PREPARING FOR THE FUTURE OF ELECTRIC VEHICLE FAST CHARGING IN SOUTH DAKOTA

FAQs about the development of the South Dakota EV Charging Plan

What is the South Dakota EV Fast Charging Plan?
The South Dakota Electric Vehicle (EV) Fast Charging Plan will be a framework to guide the creation of a network of EV fast chargers throughout South Dakota that will connect to the national network to provide convenient, reliable, affordable, and accessible charging for all EV drivers. Development of this Plan is required to obtain **National Electric Vehicle Infrastructure (NEVI) Program** funding from the **2021 Infrastructure Investment and Jobs Act (IIJA).**

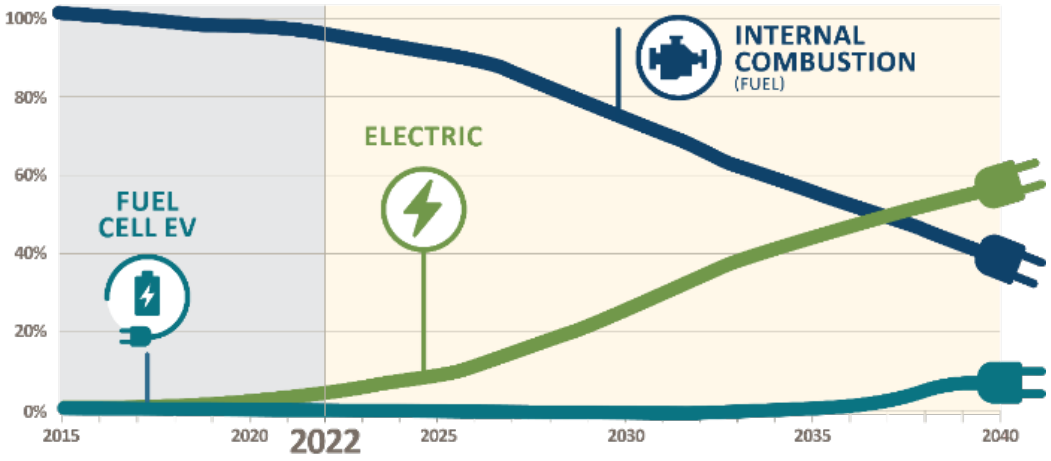
What is the Infrastructure Investment and Jobs Act (IIJA)?
The Infrastructure Investment and Jobs Act (IIJA), aka Bipartisan Infrastructure Law (BIL) was signed into law by President Biden on Nov. 15, 2021. The law authorizes $1.2 trillion for transportation and infrastructure spending, with $550 billion of that figure going toward "new" investments and programs. Funding from the IIJA is expansive in its reach, addressing energy and power infrastructure, access to broadband internet, water infrastructure, and more. Some of the new programs funded by the bill could provide the resources needed to address a variety of infrastructure needs at the local level.

What is the NEVI Program?
The NEVI Program aims to provide a nationwide network of 500,000 EV chargers by 2030 that ensures a convenient, reliable, affordable, and equitable charging experience for all users. The $5 billion NEVI Program will provide dedicated funding for states to strategically deploy EV fast charging infrastructure and establish an interconnected network to facilitate data collection, access, and reliability. Initially, funding under this program is directed to designated Alternative Fuel Corridors for electric vehicles to build out this national network, particularly along the Interstate Highway System. When the national network is fully built out, funding may be used to build EV charging infrastructure on any public road or in other publicly accessible locations.

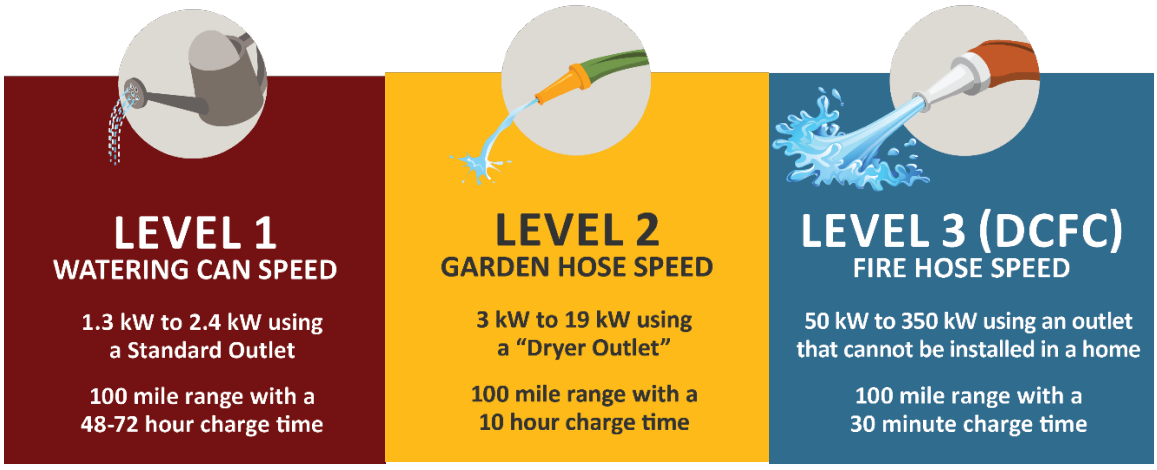
Why Should South Dakota Plan for EVs?
Connecting to a national network of chargers will support visitors from across the nation. Given the expected growth of EVs manufactured by national automakers, the adoption of EVs is anticipated to increase.

Pressure is being put on the EV market as consumer demand for EVs increases and the cost of production of batteries decreases.

Historic and Projected Global Share of Total Annual Passenger Vehicle Sales by Drive Train



What are the types of EV chargers and what does the EV Fast Charging Plan focus on?
The **EV Fast Charging Plan** will focus on the placement of **Direct Current Fast Chargers (DCFC)** which are also known as Level 3 fast chargers. These can provide 100 miles or more of range in 30 minutes or less. Most of the chargers that currently exist in South Dakota are proprietary or are Level 1 and 2 chargers, which are significantly slower and are currently found in homes and commercial areas.



Where can I learn more about different types of Electric Vehicles?
The U.S. Department of Transportation provides an overview on the different types of EVs.

Where will this plan focus charging availability?
The initial focus for installation will be at locations near the Interstate corridors in South Dakota (I-90, I-29, I-229, and I-190). The NEVI Program guidelines require the installation of fast charging infrastructure within 50 miles of each other and within one travel mile of the interstate.

Do EV owners pay a fee to cover the cost?
Yes. The charging station will require a user to pay for the charge.

Do EV owners pay road usage tax like gas vehicle owners?
Currently in South Dakota, EV owners pay an additional $50 registration fee for their electric vehicle.

Why is the federal government looking to help fund Electric Vehicle Charging Infrastructure?
As part of the Infrastructure Investment Jobs Act **(IIJA),** there is dedicated funding to each state to stimulate private investment for charging stations. The Federal investment provides the opportunity to develop the charging infrastructure in order to complete a National EV Direct Current Fast Charge **(DCFC)** Infrastructure network.

How is funding for roads going to be obtained as the fleet converts to EVs?
This is a topic of much debate across many states and the Federal government. The Bipartisan Infrastructure Law (BIL) included requirements for the USDOT to conduct a National Road User Charging Pilot program to help identify solutions.

How much would "X" number of miles cost me to charge?
The amount per charge and the corresponding mileage will depend upon the specific EV make and model. However, we would expect the charges to be on the order of $0.10 - $0.30 per minute with an additional $2-$4 access fee based upon current charging rates at similar chargers. Charging from 20% to 80% over the course of 20-30 minutes could result in costs in the range of $6 - $13. Depending on weather, vehicle type, and other factors, a range of 100 miles could be anticipated.

Would the cost to charge be based on demand, location, and supplier?
The cost-to-charge is based upon the rates established by the charging station owner/operator. It can vary by several factors including the cost of the electricity from the utility, time-of-day, geographic location, etc.

Why is the plan being developed now?
While some fast charging opportunities exist today within South Dakota, the opportunity for the development of a DCFC network for each state came through the IIJA. Guidance for development of DCFC plans was released a few months ago, which has allowed the development of this plan to begin.

When could the infrastructure be in place and how is it funded?
There is currently some charging infrastructure in place. DCFC's under this plan could be deployed in the next few years. It's anticipated that funds dedicated through the IIJA could cover approximately 80% of the construction costs with private investment covering the remaining 20%.

How will the power grid handle this increase in electricity usage?
As part of developing this plan, we are working with electric utilities to assess the power grid's ability to handle this increase in electrical usage. Generally, the utilities have indicated that the initial power requirements for this plan can be met without needing significant enhancements to the electrical grid in South Dakota under normal operating conditions.

Will EVs struggle in the harsh South Dakota winters and hot summers?
Extreme temperatures do impact the performance of current EV's. Testing by the American Automobile Association estimates that the range of an EV can be impacted by as much as 20%-40% at temperatures at 20 degrees Fahrenheit. Charging times were similarly impacted with double or triple the amount of time required.

If a manufacturer has proprietary charging infrastructure in place, will they also be able to offer charging for other makes/models?
Some manufacturers have installed charging locations within South Dakota, including some that would be equivalent to the type of fast chargers required by the NEVI Program. Recently, there has been indication from owners of vehicle proprietary charging systems of a potential future reconfiguration of existing and future infrastructure to accommodate vehicles from other manufacturers.

Would the charging stations be universal to accommodate all makes/models?
The charging port configuration that could be installed under this plan has been standardized to be based upon the Combined Charging System (CSS). Adaptors can be used for vehicles with other types of charging ports.

If I'm visiting from another state or traveling through the state, how will I find EV locations in South Dakota?
There are many websites that contain the locations of charging locations including an interactive map maintained by the Department of Energy as part of the Alternative Fuels Data Center located at: https://afdc.energy.gov/stations/#/find/nearest. It's also anticipated that signing along those corridors would be erected to help guide drivers.