



*Fuel True Independent
Energy & Convenience*

February 9, 2023





EV Charging Terminology

Charge Up Kansas NEVI Plan

- Funding Details
- Existing Infrastructure
- Priority Target Areas
- Workforce Development

Other EV Charger Funding

Developing EV Charging

- Why is it needed?
- Next steps

Helpful Resources

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



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 to fund EV infrastructure
- Initial funding limited to 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





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



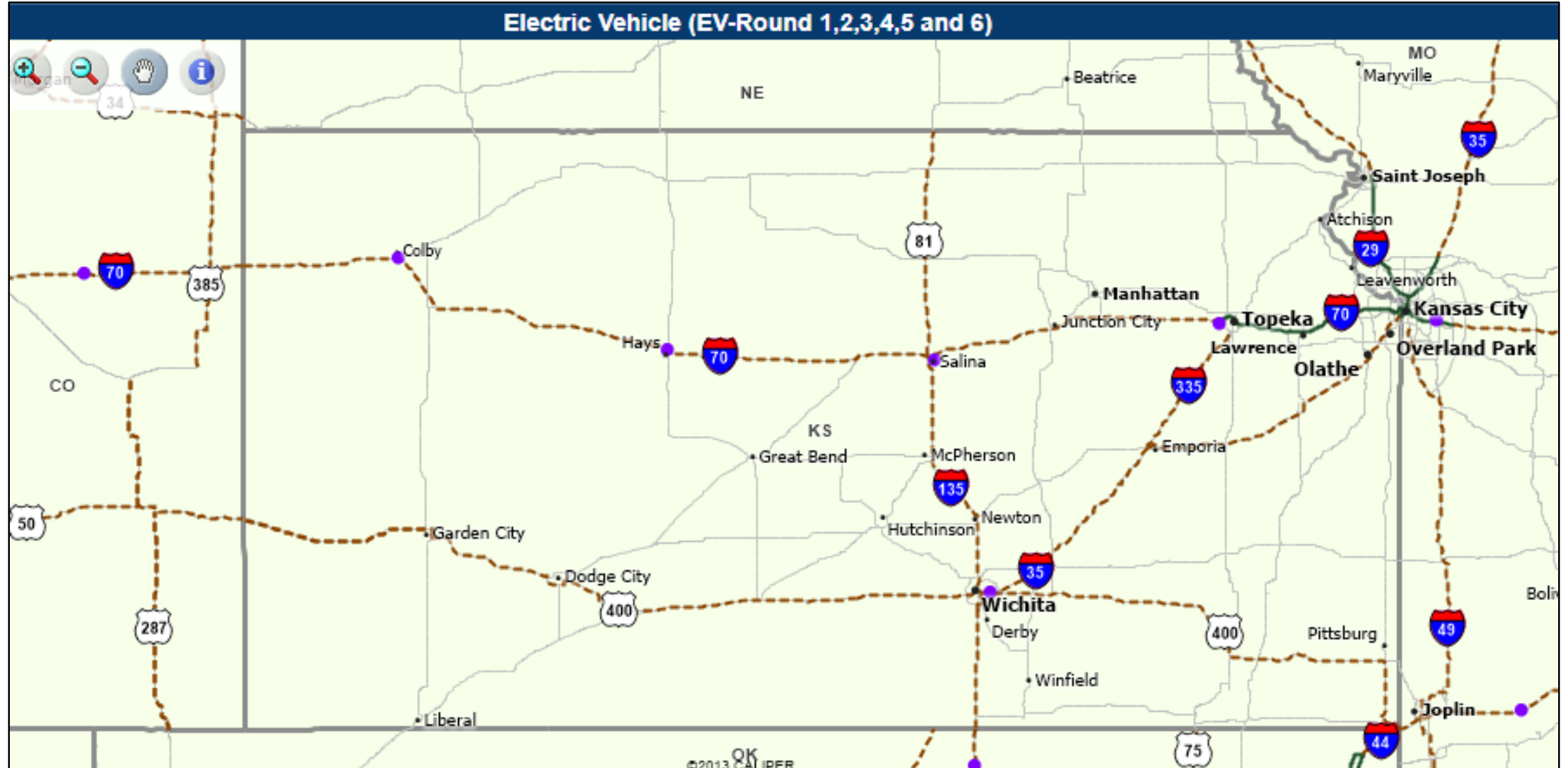
NEVI Plan

- Plan approval gives access to \$14.2M in funding for 2022 - 2023
- February 2023 – Request for Interest
- Spring 2023 – Request for Projects
- Plan update due in 2023 to access 2024 funding
- Estimated \$8.4M per year for 2024 – 2026
- The Justice40 Initiative requires 40% of funding benefit disadvantaged communities
- Requires 20% local cost match

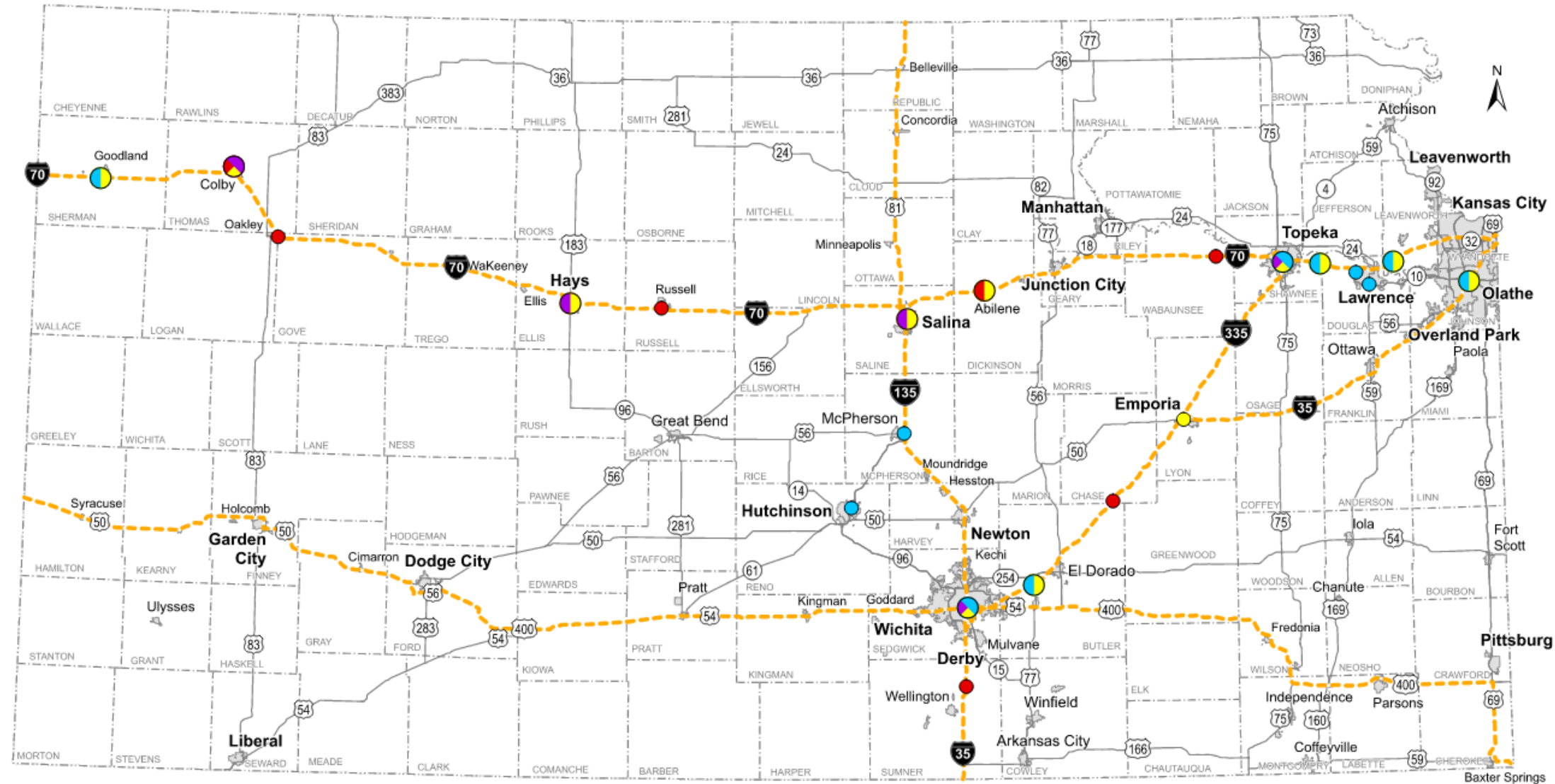


Designated EV Corridors in Kansas

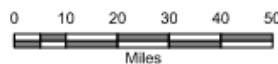
Green solid lines are Ready EV corridors. Brown dashed lines are Pending EV corridors. Purple dots are NEVI compliant DCFC locations.



Existing and Planned DC Fast Charging EV Infrastructure



Draft map as of 1/27/2023

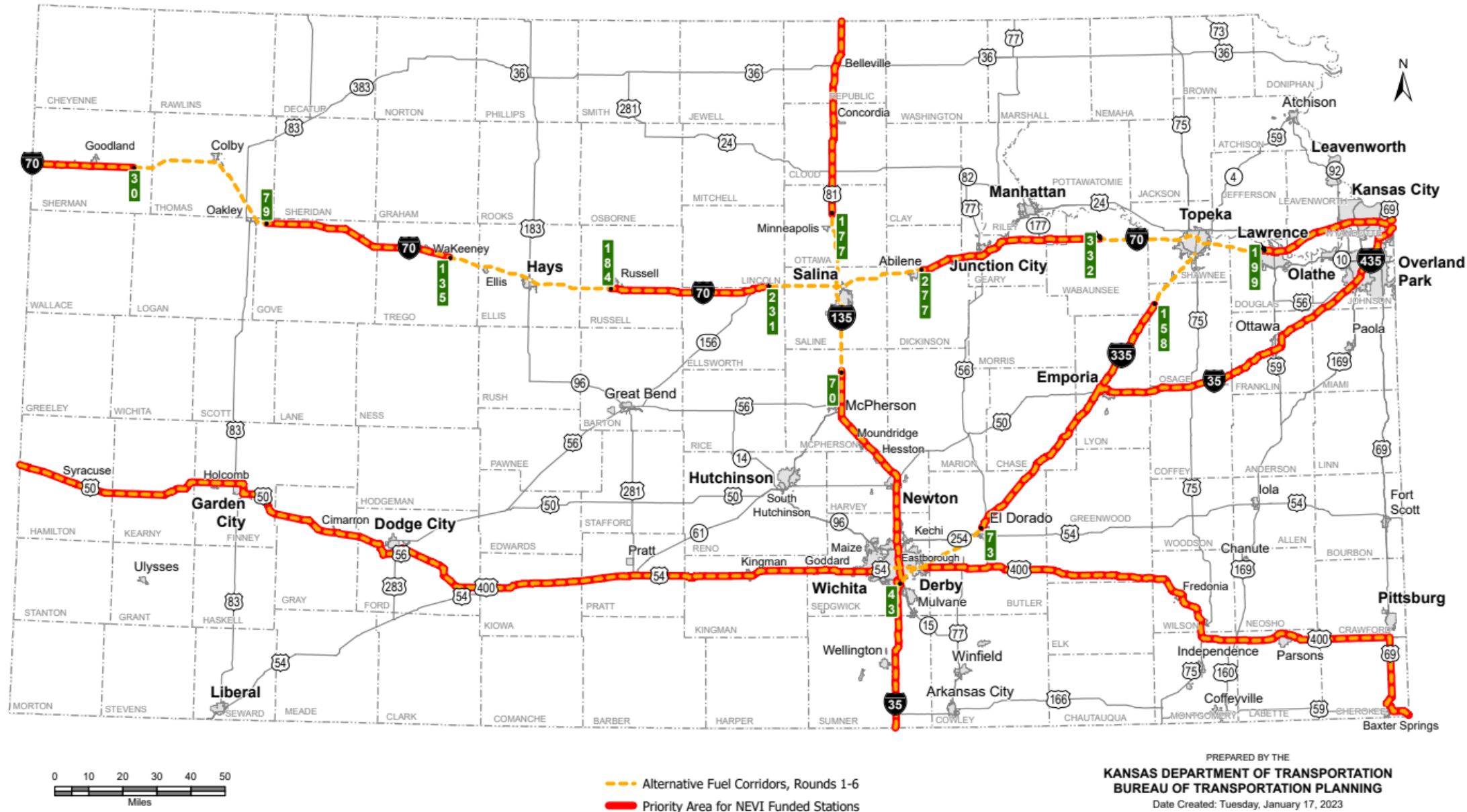


- NEVI Compliant DC Fast Charger
- Tesla Supercharger
- Other DC Fast Charger
- Cities with multiple types of stations

- Under Construction (only those of which KDOT has received notification)
- Designated Electric Alternative Fuel Corridors

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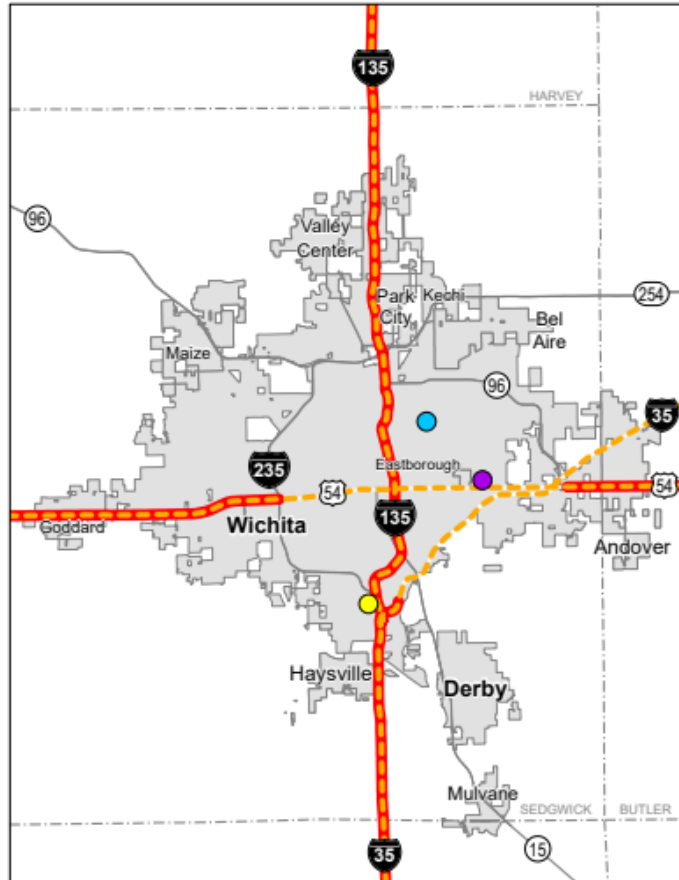
NEVI Program Priority Areas for EV Charging



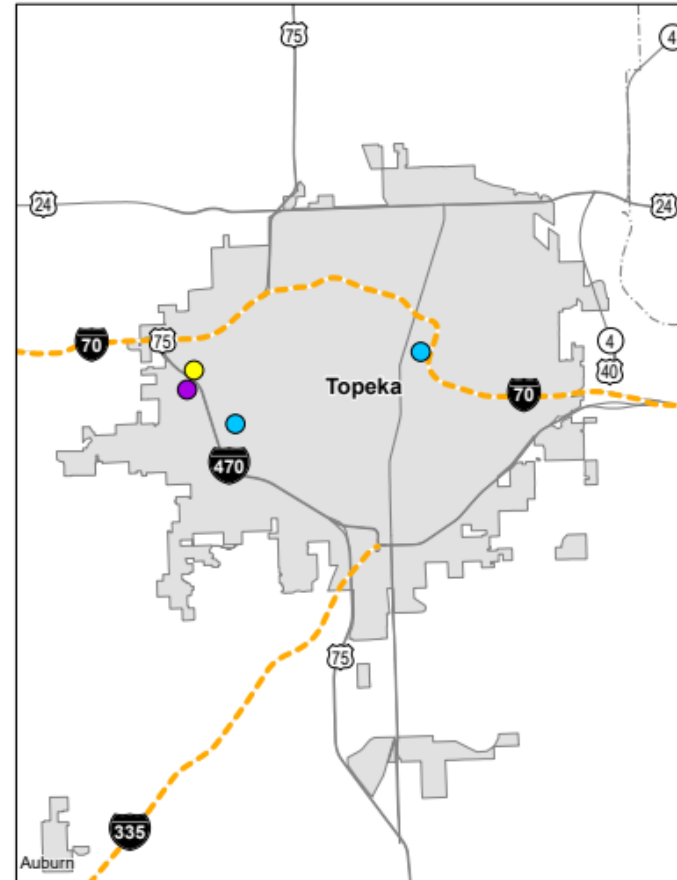
Draft map as of 1/17/2023

NEVI funded EV charging stations must be non-proprietary, allow for open-access payment methods, and be publicly available 24 hours per day, 7 days per week.

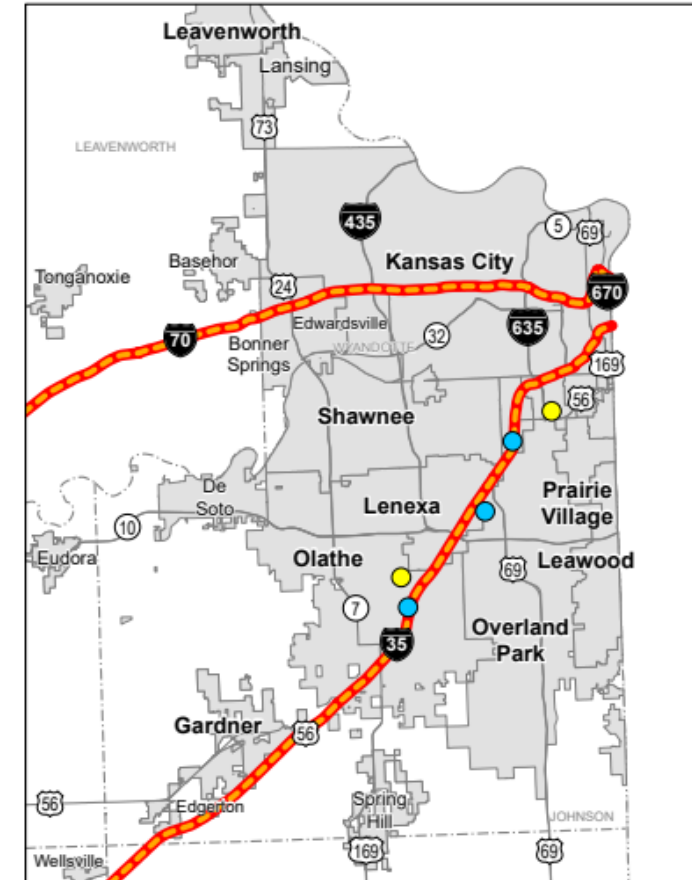
Existing and Planned DC Fast Charging EV Infrastructure



Wichita Inset



Topeka Inset



Kansas City Inset

- NEVI Compliant DC Fast Charger
- Tesla Supercharger
- Other DC Fast Charger
- Designated Electric Alternative Fuel Corridors
- Priority Area for NEVI Funded Stations



Draft maps as of 1/23/2023

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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 ¹ AMOUNT						
FORMULA PROGRAMS							
National Highway Performance Program (NHPP)	\$28.4 B ²						
Surface Transportation Block Grant Program (STBG)	\$12.5 B ^{2,3}						
Congestion Mitigation & Air Quality Improvement Program (CMAQ)	\$2.5 B ²						
National Highway Freight Program (NHFP)	\$1.4 B ²						
State Planning and Research (SPR)	\$983.3 M ⁴						
Metropolitan Planning (PL)	\$438.1 M ²						
Carbon Reduction Program	\$1.2 B ^{2,5}						
National Electric Vehicle (NEV) Formula Program	\$685 M ^{2,5,6}						
DISCRETIONARY PROGRAMS							
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 ^{2,7}						
Advanced Transportation and Technologies and Innovative Mobility Deployment	\$60 M ²						
Discretionary Grant Program for Charging and Fueling Infrastructure	\$300 M ^{2,8}						
Rural Surface Transportation Grant Program	\$300 M ^{2,9}						
Reduction of Truck Emissions at Port Facilities Program	\$80 M ^{2,10}						
OTHER ALLOCATED PROGRAMS							
Federal Lands and Tribal Transportation Program (FLTTP)	\$1.3 B ^{2,11}						
Puerto Rico Highway Program (PRHP)	\$173 M ²						
Territorial Highway Program (THP)	\$46 M ²						
INNOVATIVE FINANCE PROGRAMS							
State Infrastructure Banks (SIBs)	Varies						
Transportation Infrastructure Financing and Innovation Act (TIFIA)	\$250 M ²						

DOT Funding and Financing Programs with EV Eligibilities

Funding opportunities can also be found at cityrenewables.org/ffold and kshub.org





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/>



EV Commitments from Vehicle Manufacturers

GM	2035	Volvo	2030	Honda	2040	Ford	40% by 2030 2050 Carbon Neutral
Mazda	2030	Hyundai	2045 Carbon Neutral	Bentley	2030	Jaguar Land Rover	2030
Toyota Lexus	2025 EV option for all models	Chrysler	2028	VW	2050 Carbon Neutral		

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
 - Parking for EVs which require a 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](#)
- [Kansas Infrastructure Hub](#)
- [Charging Forward: Rural EV Toolkit](#)





Thank you

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