CHARGE UP KANSAS

# EV CHARGING INFRASTRUCTURE

# CALL FOR PROJECTS

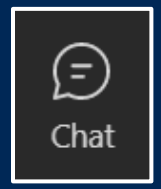
**April 13 & 14, 2023**

Kansas Department of Transportation

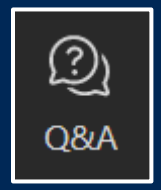
# WELCOME!

*We'll get started shortly.*

All attendees have audio and video disabled.




Please introduce yourself in the meeting **CHAT** with your name & organization. You can also use the chat for technical assistance.




Click the **Q&A** button to ask questions during the presentation. The moderator will ensure your question is answered.

This webinar is being recorded.

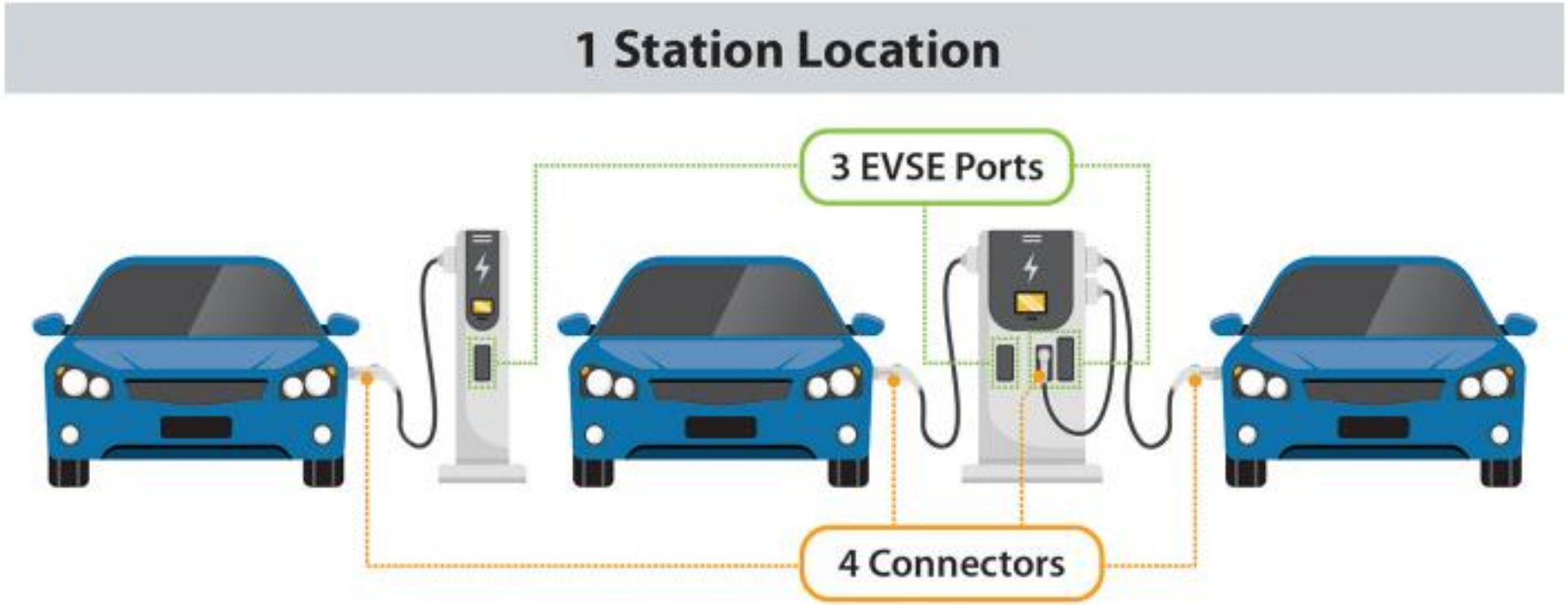
Presentation slides, the webinar recording, and Q&A will be posted online during the week of April 17.

Kansas Department of Transportation

# EV INFRASTRUCTURE OVERVIEW & FUNDING

Kansas Department of Transportation

# Charging Infrastructure Terminology




**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

From Alternative Fuels Data Center https://afdc.energy.gov/fuels/electricity_infrastructure.html

## 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

# Project Funding Opportunities

## Charging & Fueling Infrastructure (CFI) Funding

- Alternative fuel infrastructure along federally designated Alternative Fuel Corridors for Electric, Hydrogen, Natural Gas, and Propane
- Off-corridor and community charging and fueling Infrastructure
- Must apply to FHWA by May 30, 2023
- Additional information available at grants.gov

## National Electric Vehicle Infrastructure (NEVI) Formula Funds

- DCFC along federally designated EV Charging Corridors
- Federal funding allocated to KDOT

## Other Federal Funding to Support EV Infrastructure

- Federal funding allocated to KDOT
- Support for off-corridor and community EV charging

# CFI FUNDING

# CFI Funding

- Federal Program administered by FHWA through the US DOT
- $700M allocated this year to support corridor and community charging and fueling infrastructure ($350M each)
- Single application for both programs
- Applicants may be awarded under both programs
- Community grants minimum award of $500,000 with a max of $15M
- Corridor grants minimum award of $1M with no maximum
- Requires 20% local cash match
- Must be publicly accessible
- More information is available at https://www.fhwa.dot.gov/environment/cfi/

# CFI Funding

Eligible applicants include:

- States or political subdivision of States
- Metropolitan planning organizations
- Units of local governments
- Special purpose districts or public authorities with a transportation function, including port authorities
- Indian tribes
- U.S. Territories
- Authorities, agencies, or instrumentalities or entities owned by, one or more entities listed above
- Groups of entities listed above
- State or local authorities with ownership of publicly accessible transportation facilities (applies to Community Program only)

# CFI Funding

- KDOT will not be submitting an application for CFI funding
- KDOT may be able to provide information for project applications for requests received by May 15, 2023
  - Charge Up Kansas NEVI Plan components such as maps, tables, etc.
  - Contact information
  - Letter of Support
  - Please reach out to ChargeUpKS@ks.gov
- KDOT cannot provide assistance with writing or submitting the application

# NEVI FORMULA FUNDING

# NEVI Formula Funds

- Federal program administered by state DOTs
- KDOT has over $14M available under this Call for Projects
- Funding is limited to designated EV corridors to build new or update existing stations
- 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 Justice40 Initiative requires 40% of funding benefit disadvantaged communities
- Minimum 20% local cash match required

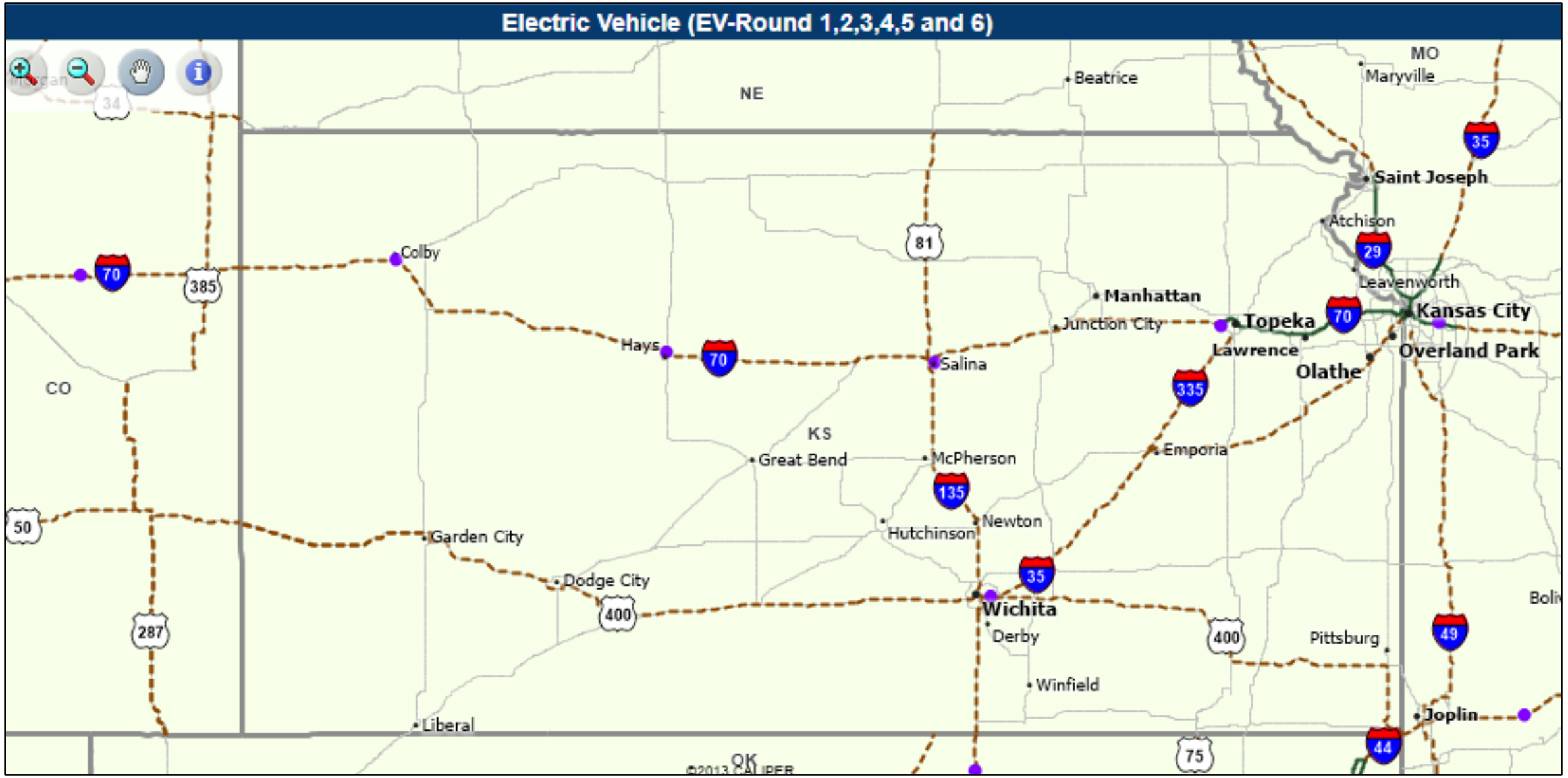
# NEVI Formula Funds

Eligible applicants include:

- Private businesses
- Non-profits
- Educational institutions
- Metropolitan planning organizations
- Units of local governments
- Indian tribes
- Authorities, agencies, or instrumentalities or entities owned by, one or more entities listed above
- Groups of entities listed above

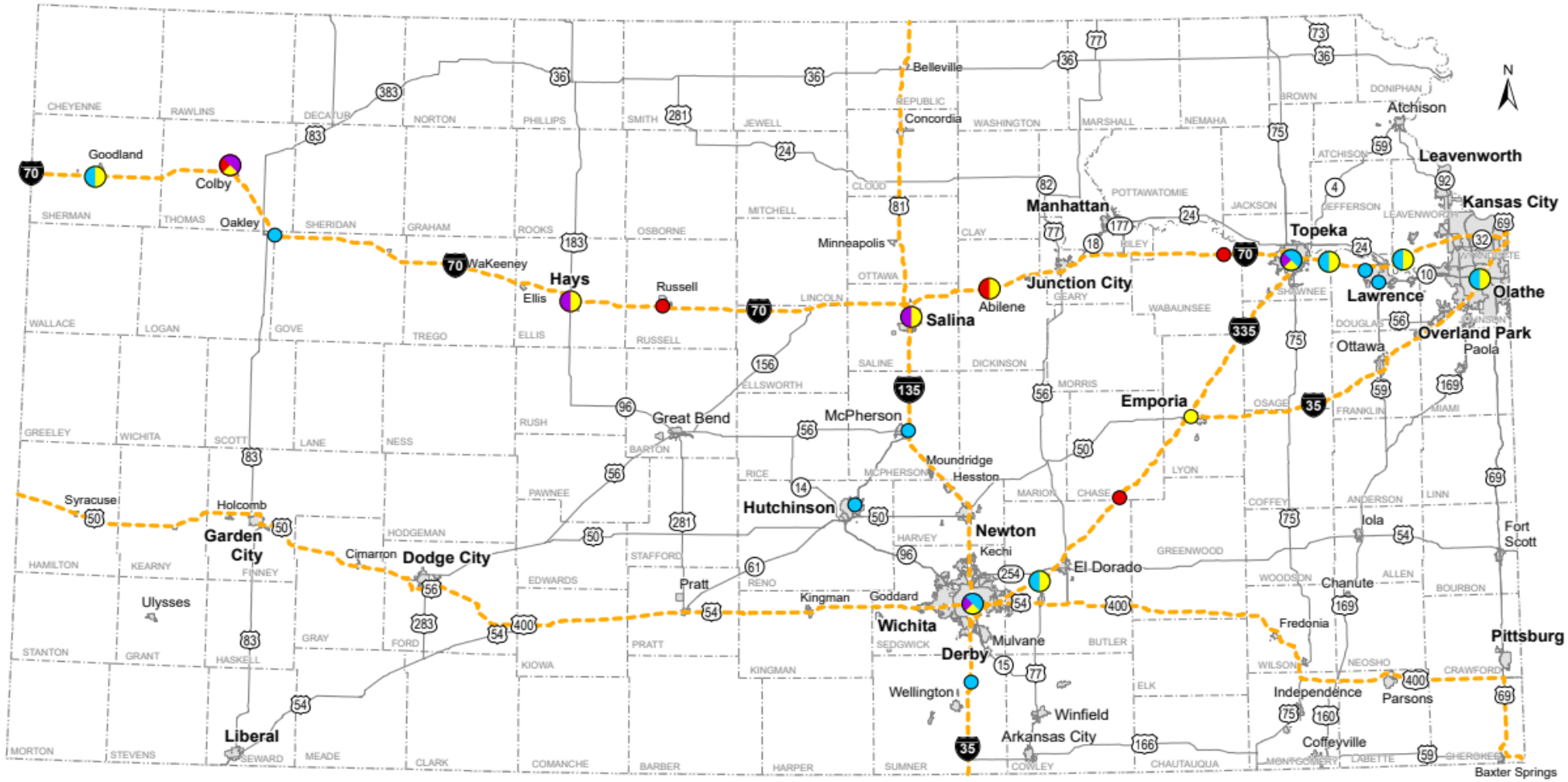
# Designated EV Corridors in Kansas

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




www.fhwa.dot.gov/environment/alternative_fuel_corridors/

# Existing & Planned DC Fast-Charging Infrastructure

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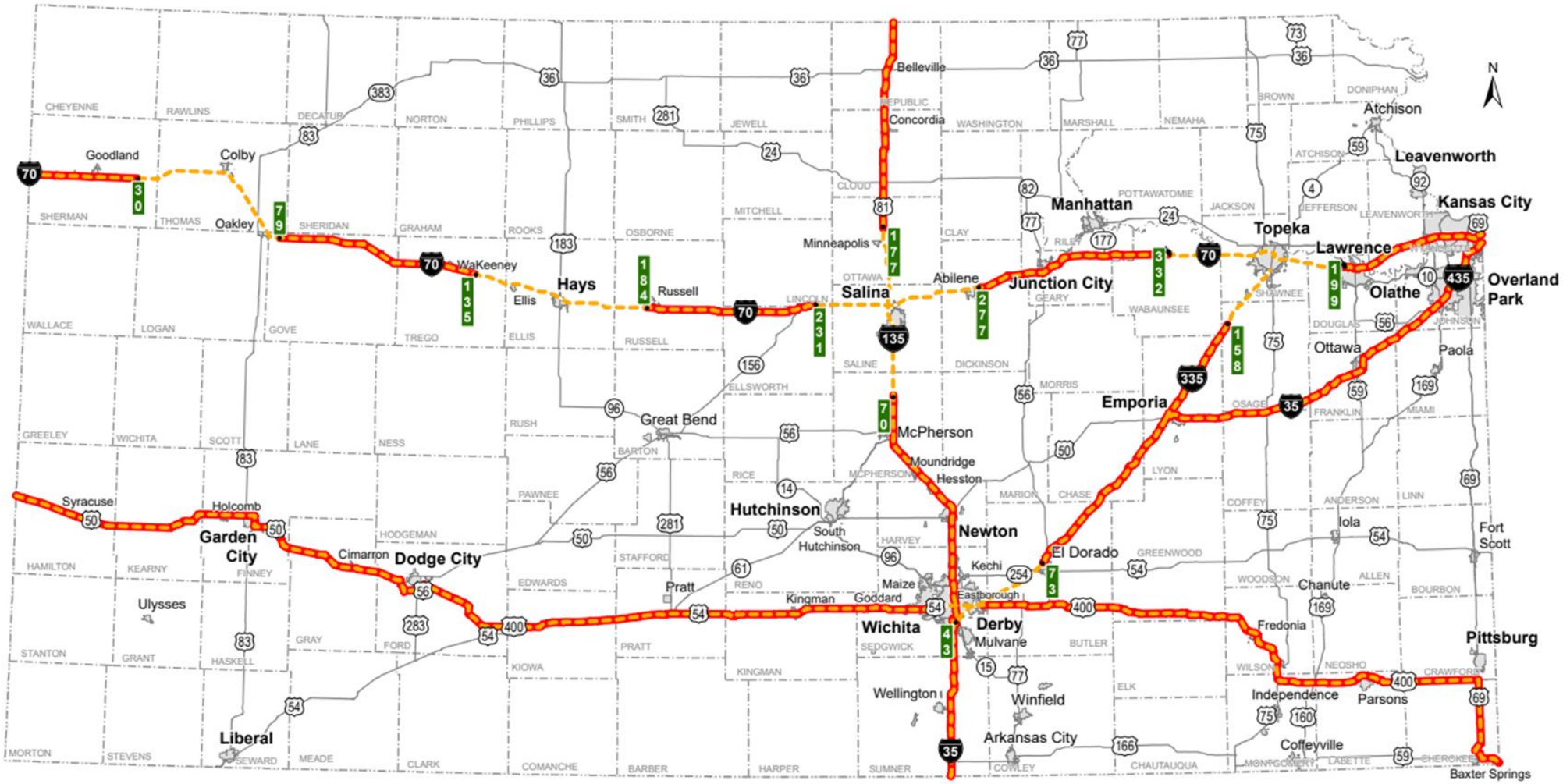
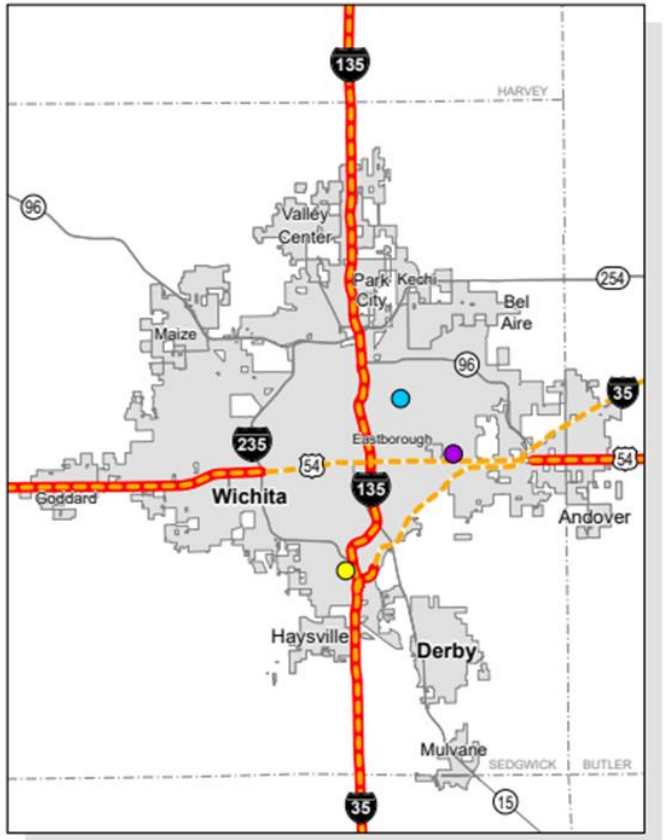
**KANSAS DEPARTMENT OF TRANSPORTATION**
**BUREAU OF TRANSPORTATION PLANNING**
Date Created: Monday, April 10, 2023

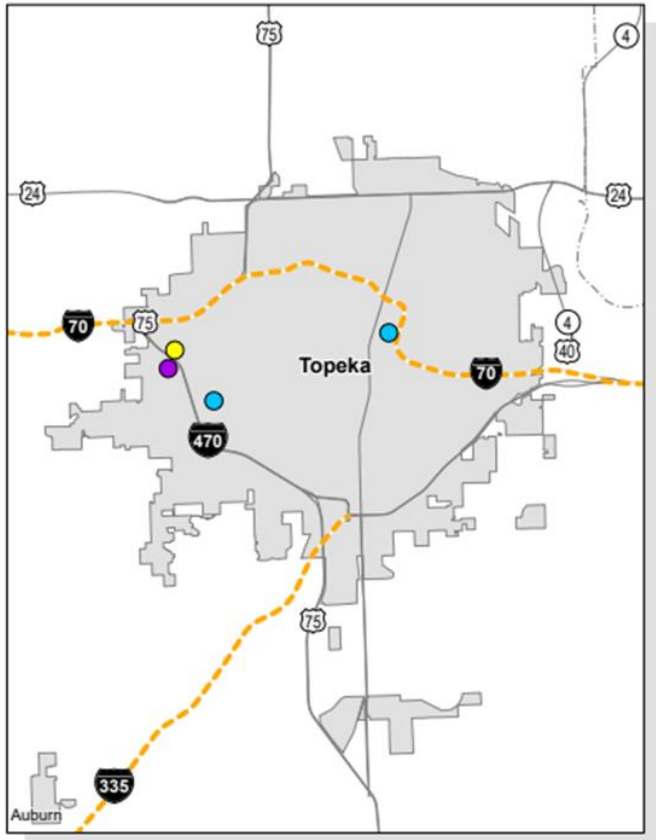
# NEVI Program Priority Areas for DC Fast-Charging



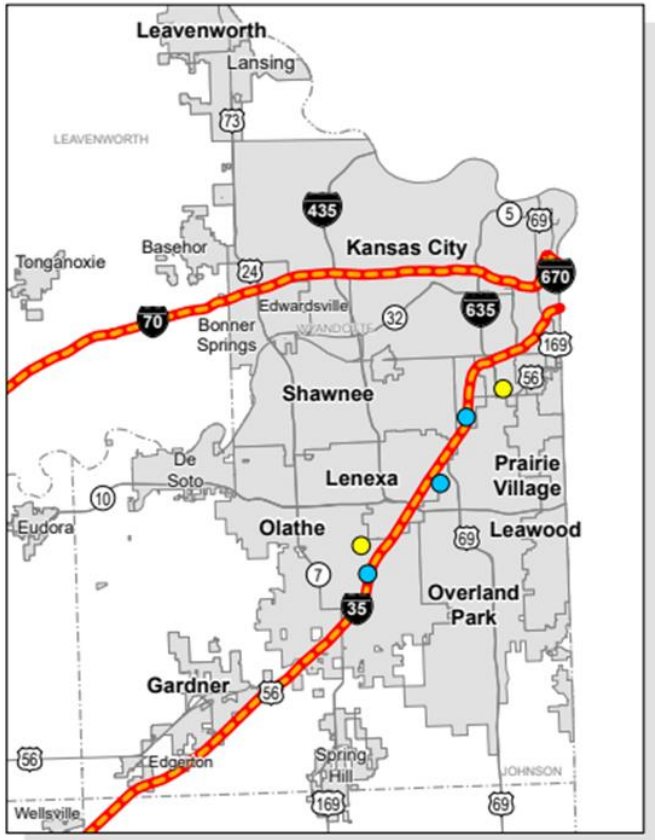
# NEVI Program Priority Areas for DC Fast-Charging




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

N

0 2 4 6 8 10
Miles

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**BUREAU OF TRANSPORTATION PLANNING**
Date Created: Monday, January 23, 2023

# NEVI Formula Program Location Requirements

- Sections 7 & 8 of the Charge Up Kansas NEVI Plan outlines the priorities for DC Fast Charging as:
  - Gaps along designated EV Charging Corridors
  - Upgrades to existing charging stations
  - Support for community applications to discretionary funding for EV charging
- Publicly accessible 24/7/365
- Preferably within 1 mile driving distance of an EV charging corridor
  - Exceptions can be requested for reasonable cause
- Dusk-to-dawn lighting, restroom facilities, shelter for inclement weather, and cellular data service or wi-fi
  - Additional amenities such as food service, shopping, and/or entertainment are a plus
  - See Section 8.1 of the Charge Up Kansas NEVI Plan for more details
- Additional requirements for ADA accessibility in Section 9.1 of the Charge Up Kansas NEVI Plan
- Minimum of 5 years in service at 97% uptime

# NEVI Formula Program Minimum Requirements

- 4 CCS ports, each capable of simultaneous charging at 150kW or more at 250-920 volts DC
- *Buy America* compliant UL certified equipment installed by certified technicians (EVITP or continuing education certificate from registered apprenticeship)
- Must provide a contactless payment method that accepts major credit and debit cards, or through an automated toll-free line or SMS and cannot require or offer a discount through a charging app
- Price for charging must be displayed prior to initiating a charging transaction and be based on the price per kWh to charge
- Data sharing to third-parties through free APIs
- Minimum reporting requirements for 5 years
- For complete details on station requirements, see the National Electric Vehicle Infrastructure Standards and Requirements

# NEVI Formula Program Allowable Costs

NEVI Formula Program funds may be used for:

- EV charging infrastructure and necessary equipment and installation costs to connect it to a network to facilitate data collection, access, and reliability including:
  - upgrades to existing public charging stations to meet NEVI Formula Program requirements
  - on-site distributed energy resources (e.g. solar arrays, energy storage)
- Costs allocable to operating and maintaining EV charging infrastructure acquired or installed under this program, for up to 5 years
- On-site and right-of-way signage for EV charging infrastructure acquired or installed under this program
- For complete details on allowable costs, visit the National Electric Vehicle Infrastructure (NEVI) Formula Program Guidance

# ADDITIONAL FUNDING FOR EV CHARGING

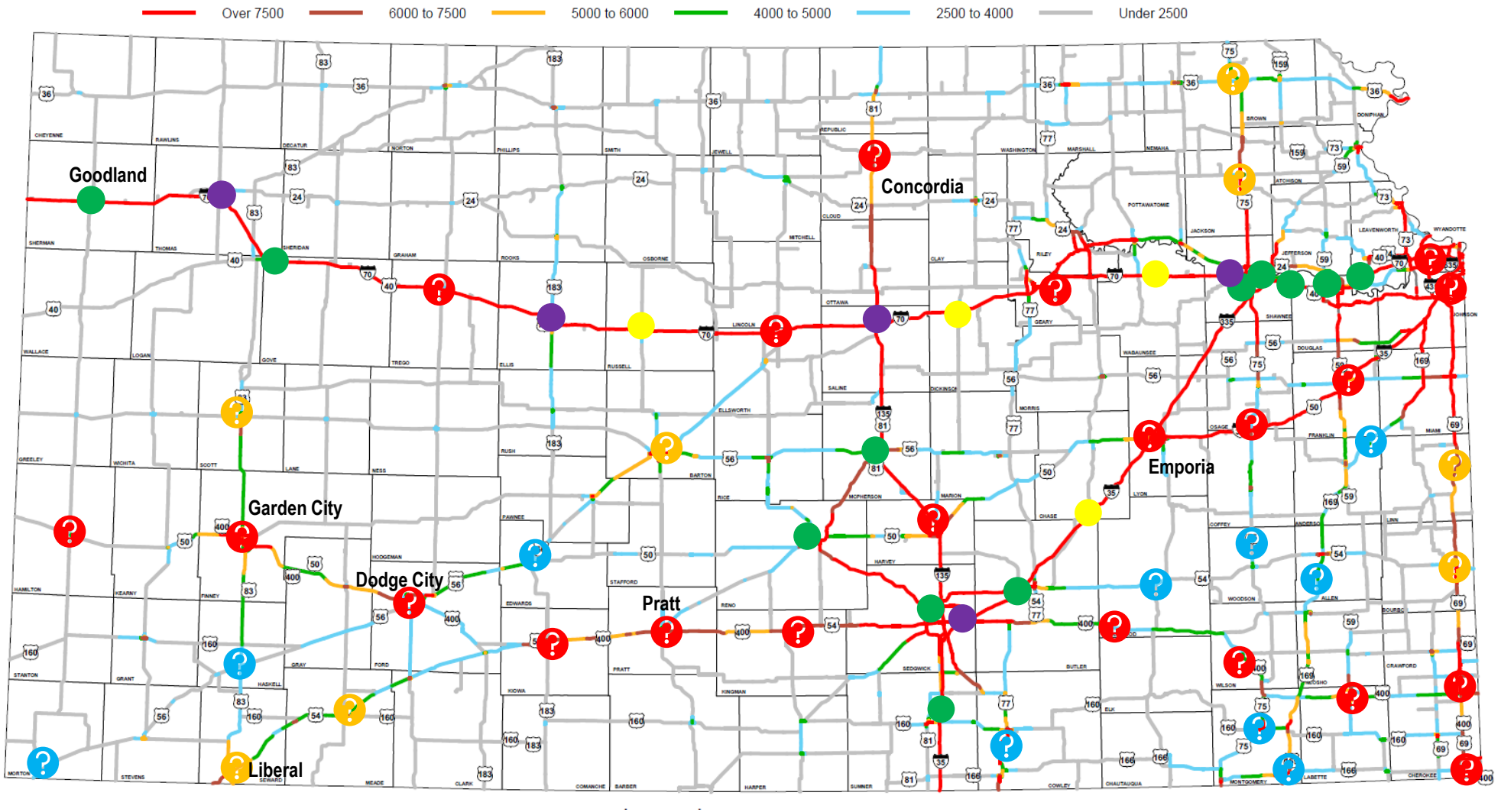
# Off-Corridor & Community EV Charging

- Eligible applicants include:
  - Units of local governments
  - Tribal governments
  - Non-profits
  - Educational institutions
  - Authorities, agencies, or instrumentalities or entities owned by, one or more entities listed above
  - Groups of entities listed above
- Multiple funding pools will be allocated to:
  - Cities with populations under 5,000
  - Cities with populations of 5,001 – 49,999
  - Additional statewide funding for other areas

# Off-Corridor & Community EV Charging

- Minimum of 4 charging ports per site (AC Level 2 charging or DCFC, or a combination of both)
  - AC Level 2 must be a minimum of 6kW per port with J1772 connectors
  - DC fast-charging must have CCS connectors
- *Buy America* compliant UL certified equipment installed by certified technicians (EVITP or continuing education certificate from registered apprenticeship)
- Must be open to the public and accessible at least as frequently as the business hours of the site host but encourage chargers to be open as long as they are physically accessible
- Additional requirements for ADA accessibility
- For complete details on station requirements, see the National Electric Vehicle Infrastructure Standards and Requirements

# Kansas Plan for DCFC




4x150kW DCFC (NEVI req.) | Existing DCFC | Planned DCFC | DCFC Primary Priorities | DCFC Secondary Priorities | DCFC Tertiary Priorities

# CALL FOR PROJECTS PROCESS

# Waiver of Buy America Requirements

## Phase I

Now through June 30, 2024

- Waives iron and steel rules for components and domestic cost of component percentage requirements for all chargers manufactured in US
- Must be manufactured before June 30, 2024
- Must begin installation by October 1, 2024

## Phase II

July 1, 2024 and after

- Waiver applies to EV chargers for which the cost of components manufactured in the United States exceeds 55%
- No end date but FHWA will issue biannual RFIs until waiver is reviewed at 5 year mark

## Important Notes

- Waiver applies to federally funded AC Level 2 and DCFC EV chargers
- Iron and steel **housing components** are excluded from the waiver and subject to FHWA Buy America Iron and Steel Rules
  - An EV charger's housing is defined as the outer housing enclosures of the EVSE cabinet or deployed components
- EV charger means "the EV charger unit itself and the equipment contained inside" but **does not include** associated equipment external to the charger such as switchgear, payment terminals, utility transformers

Details on the Buy America waiver are available at https://www.federalregister.gov/documents/2023/02/21/2023-03498/waiver-of-buy-america-requirements-for-electric-vehicle-chargers

# Accessibility for EV Charging Stations

- Project sponsors should consider U.S. Access Board Design Recommendations for Electric Vehicle Charging Stations
- EV charging stations that are accessible to and usable by people with disabilities must be provided at:
  - State or local government offices
  - Public parks
  - Municipal building parking lots
  - Street parking and the public right-of-way
  - Residential housing facilities provided by a state or local government
  - Public EV charging stations provided by a private entity
  - Rest stops along the Interstate Highway System

# Project Concept Form

**Kansas Electric Vehicle Infrastructure**
PROJECT CONCEPT FORM

| PROJECT SPONSOR INFORMATION | | | |
|---|---|---|---|
| 1. LEAD PROJECT SPONSOR TYPE – select only one<br>Municipality County State Agency Educational Institution<br>Private Business MPO Tribal Government Other _____ | | | |
| 2. NAME OF LEAD PROJECT SPONSOR | | 3. NAME OF CO-PROJECT SPONSOR (if any) | |
| 4. MAILING ADDRESS | | CITY | ZIP |
| 5. PRIMARY CONTACT | TITLE/ORGANIZATION | EMAIL | PHONE |
| 6. SECONDARY CONTACT | TITLE/ORGANIZATION | EMAIL | PHONE |
| 7. UTILITY CONTACT(S) | UTILITY COMPANY | EMAIL | PHONE |

| PROJECT DESCRIPTION | | |
|---|---|---|
| 8. PROJECT NAME (OPTIONAL) | | |
| 9. LOCATION ADDRESS | | 10. PROPOSED NUMBER OF PORTS, CABINET VOLTAGE AND CHARGING LEVEL PER PORT |
| 11. COUNTY | 12. MUNICIPALITY | 13. PROPOSED START DATE AND COMPLETION DATE |
| 14. PROPOSED SCOPE OF WORK<br>DOES THE INSTALLATION REQUIRE GRADING OUTSIDE OF AN EXISTING PAVED AREA?<br>YES NO<br>IF SO, DOES THE GRADING REQUIRE CUTTING DOWN TREES OR GRADING AN EXISTING DRAINAGE CHANNEL?<br>YES NO<br>IS THE PROPOSED INSTALLATION ON PUBLICLY OWNED PROPERTY?<br>YES NO | | |

**Kansas Electric Vehicle Infrastructure**
PROJECT CONCEPT FORM

15. DESCRIBE THE TYPE OF LOCATION AND AVAILABLE AMENITIES (SECURITY, ACCESS TO RESTROOMS, AVAILABLE FOOD/BEVERAGES, ENTERTAINMENT, SHOPPING, ETC). INCLUDE THE NEAREST HIGHWAY(S) AND DRIVING DISTANCE FROM THE HIGHWAY EXIT(S)

16. IF POSSIBLE, PLEASE PROVIDE TOTAL PROJECT COSTS AND INCLUDE BEST ESTIMATES FOR THE ITEMS LISTED IN THE FOLLOWING TABLE (MAXIMUM FEDERAL SHARE IS 80%):

| ITEM | ESTIMATED COST ($) |
|---|---|
| CHARGING EQUIPMENT (PLUS WARRANTIES) | |
| UTILITY UPGRADES | |
| SITE PREPARATION | |
| EQUIPMENT INSTALLATION | |
| COMMISSIONING OF STATION EQUIPMENT | |
| OPERATIONS & MAINTENANCE PLAN (UP TO 5 YEARS) | |
| FUNDING REQUESTED (MAXIMUM 80%) | |
| CASH MATCH (MINIMUM 20%) | |
| TOTAL PROJECT COST (100%) | |

17. IF POSSIBLE, ATTACH ADDITIONAL ITEMS THAT ILLUSTRATE BASIC PROJECT CONCEPTS. INCLUDE PHOTOS, MAPS, DRAWINGS, PRELIMINARY DESIGNS, ETC.

Questions can be directed to ChargeUpKS@ks.gov.

**Email this completed Kansas EV Infrastructure Project Concept Form to ChargeUpKS@ks.gov by May 5, 2023, with subject line "EV Charging Concept Form [SponsorName]."**

# Call for Projects Timeline

## April 6, 2023

Call for Projects Announced – Project Concept Form available on Charge Up Kansas webpage at https://www.ksdotike.org/charge-up-Kansas

## May 5, 2023

Deadline to submit Project Concept Forms to ChargeUpKS@ks.gov

## May - June

Technical assistance and feedback provided to potential project sponsors

## Week of June 5

Applications sent to approved project sponsors

## July 21, 2023

Full project applications due

## September

Project awards announced

# Helpful Resources

- Charge Up Kansas webpage
- Charge Up Kansas NEVI Plan
- National Electric Vehicle Infrastructure (NEVI) Formula Program Guidance
- National Electric Vehicle Infrastructure Standards and Requirements
- Electric Vehicle Charging Justice40 Map
- Waiver of Buy America Requirements for Electric Vehicle Chargers
- Design Recommendations for Accessible Electric Vehicle Charging Stations
- Alternative Fuels Data Center


Questions?

# THANK YOU FOR ATTENDING!

*Reminders:*

All Call for Projects materials are available at https://www.ksdotike.org/charge-up-kansas

Presentation slides & the webinar recording will be posted on the website next week (the week of April 17).

For additional questions, please email ChargeUpKS@ks.gov

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