



*Kansas Renewable  
Energy Conference*

*October 4, 2022*



# Charging Infrastructure Terminology

## 1 Station Location



**Station Location:** A station location is a site with one or more EVSE ports at the same address.

**EVSE Port:** An EVSE port provides power to charge one vehicle at a time even though it may have multiple connectors.


**Connector (aka Plug):** A connector is what is plugged into a vehicle to charge it. Multiple connectors and connector types (such as CHAdeMO and CCS) can be available on one EVSE port, but only one vehicle will charge at a time.

From Alternative Fuels Data Center [https://afdc.energy.gov/fuels/electricity\\_infrastructure.html](https://afdc.energy.gov/fuels/electricity_infrastructure.html)



# Charging Infrastructure Terminology

**Level 1 Charging**  
Approximately 5 miles of range per 1 hour of charging\*





J1772 connector

\*Assumes 1.9 kW charging power

- Common for home charging (over 80% of charging is at home)
- Standard 3-prong 120 V outlet
- Almost all EVs come with Level 1 cordset for charging
- Less than 2% of public charging is Level 1

**Level 2 Charging**  
Approximately 25 miles of range per 1 hour of charging†






J1772 connector      Tesla connector

\*Assumes 6.6kW charging power

- Home, workplace, business fleet and community public charging
- 240 V
- Similar to an electric stove or clothes dryer
- 6.6kW – 19.2kW charging power
- Over 80% of public charging ports are Level 2

**DC Fast Charging**  
Approximately 100 to 200+ miles of range per 30 minutes of charging‡



CCS connector      CHAdeMO connector      Tesla connector

- Highway charging for travel, some public community charging
- Typically, 3-phase AC input
- 50kW – 350kW or more
- Over 15% of public charging ports are DCFC
- NEVI corridor charging



# NEVI Formula Funds

- \$39.5M allocated to Kansas over 5 years (~\$8M/year) for EV infrastructure
- Initial funding for designated EV corridors
- Corridors must be ‘fully built out’ before funding can be used in other areas
- Corridor charging requires 4 – 150kW CCS ports every 50 miles, within 1 mile of the corridor
- The [Charge Up Kansas NEVI Plan](#) was approved on September 14, 2022

From the National Electric Vehicle Infrastructure (NEVI) Formula Program Guidance released February 10, 2022, available at [https://www.fhwa.dot.gov/environment/alternative\\_fuel\\_corridors/nominations/90d\\_nevi\\_formula\\_program\\_guidance.pdf](https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/90d_nevi_formula_program_guidance.pdf)





# NEVI Plan

- The NEVI plan is NOT a comprehensive transportation electrification plan
- The NEVI plan IS a program implementation plan to guide EV plan development
- Annual updates are required to access the next year of funding
- Updates will allow adjustments to the plan as needs and priorities change



# NEVI Plan

- Plan approval gives access to \$14.2M in funding for 2022 - 2023
- Fall 2022 – Request for Information
- Q1 2023 – Request for Proposals
- Plan update due in 2023 to access 2024 funding
- Estimated \$8.4M per year for 2023 – 2025
- The [Justice40 Initiative](#) requires 40% of funding benefit disadvantaged communities

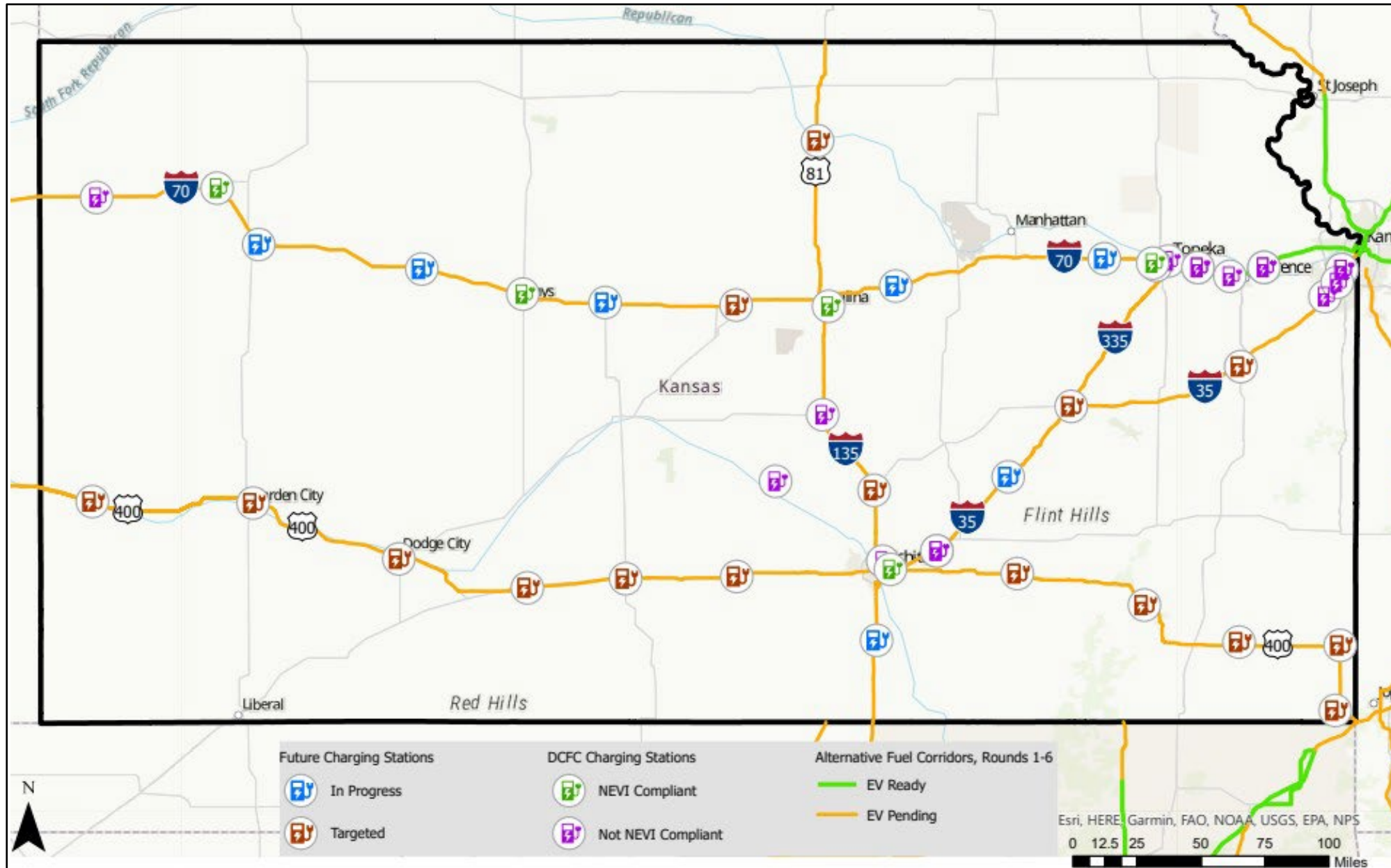


# Designated EV Corridors in Kansas

Green solid lines are Ready EV corridors. Brown dashed lines are Pending EV corridors. Purple dots are NEVI compliant DCFC locations.



# Kansas Designated EV Corridor Plan



NOTE: targeted station locations (in red) are general areas for future stations, not specific locations. Charging stations are needed within 1 mile of the designated EV corridors with no more than 50 miles between charging locations.







# Additional EV Funding in BIL (Bipartisan Infrastructure Law)

- Discretionary / Competitive Grant Funding
- Carbon Reduction Program
- Clean School Bus Funding
- Other
  - Fleet transition – Transit
  - Site build-out
  - Grid accommodations
  - Workforce development





	FY 2022 <sup>1</sup> AMOUNT						
<b>FORMULA PROGRAMS</b>							
National Highway Performance Program (NHPP)	\$28.4 B <sup>2</sup>						
Surface Transportation Block Grant Program (STBG)	\$12.5 B <sup>2,3</sup>						
Congestion Mitigation & Air Quality Improvement Program (CMAQ)	\$2.5 B <sup>2</sup>						
National Highway Freight Program (NHFP)	\$1.4 B <sup>2</sup>						
State Planning and Research (SPR)	\$983.3 M <sup>4</sup>						
Metropolitan Planning (PL)	\$438.1 M <sup>2</sup>						
Carbon Reduction Program	\$1.2 B <sup>2,3</sup>						
National Electric Vehicle (NEV) Formula Program	\$685 M <sup>2,4,5</sup>						
<b>DISCRETIONARY PROGRAMS</b>							
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) (formerly known as BUILD)	\$1.5 B						
Infrastructure for Rebuilding America (INFRA) Grant Program	\$1.64 B <sup>2,3</sup>						
Advanced Transportation and Technologies and Innovative Mobility Deployment	\$60 M <sup>2</sup>						
Discretionary Grant Program for Charging and Fueling Infrastructure	\$300 M <sup>2,3</sup>						
Rural Surface Transportation Grant Program	\$300 M <sup>2,3</sup>						
Reduction of Truck Emissions at Port Facilities Program	\$80 M <sup>2,3,7</sup>						
<b>OTHER ALLOCATED PROGRAMS</b>							
Federal Lands and Tribal Transportation Program (FLTTP)	\$1.3 B <sup>2,3</sup>						
Puerto Rico Highway Program (PRHP)	\$173 M <sup>2</sup>						
Territorial Highway Program (THP)	\$46 M <sup>2</sup>						
<b>INNOVATIVE FINANCE PROGRAMS</b>							
State Infrastructure Banks (SIBs)	Varies						
Transportation Infrastructure Financing and Innovation Act (TIFIA)	\$250 M <sup>2</sup>						

# DOT Funding and Financing Programs with EV Eligibilities

Find funding opportunities for various EV projects at <https://cityrenewables.org/ffold/>





# *Charge Up Kansas* NEVI Plan Workforce Development

- The [proposed federal rules](#) require electricians be trained under the Electric Vehicle Infrastructure Training Program (EVITP)
- KDOT will support EVITP or other EVSE specific certification as required for NEVI funded projects
- Work with industry on workforce training opportunities, including EVITP
- Details on EVITP certification:  
<https://evitp.org/>





# Guiding Principles for EV Planning & Implementation

- There is no one-size-fits-all approach
- Many planning processes may be executed in parallel rather than strictly sequentially
- Coordinate early and often with key stakeholders
- Stakeholders may have different needs and perspectives
- Invest in planning and build for flexibility

From US DOT Rural EV Toolkit

<https://www.transportation.gov/rural/ev/toolkit/ev-infrastructure-planning>



# Interested in EV Charging? Next Steps

- Work with your electric utility
  - Verify adequate power availability
  - Discuss any necessary utility upgrades
  - Identify rate structure
- Research equipment and network options
  - Charger power levels
  - Network connectivity needs
- Consider location options for charging equipment
  - Amenities for EV drivers' longer fueling time
  - Proximity to electric power
- Research incentives and funding options
  - <https://cityrenewables.org/ffold/>
  - <https://kshub.org/>
  - <https://localinfrastructure.org/> (communities up to 150,000)





# Additional Resources (with links)

- [Alternative Fuels Data Center](#) Locate stations, general EV info, EV infrastructure planning tool
- [Metropolitan Energy Center \(MEC\)](#) Electrify Kansas, Central Kansas & Kansas City Clean Cities Coalitions
- [Proposed Rulemaking: Minimum Standards and Requirements for EV Chargers](#)
- [NEVI Program Guidance](#) and [Frequently Asked Questions](#)
- [Proposed Waiver of Buy America Requirements for Electric Vehicle Chargers](#)
- [Joint Office of Energy and Transportation](#)
- [Kansas Office of Rural Prosperity](#)
- [Charging Forward: Rural EV Toolkit](#)
- [Kansas Infrastructure Hub](#)





Stronger Together

# Kansas Infrastructure Hub

## Hub Lead

- Kansas Department of Transportation, Secretary Julie Lorenz

## Subcabinet

- Agencies receiving bulk of FORMULA funding
  - Kansas Department of Transportation
  - Kansas Department of Commerce
  - Kansas Department of Health and Environment
  - Kansas Department of Agriculture
  - Kansas Department of Administration
  - Kansas Corporation Commission
  - Kansas Water Office

## Advisory Group

- Public & Private Organization Leaders, Big Thinkers, Collaboration





# Together We Succeed

- Collaborate
  - Think Big: Don't let Zip Codes and Jurisdictional boundaries be barriers
- Prioritize
  - Of course, we want it all
- Resource Allocation
  - Leverage opportunities, partnerships
- Communicate
  - Share the challenges, opportunities, and solutions
- ENGAGE
  - Be part of the action!



# The Hub...

...is NOT:

- Mandate
- Gatekeeper
- Funding Source
- Scheduler
- Approver

IS:

- Information Exchange & Resource Center
- Connector
- Working Group
- Voluntary
- Collaborative



# Resources

- The Guidebook
- Rural Playbook
- Technical Assistance Guide
- Tribal Playbook
- Find all playbooks online at [kshub.org](https://kshub.org)
- Email [BI@ks.gov](mailto:BI@ks.gov)
- Original Source: [build.gov](https://build.gov)





# Thank you

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**Charge Up Kansas**

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