



North Central Texas  
Council of Governments



Dallas-Fort Worth  
CLEAN CITIES

# NTX-REV Critical Transportation Assets Operator Small Group

---

Lori Clark, Savana Nance, Hannah Thesing  
NCTCOG Transportation Department  
May 21 , 2025

# Department of Energy (DOE) Acknowledgement

This material is based upon work supported by the Joint Office of Energy and Transportation through the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) under Award Number DE-E0011235.

The views expressed herein do not necessarily represent the views of the U.S. Department of Energy or the United States Government.



# Agenda

## Project Refresher and Roles

## Critical Transportation Operations

Identification of critical transportation operations that need to be maintained during a grid outage

Experiences and Lessons Learned (Winter Storm Uri, PWERT)

Prioritization of resilient strategies (Operations, locations, etc.)

## Metrics For Evaluating Resilience Strategies

Discussion on metrics to assess the effectiveness of plan recommendations and what resilience strategies are proposed

## Preparation for SWOT Analysis

## Final Remarks



# Project Refresher

Image Provided By Dallas Area Rapid  
Transit





# Overview of NTX-REV

## Objective:

- Create North Texas Resilient Electric Vehicle (NTX-REV) plan for 16-county NCTCOG region to continue critical transportation operations

## Outputs:

- Draft and final NTX-REV Plan
- Updated Hazard Mitigation guidance

## Outcomes:

- Increased awareness and understanding of the risks and potential solutions surrounding electrification of critical **transportation** operations
- Improved readiness in the event grid- disruption occurs

[Check out our Project Website: NTX-REV | DFWCC](#)

## Project Timeline

**October 2024- July 2025\***

Research and Engagement  
NTX-REV Plan Drafting

**August 2025 – September 2026\***

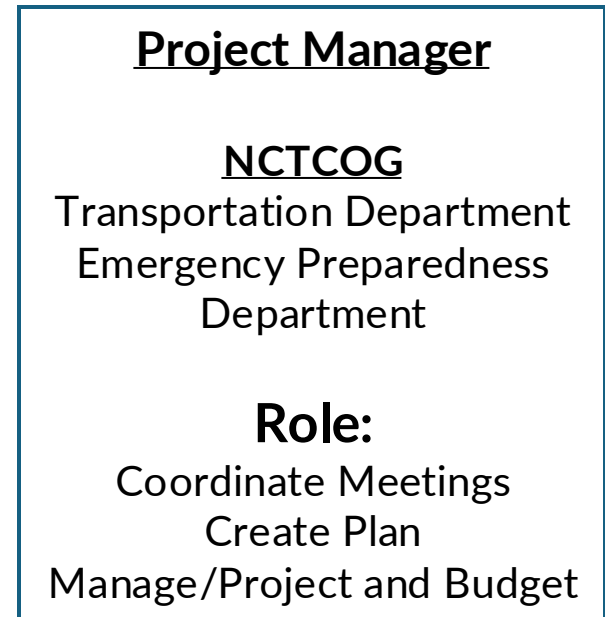
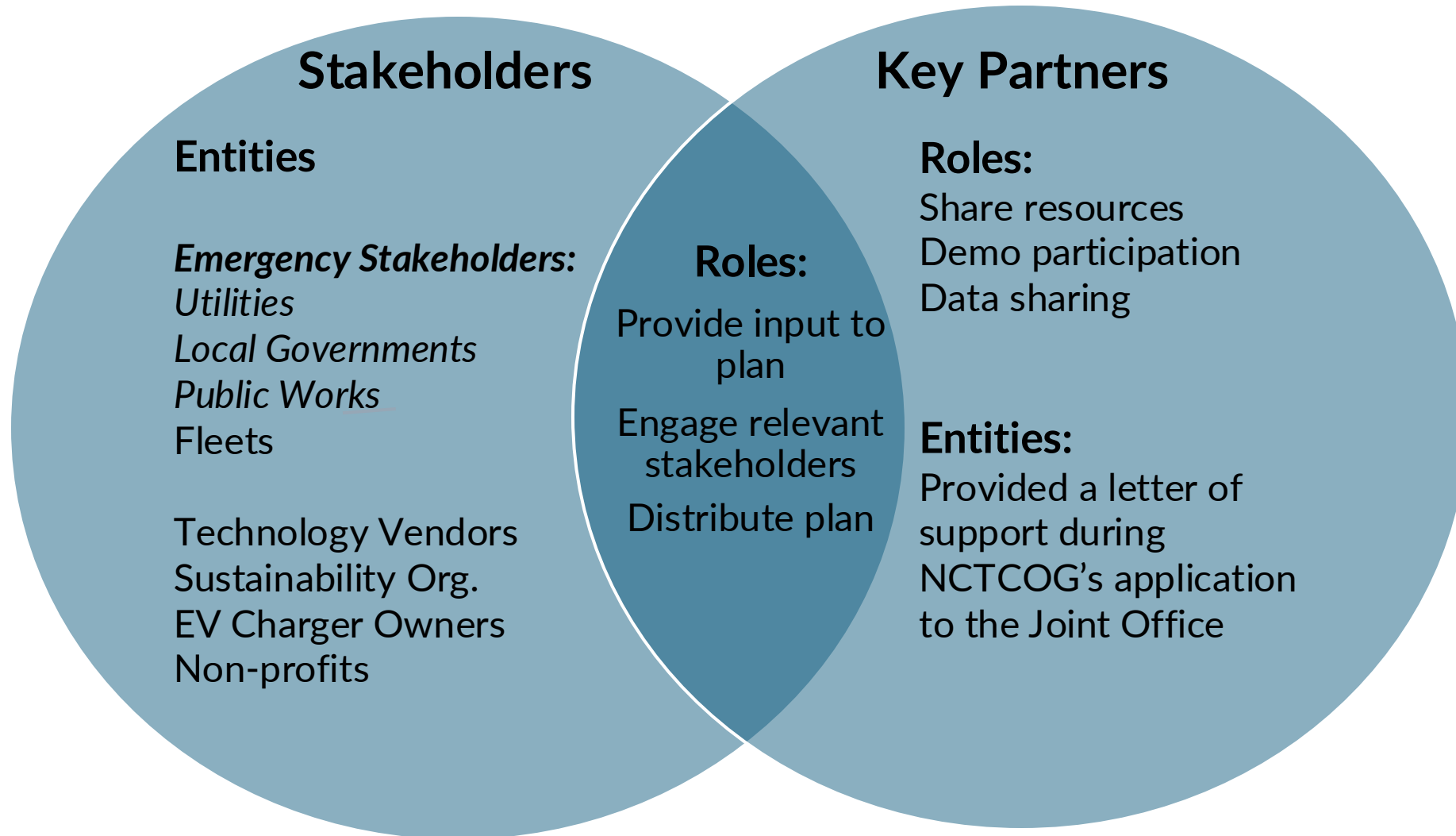
Demo Project Development & Implementation

**October 2026 – March 2027\***

Plan Finalization and Distribution

\*Timeline may be adjusted pending DOE approval

# NTX-REV Project Team



# Opportunities for Critical TR Asset Involvement

## Budget Period 1:

- Participate in listening sessions/stakeholder meetings to identify critical transportation assets & operations\*
- Assist in development of GAP Analysis, SWOT Analysis, and development of metrics to measure success\*
- Assist with drafting of NTX-REV plan and share the project with other regional stakeholders\*

## Budget Period 2:

- Assist NCTCOG in identifying technology/transportation assets/metrics/location for demonstration\*
- Participate in tabletop scenario and field demonstrations of technology\*
- Provide feedback and insight to the project team for final NTX-REV plan

## Budget Period 3:

- Assist with the revision of the final NTX-REV plan
- Disseminate the NTX-REV plan throughout the region
- Encourage adoption of NTX-REV recommendations

**\* Technology vendors will be separate from local government/public works stakeholder group**



Critical Transportation Assets Operators Small Group

# Opportunity for Technology Vendor Involvement

## Budget Period 1:

- Assist NCTCOG in developing inventory of resilient EV infrastructure in North Texas\*
- Share the project with other regional stakeholders\*

## Budget Period 2:

- Respond to NCTCOG Request for Information on Resilient EV Infrastructure\*
- Respond to NCTCOG Request for Proposals (RFP) for technology demonstrations\*
- Participate in technology demonstrations (***Vendors selected through RFP Only***)\*
- Assist stakeholder group in analysis of demonstration impact and lessons learned

## BP TBD:

Participate in Technology Forum and/or site visit to increase stakeholder knowledge

## Budget Period 3:

- Participate in the development of the final NTX-REV plan
- Disseminate the NTX-REV plan throughout the region (including through workshop)
- Develop the syllabus of resources based on RFI

***\* Technology vendors will be separate from local government/public works stakeholder group***



Critical Transportation Assets Operators Small Group



# Technology Vendor Guidelines

To ensure technology vendors can submit to NTX-REV RFI and RFP, the following guidelines will be in place until the **completion of the technology demonstration in BP2 or until determined by NCTCOG:**

1. *Technology Vendors will not give input on any criteria which might be used for the RFI/RFP, including metrics to measure success, what technology to use for the demonstration, etc.*
2. *Technology Vendor group will be kept separate from local government/public works group until after RFP awardee(s) have been selected.*

Procurement/contracting opportunities from NCTCOG, including the NTx- RFI and RFP, will be posted through the Transportation Department Vendor Database at [North Central Texas Council of Governments - Requests for Proposals, Qualifications, and Information \(nctcog.org\)](http://North Central Texas Council of Governments - Requests for Proposals, Qualifications, and Information (nctcog.org)).

*Sign up for “air quality/energy planning” and/or “alternative fuels”*

# NTX-REV Sample Plan Outline

## List of Tables and Figures

Introduction

Purpose

Objectives

Scope

- Planning Stakeholders
- Key Definitions

Situation Overview

- Electric Vehicle Infrastructure Overview

Strengths, Weaknesses, Opportunities, and Threats (SWOT)

Analysis

Risk Assessment

- Potential Risks

Planning Considerations

Planning Assumptions

## Gap Analysis

- Inventory of Resiliency Technology in Region
- ★ • Analysis of Critical Transportation Assets
- ★ • Analysis of Resiliency Technology Needed

## Preparedness

- Infrastructure Hardening
- Training and Awareness

## Activation, Notification, Implementation

- Emergency Communication
- Incident Management

## Recovery

- Restoration of Services
- Evaluation and Improvement

## Conclusion



# Critical Transportation Assets and Operations

Image Provided By Dallas Area Rapid  
Transit

# Historically Critical Assets

Potential critical assets, equipment, and vehicles (identified by reviewing discussions on Winter Storm URI, FEMA Inventory, Public Works Emergency Response Team (PWERT):

- Generators (diesel and alternative fuels)
- Fuel Reserves (battery storage and traditional fuels)
- Medium-Duty Trucks (capable of hauling, refuse collection, etc.)
- Debris Clearing tools (wood chipper, chainsaw, water pump, excavators)
- Personnel



# Potential Critical Assets/Operations for NTx-REV

Operator/Owner	Potential Critical Assets Identified*	Relevant Emergency Operations/Vocation	Electric?
Denton County Transit Authority	Diesel cutaway bus fleet and Rail	Transportation support for local jurisdictions, transport of citizens to shelter during severe weather, transport to medical facilities	No
STAR Transit	Gasoline cutaway bus fleet; Micro transit/On demand EV fleet	Transportation support for local jurisdictions, transportation to critical inland freight hub, transport of citizens to shelter during severe weather, transport to medical facilities	Some
Trinity Metro	CNG bus fleet; EV bus fleet	Transportation support for local jurisdictions, transport of citizens to shelter during severe weather, transport to medical facilities	Some
City of Plano	Sedan and refuse trucks	Public Safety	Some
Dallas Area Rapid Transit	Buses	Transit	Some
City of Denton	Fire Truck	Public Safety/Emergency Response	Some
City of Carrollton	Sedan	Public Safety	Some
Dallas County Sheriff's Office	Sedan	Public Safety	Some





# Past Experiences and Lessons Learned

- What resources, operations, assets, vehicles, and/or equipment have been most affected by grid outages in the past (i.e. Winter Storm Uri of 2021)?
- What action did you take to address impacted operations during grid outages (i.e. backup generators, battery and/or fuel storage, staging a command center, etc.)?



# Critical Transportation Operations & Assets

- What must remain operational during grid outage?
  - *Could include assets which are identified in county hazard mitigation plan*
- Which sectors, types of vehicles, and/or locations do you believe are most important and therefore need resilience features?
- What activities do you consider to be critical/non-negotiable?
- How do you prioritize operations in your current emergency response plans?



# Safeguarding Critical Operations Against Disruption

- What safeguards do you have in place to ensure critical operations can continue during grid outages/severe weather?
- How have you or will you change preparations, operations, or protocol to **avoid disruption** during grid outages?
- Now, what if you were to make some of your critical operations electric? How does this change your approach?
- What is holding you back from electrifying critical operations? What concerns have been raised (or would be raised if you were really discussing this)?

# Metrics for Evaluation of Resilience Tech & Strategies

Image Provided By Dallas Area Rapid  
Transit

# Criteria for Evaluating Resilient Tech

- What variables or criteria would your organization want evaluated by this project, to electrify critical operations (ex. cost, power capacity, mobility, etc.)?
- How do we, as a collective, define success in this context (ex. 12 hours of operations off grid)?
- Thoughts on the popular recommendations for hardening EVSE? Technology preferences or things that have worked well in the past? Any experiences, findings, or wisdom to share?





# Gap and SWOT Analyses

Image Provided By Dallas Area Rapid  
Transit

# GAP and SWOT Analyses

## SWOT Analysis

- Measure current ability of region to maintain critical operations during grid failure
  - Strengths- What assets do we currently have to support our resiliency?
  - Weaknesses- Where are current risks?
  - Opportunities- What areas could we improve to better support resiliency?
  - Threats- Obstacles that would preclude us from implementing the plan?

## Gap Analysis

- Identify difference between resilient charging infrastructure **currently** in the region vs what infrastructure and resiliency strategies are **needed**



# Draft Gap Analysis for NTX-REV

Step	Task	Description	Primary Contributor	Secondary Contributor
1	<b>BP 1: Inventory of Resilient EV Infrastructure</b>	Identification of exiting resilient EV infrastructure and key data points (technology used, kWh of off-grid charging, etc.)	NTx - REV Technology Vendors and NCTCOG	NTx-REV Stakeholder Group; Regional Fleets; Other Resources/Case Studies
1	<b>BP 1: Identify Regional Critical Transportation Assets</b>	<u>Any transportation asset that MIGHT be or IS electrified and could provide a critical service during grid outage</u>	NTx-REV Local Governments/Private Entities, PWERT, 1-1 Fleet Meetings/Roundtables, other regional plans	N/A
2	<b>BP 1: Develop Metrics to Measure Gap</b>	kWh of off-grid charging needed, number of hours of operation needed, location needed, etc.	NTx - Local Governments	N/A
3	<b>BP 1: Create Gap Analysis</b>	Compare what resilient EV infra the region has vs what it needs	NCTCOG	N/A
4	<b>BP 1: Analyze Gap Analysis</b>	Review NCTCOG's Gap Analysis prior to inclusion in Draft NTx-REV	NTx - Local Governments	N/A; potentially other entities for Final plan
5	<b>BP 2: Review Draft Gap Analysis</b>	Review drafted gap analysis post field demonstrations.	NCTCOG	NTx-REV Stakeholder Group
6	<b>BP 3: Finalize Gap Analysis</b>	Finalize analysis before inclusion in final NTx-REV plan.	NCTCOG	NTx-REV Stakeholder Group

# SWOT Analysis

## Strengths

- Local Vehicle Electrification Plans and Goals
- Local Emergency Preparedness and COOP Plans
- Charging Infrastructure
- Various Energy Sources
- Regional Support and Mutual Aid Agreements

## Weaknesses

- ERCOT Grid Capacity and Constraints
- Length of Outages and Frequency

## Opportunities

- Identify Critical Transportation Assets and Operations
- Funding to Deploy Resiliency
- Filling Gaps In Existing Local Vehicle and Infrastructure
- Electrification Plans
- Peer Sharing

## Threats

- Rapid Population and Economic Growth
- Frequency of Severe Weather



# Moving Forward

Image Provided By Dallas Area Rapid  
Transit



# Next Steps

- Complete Stakeholder Form
  - Send form to any relevant potential stakeholders
  - Check out the informational one-pager on this project
- Stay tuned for our upcoming regional stakeholder engagement meetings
  - June 25, 2025 – **Key Partners**
  - July 30, 2025
  - September 24, 2025
    - Potential Meeting Topics:
      - Listening Sessions Feedback
      - Inventory of what WE think are critical assets
      - Metrics
- Contact us at [cleancities@nctcog.org](mailto:cleancities@nctcog.org) with any additional questions

## Planning Resilient EV Charging in North Texas Stakeholder Form



# Contact Us



Lori Clark  
Senior Program Manager  
DFWCC Director  
lclark@nctcog.org



Savana Nance  
Principal Air Quality Planner  
snance@nctcog.org



Justin Cox  
Sr Emergency  
Preparedness Specialist  
jcox@nctcog.org



Hannah Thesing  
Air Quality Planner II  
hthesing@nctcog.org



Dallas-Fort Worth  
CLEAN CITIES



[dfwcleancities.org](http://dfwcleancities.org)



[cleancities@nctcog.org](mailto:cleancities@nctcog.org)



[Planning Resilient EV Charging in  
Texas | DFWCC](#)



[Dallas-Fort Worth Clean Cities:  
LinkedIn](#)



Planning Resilient EV Charging