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*Texas Conservative Coalition  
Research Institute*

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# Energy & Infrastructure Task Force

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**FINAL REPORT**

*January 2025*



*Texas Conservative Coalition  
Research Institute*

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**TCCRI**

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# Introduction

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Energy and Infrastructure are critical for Texas as the state continues to expand in terms of population, economy, and influence. Energy is not only a vital sector of the Texas economy, its reliability and abundance are required by Texas' broad range of diverse industries, from technology to manufacturing. Infrastructure provides the means by which Texas industries expand, and by which Texans supply the workforce.

To those ends, the Texas Conservative Coalition Research Institute's Energy & Infrastructure Task Force Report explores two key areas of state policy relevant to the state's critical energy and infrastructure needs.

On the energy side, the Report looks at the current state of the power grid, and makes recommendations based on the state's growing power needs. IT also explores emerging technologies and how energy innovation can play a role in maintaining the state's leadership role in energy growth, production, and supply.

The state's growing population requires that infrastructure in the form of roads keep pace with the influx of residents and business. To that end, the Task Force covered the ongoing importance of public-private partnerships, or P3s.

Over the course of the 88th Legislative Session's Interim, TCCRI held meetings to discuss many of these topics. Those meetings informed the research and policy proposals contained in this report, as did TCCRI's research and work in other areas, including legislative testimony, white papers, and public policy summits. TCCRI hopes that you find the research and policy proposals helpful and informative.



# Grid Reliability

## Background

Electricity systems in the United States are divided into three major regions.<sup>1</sup> The Eastern Interconnection operates in states east of the Rocky Mountains, the Western Interconnection operates from the Pacific Ocean to the Rocky Mountain states, and the Texas Interconnect operates within 214 out of 254 counties within the State of Texas.<sup>2</sup>

The Texas Interconnected system is managed by the Electric Reliability Council of Texas (ERCOT), an independent, membership-based non-profit organization regulated by the Texas Public Utilities Commission (PUC).

North American Electric Power Grids



Source: "U.S. Electricity Grid & Markets." U.S.

Environmental Protection Agency, 2025.<sup>3</sup>

## *A Brief History of the Texas Electricity Grid*

As would be the case several times in Texas history, the creation of the Texas electricity grid originated in the Lone Star State's desire to remain as independent as possible from federal interference.

In 1935, Congress passed the Federal Power Act, which gave the federal government the authority to regulate interstate electricity sale and transmission.<sup>4</sup> As a result, Texas utilities came together and agreed not to sell or buy electricity outside of Texas "and to establish freedom from federal oversight."<sup>5</sup>

During World War II, demand for power along the Gulf Coast increased. In 1941, the Texas Interconnected System was formed.<sup>6</sup>

In 1965, following a severe Northeast outage, a national and regional electricity councils were created.<sup>7</sup> In 1970, the Electric Reliability Council of Texas, known as ERCOT, was created as "an independent, nonprofit corporation that oversees the reliable transmission of electricity across the state of Texas."<sup>8</sup>

In 1996, under Governor George W. Bush, the Texas Legislature decided to give more responsibility to ERCOT, requiring that the organization create a competitive Texas electricity market. ERCOT became the first Independent System Operator (ISO)<sup>1</sup> and the organization became responsible for the reliability and stability of the system, for facilitating competitive wholesale and retail markets, and for ensuring open access to transmission.<sup>9</sup>

In 2005, the concept of "Competitive Renewable Energy Zone (CREZ)" was created to foster the development of wind energy. In the nine years that followed, 3,600 miles of high-voltage transmission lines were built to allow the transmission of wind energy,

<sup>1</sup> An ISO is an "independent and federally regulated entity that coordinates regional transmission to ensure non-discriminatory access to the electric grid and a reliable electricity system." See, "Independent System Operator (ISO)." Glossary, *Thomson Reuters Practical Law*, [https://content.next.westlaw.com/practical-law/document/Id4cf18aaf3ad11e28578f7ccc38dcbee/Independent-System-Operator-ISO?viewType=FullText&transitionType=Default&contextData=\(sc.Default\)](https://content.next.westlaw.com/practical-law/document/Id4cf18aaf3ad11e28578f7ccc38dcbee/Independent-System-Operator-ISO?viewType=FullText&transitionType=Default&contextData=(sc.Default)). Accessed 3 Feb. 2025.



specifically, from West Texas and the Panhandle to the rest of the state.<sup>10</sup>

being 50,051 MW. The operating reserves were 11,402 MW.

## Current State of the Texas Grid

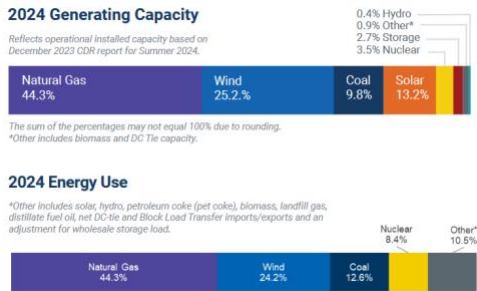
As of January 2025, 54,100 miles of long-distance, high-voltage transmission lines allowed for 86,000+ megawatts of available generation capacity. The Texas grid serves 27+ million consumers, accounting for 90 percent of their electricity use, and covers 75 percent of Texas land.<sup>11</sup>

Record peak demand reached 85,508 MW on August 10, 2023. The expected capacity for summer 2025 peak demand (based on May 2024 capacity, demand, and reserves) is 115,596+ MW.<sup>12</sup>

Installed wind capacity as of January 2025 was 39,470 MW, while the wind generation record (January 4, 2025) was 28,373 MW. Utility-scale installed solar capacity as of January 2025 was 29,148 MW, while the solar generation record (January 24, 2025) was 22,092 MW.<sup>13</sup>

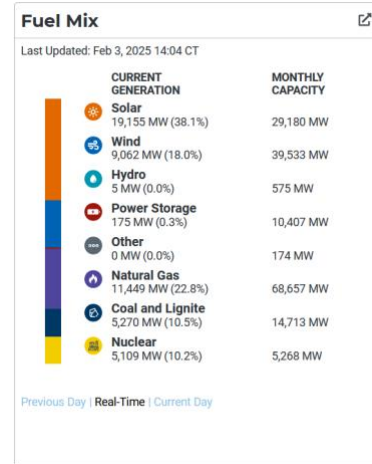
### Chart 1

#### 2024 Generating Capacity and Energy Use



Source: "ERCOT Fact Sheet." ERCOT.<sup>14</sup>

Natural gas is Texas' most reliable, dispatchable energy resource, but on a sunny or windy day, renewables play a large role. A snapshot of the system at approximately 2 p.m. on February 3, 2025, revealed that the committed capacity was 67,985 MW with the demand



Source: "Grid and Market Conditions." ERCOT.<sup>15</sup>

To fully understand the fuel mix and the relevance of all energy sources in the overall system, it is important to take into account the time of the day and the weather. At 2 p.m. on February 3, 2025, the weather was generally sunny, allowing for solar panels to generate more energy than they would if it had rained or during the night. Within that snapshot, most of the electricity was produced by solar energy and natural gas (fuel mix: solar, 38.1%; natural gas, 22.8%; wind, 18%; coal and lignite, 10.5%; nuclear, 10.2%).<sup>2</sup>

## Winter Storm Uri and Related Reforms

In February 2021, during winter weather event Storm Uri, the Texas grid failed to provide electricity to Texans when all types of generation were unable to generate the electricity needed, leaving millions of Texans without power for several days and more than 200 people dead.<sup>16</sup> As a result, the Texas Legislature passed Senate Bill 2 (87R) and Senate Bill 3 (87R). SB 2 aimed to address issues with the governance, administration, and infrastructure of the Texas electric grid.<sup>17</sup> Among other provisions, SB 3 required the

<sup>2</sup> To fully understand the fuel mix and the relevance of all energy sources in the overall system, it is important to take into account the time of the day and the weather. At 2 p.m. on February 3, 2025, the weather was generally sunny, allowing for solar panels to generate more energy than they would if it had rained or during the night.





weatherization of all generation, transmission, and natural gas facilities and pipelines in Texas; provided for more information for consumers; and required wind and solar power generators to meet reliability standards.<sup>18</sup>

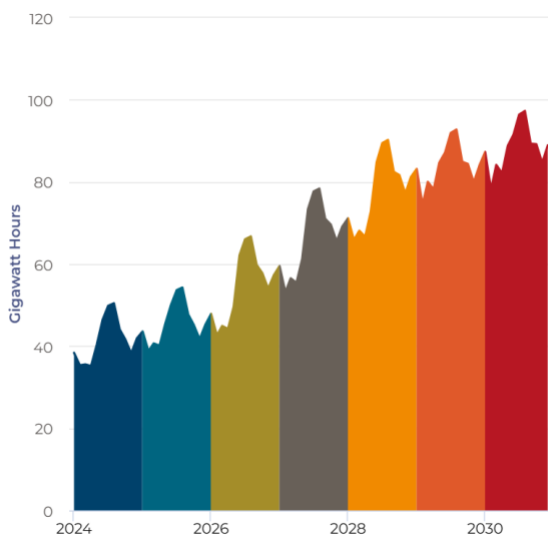
In 2023, the Texas Legislature passed additional bills addressing issues with reliability. Senate Bill 2627 created the Texas Energy Fund to provide low interest loans and completion bonus grants for new dispatchable energy resources.<sup>19</sup> The constitutional amendment that allowed the creation of the fund, SJR 93 or Proposition 7, passed with 64.92 percent of the votes.<sup>20</sup> The 88<sup>th</sup> Texas Legislature also passed House Bill 1500, which allowed for the continuation of the PUC after its sunset review and addressed additional issues with ERCOT.<sup>21</sup>

## Increasing Demand

Between population growth, and growth in both residential, industrial, and commercial needs, demand for energy is projected to continue increasing at a considerable rate. The following projections were produced by the Comptroller, using data from ERCOT:

Chart 2

**ERCOT Monthly Energy Demand Forecast, 2024-2030 (Energy/GWH)**



Source: ERCOT<sup>22</sup>

Several factors contribute to these aggressive energy demand projections. First, population growth in Texas increases at an astounding pace. The population in Texas increased by 3.9 million people between 2012 and 2022, which was good enough for the biggest increase in the nation and double the national average.<sup>23</sup>

ERCOT also projects continued increase in energy demand from electric vehicle growth. There are currently more than 300,000 electric vehicles in Texas. By 2029, ERCOT projects them to make up 4 percent of all vehicles on the road. They are projected to consume 6.7 TW-hours.<sup>24</sup>

Data centers and artificial intelligence will play an outsized role in energy demand in Texas. The comptroller explains:

Because of its relatively cheap energy market, Texas is experiencing rapid growth in data centers, especially between Dallas-Fort Worth (DFW) and San Antonio. At the time of this writing, there were 279 data centers in Texas, with 141 in DFW. In 2023, DFW was home to about 0.565 GW of data center inventory, the second-most in the U.S.

Data centers supporting artificial intelligence (AI) and artificial general intelligence (AGI) applications, however, will consume even more energy.

“AI and AGI data centers are one of the fastest growing components of the data center industry that’s coming,” said Vegas. “If you looked up ‘what is ERCOT’ with a regular Google system versus an AI Google search, the amount of energy that it takes to run the AI search is between 10 and 30 times the power requirement.

“That’s just a simple search. AI is being used to teach large language models, the concept of generative AI where you can ask it to write a story about your life and give it a few prompts — those types of things use much more energy.”<sup>25</sup>



The technology-sector's need for energy is not limited to datacenters and electric vehicles. Lesser understood, cryptocurrency mining requires a considerable amount of energy to power the computers that solve the mathematical problems required for cryptocurrency.<sup>26</sup> Again, the Comptroller explains:

By one estimate, a 1-MW cryptocurrency mine uses more energy than 700 households — the largest crypto mine in Rockdale, Texas, is 450 MW (**Exhibit 4**).

As of the fourth quarter of 2023, the total power capacity of cryptocurrency mines operating in Texas was 2,717 MW, more than any anywhere in North America by a large margin. Georgia is a distant second at 525 MW.<sup>27</sup>

## ***Policy Recommendations***

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Three years ago, Winter Storm Uri took place during Texas' 87<sup>th</sup> Legislative Session. While the storm caused considerable damage to life and property, the timing allowed lawmakers to assess the state's failures in real time, and to pass legislation tailored to address the experience that Texans had just lived through. Those efforts took the form of Senate Bill 2 and Senate Bill 3, which addressed issues related to the PUC's governance and weatherization for electricity generation facilities, respectively.

In 2023, having time to reflect and generate new ideas, the 88<sup>th</sup> Texas Legislature was able to expand on their efforts through the passage of Senate Joint Resolution 93 and the subsequent passage of Prop 7, which created the Texas Energy Fund. The new fund can be used to provide grants and loans to finance the construction, maintenance, modernization, and operation of electric facilities in Texas, specifically as it relates to dispatchable power generation.

These improvements all act to make the grid more reliable.

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### ***Policy Recommendation 1***

#### *Stay the course on power generation*

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The legislature has worked hard to ensure continued energy production and transmission on pace with the state's demand needs, but much work remains. The legislature should continue to allow the state's energy sector to meet increasing demand through the competitive market for power generation. Reliable, dispatchable, energy—such as natural gas and nuclear power—should be prioritized.



# Innovative Energy

In recent years, Texas has solidified itself as the country's number one energy producer. From crude oil and natural gas<sup>28</sup> to wind<sup>29</sup> and solar,<sup>30</sup> Texas produces more energy than any other state. Despite this impressive performance, Texas continues to face challenges in keeping up with demand. While inclement weather events are often blamed for these issues, a more prevalent factor fueling Texas' thirst for energy is its continual population growth.

According to the Census Bureau, Texas has seen a population increase of 43% over the last 20 years.<sup>31</sup> That is an additional nine million residents from 2000 to 2022. This compound annual population increase of 1.6% has seen a commensurate annual increase in power consumption of 1.7%, over the last two decades.<sup>32</sup>

Alongside this population increase, Texas has become a hotspot for investment. As of 2023, fifty-five Fortune 500 companies have established their headquarters in Texas, more than any other state in the union.<sup>33</sup> While this investment is great for the state's economy, these business ventures require considerable energy to power: offices, warehouses, and manufacturing. The Austin area alone is the new home to a multitude of manufacturing facilities, like Tesla's Gigafactory and Samsung Semiconductor's new facility.

The last 20 years have also seen the widespread adoption of Electric Vehicles (EVs), shifting some transportation energy demand from gasoline to the grid. This trend will likely continue and significantly increase demand, as explained by the Electric Reliability Council of Texas (ERCOT):

Adoption of EVs is expected to increase significantly in the near future, with 4% of all the vehicles on the road projected to be EV in Texas by 2029 and 6 TWh [terawatt hours] of load from EV charging by that same year.<sup>34</sup>

The combination of growth in EV popularity, population, and business investment shows a clear picture of increased demand that necessitates an increase in reliable supply.

Instead, climate activists have steered public policy away from reliable energy sources to renewables. While renewables like wind and solar certainly should play a role in Texas' energy portfolio, the focus should be on an "all of the above" strategy, with an emphasis placed on dispatchable energy. An obvious source of such energy comes from carbon-based resources like coal and natural gas. However, there are several other dispatchable sources Texas should continue to add to its portfolio, including:

1. Hydrogen generation;
2. Geothermal energy;
3. Nuclear energy;
4. Advanced battery technologies.

## Hydrogen

Presently, a majority of Hydrogen produced in the U.S. is used "for refining petroleum, treating metals, producing fertilizer, and processing foods."<sup>35</sup> However, a new wave of expansion in Texas' hydrogen market is underway. This expansion will increase the state's hydrogen production capacity for the aforementioned purposes as well as for use as an energy source. For example, Chevron seeks "to make low-carbon hydrogen and ammonia" while ExxonMobil wants "to build hydrogen pipelines and fueling stations for trucks."<sup>36</sup> Other notable hydrogen projects include:

1. The AES Corporation and Air Products' "Mega-scale Green Hydrogen Production Facility"<sup>37</sup>
2. HIF USA's "Matagorda e-Fuels Facility"<sup>38</sup>
3. Green Hydrogen International's "Hydrogen City: Green Hydrogen Production Hub"<sup>39</sup>

Unfortunately, this expansion is not entirely organic and, in part, is a result of "federal funding earmarked in the 2021 Infrastructure Investment and Jobs Act for regional hydrogen projects."<sup>40</sup>

The U.S. Department of Energy (DoE) selected HyVelocity H2Hub as part of this federal program to develop the Gulf Coast Hydrogen Hub. This hub



involves several of the previously mentioned hydrogen projects and is in negotiations to receive up to \$1.2 billion from the federal government. The hub consists of the following “core industry participants”:<sup>41</sup>

1. The AES Corporation;
2. Air Liquide;
3. Chevron;
4. ExxonMobil;
5. Mitsubishi Power; and
6. Orsted.

As in all cases, government intervention in the market is not a desirable occurrence. While the goals can be laudable, the mere act of intervention distorts the market, especially when it is done through direct subsidization. The more money the federal government invests in an industry, the more regulation and red tape it can impose. For this reason, as with wind or solar, federal dollars being placed into industry should not be viewed favorably.

Fortunately, hydrogen does not need the federal government to be profitable. The energy source has a variety of uses, including heating and cooling homes, powering cars, and even fueling planes. Essentially, hydrogen is capable of being both a contributor to powering the grid and a fuel source—meaning a transportable source of energy similar to gasoline. There are already automobile manufacturers investing in hydrogen in a similar manner to how Tesla invested in electric and fuel cell technology. These include major names like Toyota and BMW,<sup>42</sup> but also newer hydrogen-specific manufacturers like NamX.<sup>43</sup>

This is the kind of innovation that can propel the market forward and make hydrogen a competitive alternative, something at which government investment is ill-equipped.

### Hydrogen Generation

Hydrogen is found bonded to either oxygen or carbon in water or natural gas, respectively. As a result, technological advancements in this space come from the creation of new technology or infrastructure that

can conduct this chemical transformation more efficiently. Presently, there are three ways to produce hydrogen:

*Chart 3*

### Types of Hydrogen Production

Brown/ Grey	Blue	Green
Most commonly produced through the steam methane reforming of natural gas.	Produced the same way as Brown/Grey Hydrogen.	Produced from the electrolysis of water.
How a majority of hydrogen is produced.	Production process also includes carbon capture, utilization, and storage (CCUS).	Not yet cost competitive at commercial scale.

Source: Snapshot: The Different Types of Hydrogen Production.<sup>44</sup>

These three types of production rest on two scales, affordability and environmental impact. Unfortunately, these scales are inversely correlated, where “Green Hydrogen” has the least environmental impact but is also the most expensive. In contrast, “Brown/Grey Hydrogen” is the most affordable but has the greatest environmental impact. As a result, when trying to maximize affordability and minimize environmental impact, “Blue Hydrogen” becomes the most viable production model. Blue Hydrogen can combine existing infrastructure with new technologies to generate a high quantity of hydrogen while retaining an overwhelming majority of CO<sub>2</sub> emissions (around 90%) via carbon capture.<sup>45</sup> However, if Texas wants to ensure that it remains a key player in every sector of the energy market, then the state should encourage all production of hydrogen, irrespective of the production model used.

There are, however, additional benefits to blue hydrogen production. As previously mentioned, Blue Hydrogen does have another byproduct other than



pure hydrogen and that is carbon dioxide (CO<sub>2</sub>). Fortunately, carbon dioxide has a variety of profitable uses when stored that can contribute to increased energy production, including liquefaction to obtain more oil from a well.<sup>46</sup> This is just one example of the potential positive economic impacts of increased hydrogen production on Texas.

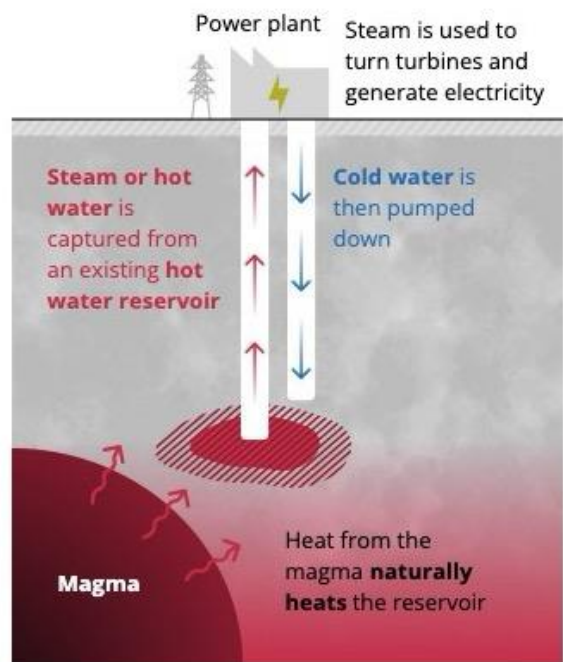
## Geothermal

Geothermal energy production functions as an advanced steam engine. Principally, it heats water, which spins a turbine to generate energy. However, while a steam engine might use coal to conduct the physical transformation of liquid water to steam geothermal energy uses the heat of the earth's core.

Geothermal energy systems fall under two broad categories: natural or enhanced. In a natural geothermal system (NGS), an underground hot water reservoir is located and has a well drilled into it releasing the steam trapped inside. This steam travels up through the well to a power plant where it is used to drive the turbines. Cold water is then pumped back into the reservoir to repeat the process.

Chart 4

### Natural (Traditional) Geothermal System



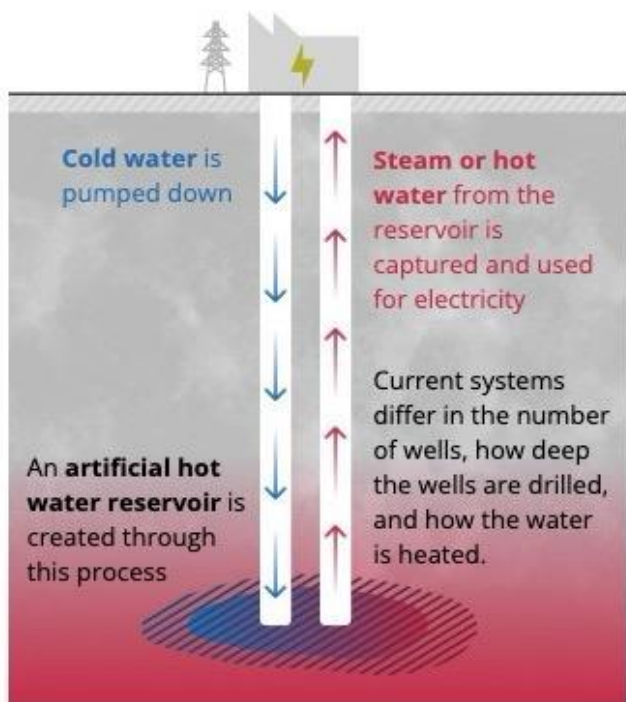
Source: *The Texas Tribune*<sup>47</sup>

In contrast, an enhanced geothermal system (EGS) forgoes searching for a naturally occurring reservoir. Instead, cold water is injected into hot rock at a depth equivalent to that of a naturally occurring reservoir. This water creates an artificial reservoir with the same function as its natural counterpart.



Chart 5

Enhanced (New) Geothermal System



Source: *The Texas Tribune*<sup>48</sup>

Essentially, an NGS and EGS differ only in development and not in function. Where the location of an EGS is only limited by regulations and zoning, NGSs are limited to naturally occurring reservoirs. Similarly, EGS developers can control the depth, size, and quantity of these reservoirs, benefits not afforded to NGSs.

While both variations of geothermal systems have incredible potential, their adoption appears to be inhibited by upfront costs. According to Hossein Emadibaladehi—an Associate Professor of Petroleum Engineering at Texas Tech University:

Drilling to depths to reach the temperatures is quite expensive and it will likely take significant drilling technology advances to bring down the cost enough to make it competitive.<sup>49</sup>

As a result, geothermal energy only accounted for 0.4% of total U.S. utility-scale electricity generation in 2023.<sup>50</sup>

However, technological advancement is predicted to significantly improve geothermal energy production over the next twenty-five years. According to the National Renewable Energy Laboratory (NREL):

The total amount of installed domestic geothermal capacity could reach 90 gigawatts-electric [by 2025]—nearly 25 times the current installed capacity.<sup>51</sup>

This advancement comes from the oil and gas industry, which is responsible for the advent of directional drilling technologies and hydraulic fracturing techniques that can make geothermal energy competitive.<sup>52</sup>

**Geothermal in Texas**

Texas has been a historic leader in the development and implementation of these technologies, ensuring the state has great potential for geothermal energy development. Presently, no entity has taken advantage of the state’s potential. As a result, no geothermal energy projects contribute to the Texas power grid.<sup>53</sup>

One entity trying to change this is Sage Geosystems. Sage is planning the development of a new geothermal power plant in the Houston area. The company “aims to have 8 megawatts operational by 2027 and scale up to 150 megawatts of power generation 36 to 48 months after that.”<sup>54</sup> This facility will not directly contribute to the grid but will reduce strain by supplying Meta’s data centers with power. Sage Geosystems does, however, plan to become a direct contributor through its San Antonio area project, which is expected to come online in 2025.<sup>55</sup>

The installation of geothermal projects like these will not only increase Texas’ overall energy production but will also improve the resilience and reliability of the grid. Like nuclear energy, geothermal is not subject to the intermittency issues of wind and solar.<sup>56</sup> This makes it a dependable resource that will provide power in all conditions. Texas should encourage geothermal development and ensure a friendly regulatory environment.



## *Nuclear*

When operating at full capacity, a standard nuclear reactor is capable of producing 1 gigawatt of electricity per hour and unlike other energy sources, a nuclear reactor isn't generally affected by weather conditions.<sup>57</sup> This allows a reactor to produce at maximum capacity through 92.5% of a year as compared to 24.9% for solar and 35.4% for wind.<sup>58</sup> Not only can a single nuclear reactor operate at maximum output four times longer than solar, but that output is equivalent to 3.125 [million solar panels](#).<sup>59</sup> This efficiency paired with "a minimal carbon footprint of around 15-50 grams of CO2 per kilowatt hour (gCO2/KWh)" should lead to a consensus in favor of nuclear energy.<sup>60</sup> That is not the case. Instead, some proponents of other sources of green energy have utilized the few nuclear incidents, such as Fukushima, as a means to sway public opinion away from nuclear energy.<sup>61</sup>

This is despite the fact that Fukushima resulted in [no](#) radiation death or illness when it was hit by the largest recorded earthquake in history and a subsequent tsunami.<sup>62</sup> The United States has its own example in the Three Mile Island Accident, when, in 1979, a commercial reactor had a partial meltdown.<sup>63</sup> The result was no deaths or injuries with a temporary increase in background radiation equivalent to 1/6 of a chest X-ray.<sup>64</sup> <sup>65</sup> The event sparked apprehension towards nuclear energy, which eventually led to increased regulation and a general opposition to the energy's expanded use. This regulation added extra safety features which Matt Ridley, author of *How Innovation Works*, notes changed nuclear power "from a very, very safe system into a very, very, very safe system."<sup>66</sup>

Indeed, the two most prominent nuclear incidents, outside of the Soviet Era Chernobyl meltdown, have not only resulted in no death or illness, but nuclear facilities have also been made safer as time has passed and innovation has occurred. Whereas Fukushima and Three Mile Island occurred in functioning capitalist societies with appropriate oversight and safety measures, Chernobyl took place amidst an authoritarian communist dictatorship where incentives encouraged cover-ups and dereliction of duty. This is exemplified by the Soviet Union's decision to leave the public in the dark for 36 hours following the incident,<sup>67</sup> film propaganda related to the clean-up,<sup>68</sup> and swap

water samples taken by foreign journalists for fake ones.<sup>69</sup> In short, American capitalist innovation should not be held back by the failures of an incompetent and willfully malicious Communist state of the past.

### **Nuclear in Texas**

At this moment, Texas only has four nuclear reactors, which supply roughly 10% of all energy produced in the state.<sup>70</sup> The development of more reactors would increase the overall energy production capacity of Texas, making the state not only more efficient but more sustainable. There has been some forward momentum in regard to producing more nuclear energy both in Texas and across the nation.

In August of 2023, Governor Greg Abbott directed the Public Utility Commission of Texas to "evaluate advanced nuclear reactors to determine if they can provide safe, reliable, and affordable power to [the Texas] grid."<sup>71</sup> These include Small Modular Reactors (SMR) which are:

Advanced nuclear reactors that have a power capacity of up to 300 MW(e) per unit, which is about one-third of the generating capacity of traditional nuclear power reactors.<sup>72</sup>

The first SMR in America is set to be built in Texas "at Dow Chemical Corporation's Seadrift plant southeast of Victoria in Calhoun County."<sup>73</sup> While SMRs do produce less energy than traditional reactors, they have several unique benefits, as explained by the U.S. Office of Nuclear Energy:

Small modular reactors offer a lower initial capital investment, greater scalability, and siting flexibility for locations unable to accommodate more traditional larger reactors. They also have the potential for enhanced safety and security compared to earlier designs. Deployment of advanced SMRs can help drive economic growth.<sup>74</sup>

The plans for the Dow chemical SMR and the recently constructed Vogtle Unit 3 traditional reactor<sup>75</sup> in Georgia indicate that the US, or at least private industry in the US, is ready to compete again. This is a positive



metric as the new Vogtle Unit is the first new reactor since 2016 and only the second created this century.<sup>76</sup>

The traction if not held back by bureaucratic entities and unfriendly federal policy could lead to a nuclear revival in the US and Texas alike. Texas has the opportunity to make itself the friendliest state for nuclear energy and has a responsibility to lead by example.

## *Advanced Batteries*

Not all dispatchable energy sources are direct producers. As technology advances and development increases in Texas, more players come to assist in providing the general public with power. One of these contributors is battery operators, more formally known as energy storage resources (ESR). Presently, Texas is second in the country for active energy storage at 5.1 gigawatts.<sup>77</sup> However, that may change in the not-so-distant future as, according to the U.S. Energy Information Administration (EIA), Texas was expected to install an additional 6.4 GW by the end of 2024,<sup>78</sup> while the leader (California with 7.3 GW) only installed an additional 5.2 GW.<sup>79</sup> <sup>80</sup> This places Texas only 1 GW behind California and, if the trend were to continue through 2025 the leader by the end of 2026. If this is accomplished, Texas would be number one in the nation for natural gas, crude oil, solar, wind, and installed battery storage.

In practice, this growth in battery installation can be invaluable during unexpected high-demand or low-supply events; this was the case on May 8, 2024, a record-breaking day for energy storage. On that date, an unanticipated 24.7 GW of dispatchable energy was offline when ERCOT only projected 14.7 GW would be.<sup>81</sup> At the same time, demand had increased as a result of the weather. Such an event comes with the possibility of ERCOT having to utilize energy conservation tools. These can vary from voluntary conservation notices to, in some of the worst circumstances, rolling blackouts. However, neither of these took place on May 8<sup>th</sup>, partially as a result of ESRs unexpectedly high performance of roughly 3.2 GW.<sup>82</sup> According to the Texas Energy and Power Newsletter, this is a whopping 1 GW higher than the previous record.<sup>83</sup>

This accomplishment provides a glimpse into the future of an even more reliable grid. While batteries do not create power, they can store energy from non-dispatchable sources (i.e. solar and wind) and provide it during high demand. As more batteries are installed, increasing capacity, energy from non-dispatchable sources can theoretically be made dispatchable. This can ease the burden on traditional dispatchable sources and allow for the downtime required to perform maintenance and upgrades.

Admittedly, this ability to ease the burden on traditional dispatchables is not necessarily unique to ESRs. Naturally, the installation of any new dispatchable energy source will assist other dispatchable sources in powering the grid, therefore allowing for necessary downtime. The way ESRs differ from the installation of other dispatchables is that they have the potential to leverage non-dispatchables and make them partial contributors during peak demand.

Another unique aspect of batteries is the potential for further decentralization of energy. As more Texans purchase batteries to power their homes, more potential small dispatchable units are attached to the grid. The PUCT's Virtual Power Plant Pilot Program, allows consumers to use their "small energy devices, such as battery energy storage systems, backup generators, and controllable Electric Vehicle (EV) chargers" to "participate as a resource in the wholesale electricity market."<sup>84</sup> This program takes advantage of resources already installed in houses across the state that are designed to charge in off-peak hours and utilize them during high-demand events. For the consumer, this means low or potentially negative power bills. For the grid, this means increased reliability and resiliency.

Texas should embrace battery storage as another tool for meeting demand and providing Texans with a resilient and reliable source of power. This includes both traditional ESRs and the Virtual Power Plant Pilot Program. A new pillar of reliability in Texas power can be made by allowing this new industry and the average consumer to enter the dispatchable space.

## *Policy Recommendations*

Texas has made considerable efforts to remain the nation's energy production and innovation leader.





From natural gas to solar power, private industry in this state continues to make incredible advancements that better the lives of all Texans. This is due, in part, to the legislature ensuring a friendly regulatory environment that promotes free enterprise.

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### ***Policy Recommendation 2***

#### *Maintain a Friendly Regulatory Environment*

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Texas should continue championing the spirit of industry by advancing policies that promote growth and technological advancement. Whether it be new energy generators or existing contributors, all producers should be afforded a prosperous environment free from excessive government intervention. To ensure this remains true, the legislature should stay the course on energy policy, removing unnecessary regulatory burdens and not imposing new ones.



# Transportation Infrastructure

## *Background*

Securing funding to meet Texas' transportation infrastructure needs continues to be a challenge to the state's policymakers. This challenge is the result of several factors: a rapidly increasing population, significant inflation in construction costs and the overall economy, and better fuel efficiency from motor vehicles leading to less motor fuels tax revenue. Although the state has made great progress in addressing transportation funding in recent years, the state will require substantial additional revenue in the coming years to meet its infrastructure demands. In response to these challenges, the state's policymakers should consider alternative financing mechanisms to meet these demands, in particular public-private partnerships ("P3s").

Before examining the factors contributing to the state's need for transportation funding, it is important to emphasize a crucial point: the Comptroller's January 2025 estimate that the state will have a healthy budget surplus of \$23.8 billion at the end of the 2024-2025 biennium does not mean that Texas' transportation funding challenges are solved. The State Highway Fund (SHF) is the state's primary source of funding the Texas Department of Transportation (TxDOT). The Comptroller's Biennial Revenue Estimate for 2026-2027 actually projects a *decline* in revenue (both state revenue and combined state and federal revenue) directed to the SHF in each of FY 2026 and FY 2027, relative to FY 2025.<sup>85</sup> Although the declines in combined state and federal revenue relative to FY 2025 funding levels are minor (1.2 percent in FY 2026 and 0.4 percent in FY 2027<sup>86</sup>), the factors contributing to the state's need for increased transportation infrastructure continue to exert relentless pressure.

A brief example will illustrate the enormous costs associated with transportation infrastructure. In 2024, the Texas A&M Transportation Institute (TTI) found that IH-35 in Austin (between U.S. 290 East to the north and Ben White Boulevard to the south) was the

most congested roadway for trucks in Texas (based on 2023 data), and the third-most congested overall.<sup>87</sup> An astounding 178,000 trucks use this road segment every day (based on 2021 data).<sup>88</sup> TTI estimates that the cost of all congestion delays on this stretch of IH-35, whether for trucks or non-trucks, amounted to \$197 million in 2023 alone.<sup>89</sup>

The state's rapid population growth is perhaps the most important contributing factor to the state's growing need for transportation funding. Texas continues to be one of the fastest-growing states in the country. As of July 1, 2024, Texas was home to approximately 31.3 million people,<sup>90</sup> up seven percent from 2020.<sup>91</sup> Texas added over 560,000 residents in 2024, the 14<sup>th</sup> straight year it has led the country in the number of residents added.<sup>92</sup>

While Texans can justifiably be proud of their economy and the way it attracts people from around the country and even the world, this population growth puts a tremendous strain on Texas infrastructure. This rapid growth is part of a long-term trend; in 1990, Texas' population stood at only 17 million.<sup>93</sup>

Although Texas' population has soared over the last few decades, and average daily miles driven in the state increased by 70 percent from 1990 to 2019,<sup>94</sup> the state's revenue from motor fuels taxes has actually declined in inflation-adjusted terms since 1999.<sup>95</sup> This decline has become all the more apparent due to the high inflation the country experienced in 2021 and 2022. In FY 2018, motor fuels tax revenue was \$3.67 billion,<sup>96</sup> and in FY 2024 it was \$3.85 billion.<sup>97</sup> The former figure is \$4.58 billion in 2024 dollars<sup>98</sup>; thus, there has been a meaningful drop in the inflation-adjusted motor fuels tax revenue since 2018. This decline in real terms is crucial because much of the revenue from motor fuels taxes—about 73 percent<sup>99</sup>—is dedicated to the State Highway Fund (SHF). Texas's motor fuels tax imposes a tax of 20 cents on a gallon of gasoline, one of the lowest state rates in the country.<sup>100</sup> The decline in inflation-adjusted motor fuels tax revenue is not surprising given that Texas has not raised its motor fuels tax rate since 1991.<sup>101</sup> Motor fuels tax revenue is also less than what it would otherwise be due to welcome innovations in fuel efficiency in automobiles.

The funding challenges which the Texas Department of Transportation ("TxDOT") faces are even more significant when taking into account the inflation within



the construction industry. As the Comptroller's Office noted in 2019, the Federal Highway Administration's National Highway Construction Cost Index [NHCI] is used "by planners and policymakers to calculate the inflation of highway construction costs for items such as asphalt and machinery."<sup>102</sup> It has more than tripled since 2003.<sup>103</sup>

Additionally, oil and gas production is another contributing factor to the pressure on Texas' transportation budget. Horizontal drilling and fracking impose heavy demands on local transportation systems. As one news source stated in 2018:

Drilling a single long-lateral well can now require more than 500 tons of steel pipe, a 14-football-fields-long string of sand-carrying railcars and enough water to fill more than 35 Olympic-size swimming pools. The cumulative stress of moving so much mass over a concentrated set of asphalt roads in 50,000-pound (or heavier) truckloads causes enormous wear and tear that many rural counties cannot afford to repair.<sup>104</sup>

Unsurprisingly, this heavy wear and tear on rural roads means upgrades and repairs are necessary to a greater extent than they would otherwise be. Fortunately, the 86th Legislature took strong action to address this problem, appropriating \$250 million to the Transportation Infrastructure Fund for grants to counties the roads of which have been adversely affected by the state's increased oil and gas production.<sup>105</sup> Nevertheless, it is likely that growth of the oil and gas sector in the coming years will continue to put stress on roads in mineral-producing areas of the state. TxDOT's 2025 Unified Transportation Program allocates \$3.9 billion to the Odessa district (comprising much of the Permian Basin) over the next 10 years.<sup>106</sup>

In summary, several factors currently combine to place great pressure on the state's transportation budget. Faced with this dilemma, the state must consider all feasible options for financing transportation.

## *Some Suggested Solutions Are Not Feasible*

Two logical possibilities for addressing the state's need for transportation funding are: (1) diverting existing tax revenue to transportation, or (2) raising additional tax revenue for transportation. Unfortunately, neither of these possibilities is satisfactory or adequate.

With respect to channeling exiting revenue to transportation, the Legislature has already taken significant steps in the last 12 years to accomplish this goal. The 83rd Legislature (2013) passed Senate Joint Resolution 1 and House Bill 1 (83S3) to allow for the transfer of certain oil and gas severance tax revenues to the SHF. SJR 1 (in the form of Proposition 1) was approved by voters in November 2014. The 84th Legislature (2015) went even further, passing Senate Joint Resolution 5 to allow for the transfer of up to \$2.5 billion of state sales tax revenues and (once certain revenue benchmarks were reached) a portion of the motor vehicle sales and rental tax to the SHF each year. SJR 5, in the form of Proposition 7, was approved by voters in November 2015. As a result of these actions taken by legislators and approved by voters in 2014 and 2015, more than \$13 billion in additional funding was budgeted for transportation in the 2024-2025 biennium.<sup>107</sup>

Chart 1 below illustrates the growth in All Funds funding for TxDOT over the last six biennial budgets and the additional funds that have been directed towards transportation as a result of Proposition 1 and Proposition 7.



Chart 6

**Estimate of All Funds, Transportation, in each of the Last Five General Appropriations Acts (numbers are in billions)**

Biennium	All Funds	Funding Increase Over Previous Biennium	Prop. 1 Funds	Prop. 7 Funds	Combined Funds from Props. 1 and 7
2012-13	\$19.80	-	-	-	-
2014-15	\$20.95	5.80%	*	-	*
2016-17	\$23.05	10.10%	\$2.41	-	\$2.41
2018-19	\$26.60	15.40%	\$2.51	\$2.91	\$5.42
2020-21	\$30.78	15.70%	\$3.91	\$4.40	\$8.31
2022-23	\$30.24	(1.75%)	\$4.53	\$5.06	\$9.59
2024-25	\$37.23	23.1%	\$6.87	\$6.45	\$13.32

Source: Applicable General Appropriations Act

\*SJR 1 (83S3, 2013), which led to Proposition 1, was enacted after the General Appropriations Act for the 2014-2015 biennium was enacted earlier in 2013. Thus, although the initial transfer of funds to the SHF pursuant to Proposition 1 took place in FY 2015, the budget for the 2014-15 biennium did not reflect that. According to the Legislative Budget Board, transfers to the SHF in FY 2015 pursuant to Proposition 1 totaled \$1.74 billion.

As the table illustrates, the transportation budget has increased significantly from biennium to biennium as the effects of Propositions 1 and 7 began to be seen. From the 2012-13 biennium to the 2024-2025 biennium, budgeted All Funds, Transportation almost doubled (although much of that increase is eliminated when inflation is controlled for). Despite this increase, the state must be alert to the pressure that transportation funding will continue to exert on the state’s budget as population growth and economic growth continue.

The Legislature’s increased funding for transportation deserves praise, especially since it was done without imposing new taxes on Texans. Asking the Legislature to devise yet more new ways to shift existing tax revenue to transportation would risk leaving other critical functions of state government underfunded, especially in light of the state’s financial commitment to public education and the need to deliver additional property tax relief.

A second possibility - creating additional tax revenue streams or increasing the motor fuels tax - should be

rejected. Texas’ championing of low taxes and limited government involvement in the economy has played a critical role in the “Texas Miracle.” The welcoming economic environment of the state continues to attract individuals and families from all around the country. While the COVID-19 pandemic caused significant harm to the economy, Texas rebounded quickly. By the end of 2021, the number of jobs in Texas exceeded the number of jobs in February 2020.<sup>108</sup>

As a former president of the Dallas Federal Reserve presciently remarked in June 2020:

Before the coronavirus struck, the tax, cost-of-living, regulatory and pro-business climate in Texas was draining capital and jobs (and Congressional apportionment) from the Northeast, the Midwest and California, as well as investment from abroad. Should Texas smartly and safely navigate Covid recovery, the movement of capital and people (and political power) will further accelerate.<sup>109</sup>



As Texas' strong population growth and economic performance since the pandemic have proven, the state did in fact smartly navigate the pandemic recovery.

Rather than increasing the tax burden on families across the state when unemployment is high and job security is uncertain, policymakers should continue to emphasize the policies that have made the state the nation's job-creation engine. While increased funding pressures have caused the majority of states to raise their motor fuels taxes since 2013,<sup>110</sup> Texas voters will likely expect policymakers to find alternative solutions. A 2019 poll which explored voters' thoughts on how to obtain additional funding for public education found that 72 percent of Texans opposed raising the motor fuels tax,<sup>111</sup> and nothing in recent history suggests that will change.

Faced with the challenges noted above- strong population growth, slow growth (if any) in motor fuels tax revenue, and significant inflation in construction costs- the Legislature should consider any means of financing transportation that have proven to be successful at other times or in other states. P3s are one such non-traditional way of financing transportation projects and have been implemented successfully in Texas before.

## ***Public Private Partnerships***

Over the last several decades, P3s have been a viable and important infrastructure investment tool for state and local governments. P3s involve contracts between a public entity and a private investment consortium to build and operate public infrastructure. These partnerships allow for the sharing of both resources and risks and have been used to finance a variety of needs such as roads, bridges, broadband development,<sup>112</sup> and facilities for water treatment, energy generation, and even recreation.<sup>113</sup>

In many P3s, the private group finances the design, development, construction, and operation of the project. The public agency will typically retain ownership of the project, oversee its operation, and manage the private group's involvement, often involving a decades-long contract. Projects can be financed through combinations of state contributions, private activity bonds (PABs), and equity investment by

the private developers, although some P3s are financed entirely by the private entity. Over the course of the project term, the private partner's investment and a return on this investment are repaid through tolls, designated revenues, cost savings, and/or lease agreements. Additional revenue that is accrued can either go directly to the private partner or be split between the private and public partners, depending on the terms of the contract.

Texas has a history of utilizing P3s to help finance public projects. The 82nd Legislature (2011) passed the Public Private Facilities Infrastructure bill (Senate Bill 1048) allowing the use of P3s for infrastructure development projects at the state, county, city, and school district levels. While transportation projects were not included in SB 1048, legislative action in 2007 (Senate Bill 792, 80R) had already authorized the limited use of private sector investment in transportation infrastructure projects, and Senate Bill 19 (82R, 2011) established a streamlined process for local toll projects.

TxDOT uses a version of P3s called Comprehensive Development Agreements (CDAs) to partner with private companies to design, finance, and maintain tolled highways.<sup>114</sup> A variety of CDA arrangements have been used throughout the state, including the construction, financing, and maintenance of the 17-mile LBJ-635 corridor expansion in Dallas and the North Tarrant Express Project (NTE) in Tarrant County. The benefits to the state from these projects are significant. For the LBJ-635 project, the state contributed \$490 million, but ultimately received a \$2.6 billion investment in new road capacity for one of the most congested areas of the DFW region.<sup>115</sup> The improvement project was completed three months ahead of schedule and opened in September 2015.<sup>116</sup> For the NTE, which opened in November 2014, a 13.3-mile corridor along the north loop of I-820 and SH-121/183, from I-35W in north Fort Worth to FM 157 in eastern Tarrant County, was substantially improved. During the construction phase, general-purpose lanes were rebuilt, frontage roads were rebuilt and expanded, and four managed toll lanes were added. By the end of 2015, the completed project handled almost 200,000 vehicles daily.<sup>117</sup>

Both the LBJ and NTE projects utilize "TEXpress" lanes, which are able to dynamically manage traffic in real time through variable toll pricing. At the same



time, pre-existing lanes were not tolled, but were, in fact, rebuilt and improved as part of the projects. These lanes remain free for all vehicles. Notably, Texas law makes clear that TxDOT may not operate a non-tolled state highway as a toll road, or transfer operation of that highway to an entity which will operate it as a toll road, unless:

**I.** The Texas Transportation Commission designated the highway as a toll project before the contract to construct the highway was awarded;

**II.** The project was, among other things, designated as a toll project on or before September 1, 2005;

**III.** The highway is reconstructed so that the number of non-tolled lanes on the highway is greater than or equal to the number before the reconstruction; or

**IV.** A road is constructed adjacent to the highway such that the number of non-tolled lanes on the converted highway and the new road is greater than or equal to the number on the highway before the conversion.<sup>118</sup>

Bob Poole of the Reason Foundation reported high levels of satisfaction among drivers using the LBJ and NTE projects: one year after NTE's completion, 70 percent of users of the overall highway (general purpose and electronic toll lanes) gave it a favorable rating.<sup>119</sup> And users of the LBJ rated that corridor even higher one year after project completion, at 76 percent.<sup>120</sup> Importantly, tolls did not discourage middle-class Texans from making use of the toll roads:

Local officials in Austin, Dallas, Houston, and elsewhere support continued use of tolling and P3s for much-needed congestion-relief projects...And as we see on express toll lanes around the country, on LBJ and NTE only 15 percent of the cars are luxury brands. Toyota, Ford, and Honda are the most common vehicles in toll lanes.<sup>121</sup>

P3s can also offer valuable improvements to the transportation system by bringing private sector expertise to the public arena. Private companies often have substantial expertise in financing and asset

management, thereby successfully leveraging billions of dollars for investment into public infrastructure. P3s are able to accelerate and guarantee the completion of large and complex projects in ways which are often superior to the delivery model of state and local governments.<sup>122</sup> As the U.S. Department of Transportation has explained, "FHWA [the Federal Highway Administration] encourages the consideration of public-private partnerships (P3s) in the development of transportation improvements. Early involvement of the private sector can bring creativity, efficiency, and capital to address complex transportation problems facing State and local governments."<sup>123</sup>

Additionally, the option to include long-term maintenance of the project in addition to the design and construction can make P3s a very appealing solution to public infrastructure needs. Despite these benefits, the use of P3 projects nationwide and in Texas is relatively limited. In its 2018 Roadway Inventory Annual Report, TxDOT reported that the state had only 860 miles of tollway mileage,<sup>124</sup> compared to 323,363 total centerline miles.<sup>125</sup>

Furthermore, P3s have the benefit of integrating various phases of a project, such as the design portion and the construction portion. This integration can properly align the incentives of parties to maximize efficiency. A January 2020 report by the Congressional Budget Office (CBO) on P3s recognizes this potential synergy and is worth quoting at length:

Partnerships [i.e., P3s] can facilitate quicker or cheaper completion of a project by bundling two or more elements of a project because information that would otherwise be known at only one stage is more likely to be shared among stages. A traditional contract does a relatively poor job of addressing the risks that arise from privately held or incomplete information. For example, having separate contracts for designing and building a facility exposes the project's owner to constructability risk—the risk that the design produced will not be the most cost-efficient option to build or will not match the builder's abilities. If such a mismatch occurs, the project's



owner must first pay the builder to fix the resulting problem and then attempt to collect from the designer compensation for any added costs—which requires proving that the designer had legal liability because of a design that became more difficult and costly to complete than had been expected.

When the stages of an infrastructure project are consolidated under one project manager, that manager has an incentive to reduce the cost of the other stages of the project for which it is responsible. So a private partner that not only designs and builds but also operates and maintains a piece of infrastructure will be motivated to design it in a way that improves its long-term performance and reduces life-cycle costs (for example, by using more expensive but longer-lasting materials). Thus, when the same firm builds and maintains a project, it is motivated to use materials and methods to minimize costs over the life of a project, not just in its construction. Partnerships will be most cost-effective when the partner can realize substantial savings from keeping costs low over the life of the facility.<sup>126</sup>

Despite the success of projects such as the LBJ-635 and NTE, opposition to tolling as well as opposition to private sector entities operating public infrastructure has resulted in TxDOT turning away from the P3 infrastructure delivery method at a time when other states, like Virginia and Maryland, have used P3s to develop billions in infrastructure. In Texas, none of the 84th, 85th, 86th, 87<sup>th</sup>, and 88th Legislatures, spanning 2015 thru 2023, authorized new CDAs. Meanwhile, in 2016, Virginia approved the I-66 “Outside the Beltway” managed lanes project that will deliver a \$2.5 billion dollar project with no state investment, and includes an upfront payment of more than \$500 million that can be spent on other transportation priorities in the corridor.<sup>127</sup> In 2019, Maryland’s governor announced he plans to let \$9 billion in P3 transportation projects as public private partnerships.<sup>128</sup> Additionally, in 2020 Maryland authorized use of P3s to relieve congestion by

widening parts of the Beltway.<sup>129</sup> In Pennsylvania, policymakers made creative use of P3s in the recently-concluded Rapid Bridge Replacement Project, which “bundled” the repair of more than 550 bridges in poor condition under a single contract.<sup>130</sup>

Georgia is currently initiating two P3 projects, one relating to I-285 express lanes and the other to the SR 400 Express Lanes in Atlanta.<sup>131</sup> With respect to the latter project, the state will receive concession payments of more than \$4 billion from the private party that will operate the toll road.<sup>132</sup> <sup>133</sup> In 2023, Tennessee enacted a law making the use of P3s in transportation possible. The state already has plans for a P3 project that will result in “choice lanes” between Nashville and Murfreesboro; drivers will have the option of using regular free lanes or variably priced toll lanes that are not as congested.<sup>134</sup> <sup>135</sup>

The Texas Transportation Code still authorizes CDAs as a method of developing transportation infrastructure projects<sup>136</sup>; ensuring that the statute is utilized should remain part of Texas’s approach to addressing the congestion challenges on Texas highways. Indeed, tackling congestion is something to which privately financed projects are well-suited. As one commentator in *Forbes* magazine observed in 2017:

Another thing Texas’ toll roads have accomplished is greater mobility. The Dallas and Houston metros, in particular, have been the nation’s two fastest-growing metros by net population since 2010. But their congestion levels are not as bad as similar-size metros, according to traffic studies by Inrix and TomTom. This is because they’ve expanded highway capacity to accommodate population growth, acknowledging that the laws of supply and demand apply to roads like with anything else. Perhaps more crucially, though, they’ve priced the use of these roads, to avoid a tragedy of the common...The most congested portions of Texas’ cities, meanwhile, are the major roads that follow the generic socialized model, rather than this private one.<sup>137</sup>



It should also be underscored that there is no inherent risk to the State of Texas if its highways are funded with private capital. Indeed, the recent experience with State Highway 130 near Austin underscores this point. While the private company that oversaw the project – SH 130 Concession Company – filed for bankruptcy, the state committed no funds to the project and was not liable for any of the outstanding debt associated with the project.<sup>138</sup> At the same time, the highway remains open to vehicular traffic and provides a valuable part of central Texas’s transportation infrastructure south of Austin.<sup>139</sup> As the above-referenced *Forbes* article explained:

But what the government is not forced to do for Texas’ public-private toll roads is assume much of the risk. If a road fails—such as one stretch did along a rural portion between San Antonio and Austin—it is shuttered, and the costs eaten by the private investors. Contrast this with most other major U.S. roadways, which don’t have this level of user-fee-based accountability. Instead, they are funded—without question and in perpetuity—by gas tax revenue (and increasingly, general fund revenue). Without any market correction process, such roads don’t endure the same scrutiny about whether they are even justified. Money for them just keeps rolling in, footed by taxpayers.<sup>140</sup>

It should be acknowledged that P3s can result in some degree of risk to federal taxpayers, because federal loans are sometimes involved in P3 projects. For example, the federal government made a \$430 million loan to help finance the SH 130 project mentioned above. During the bankruptcy proceeding, the loan repayment obligation was extinguished. In return, the federal government acquired a new creditor interest in the project as well as a 34 percent equity stake. While this means that the government bears some risk now relating to the success of the project (or lack of it), federal taxpayers were by no means consigned to suffering a loss. In fact, the recapitalization of the project could lead to the federal government collecting \$600 million from the project than originally anticipated.<sup>141</sup>

While P3s are a valuable tool for complex and expensive projects, they are of course not a panacea. They can involve substantial transaction costs, such as the legal costs of negotiating a deal with the private investors. More importantly, irrespective of whether a transportation project is traditionally financed or done through a P3, taxpayers ultimately must bear large costs relating to the project, whether through taxes, toll charges, or “availability payments” (discussed below). On the other hand, toll charges are paid only by self-selecting taxpayers, and P3 private partners contribute some of the necessary funding. Another limitation of P3s is that they typically involve contracts lasting several decades; because of the substantial risk of unforeseen problems arising over the course of this long period, private investors will demand a high rate of return on their investment.

The January 2020 report by the Congressional Budget Office identified a trend beginning in 2009 in which private investors increasingly rely on availability payments for a large portion of their return on investment, rather than relying exclusively on toll revenue.<sup>142</sup> Availability payments are a series of installment payments made by state or local government to the private partner in the P3 project so long as the project is operating and “available” to the public, regardless of whether traffic flows and toll revenue meet estimated projections. As such, availability payments shift risk from the private partner to taxpayers. This trend towards using availability payments was apparently driven by private investors in some pre-2009 cases going bankrupt due to their overestimates of toll revenues generated by the P3 projects. Since then, private investors have become more cautious and have sought to safeguard their investment by securing a more predictable stream of payments. This trend makes it critically important that the public partner in a P3 project hire sophisticated legal and financial counsel that are well versed in negotiating these types of agreements- a failure to do so could result in a one-sided agreement which burdens the public partner and its taxpayers for years, which is not something the state should contemplate.

To assist public bodies in assessing P3 projects, the U.S. Department of Transportation has published *Public-Private Partnership (P3) Procurement: A Guide for Public Owners*.<sup>143</sup> Moreover, current law provides that the Center for Alternative Finance and Procurement, housed within the Texas Facilities





Commission, can consult with government entities on proposed P3 projects.<sup>144</sup> Making use of the Center's can ease concerns about government entities lacking the expertise to negotiate a sophisticated P3 deal.

It is important to emphasize, however, that availability payments and the associated burden on taxpayers are not required for a P3 project; for example, a project could be negotiated in a manner such that the term of the contract terminates once the toll revenue received by the private partner reach a certain net present value.<sup>145</sup>

The essential point of the foregoing is that the state should continue to value the options available through public-private approaches to its transportation infrastructure challenges.

At a time when other states are embracing new and innovative project delivery methods such as public-private partnerships, Texas, once a leader in innovative project delivery, has turned its back on utilizing private investment in infrastructure in favor of more traditional methods, which by themselves are insufficient to meet the state's needs. For example, the Texas House of Representatives passed House Bill 3467 (87R; Canales, et al.) and House Bill 2795 (88R; Canales, et al.), each of which would have extended a P3 agreement term relating to State Highway 130 and required the applicable private party to make payment(s) to TxDOT. Each bill passed the House but died in the Senate without a committee hearing.

While P3s are not a cure-all, they should have a place in the state's transportation plans because of their potential to relieve congestion in especially crowded areas and to harness the expertise of the private sector. During the 89th Session, the Legislature should give serious consideration to expanding and encouraging the use of P3s.

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## *Policy Recommendations*

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### *Policy Recommendation 3*

#### *Utilize Private Finance to Construct and Maintain the State's Transportation Infrastructure*

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Several factors combine to place consistent pressure on the Texas transportation budget. The Legislature in recent years has made great efforts to provide new streams of funding for transportation projects, which has led to billions of dollars in additional funding. But still more funding is needed, and traditional solutions by themselves are likely to prove inadequate. Policymakers should strive to make sure that increased use of P3s is at least part of the solution to this problem. P3s have a track record of sound performance in Texas and elsewhere and offer some advantages over traditional transportation financing. The Legislature should consider turning to private funds to ensure that Texas's transportation infrastructure is able to accommodate the state's economic growth and ever-growing population.

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### *Policy Recommendation 4*

#### *Direct the Comptroller and TxDOT to study the feasibility of using P3s for road projects with an estimated cost of \$1 billion or more.*

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Given the inertia of the P3 issue in Texas over the last decade, a helpful measure would be re-filing House Bill 1259 (Jetton, 88R). This bill would have directed the Comptroller to publish a study on the feasibility of using P3s for proposed billion-dollar road projects, with the study detailing any savings that P3s could generate. This study could shine a light on a method of infrastructure financing that the state is in danger of forgetting, and serve as a foundation for future legislation.



# Endnotes

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<sup>1</sup> “Learn More About Interconnections.” *U.S. Department of Energy*, <https://www.energy.gov/oc/learn-more-about-interconnections>. Accessed 3 Feb. 2025.

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<sup>133</sup> <https://www.ajc.com/news/atlanta-news/contractor-picked-to-build-operate-ga-400-toll-lanes-for-50-years/AVZ67JWEOVFTDPR7HXVA3EPXPA/>.

<sup>134</sup> <https://govmarketnews.com/tennessee-to-use-public-private-partnerships-on-choice-lane-highway-projects/>.

<sup>135</sup> <https://www.tn.gov/tdot/projects/region-3/interstate-24-choice-lanes-.html#:~:text=Tennessee's%20Choice%20Lanes%20would%20be,travel%20speeds%20and%20trip%20times.>

<sup>136</sup> Texas Transportation Code, Chapter 223, Subchapter E.

<sup>137</sup> Scott Beyer, “Texas’ Toll Roads: A Big Step Towards Open Markets for Transportation,” Forbes (June 30, 2017), [Link](#).

<sup>138</sup> Jamie Lovegrove, “SH 130 Toll Road Operator Files for Bankruptcy,” Texas Tribune (Mar. 02, 2016), [Link](#).

<sup>139</sup> *Ibid*.



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<sup>140</sup> Scott Beyer, “Texas’ Toll Roads: A Big Step Towards Open Markets for Transportation,” *Forbes* (June 30, 2017), [Link](#).

<sup>141</sup> <https://crsreports.congress.gov/product/pdf/IF/IF10735/2> (p. 2).

<sup>142</sup> “Public-Private Partnerships for Transportation and Water Infrastructure,” Congressional Budget Office, (Jan. 2020), [Link](#).

<sup>143</sup> U.S. Department of Transportation, “Public-Private Partnership (P3) Procurement: A Guide for Public Owners,” (Mar. 2019), [Link](#).

<sup>144</sup> Government Code, Sections 2152.110, 2267.052(b)(8)(C), 2268.056(d).

<sup>145</sup> “Financial Structuring and Assessment for Public-Private Partnerships: A Primer,” U.S. Department of Transportation, Federal Highway Administration (December 2013), [Link](#), p. 27.