14.75
36	DCFC	Corridor Pending	Devine	29.129580	-98.896203	4	1	28.53
37	DCFC	Corridor Pending	Dilley	28.671343	-99.183903	4	1	36.05
38	DCFC	Corridor Pending	Three Rivers	28.517790	-98.177438	4	1	35.50
39	DCFC	Corridor Pending	Mathis	28.112364	-97.817508	4	1	32.20
40	DCFC	Corridor Pending	Fort Hancock	31.304606	-105.840043	4	1	30.08
41	DCFC	Corridor Pending	Colorado City	32.412310	-100.859979	4	1	27.38
42	DCFC	Corridor Pending	Encinal	28.039310	-99.350893	4	1	37.52
43	DCFC	Corridor Pending	Monahans	31.580350	-102.874318	4	1	34.78
44	DCFC	Corridor Pending	Plainview	34.183943	-101.749937	4	1	38.09
45	DCFC	Corridor Pending	Sierra Blanca	31.173414	-105.355442	4	1	30.08
46	DCFC	Corridor Pending	Shamrock	35.231164	-100.246426	4	1	48.59
47	DCFC	Corridor Pending	Fort Davis RA	31.083259	-104.082205	4	1	25.68
48	DCFC	Corridor Pending	Raymondville	26.479103	-97.769098	6	1	24.01
49	DCFC	Corridor Pending	Adrian	35.269678	-102.664981	4	1	41.37
50	DCFC	Corridor Ready	Kerrville	30.068139	-99.075949	4	1	37.82
51	DCFC	Corridor Pending	Groom	35.212113	-101.105004	4	1	47.33
52	DCFC	Corridor Pending	Sonora	30.576717	-100.637407	4	1	35.01

Appendix - EV Charging Infrastructure Development - List of Stations

Lat/Long provided for reference, not a specific site. NEAREST (mi) is Geodesic length to next DC location on corridor.

ID	LEVEL	CORRIDOR	CITY NAME	LATITUDE	LONGITUDE	PLUGS	YEAR	NEAREST (mi)
53	DCFC	Corridor Pending	Happy	34.730513	-101.847706	4	1	31.78
54	DCFC	Corridor Pending	Iraan	30.844393	-102.050641	4	1	51.03
55	DCFC	Corridor Pending	Balmorhea	30.993669	-103.661938	4	1	25.68
56	DCFC	None	San Angelo	31.462556	-100.436698	8	2	NA
57	DCFC	None	Decatur	33.234801	-97.586548	8	2	NA
58	DCFC	Corridor Pending	Centerville	31.258109	-95.988090	8	2	NA
59	DCFC	None	Granbury	32.442306	-97.787648	8	2	NA
60	DCFC	Corridor Pending	Abilene	32.489813	-99.748366	8	2	NA
61	DCFC	None	Bulverde	29.798387	-98.419678	8	2	NA
62	DCFC	None	Kaufman	32.589080	-96.309097	8	2	NA
63	DCFC	Corridor Pending	Stanton	32.139202	-101.802855	8	2	NA
64	DCFC	None	Bryan	30.674306	-96.369907	8	2	NA
65	DCFC	None	Edna	28.978551	-96.646497	8	2	NA
66	DCFC	None	Cleburne	32.347620	-97.386878	8	2	NA
67	DCFC	None	Rio Grande City	26.378145	-98.814608	8	2	NA
68	DCFC	None	Vernon	34.152786	-99.284838	8	2	NA
69	DCFC	None	Atlanta	33.121432	-94.179458	8	2	NA
70	DCFC	None	Tyler	32.346636	-95.294227	8	2	NA
71	DCFC	None	Galveston	29.300995	-94.788457	8	2	NA
72	DCFC	None	Angleton	29.164535	-95.431717	8	2	NA
73	DCFC	None	Brownwood	31.722714	-98.982188	8	2	NA
74	DCFC	None	Victoria	28.805439	-97.003527	8	2	NA
75	DCFC	None	Kingsville	27.515700	-97.856228	8	2	NA
76	DCFC	None	Longview	32.495936	-94.738247	8	2	NA
77	DCFC	None	Falfurrias	27.226730	-98.144238	8	2	NA
78	DCFC	None	Paris	33.661466	-95.556117	8	2	NA
79	DCFC	None	Jacksonville	31.963506	-95.269776	8	2	NA
80	DCFC	None	Lufkin	31.340253	-94.728377	8	2	NA
81	DCFC	None	Burnet	30.758146	-98.228818	8	2	NA
82	DCFC	None	Del Rio	29.360572	-100.898968	8	2	NA
83	DCFC	None	Port Lavaca	28.616441	-96.624007	8	2	NA
84	DCFC	None	Palestine	31.764474	-95.626647	8	2	NA
85	DCFC	None	Stephenville	32.220614	-98.202138	8	2	NA
86	DCFC	None	Nacogdoches	31.604044	-94.656007	8	2	NA
87	DCFC	None	Refugio	28.296141	-97.276847	8	2	NA
88	DCFC	None	Floresville	29.132521	-98.157008	8	2	NA
89	DCFC	None	Fredericksburg	30.275092	-98.872248	8	3	NA
90	DCFC	None	Giddings	30.182762	-96.937197	8	3	NA
91	DCFC	None	Gilmer	32.728825	-94.942717	8	3	NA
92	DCFC	None	Uvalde	29.209641	-99.786068	8	3	NA
93	DCFC	None	Brenham	30.166902	-96.400127	8	3	NA
94	DCFC	None	George West	28.332661	-98.117618	8	3	NA
95	DCFC	None	Liberty	30.056546	-94.795827	8	3	NA
96	DCFC	None	Post	33.190985	-101.378279	8	3	NA
97	DCFC	None	Livingston	30.711093	-94.932847	8	3	NA
98	DCFC	None	Lampasas	31.063833	-98.182078	8	3	NA
99	DCFC	None	Rockport	28.027199	-97.054557	8	3	NA
100	DCFC	None	Lockhart	29.885035	-97.670388	8	3	NA
101	DCFC	None	Jasper	30.920853	-93.996737	8	3	NA
102	DCFC	None	Eagle Pass	28.708491	-100.499558	8	3	NA
103	DCFC	None	Alpine	30.357642	-103.661349	8	3	NA
104	DCFC	None	Caldwell	30.532113	-96.692377	8	3	NA

Appendix - EV Charging Infrastructure Development - List of Stations

Lat/Long provided for reference, not a specific site. NEAREST (mi) is Geodesic length to next DC location on corridor.

ID	LEVEL	CORRIDOR	CITY NAME	LATITUDE	LONGITUDE	PLUGS	YEAR	NEAREST (mi)
105	DCFC	None	Daingerfield	33.029901	-94.721217	8	3	NA
106	DCFC	None	Tahoka	33.166515	-101.796029	6	3	NA
107	DCFC	None	Sarita	27.221738	-97.791568	6	3	NA
108	DCFC	None	Bay City	28.982989	-95.970037	6	3	NA
109	DCFC	None	Seminole	32.719044	-102.645039	6	3	NA
110	DCFC	None	Dalhart	36.059377	-102.521869	6	3	NA
111	DCFC	None	Athens	32.204284	-95.854927	6	3	NA
112	DCFC	None	Dumas	35.857597	-101.973309	6	3	NA
113	DCFC	None	Henderson	32.153314	-94.799487	6	3	NA
114	DCFC	None	Lamesa	32.736644	-101.951449	6	3	NA
115	DCFC	None	Hereford	34.815046	-102.398089	6	3	NA
116	DCFC	None	Alice	27.749460	-98.069938	6	3	NA
117	DCFC	None	Cuero	29.093841	-97.290107	6	3	NA
118	DCFC	None	Levelland	33.587341	-102.377779	6	3	NA
119	DCFC	None	Pittsburg	32.995425	-94.967037	6	3	NA
120	DCFC	None	Gatesville	31.434890	-97.744248	6	3	NA
121	DCFC	None	Hondo	29.347582	-99.141748	6	3	NA
122	DCFC	None	Karnes City	28.884921	-97.900888	6	3	NA
123	DCFC	None	Llano	30.750290	-98.676048	6	3	NA
124	DCFC	None	Brownfield	33.181175	-102.274339	6	3	NA
125	DCFC	None	Clarendon	34.941007	-100.894309	6	3	NA
126	DCFC	None	Cameron	30.853413	-96.977157	6	3	NA
127	DCFC	None	Glen Rose	32.234734	-97.755438	6	3	NA
128	DCFC	None	Carrizo Springs	28.521801	-99.860608	6	4	NA
129	DCFC	None	Emory	32.874545	-95.765427	6	4	NA
130	DCFC	None	Johnson City	30.276802	-98.411918	6	4	NA
131	DCFC	None	Center	31.795404	-94.180257	4	4	NA
132	DCFC	None	Bellville	29.950542	-96.257677	4	4	NA
133	DCFC	None	Bonham	33.577075	-96.177917	4	4	NA
134	DCFC	None	Rusk	31.795954	-95.150387	4	4	NA
135	DCFC	None	Memphis	34.724161	-100.533999	4	4	NA
136	DCFC	None	Kountze	30.369486	-94.311627	4	4	NA
137	DCFC	None	Andrews	32.318784	-102.546609	4	4	NA
138	DCFC	None	Childress	34.425816	-100.202758	4	4	NA
139	DCFC	None	Graham	33.107081	-98.589578	4	4	NA
140	DCFC	None	La Grange	29.905502	-96.876647	4	4	NA
141	DCFC	None	Hallettsville	29.444102	-96.941357	4	4	NA
142	DCFC	None	Gonzales	29.501382	-97.452728	4	4	NA
143	DCFC	None	Pampa	35.532087	-100.958899	4	4	NA
144	DCFC	None	Zapata	26.907399	-99.271628	4	4	NA
145	DCFC	None	Jefferson	32.761555	-94.354927	4	4	NA
146	DCFC	None	Hempstead	30.097385	-96.078427	6	4	NA
147	DCFC	None	Bandera	29.724439	-99.070878	4	4	NA
148	DCFC	None	Woodville	30.775413	-94.414967	4	4	NA
149	DCFC	None	Quitman	32.795331	-95.451537	4	4	NA
150	DCFC	None	Cooper	33.373795	-95.688737	4	4	NA
151	DCFC	None	Marshall	32.548500	-94.371547	4	4	NA
152	DCFC	None	Comanche	31.897364	-98.603848	4	4	NA
153	DCFC	None	Jourdanton	28.918299	-98.546458	4	4	NA
154	DCFC	None	Breckenridge	32.755480	-98.902568	4	4	NA
155	DCFC	None	Kermit	31.856940	-103.096279	4	4	NA
156	DCFC	None	Muleshoe	34.226376	-102.723889	4	4	NA

Appendix - EV Charging Infrastructure Development - List of Stations

Lat/Long provided for reference, not a specific site. NEAREST (mi) is Geodesic length to next DC location on corridor.

ID	LEVEL	CORRIDOR	CITY NAME	LATITUDE	LONGITUDE	PLUGS	YEAR	NEAREST (mi)
157	DCFC	None	Snyder	32.717214	-100.918389	4	4	NA
158	DCFC	None	Ballinger	31.738904	-99.946338	4	4	NA
159	DCFC	None	Brady	31.134723	-99.334838	4	4	NA
160	DCFC	None	Sterling City	31.836554	-100.991809	4	4	NA
161	DCFC	None	Anson	32.751565	-99.896878	4	4	NA
162	DCFC	None	Claude	35.110127	-101.359299	4	4	NA
163	DCFC	None	Linden	33.011655	-94.365437	4	4	NA
164	DCFC	None	Groesbeck	31.521550	-96.536307	4	4	NA
165	DCFC	None	Henrietta	33.814756	-98.195328	4	4	NA
166	DCFC	None	Quanah	34.297681	-99.739528	4	4	NA
167	DCFC	None	Seymour	33.592195	-99.260268	4	4	NA
168	DCFC	None	Panhandle	35.343787	-101.379539	4	4	NA
169	DCFC	None	Carthage	32.157384	-94.338607	4	4	NA
170	DCFC	None	Beeville	28.401561	-97.749018	4	4	NA
171	DCFC	None	Crystal City	28.677561	-99.828338	4	4	NA
172	DCFC	None	Sinton	28.036690	-97.509527	6	4	NA
173	DCFC	None	Hamilton	31.703914	-98.124048	4	4	NA
174	DCFC	None	Taylor	30.572746	-97.411832	4	4	NA
175	DCFC	None	San Augustine	31.530784	-94.111737	4	4	NA
176	DCFC	None	San Diego	27.764149	-98.238868	4	4	NA
177	DCFC	None	Goliad	28.668321	-97.388677	4	4	NA
178	DCFC	None	Marlin	31.306333	-96.899177	4	4	NA
179	DCFC	None	Jacksboro	33.218285	-98.158558	4	4	NA
180	DCFC	None	Coleman	31.827324	-99.423088	4	4	NA
181	DCFC	None	Stratford	36.332398	-102.073659	4	4	NA
182	DCFC	None	Crockett	31.317673	-95.457117	4	4	NA
183	DCFC	None	Mason	30.748933	-99.232988	4	4	NA
184	DCFC	None	Meridian	31.923264	-97.657118	4	4	NA
185	DCFC	None	Crane	31.397403	-102.350229	4	4	NA
186	DCFC	None	Farwell	34.388796	-103.040379	4	4	NA
187	DCFC	None	Clarksville	33.610896	-95.051277	4	4	NA
188	DCFC	None	Hebbronville	27.306648	-98.678438	4	4	NA
189	DCFC	None	Haskell	33.157605	-99.733918	4	4	NA
190	DCFC	None	Anderson	30.488583	-95.986677	4	4	NA
191	DCFC	None	Franklin	31.025893	-96.485547	4	5	NA
192	DCFC	None	Dimmitt	34.550981	-102.312229	4	5	NA
193	DCFC	None	Coldspring	30.592650	-95.129287	4	5	NA
194	DCFC	None	San Saba	31.195893	-98.718408	4	5	NA
195	DCFC	None	Goldthwaite	31.450543	-98.569158	4	5	NA
196	DCFC	None	Hemphill	31.342410	-93.847867	4	5	NA
197	DCFC	None	Freer	27.884107	-98.616942	4	5	NA
198	DCFC	None	Littlefield	33.924156	-102.327779	4	5	NA
199	DCFC	None	Perryton	36.400082	-100.802669	4	5	NA
200	DCFC	None	Floydada	33.985591	-101.341119	4	5	NA
201	DCFC	None	Menard	30.917590	-99.786338	4	5	NA
202	DCFC	None	Albany	32.723440	-99.297318	4	5	NA
203	DCFC	None	Big Lake	31.191573	-101.461959	4	5	NA
204	DCFC	None	Stinnett	35.826921	-101.442869	4	5	NA
205	DCFC	None	Newton	30.848343	-93.761107	4	5	NA
206	DCFC	None	Brackettville	29.309441	-100.418618	4	5	NA
207	DCFC	None	Mentone	31.706699	-103.597889	4	5	NA
208	DCFC	None	Canadian	35.914987	-100.384819	4	5	NA

Appendix - EV Charging Infrastructure Development - List of Stations

Lat/Long provided for reference, not a specific site. NEAREST (mi) is Geodesic length to next DC location on corridor.

ID	LEVEL	CORRIDOR	CITY NAME	LATITUDE	LONGITUDE	PLUGS	YEAR	NEAREST (mi)
209	DCFC	None	Groveton	31.055600	-95.126607	4	5	NA
210	DCFC	None	Marfa	30.309402	-104.020669	4	5	NA
211	DCFC	None	Tilden	28.461559	-98.549348	4	5	NA
212	DCFC	None	Wheeler	35.445371	-100.272189	4	5	NA
213	DCFC	None	Mertzon	31.255733	-100.817158	4	5	NA
214	DCFC	None	Plains	33.188740	-102.830419	4	5	NA
215	DCFC	None	Eldorado	30.860143	-100.601248	4	5	NA
216	DCFC	None	Rankin	31.222783	-101.939169	4	5	NA
217	DCFC	None	Archer City	33.595401	-98.625638	4	5	NA
218	DCFC	None	Leakey	29.724409	-99.763138	4	5	NA
219	DCFC	None	Channing	35.683681	-102.329779	4	5	NA
220	DCFC	None	Guthrie	33.619055	-100.322678	4	5	NA
221	DCFC	None	Wellington	34.856251	-100.212959	4	5	NA
222	DCFC	None	Garden City	31.863912	-101.481195	4	5	NA
223	DCFC	None	Montague	33.665001	-97.720538	4	5	NA
224	DCFC	None	Spearman	36.198242	-101.192099	4	5	NA
225	DCFC	None	Crosbyton	33.660051	-101.238049	4	5	NA
226	DCFC	None	Roby	32.744990	-100.377848	4	5	NA
227	DCFC	None	Morton	33.725321	-102.759349	4	5	NA
228	DCFC	None	Paducah	34.012531	-100.301708	4	5	NA
229	DCFC	None	Throckmorton	33.178751	-99.177348	4	5	NA
230	DCFC	None	Paint Rock	31.508180	-99.919998	4	5	NA
231	DCFC	None	Rocksprings	30.015749	-100.205558	4	5	NA
232	DCFC	None	Fort Davis	30.587979	-103.894739	4	5	NA
233	DCFC	None	Dickens	33.621915	-100.837169	4	5	NA
234	DCFC	None	Palo Pinto	32.767930	-98.299808	4	5	NA
235	DCFC	None	Robert Lee	31.895320	-100.482988	4	5	NA
236	DCFC	None	Aspermont	33.139061	-100.227698	4	5	NA
237	DCFC	None	Benjamin	33.584021	-99.792398	4	5	NA
238	DCFC	None	Crowell	33.984011	-99.724508	4	5	NA
239	DCFC	None	Miami	35.691547	-100.638159	4	5	NA
240	DCFC	None	Matador	34.012381	-100.822239	4	5	NA
241	DCFC	None	Gail	32.770320	-101.445649	4	5	NA
242	DCFC	None	Silverton	34.473881	-101.304119	4	5	NA
243	DCFC	None	Sanderson	30.140672	-102.396899	4	5	NA
244	DCFC	None	Jayton	33.248031	-100.573638	4	5	NA
245	DCFC	None	Lipscomb	36.232172	-100.275809	4	5	NA

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
1	"Do you believe electric vehicles are more expensive than gas powered vehicles?" Needs better wording. Up front, they currently cost more, but in the long term, the savings in gas and maintenance can make them less expensive.	Survey Response
2	#2 I understand that federal dollars will be used to pay to build them. Who is going to pay for the electricity when people use the charging stations?	Email Message
3	1. Please invest in DC charging for those chargers on the interstate. People traveling across our great state are not interested in waiting hours during their pitstops. There are currently NO non-Tesla charging stations from San Antonio to the Rio Grande Valley - two of the fastest growing communities in our State. This needs to be a priority for TxDOT.	Survey Response
4	408 million dollars can be used for better purposes than electric power	Email Message
5	A charging network company: To provide EV charging equipment installation, transaction handling, charging customer relationship	Written Document
6	A Clear Process Should Be Put in Place to Lay Out Environmental Justice Requirementsand Benefits	Written Document
7	A host company: To dedicate real estate for the EV charging infrastructure and to provide amenities and attractions to travelers	Written Document
8	A retail electric provider (REP): To provide retail electric service to the EV charging station, as well as energy management, and to offer DER or demand response capabilities into the electricity market to offset the project's cost with additional revenues.	Written Document
9	Abbott is just pandering to a tiny minority of EV users to keep the Federal Highway Administration satisfied and keep the FWHA money coming to Texas. What a Liberal!	Survey Response
10	Absolutely not! First things first. Our Texas electric grid can barely support the draw on it right now.	Email Message
11	Adding equity to the Texas Electric Vehicle Infrastructure Plan project evaluation scoring criteria can help make this transition accessible, affordable, and available to all within the state.	Written Document
12	Addition of monitored security camera(s) / emergency blue lights at charging stations to deter vandalism, crime, and promote a feeling of safety while charging.	Email Message
13	All chargers should be 400V/800V dual voltage capable. Regarding power levels it may be necessary to balance investment expense andthe grid's ability to supportpower deliverywith the desire for 350kW charging hardware.	Written Document
14	All stations should be future proofed for 350kW hardware capability.	Written Document
15	Alternatively, TXDoT should consider as part of its plan the selection of one or more dedicated REPs to supply electricityto charging stations made possible under NEVI	Written Document
16	Annual Competitive Selection	Written Document

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
17	Apartment/condo owners and renters have a hard time installing home charging and rely on publicly available infrastructure	Survey Response
18	Applauds extensive outreach campaign, which has considered diverse stakeholder voices and prioritized the collection of input in multiple venues.	Written Document
19	As described in Section 4, the State's 20% cost-share should be funded from the competitive firms seeking to own,operate, and energizecharging stations in the State	Written Document
20	As drafted, the Plan does not address these impediments to investment. The Plan should instead direct utilities to create a uniform wholesale rate for the sale of electricity to all fast-charging station owners (utility or non-utility).	Written Document
21	As drafted, the Texas Plan does not appear to prioritize private entities that offer the desired amenities,nor does it seem to promote policies to create a long-term private market for EV charging.	Written Document
22	At certain EV charging locations, such as those along hurricane evacuation routes, it may be appropriate to equip the site with DER for power generation and storage, should the grid be incapable of delivering electricity to the siteduring storms	Written Document
23	At level 3 stations, signs recommending charging no more than 80%.	Email Message
24	At this point in time, does TXDOT anticipate installing, owning, operating and maintaining the DCFC or do you intend to award grants to private entities to own, operate and maintain.	Email Message
25	At this time there is not an adequate way for EVs to pay an appropriate share of the road taxes. This needs to be accounted for with all charging systems, it should be equal to or greater than the tax placed on Diesel vehicles.	Survey Response
26	Avoid Overly Cumbersome Data Requirements	Written Document
27	Avoid Overly Restrictive Siting Requirements	Written Document
28	Building stations is great, but maintaining them is equally important.	Email Message
29	By awarding more contracts to owner-operators, the Department will ensure that the entities receiving funding have "skin in the game" and will strive to create the best customer experience.	Written Document
30	Can the grid support this?	Email Message
31	Can you provide the list of the Electric Vehicle Charging Infrastructure Companies involved in the plan. In addition, can you provide a list of firms that have expressed an interest in implementing the plan?	Email Message
32	Change is hard, and we Texans are stubborn. But we have to acknowledge that fossil fuels won't last forever, and we must find reliable alternatives.	Survey Response
33	Chargers at state parks are needed	Survey Response
34	Charging infrastructure will make or break adoption as seen Tesla	Survey Response

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
35	Charging requirements - freight will need 1MW charging, 350kW will not be enough for freight	Written Document
36	Charging stations should be allowed access to the wholesale market that is currently available to REPs and other electricity retailers.	Written Document
37	Clarify Treatment ofPull-Through Spaces, more expensive, not clear in document between corridors and rural areas.	Written Document
38	Clarifying allowable use by small freight vehicles - delivery vans or box trucks, any EV can use it provided it can be done safely.	Written Document
39	Clawback - a mechanism for penalizing non-compliance should be put into the contracts. Possibilities might include: direct penalties, posting performance bonds, holding back of percentage of grant funds.	Written Document
40	Community Engagement and Workforce Development plan	Written Document
41	Companies like Tesla are investing heavily and moving as fast as possible. The biggest obstacle in fast deployment of EV charging seems to be local permitting requirements. A state wide standard is needed to accelerate these projects.	Survey Response
42	Concerned by the language present in the contracting section of the Draft Plan. It is unclear if TxDOT will be selecting one vendor of EV charging stations to install chargers for the NEVI funds or if there will be the opportunity for competition in the market for EV charging stations.	Written Document
43	Concerned the Draft Plan Will Not Lead to the Development of a Robust and Competitive EV Charging Marketplace in Texas.	Written Document
44	Consider Capabilities to Ensure Reliability	Written Document
45	Continues to support "Make-Ready" models that allow the utility to recover costs associated with grid upgrades up to the point of installing, owning, operating, and maintaining the actual charger itself.	Written Document
46	Contract with Multiple Service Providers	Written Document
47	Convenience - half mile of corridors	Written Document
48	Could I please be added to the list for any future emails related to TxDOT's NEVI planning process?	Email Message
49	Create Robust Uptime Data Reporting Requirements	Written Document
50	Demand charges are also a driving force for solar distributed energy resources funding and cost avoidance. The Texas system does not allow cost avoidance due to transmission tariff policies that do not allow for effective cost recovery or avoidance.	Survey Response
51	Details on satisfying the Justice40 requirement are as yet missing from Federal guidance and from the TxDOT Draft Plan.	Written Document
52	Don't waste your time and our money on this garbage!!!!	Email Message
53	Drivers need amenities at the charging station, such as clean restrooms, food & drink, windshield cleaning liquid, squeegees, and paper towels.	Email Message
54	Dumas would be a great location to add charging stations for EV's.	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
55	Early coordination will aid utilities in preparing their territories for this increased electrical load and interconnection applications associated with station deployment.	Written Document
56	Electric cars are not the answer so DON'T WASTE YOUR GRANT MONEY ON CHARGING STATIONS! WAKE UP....	Email Message
57	Electric vehicles are more fun to drive!	Survey Response
58	Electric vehicles can store the excess wind and solar in ERCOT and help save money by not investing in grid-scale battery storage	Survey Response
59	Electric vehicles do not nearly provide the reliability that gas or diesel vehicle have. You people want to tear up the landscape to put in EV charging stations including power lines and then tell us to love the environment. That's ridiculous! We're the ones taking better care of it that EV drivers. The strip mining to provide the precious lithium for your cars is actually way worse on the environment. Hypocrites.	Survey Response
60	Electricity isn't free and I have to pay for fossil fuel. So, How much is being charged per car to use the charging stations?	Email Message
61	Encourages Texas to consider commercial buildout separately and after the buildout of charging for consumer vehicles.	Written Document
62	Encourages Texas to implement an alternative rate structure in its guidance on EV charging infrastructure deployment.	Written Document
63	Encourages TxDOT to continue to ensure that adequate power -at least 150 kW per vehicle on Alternative Fuel Corridors (AFCs) -is available at each individual charging unit.	Written Document
64	Encourages TxDOT to maintain this approach moving forward to ensure that the charging network adequately accounts for rural connections, marginalized communities, and equitable access to the benefits of transportation electrificationand infrastructure	Written Document
65	Energy Efficiency - Energy Start Certified	Written Document
66	Environmental Justice, more guidance, utilization of Mapping tool to prioritize EV charger benefits to underserved communities	Written Document
67	EV are now cost competitive up front with fossil fuel vehicles, and their life time costs are substantially lower due to lower maintenance costs. Lithium Iron Phosphate batteries will reduce battery costs and high cost mineral demand.	Survey Response
68	EV cars are a waste and not affordable for most people. It's all a BIG LIE.	Survey Response
69	EV chargers and parking areas for this is new to some people. To prevent wasting these spots (by having folks accidentally park on them) could this come with a method to clearly label and enforce parking for active charging only by EVs.	Email Message
70	EV drivers should have access to the same competitive, stable and convenient prices that drivers of gas-powered vehicles have enjoyed for decades.	Written Document

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
71	EV owners should pay their fair share but it must be FAIR! Overcharging EV owners is not fair!	Survey Response
72	EVs are less expensive because the costs include health and social costs because when we invest in our health and environment, we protect and save all life. We need a more user-friendly charging infrastructure system that has more J1772 plugs as well as DC fast chargers---and not so many Tesla chargers. Not everyone can afford a Tesla. Recommend more charging stations at local/state/national parks and recreational areas (South Galveston Island, Padre Island), universities/colleges (UNT), local/state/county offices, and small town downtowns. The current statewide planning map looks great! Other suggestions: More on Hwy 281, Gonzales, Bastrop, Hwy 6 SW Houston area, Marble Falls/Burnet area, Hwy 290 rural areas, Boerne, and New Braunfels/Gruene. Thank you for the opportunity to provide comments!	Survey Response
73	EV's are more expensive for the upfront cost, which many shoppers use to decide, but the total cost of ownership is lower with a typical vehicle life.	Survey Response
74	EVs are the future!	Survey Response
75	EV's cost more upfront but less in the longterm. I've had one for years and just upgraded to a new car with more range.	Survey Response
76	EVs may have a larger up front cost, but are far cheaper in the long run when considering things like maintenance, electricity costs, and especially environmental impact. I see tons of huge trucks spewing huge black clouds on the highway every day in Texas - and there is no way to even report them online like there is in California.	Survey Response
77	EVs seem harder to maintain as most businesses are ICE oriented and the technology is new. EVs do seem cheaper to operate.	Survey Response
78	Existing fuel retailers can replicate today's petroleum refueling experience for EV drivers	Written Document
79	Expand the DC Fast charge options to strategic municipalities off the evac routes within a 100 mile radius.	Email Message
80	Expansion capacity - some existing DC Fast Charging locations with 10 stations are already full during peak hours.	Email Message
81	Fantastic! The more and the quicker ! Big drawback from buying an electric vehicle will now be erased! Can't wait!	Email Message
82	Fast electric charging stations along major Interstates is way over due.	Email Message
83	Finally, I question why we need to spend this money on expensive early models of chargers.	Email Message
84	Finding places to charge along the Highway is the biggest obstacle..I would like to see more chargers along rest stop area which in turn would bring in extra revenue.	Survey Response

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
85	First, we are suggesting that charging stations be designed to accommodate larger vehicles, including vehicles that tow or include trailers.	Written Document
86	For people that travel you can't stop every four hours to charge for an hour! That is stupid! Keep oil jobs in Texas	Survey Response
87	Fuel retailers are willing to foot the bill if a competitive EV charging market exists. Accordingly, we must ensure that all communities –regardless of location or socioeconomic status –are included in the development of an EV fast charging network, just as there are refueling stations in every community regardless of geography or income.	Written Document
88	Further, in order to not risk common occurrences of outages, we are also recommending SAE CCS compatible chargers with 99.9% site reliability and 97% plugreliability with provisions for quick turnaround repairs to minimize downtimes.	Written Document
89	General location suggestions IH 37, IH 14, US 77 in South Texas	Email Message
90	GIT R DONE!	Survey Response
91	Given the Federal emphasis placed upon Justice40 in the state NEVI plans, the TxETRA Equity Committee suggests that TxDOT contract with NREL or a similarly capable entity, to develop a Texas-based approach to assessing benefits of potential NEVI funding scenarios and sites to form a backbone of our allocation of NEVI funds for the benefit of disadvantaged communities.	Written Document
92	Given the long lifespan of EV Charging / Microgrid equipment, it is critically important to deploy a cybersecurity platform that is scalable and adaptable to the latest vulnerabilities.	Written Document
93	Good first start. There are some big holes in your map that need to be filled. For example if you are going to Santa Fe, NM from Austin, you need to have EV stations on highways other than the interstates for the greatest efficiency.	Email Message
94	Government incentives should leverage businesses that are willing to utilize their own capital to invest in EV charging	Written Document
95	Great job putting federal funds to use...consider putting stations at already existing rest areas if possible... consider solar panels on their roofs in order to produce power to help create the electricity required	Email Message
96	Have you all thought of the strain you are going to put on the power grid?	Email Message
97	Hell no !!! Let the private sector do it . Just as always !	Email Message
98	HELL NO TO YOUR CHARGING STATIONS!!!	Email Message
99	Hello I read an article about the plans to have charging stations for Electric Vehicles along Texas Interstates. Do you guys have an specifications for the plans that will be released in the future for bids?	Email Message
100	Hello, In articles about the planned EV charging stations, please clarify that these are "DC Fast Chargers".	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
101	Hello, what criteria makes for an ideal location for these chargers to be installed aside from falling within the designated radius?	Email Message
102	How are electric vehicles going to pay fuel taxes for roadway use?	Survey Response
103	How are the charging stations going to be charged?	Email Message
104	How are we going to support the electricity demand for one million electric vehicles? We're already being told to reduce consumption and that there may be brown outs due to the heat.	Email Message
105	How can a vendor get set up to bid on this project.	Email Message
106	How do I find the form to apply for the $2500 rebate on the purchase of a new EV?	Email Message
107	How do I register as a consultant/contractor with TxDOT?	Email Message
108	How do you expect our grid to support everyone driving electric cars?	Email Message
109	How early can we submit proposals for funding?	Email Message
110	How much tax money was spent installing gas stations?	Email Message
111	How will the Department go about finding contractors to complete the construction of NEVI-funded stations?	Email Message
112	However, a minimum cable length is the wrong metric to ensure a charger's viability.	Written Document
113	However, it is impossible to travel routes such as DFW to Amarillo along US 287 which is a very busy route.	Email Message
114	However, the accommodation of most commercial vehicle charging is materially different from the needs of consumer vehicles. Commercial electric vehicles are longer and wider, and typically leverage larger battery packs than consumer EVs.	Written Document
115	However, these pull through spaces may only make sense at particular locations, and may be unnecessary at others, including those in denser urban areas	Written Document
116	Hurray! EV charging stations every 50-70 miles! We want to buy an EV but lack of charging stations in rural areas has been a block.	Email Message
117	I am a EV owner and so far have problems finding enough charging stations. It would be great to have a better net of charging stations around the state. My husband would consider buying a EV too if there would be enough charging stations.	Email Message
118	I am dying to use my EV more, but I don't typically travel on major highways, so I don't make the effort to make trips very often because of range anxiety. I would love to see more superchargers, especially in the hill country, and especially directly from Austin to Lubbock/Abilene.	Survey Response
119	I am reaching out to inquire about where to find information or who best to contact regarding Texas's plan for the NEVI Formula Program funding.	Email Message
120	I am strongly against this proposal by the governor and Texas department of transportation.	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
121	I am strongly considering an electric car for my next vehicle, but I travel a lot around the state and need assurance that I can charge within 30 minutes when needed.	Email Message
122	I am strongly in favor of this 5-year plan implementing EV charges built more strategically across the US and Texas in particular. The most important thing is speed of construction!	Email Message
123	I am totally against this Green New Deal Federal Program for Charging Stations which you want to install in Texas.	Email Message
124	I am writing to you today to express my immense support for the Texas Electric Vehicle Infrastructure Plan.	Email Message
125	I applaud the idea, however FIRST you need to fix the already overloaded grid!	Email Message
126	I believe every county seat in Texas needs a DC fast charging station with 350KW ready speeds. 150KW speeds will soon be outdated!	Survey Response
127	I believe Texas' elimination of Tesla's superchargers for consideration despite their being the lowest bid price is wrong. Interoperability of charger connectors for all types of vehicles is very important along with easy plug and play operability. Texas' stance on direct sale of cars bypassing dealers is also an impediment to increasing sales of cars and the old model is outdated and should be revised.	Survey Response
128	I bought a new Audi EV in December. It is a challenge to drive it to Port Aransas for a weekend. There are no fast chargers between San Antonio and Corpus Christi, and there are a total of four fast chargers in Corpus Christi.	Email Message
129	I did not understand what the top question was asking, so I just put "neutral."	Survey Response
130	I didn't see anything about fixing the power grid in Texas.	Email Message
131	I do not support any tax payer money funding any of this	Survey Response
132	I do not want the charging stations you are planning. #1 Our power grid is bad to begin with. Adding charging stations is going to cause even more problems.	Email Message
133	I don't like taxpayers money being spent for these charging stations	Email Message
134	I don't see the state government concerned about the 99% of gas powered vehicles and the high cost of gas.	Email Message
135	I don't support putting the oil and gas companies out of business. I'm not interested in driving an electric vehicle. What about the farmers that operate big diesel equipment? An "electric tractor, pulling a 40' plow won't even be able to make one round around a field without needing to recharge. That may not be what they're talking about now, but that's where they're headed. But, that's what the Liberals want, so I'm sure that's what we'll do.	Survey Response

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
136	I drive to Eagle Pass from Austin but currently have to rent a vehicle or barrow a friends as I can't charge on the way down. It really sucks. I would love one in Uvalde also in Eagle Pass as it has the only casino in Texas.	Survey Response
137	I feel that the need for the government to build these stations is proof enough that there is no demand.	Email Message
138	I find it unusual that the state needs to fund these EV chargers.	Email Message
139	I fully support adding EV charging stations along interstate first --then absolutely must get those in rural areas.	Email Message
140	I have read the document. As EV vehicle owner, I can't wait for this plan to come into fruition.	Email Message
141	I have reserved an electric Cadillac and would buy one today if I could get one. This survey should have asked if people plan to buy an EV	Survey Response
142	I just wanted to add that more stations appear to be needed up highway 281 going north from San Antonio.	Email Message
143	I know the deadline for public comment has passed but I just want to say yes, one million times yes.	Email Message
144	I know this is about the stations being placed in so many miles to charge the vehicle but do they pay for the charging of electricity?	Email Message
145	I love the idea, LET'S DO IT!	Email Message
146	I own a 2017 Chevy Bolt EV and I am saving so much money on gas and maintenance. I hope everyone who wants an EV can get one.	Survey Response
147	I reviewed the TX state plan virtual meeting, and the EV Infrastructure Plan, but I do not see anywhere that it addresses the increase required in electrical SUPPLY.	Email Message
148	I strongly oppose using Texans' tax dollars to build electric car charging stations.	Email Message
149	I think electric cars are not affordable for the majority and not practical and will create massive issues with battery disposal.	Survey Response
150	I think the upfront costs is a hinderance to businesses that want to implement EV chargers. Typical upfront cost is over $100k for just 2 chargers. If there are not funds available to these businesses it is hard for them to justify (at the current time) the investment because there are not enough EVs on the road to give them a return on their investment.	Survey Response
151	I urge you to ensure any installed chargers apply necessary fees & road taxes to cover lost state revenue from gas taxes & to limit the amount of approved time.	Email Message
152	I urge you to ensure that state, counties & local governments are not out of pocket for land purchase, rentals, maintenance or cost of electricity.	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
153	i want an electric car! but as a renter i can't get a home charger and my complex is not inclined to add chargers. as soon as there is a charging station that is on my commute and within 5 mi of my house, i will be making the switch. we must prioritize EV station in areas that have the most commuters. we can make their lives easier by lowering fuel costs, lowering carbon emissions, rebates for home charger fees. prioritize rural communities that commute the most.	Survey Response
154	I wanted to see if I could get signed up for notifications on the program and specifically when the draft plan is released.	Email Message
155	I would be fabulous to have any charger on the west side of town. West of lackland AFB. Highway 90!	Email Message
156	I would like to ask questions about the deal structure with private entities for the acquisition, installation, operation and maintenance of these EV stations.	Email Message
157	I'm an EV owner in Texas and am interested in support for the EV charger network across the state.	Email Message
158	I'm not opposed to electric vehicles. I am opposed to my tax dollars being used to force me to accept them.	Survey Response
159	I'd just like to add to the public comment record that I'm for adding EV charging stations throughout our state's interstate corridors.	Email Message
160	If federal funds are being used for the EV infrastructure, private entities who install these stations should not discriminate against drivers who use these facilities for charging, only.	Email Message
161	If less than 1% of Vehicles are electric- how is this going to help the 99% that done't have these vehicles.	Email Message
162	If policymakers send the necessary signals to retailers, such as travel centers and grocery stores located in rural locations, these businesses will invest in EV charging infrastructure to meet the demand of their customers	Written Document
163	If there is a demand for charging stations, the free market will meet that demand. The State of Texas does not subsidize the construction of gas, diesel or natural gas fueling stations.	Email Message
164	I'm curious where the line is drawn on what is an Electric Vehicle verses a micromobility device, Personal Electric Vehicle or an e-bike?	Email Message
165	I'm glad that TxDOT is taking the initiative to invest in EV charging infrastructure.	Survey Response
166	I'm very much in favor of maximizing the number of electric vehicle charging stations, and strongly support the use of solar to power the chargers.	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
167	In light of Texas' decision to move forward with the installation of electric vehicle charging stations every 50 miles and Governor Abbott's direction to ensure rural Texas is included in the infrastructure expansion, an underutilized resource is Texas' network of depression era roadside parks.	Email Message
168	In my humble, and likely to be ignored, opinion, tax dollars shouldn't be spent on subsidizing recharging stations for electric vehicle owners.	Email Message
169	In order to maximize the use of stations, consider setting protocols for customers, such as establishing a "waiting lane" for cars waiting to charge, so people move to open chargers in an orderly manner, and also a requirement that customers move their vehicles within 5 minutes of achieving an 80% charge, if others are waiting.	Email Message
170	In particular, the TxDOT Plan should include how the TxDOT Plan reflects the public comments thus far, including the May 16, 2022, comments from TxETRA Equity Committee.	Written Document
171	In the draft Plan, TxDOT described the need for 4 units rated at 150kW per unit. This is confusing: it is unclear if TxDOT is looking to install 4 chargers, each with one charging port or if there is the ability to install 2 higher power chargers, such as 350 kW chargers, with each charger having 2 ports (for a total of 4 ports)	Written Document
172	Include Five Years of Operations and Maintenance(O&M) Costs in NEVI-Funded EVSE	Written Document
173	Include Fleet Charging in Texas' NEVI Plan	Written Document
174	Inclusion of language to ensure protection of cultural resources and human remains when constructing charging stations	Written Document
175	It concerns me to no end that we are looking to subsidize the implementation of EV charging infrastructure when our electric grid cannot support our homes and businesses.	Email Message
176	it would be helpful to see alist of existing and new EVSE vendors who have been able to achieve Buy America Certifications for their EVSEs.	Written Document
177	It'd be nice to see more enforcement/stricter fines for misuse of the systems we have, and future systems to come.	Survey Response
178	It's great to see the proposal to add many more charging stations in Texas. As an EV and Plug in hybrid owner, I feel this will really support the proliferation of EVs in Texas.	Email Message
179	It's a cute idea, but incredibly damaging to the environment.	Survey Response
180	I've been driving an EV for three years. DO NOT try to impose a yearly road tax on EV's or you will slow the growth of EVs. Consumers are not stupid.	Survey Response
181	Jefferson County needs more DC Fast Chargers. The EV charger plan is great news keep up the good work.	Survey Response
182	Keep the user input map on the public involvement site up	Written Document

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

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183	Kudos for adding the demand charge question. Very curious juxtaposition of a couple of thoughts. For a phase-in period? (per station, or per EV State penetration...?) As a condition of participation in Grid management? Bulk Grid, or Distribution? For which classes of EVSEs and users? Impacts of separating these assets from other Utility cost causation models? I would enjoy sharing my thoughts on the topic (RBoys)..	Survey Response
184	Length of Parking Spaces	Written Document
185	Level 2 chargers are not useful for retail customers or road trips; Level 2 chargers are needed where people work and sleep	Survey Response
186	Lighting - to decrease vandalism and increase safety	Written Document
187	Locate charging stations at state parks and tourist areas.	Survey Response
188	Looking forward to more EV Charging stations.	Survey Response
189	Looking through the plan I don't see any joy for Tesla owners. You talk about DC fast chargers and Level 2 chargers but no superchargers for Tesla.	Email Message
190	Maintain Flexibility in Site Specifications	Written Document
191	Many businesses while constructing new buildings have setup the correct utilities to support DC Fast charger and run conduits so that all they have to do now is get chargers. I think these businesses should be awarded funds first as all they would have to do is order the chargers and have them installed. Businesses that have not done this will have to undergo longer construction projects. This will delay EV charger placement. The businesses that have infrastructure could have chargers installed in as little as 3 to 4 months if they are awarded funds.	Survey Response
192	Maximum Power Levels - 350kW	Written Document
193	Missing a key acronym definition: MPO	Email Message
194	Montgomery County, MD is an example of such a solution with over 2 MW of resilient charging capacity.	Written Document
195	More charging station is wonderful news. Electric vehicles are where we are heading.	Email Message
196	More DC charging please.	Survey Response
197	More electric cars are hitting the market more chargers are needed	Survey Response
198	More inclusive process for obtaining input for rural and low-income areas should be developed.	Written Document
199	More waste of taxpayer dollars	Survey Response
200	Moving forward, the Plan should incorporate policies that are pro-business and pro-private investment	Written Document
201	MPO Compensation (aka SPR funds for planning station locations)	Written Document
202	MPO Formula Allocation to include factor for non-attainment	Written Document
203	My input is that the charging stations need to be properly lighted in areas where people can feel safe.	Email Message
204	Need a charger between The Rio Grande Valley and San Antonio!	Survey Response

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

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205	Need MANY more public charging options for a shift towards adoption.	Survey Response
206	Need more charging stations	Survey Response
207	Need more public fast charging stations. Reliability of existing charging stations is a problem.	Survey Response
208	New construction of blogs, Apts should always require x # of charging stations and x level 2 and x fast charging.	Survey Response
209	No data sharing requests beyond existing regulatory requirements or federal technical guidance should be conducted without industry stakeholder input.	Written Document
210	NO NO NO.	Email Message
211	No one has yet calculated what it costs to charge a vehicle compared to the price of a tank of gas by the mile, plus the cost of the car. Less moving parts is one big plus though, maybe.	Survey Response
212	No to spending 408 million dollars on charging stations in Texas to subsidize the EV industry.	Email Message
213	Non-EVs blocking chargers - in addition to signs, establish a system for citizens to report directly to a centralized system to dispatches tow truck operators to move the blocking vehicle.	Email Message
214	Not a big fan or see any advantage of electric vehicles.	Survey Response
215	Not a true survey to determine how people feel about EV. Very biased and skews the curve.	Survey Response
216	nstall covered EV stations at highway rest-stops with clearly marked signage and ability to pull vehicle through (if towing).	Email Message
217	on page 41, please consider adding on-site solar to complement the battery storage mentioned in this section	Written Document
218	on page40, please consider monthly utilization rather than biannualutilization reports.	Written Document
219	Once the infrastructure is in place all over the nation, this concept will take off. Now, there just aren't enough places to charge.	Survey Response
220	Ongoing Coordination with State Agencies and Utilities	Written Document
221	onpage 44, please consider including emissions reduction, end user satisfaction, and community feedback as part of the performance metrics of the program.	Written Document
222	Operating Costs of electric vehicles are far lower than petroleum powered equivalents	Survey Response
223	Operations and Maintenance - stated 5% is too low	Written Document
224	Our power grid can't handle it.	Email Message
225	Our state needs to build the infrastructure to allow for more EV's on the road.	Survey Response
226	overpriced stations. who's making the big money	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
227	Page 23, Consider a sentence or two that explicitly spells out the point of this section which is "the grid can handle this projected additional 605.5 MW's." Then the secondary and perhaps most powerfulstatementis "this new EV charging demand can be offset bythe X of GW's fromplanned projects for Wind, Solar and Battery.	Written Document
228	Partner / Leverage our new neighbor Tesla? Other interesting info sources...https://www.transportation.gov/rural/ev/toolkit/planning-resources|https://www.forconstructionpros.com/infrastructure/article/22030669/what-construction-contractors-need-to-know-about-ev-infrastructure|https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/charging-ahead-electric-vehicle-infrastructure-demand|https://news.energysage.com/electric-vehicle-charging-infrastructure-expanding/|https://mashable.com/article/elon-musk-tesla-master-plan-3	Survey Response
229	Payment Methods - No credit card readers	Written Document
230	Pg 33-Is there a reason forlimiting to 8 units per station? Is it perhaps to allow for multiple charging station locations.	Written Document
231	Pg 42 -Change "Ample Technologies" to just "Ample".	Written Document
232	Phased approach for rural ev charging stations - full power but fewer ports at first until usage increases	Written Document
233	Physical Constraints - Charging sites may resemble parking lots more than drive through lanes of existing gas stations	Written Document
234	Plan on deployment in mid size cities as part of the first wave.	Email Message
235	Plans should ensure that important technology standards are put in place that can ensure a good customer experience and help facilitate vehicle-grid integration.	Written Document
236	Plans to review and comply with Texas' strategy to meet Justice40 requirements by the inclusion of a DBE performance plan as part of a proposal response	Written Document
237	please address how this EV plan will coordinate with EV charging networks in neighboring states. Also, please provide updates on your website rather than providing updates when requested	Written Document
238	Please allocate money to remove these charging stations when they become inoperable and are in disuse.	Email Message
239	Please consider a minimum of level 2 to DC fast charge at public stations.	Survey Response
240	please consider adding convenience, affordable, reliable, equitable, and accessible (ADA compliance)as additional high-level goals.	Written Document
241	Please consider EV's to qualify in urban areas for "Carpool/HOV" lanes to incentivize EV adoption (could phase this out as Ev's become more popular).	Survey Response
242	please consider including the Ford F-150 Lightning on the Minutes to Charge for 100 Miles of Range	Written Document

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
243	please consider nominating U.S. 290 and State Highway 71 to the alternative fuel corridors	Written Document
244	please consider siting a DCFC station(s) within Harris County that would serve disadvantaged communities.	Written Document
245	Please don't listen to the nay sayers that say we don't need them - Texas needs chargers	Email Message
246	Please include CHAdeMO DC fast charging.	Email Message
247	please include the list of stakeholders(i.e.,name of company, utility,etc.) in an Appendix	Written Document
248	Please make sure a 50KW or greater EV charger is installed in Three Rivers.	Email Message
249	please plan on a mix of CCS 175 and 350 KWh charging capabilities.	Email Message
250	Please put more J7772 public charges near Del Valle, and Cedar Creek.	Survey Response
251	Policy makers must create a rate/tariff structure that strikes an even balance between the customer, the retailer, and the utility without undercutting DCFC economics.	Written Document
252	Prep site for 350kW during construction	Written Document
253	Prep site for future growth (future proofing)	Written Document
254	Preserve Location Flexibility	Written Document
255	Prioritize 350 kW Charging Along Interstate Corridors	Written Document
256	Prioritize Higher Power Charging	Written Document
257	Provide Level 3 chargers at all state parks. Please.	Survey Response
258	Providing a network of fast and conveniently located chargers for electric vehicles is a great investment in transport infrastructure.	Email Message
259	Provisions for reasonable price control	Written Document
260	Proximity to power source	Written Document
261	Public policy should encourage private investments by those who can successfully install, own, operate and maintain a robust and accessible fast charging network	Written Document
262	Put that money into school choice so that our public schools have to bring a better education to the table & hold teachers/administrators accountable!	Email Message
263	putting In chargers in locations on highways that have clusters of hotels will really help.	Email Message
264	Quit wasting my tax dollars on a non sustainable venture. There is not enough electrical infrastructure available to supply current power needs.	Email Message
265	Range and ability or lack there of are concerning with EV's. I also don't believe we have the local infrastructure to support EV's with the electrical demand in our older neighborhoods.	Survey Response
266	Re demand charges - I support new programs for fleet/ev charging to address them fairly and in such a way that it encourages efficient use of utility assets.	Survey Response

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ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
267	Re: "more expensive" --- upfront costs, yes, EVs are more expensive. Over the life of the vehicle, EVs are less expensive because of lower fuel costs and lower maintenance costs.	Survey Response
268	Read where Texas is planning on putting electric charging stations every 50 miles on major highways in our state. This is a good idea.	Email Message
269	Recommends allowing public comment on a draft solicitation before it is published.	Written Document
270	Recommends eliminating the 45-minute time limit, the idle fee requirement and the signs recommending charging to 80%for Electric Alternative Fuel Corridor and Rural County Seat locations.	Written Document
271	Recommends encouraging pull through spaces by awarding additional points for this feature instead of making it mandatory.	Written Document
272	Recommends including flexibility regarding power levels and site locations for MPO areas.	Written Document
273	Recommends including flexibility withregard topower levels following the corridor build-out.	Written Document
274	recommends that the department prioritize the swift deployment of total charging stations over the establishment of more expensive sites that may take longer to complete.	Written Document
275	Recommends TXDOT maintain flexibility with regard to the funding to be administered following the corridor build-out. - 50/50 urban rural will be constrictive	Written Document
276	Recommends TXDOTavoid requiringa specific charging cable length.	Written Document
277	Recommends TXDOTplan for a level of OpExsupport that is closer to 50% of installation costs.	Written Document
278	Recommendsincluding flexibility with regard to site locations followingthe corridor build-out.	Written Document
279	Regulated utilities should not be placing the burden of providing fuel to EV drivers on the backs of hard-working, low-and middle-income individuals, many of whom do not own a vehicle much less an EV	Written Document
280	Removal of demand charges from electric charging stations represents a strong possibility for subsidization of electric charging by other electric system users, forcing local consumers to pay for infrastructure that may provide very little local return on the investment. Local rate payers should not subsidize electric transportation where the local benefit will likely not be recognized.	Survey Response
281	Require a Minimum of 150 kW for MPO Charging Stations	Written Document
282	Require EVSE Procured with NEVI Funding to be Open Charge Point Protocol (OCPP) 1.6 Compliant	Written Document
283	Require Ten-Year Manufacturer Warranties for NEVI-funded EVSE	Written Document
284	Resiliency of Evacuation Routes - Battery, solar, microgrids.	Written Document
285	Risk of Vandalism - acknowledge, how to handle them.	Written Document

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

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286	Risks and Challenges (pg 32)- Consider adding the following: see list in document	Written Document
287	Satisfying the Justice40 Requirement for Economic Opportunity and Job Training	Written Document
288	Shouldn't EV chargers be a commercial business and financed by private investors?	Email Message
289	Signage criteria need to expand to assure that EV chargers can be found.	Written Document
290	Similarly, in addition to placement, the number of charging ports at a given station may need to increase beyond four.	Written Document
291	Simply put, citizens should not be paying for services that the private sectoris willing to cover. To do otherwise would be an unnecessary burden on those least able to afford it.	Written Document
292	Since when does the tax payer subsidize building infrastructure for private motor vehicles?	Email Message
293	Site Power Requirements - freigh truck would require 23MW from study in CA	Written Document
294	solar powered battery system chargers would lower travel cost using an EV	Survey Response
295	Standardize Charging Station Terminology - OCPI, to location, port, connector	Written Document
296	Standardize MPO Application Process	Written Document
297	States can maximize private sector investment by designing and launching grant programs that allow for a competitive site selection process which maximizes the number of eligible applicants.	Written Document
298	STOP WASTING OUR TAX MONEY ON BULLSHIT WE DONT NEED.	Survey Response
299	Streamline and Standardize Electric Distribution Upgrade and Interconnection Processes for EVSE	Written Document
300	Streamline Signage Requirements for DCFC Stations	Written Document
301	Strongly recommends that the states do not require a greater than 150kW capacity as a floor requirement (aligned with the 150 kW floor required under NEVI technical guidance issued June 9th)	Written Document
302	Strongly supports funding only CCS connectors.	Written Document
303	Stupid is as stupid does. Talk about energy capacity and associated energy waste. The long haul power grid, interstate transmission network, is the source of our greatest energy wast yet created by society. Moving to a hub based energy generating network is simple and will always be in the country's best interest.	Email Message
304	Suggests that having REPs price into their offers a commission that can flow back to financing parties who contribute the 20% match is an appropriate way to raise some of this matching revenue	Written Document
305	Tesla superchargers with their compatibility to other EV manufacturers are the way to go here.	Survey Response

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

ID	Summarized comments from Individuals, Industry, Agencies, and Advocacy groups on the Texas Electric Vehicle Infrastructure Plan	Source
306	Texas desperately needs more electric vehicle charging. It's so big some places are impossible to drive to with an EV.	Survey Response
307	Texas does not need numerous charging stations when there are only a very small percentage of electric vehicles on our roads.	Email Message
308	Texas Electric Generation and storage needs to be increased drastically. We are growing by almost 1,000 People a day into Texas. We need better infrastructure to handle E.V. Chargers. We also need to create a tax based on miles driven, since E.V. are not paying taxes from Fuel taxes.	Survey Response
309	Texas should not set any additional funding or grant program parameters nor guidelines based on the distance from a particular transportation corridoror distance from another EV charger outside of what is already required by the NEVI program guidelines.	Written Document
310	Texas should work in instating energy storage systems such as green hydrogen for its renewable energy before it chooses to drop the demand charges. There is too much of a temporal mismatch between energy demand and energy supply for renewables to make dropping them demand charge a reasonable decision. This would likely increase oil and gas usage as there is no financial incentive for citizens to use renewable energy at its peak hours (like in the afternoon) for energy intensive processes.	Survey Response
311	The concern I have with electric vehicles is affordability and also what happens to the batteries for disposal, is this being addressed. The dangers of the lithium and the use of the batteries seems far more dangerous than gasoline powered vehicles.	Survey Response
312	The corridor from the Lower Rio Grande Valley to most Texas major cities is in great need of charging stations. Please put the Lower Rio Grande Valley at the top of your list.	Email Message
313	the cost of ev cars is higher but the maintenance and charge cost is less- I think that making sure that the EV locations are is safe areas along the highway where waiting 30 minutes for a quick charge doesn't mean sitting in my car with the doors locked in a parking lot. I think that green spaces are important when waiting for my car to charge- somewhere I can let my dog out or where I can plug my car to charge without fear of having it stolen or where I can go inside to the air condition and get a quick snack and get back on the road.	Survey Response
314	The DC fast chargers going to be deployed across the state need to go up to 350KW!	Email Message
315	The DCFC stations I have used could benefit from installation of a Solar PV canopy to shade the vehicles while charging and a battery system to support the high power demand during charging.	Email Message

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

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316	The Department should revise the plan to state that equipment that supports ISO 15118 (the Plug and Charge standard) be preferred, rather than specifying that the Plug and Charge standard (a specific payment and payment processing type) be preferred.	Written Document
317	The Draft Plan does not overtly address how ownership of EV charging stations will be addressed.	Written Document
318	The established floor of 150 kWrate of charge is ideal to optimize the driver experience and maximize EV adoption with the highest return on investment	Written Document
319	The Faux green EV car owners should pay for charging their cars at public charging stations.	Email Message
320	The first is the lack of a wholesale electricity market for charging purposes. Without a wholesale transfer rate, charging station ownersare forced to purchase electricity at retail and sell it at retail.	Written Document
321	The initial cost, battery replacement, insurance cost, the loss of tax benefits after electric vehicles, plus the need for significantly more availability of energy on the power grid	Survey Response
322	The initial purchase price of an electric vehicle is higher than gas powered vehicles, but with lower maintenance and fuel, costs, as well as the often overlooked environmental and health benefits, electric vehicles do much better than gas powered vehicles over time.	Survey Response
323	The most efficient, cost-effective path to a nationwide network of EV charging stations is for retailers and power companies to work in partnership with each focused on their specific areas of expertise	Written Document
324	The Plan should address costs associated with behind-the-meter and to-the-meter infrastructure upgrades in electric infrastructure, as well as associated civil and structural scope elements required to support electric infrastructure upgrades.	Written Document
325	The Plan should address utility program mandates for bidirectional energy flow associated with electric vehicles.	Written Document
326	The Plan should consider the use of Distributed Energy Resources (DER) or MicroGrid including battery, solar, and backup generators.	Written Document
327	The Plan should include a strategy to target investment in workplaces, schools, hospitals, retail centers, entertainment venues and other places where people centrally gather, congregate or visit	Written Document
328	The Plan Should Prioritize Private Investment and Prohibit Ratepayer Subsidization of Charging Stations	Written Document
329	The Plan Should Prioritize Resilient Grid Solutions and Systems Powered by RenewableEnergy Sources	Written Document
330	The platform will need to have ways to charge fast enough during storms. Or we need a way to transport them in mass...	Survey Response
331	The power grid in Texas is still unreliable. That needs to be addressed.	Survey Response

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

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332	The proposed map covers the expected major routes, but Central Texas does not seem to be very well served.	Email Message
333	The question about cost of EVs versus ICE needs to be revised. My experience is that EVs and more expensive to purchase but cheaper to operate.	Survey Response
334	The State of Texas' power grid is too weak to accommodate the current demand for power.	Email Message
335	The State should encourage and favor consortia of companies that can bring the right mix of competencies to a proposed EV charging station grant.	Written Document
336	The state subsidizing electric cars by building charging stations is absolutely absurd. The power grid can not support things as it is and you want to waste time and money building charging stations the will benefit few and strange the power grid.	Email Message
337	The Texas grid is already stretched to capacity, and nearly failed in February 2021.	Email Message
338	The Texas grid is already under stress of over demand.	Email Message
339	The TxDOT Draft Plan does not yet adequately include a description of the approach (or "methodology" as mentioned in the MS&R Section 680.112(d)) for public engagement.	Written Document
340	The TxDOT Draft Plan does not yet adequately include an approach to measure contracting opportunities for historically underutilized businesses. We would like to emphasize ourprevious comments on the matter.	Written Document
341	The TxDOT Draft Plan will need to be modified to adhere to the MS&R rules for ensuring qualified technicians' training (680.106(j)), and the state will need to support the availability of EVITP and related required programs.	Written Document
342	The use of the NEVI funds in Texas must ensure the equitable placement of the charging stations, especially within the MPO regions. It will be necessary to analyze the geographic distribution of potential charging station locations.	Written Document
343	The vendors' operational availability is accessible via the internet, and should be certified monthly by the vendors and reported to TxDOT. The penalties for failures to maintain uptime will need to be in the plan and in the contracts to be enforceable.	Written Document
344	There are adapters that will allow Tesla vehicles to use CCS stations, but there are no adaptors for Nissan to use a CCS.	Email Message

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345	There is still a significant deficit of supercharger availability preventing most consumers like myself from even attempting to travel outside of my regular day to day commute. Horror stories of traveling during holidays (specifically I-10 to Houston, and I-35 to Dallas or San Antonio) prohibit me from using my EV for anything outside of the local Austin area.	Survey Response
346	Therefore,the station capabilities should be flexible down to a minimum of150kW charging rates for DCFC on corridors, but with a minimum of 25% capable of 350kW.	Written Document
347	These should be privately funded, like gasoline stations. Please ask the U.S. Government why my taxpayer funds should be used to support electric cars.	Email Message
348	These things the state is building need to be built between cities, rural areas. Cities have plenty with many more on the way.	Survey Response
349	Think the gas tax should be replaced with a mileage/vehicle weight tax.	Survey Response
350	This is a horrible use of our tax dollars. EVs are significantly more expensive than gas vehicles and do not have the range/utility to be used outside of the city areas of Texas.	Survey Response
351	This is a waste of money. Stop forcing electric vehicles on us and allow the free market drive the development of innovation.	Survey Response
352	This is a waste of tax payer money. Let the private sector offer it just like fuel.	Email Message
353	This is total B.S. Why should tax payers pay for this.	Email Message
354	This plan seem good. It appears that there will be more chargers along I20 and I45. Chargers need to be closer together to allow greater choice and charging options.	Email Message
355	This will create unnecessary strife. People will not be pleased that they are experiencing periodic blackouts because others are charging their electric cars. You are also not considering how this will impact many of the other industries that use plastics. Processing costs for these companies will also have to increase.	Survey Response
356	To that end, regarding apprenticeships, if the Department of Labor adopts apprenticeship programs for EV installation and maintenance, TxDOT should require participation of contractors in the programs.	Written Document
357	total cost of ownership for EV is substantially less except at the smallest econ cars	Survey Response
358	Total cost of ownership of EVs is on par with the average cost of a gas powered car when you factor in fuel and maintenance. Additionally, many Texans drive gas-guzzling SUVs or trucks, which are far more expensive than many EVs.	Survey Response
359	TXDoT could contract directly with REPs for an aggregation of charging stations for the initial five-year period(or longer) to leverage the agency's buying power	Written Document

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360	TxDOT could state that the parking area must be maneuverable enough to allow for vehicles with recreational trailers to charge.	Written Document
361	TXDOT needs to finish and repairs all the roads frost before attempting new adventures. Stop screwing over Texans	Survey Response
362	TXDoT should also consideras part of its State Plan the selection of one or more dedicated REPs to supply energy to charging stations made possible under NEVI.	Written Document
363	TXDoT should be more specific in its final State Planin describing the role of those responsible for supplying energy to the charging infrastructure that will be deployed through NEVI.	Written Document
364	TXDoT should be wary of putting too many specific requirements on how applicant charging stations conduct their operations or design their products so long as they meet key program metrics	Written Document
365	TxDOT should consider imposing requirements to ensure 3rd party vehicle charging vendors are evaluating locations with consideration to social equality/social justice	Written Document
366	TxDOT should coordinate with the Texas Public Utility Commission and ERCOT	Written Document
367	TxDOT should move to clarify this section to affirm that there will be competition for EV charging station vendors	Written Document
368	TxDOT should revise this proposal to provide Operations and Maintenance funds for all sites	Written Document
369	TXDoT should specifically consider encouraging the inclusion of onsite batteries not only for its potential to participate on the electric grid but to increase the resiliency of EV charging stations themselves,	Written Document
370	TXDoT to also engage with the Public Utility Commission of Texas to leverage their expertise on the electrical grid	Written Document
371	Upgrading the Texas electric grid to accommodate this new technology is a daunting task that will require collaboration among utilities and retailers as well as many other stakeholders	Written Document
372	US 380 should have EV chargers. DFW is not connected to Lubbock/	Survey Response
373	Use State Highway Safety Rest Areas - these locations are already strategically located on Interstates with restrooms, picnic & play areas for kids.	Email Message
374	Users of these EV should be charged not only for electricity used but for cost to build and maintain the stations.	Email Message
375	Users should also be taxed at the same rate as gasoline users. Taxed for the same for road and maintenance.	Email Message
376	Utilities are not subject to demand charges for their charging stations, which gives them an insurmountable competitive advantage over the private sector	Written Document
377	Various needs based on traffic data inside MPO suggests 8 units per locations is insufficient and should be increased	Written Document

Appendix - Texas Electric Vehicle Infrastructure Plan - Summarized Comments

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378	Visibility	Written Document
379	Waste of time and money. And a drain on our power grid that is already strained.	Email Message
380	We are also encouraging, for the convenience of our customers, that chargers be near restrooms and amenities.	Written Document
381	We are concerned that the draft Plan misses an opportunity to encourage, incentivize, and support the use of the State's substantial existing refueling network and business model that is currently in place	Written Document
382	We believe that granting one EV charging station vendor a monopoly on providing and installing EV chargers under the NEVI Program would be a catastrophic error.	Written Document
383	We currently have 2 EVs and have a Hybrid on order after just selling our ICE vehicle. We would prefer to be an all electric household, but are concerned about charging station availability on road trips. Additional EV charging stations would be a huge step in the direction of all electric and would likely be an economic stimulus for the businesses around the charger since there would be a required stay of around 30 minutes.	Survey Response
384	We encourage the State to build a Plan that looks toward the futureof alternative energy refueling, including the medium-heavy duty (MDHD) sector.	Written Document
385	We feel there is inadequate detail as to how or what is covered by the public/private cost share.	Written Document
386	We live in La Coste Tx. Just outside of San Antonio, We are on our third Hybrid EV and EV. I gave the 2011 Volt to my Daughter, it has 140,000 miles and still doing fine. I regularly drive to Corpus Christi Marina and must use our 2013 Volt on gas, I can't Drive our 2020 Bolt. The only DC fast charger is at the Harley-Davidson dealership and it is very expensive. The city owned Corpus Christi marina would be a perfect place for DC fast chargers. It already has high voltage network for all the boats. It is within walking distance to many restaurants and tourist attractions. My friend also has a 2017 Bolt, He has driven to Marble Falls and back using the DC fast chargers in San Antonio then using his Level 2 charger when he gets home. I should be able to do the reverse. Also I have seen Tesla's in Big Bend , They charge in Ft. Stockton then at RV sites in the park. All EV's should be able to get anywhere, not dependent on what type of vehicle you buy. A gas nozzle works on any car, you don't have to go to a Toyota or Ford gas station, this is just wrong.	Survey Response
387	We need 350KW DC Fast chargers spaced out every 70 miles on interstate and every 100 miles on state highways.	Survey Response
388	We need chargers at the University of Texas Rio Grande Valley in the Edinburg and Brownsville Campus	Survey Response
389	We need closer Tesla super chargers than Plano.	Survey Response
390	We need more charging stations in Texas.	Survey Response

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391	We need more electric vehicles in Texas.	Survey Response
392	We need to balance energy. Still need fossil fuel but also need electric and renewable. One cannot exist without the other. I will be purchasing a Tesla soon. Charging infrastructure needs to expand in Texas.	Survey Response
393	We need to build a stronger electric grid first. If we do not have environmentally responsible, and reliable generating capacities to deal with our growing population and hotter summers, this is going to be putting the Cart before the horse.	Email Message
394	We recommend that TxDOT makes more of a commitment to include equity in its EVSE project evaluation scoring criteria	Written Document
395	We suggest adding a requirement that there be a flag-based banner on the charging equipment to allow the user to choose the language they prefer. This is common in Europe.	Written Document
396	We suggest that TxDOT include funding in the plan for executing the necessary, robust public engagement process in both rural and urban (MPO) areas.	Written Document
397	We travel Austin to Wichita Falls. Wish there were better route options than I35. Would also like State Park EV charging options.	Survey Response
398	We urge the Department to consider these necessary policies to create a sustainable market for private investmentin EV charging infrastructure in Texas.	Written Document
399	We urge TXDoT to favorably consider consortia with companies from each of these three industries to maximize the benefits of the NEVI charging stations.	Written Document
400	Well im all about gas vehicles. I hate change...these gas prices are making it to where we can't even drive to work because run out of money for gas for the week.	Email Message
401	What does this even mean? "To increase the utilization of the electricity system assets, do you support the removal or relief from demand charges which are based on customers' highest level of energy use during applicable periods of each billing cycle." Also, why are rural County Seats the only target for rural areas? Rural citizens have the ability to self-charge at home with Solar Panel installations.	Survey Response
402	What is the estimate of additional grid capacity needed for these charging stations?	Email Message
403	What provisions are being considered for-profit small business concerns for socially and economically disadvantaged companies to participate in the EV charging plan?	Email Message
404	What will be the role of the MPO's for EV infostructure funding?	Email Message
405	When designing plan ahead for expansion, don't limit your layout for just 8 slots,	Email Message
406	When will rural area funding be available?	Email Message

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407	Where and when can I find out more information of how to partner with the state in it's efforts to deploy an effective EV charging network.	Email Message
408	Where are you going to get the power from?	Email Message
409	Where is the electricity for these charging stations coming from?	Email Message
410	Where is the money coming from to acquire more land to put these power charging stations and who will pay to maintain them?	Email Message
411	While a charging station must buy power from a REP in the competitive areas of ERCOT regardless, a NEVI grant beneficiary should engage a 5+ year initial contract for power with a REP (in competitive areas) that would provide predictability around energy costsin order to guard against the vacillation of dependent charging prices	Written Document
412	While there is some need for larger output stations on heavy freight corridors, a standard of 150 kW serves the overwhelming majority of users and leaves space for private entities to furnish larger capacity stations where demand arises	Written Document
413	Who is going to pay for maintenance and upkeep of them?	Email Message
414	Who is maintaining these units? Who pays?	Email Message
415	Who pays for the electricity when charging vehicles? The vehicle owner? I do not drive an electric car, so I'm asking how this is currently handled and how it would be handled with the new infrastructure proposed. Thank you.	Email Message
416	Width of parking spaces	Written Document
417	Will their be a fee to charge your vehicle, if so how much how long will one sit at a charging station?	Email Message
418	Will there be a training on how to submit for funding through proposal?	Email Message
419	Will you be issuing an RFP to administer the funds once the plan is approved?	Email Message
420	Wish you had asked if I planned to buy an electric car, because I do. I'm not concerned too much about charging for my local travel, but long distance travel in rural areas is a concern. I also wish that electric companies could incentivize overnight charging via lower rates at those times.	Survey Response
421	With what agencies are you working to have the additional reliable generation in place prior to implementing the construction of these charging stations, and when will that reliable generation be added to the grid ?	Email Message
422	Without government subsidies EV's are unaffordable. Our power grid will not support this impact. Homes are not equipped for the charging demand. Please stop this nonsense and waste of our taxes!	Survey Response
423	Would like to work with TxDOT to actively plan how best to accommodate the needs of medium-and heavy-duty vehicles that will utilize public charging	Written Document

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424	Yes! So this. I am thinking of moving out of state because Texas is not EV friendly which is ridiculous because we have a Tesla plant 20 minutes from us.	Email Message
425	You have totally forgotten East and West Texas and I believe Agriculture in your plan.	Email Message

U.S. Department
of Transportation
Federal Highway Administration

1200 New Jersey Ave., SE
Washington, DC 20590

September 27, 2022

In Reply Refer To:
HEPN-30

Mr. Marc Williams
Executive Director
Texas Department of Transportation
Dewitt C. Greer Building
125 East 11th Street
Austin, TX 78701

Subject: Approval of Texas Electric Vehicle Infrastructure Deployment Plan

Dear Executive Director Williams:

The Federal Highway Administration (FHWA) has completed the review of the Texas Electric Vehicle Infrastructure Deployment Plan required under the National Electric Vehicle Infrastructure (NEVI) Formula Program.[1] Based on the review and the recommendations provided by the Joint Office of Energy and Transportation (Joint Office), FHWA has determined that the Texas Electric Vehicle Infrastructure Deployment Plan is approved for implementation. With this approval, Fiscal Year 2022 funds are now available to Texas for obligation.

Also, States should be aware that FHWA has posted updated Frequently Asked Questions on our website at:
https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/resources/nevi_program_faqs.pdf.

The FHWA and the Joint Office will follow up with States on specific opportunities for improvement in future year plans and will continue to provide technical assistance and guidance as States continue to update plans and begin implementation.

A publicly accessible version of the Texas Electric Vehicle Infrastructure Deployment Plan and this approval letter will be available on the FHWA website at:
https://www.fhwa.dot.gov/environment/nevi/ev_deployment_plans/

[1] The NEVI program is authorized under the Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (IIJA), (Pub. L. 117-58)

Thank you for putting the United States on a path to a nationwide network of EV chargers that can ensure a convenient, affordable, reliable, and equitable charging experience for all users.

Sincerely,

Gloria M. Shepherd
Associate Administrator
Office of Planning, Environment and Realty

cc:
FHWA: HOA, HCC, HPL, HCF, Texas Division Office
Joint Office Director: Gabe Klein, Deputy Director: Rachael Nealer