



North Central Texas
Council of Governments



Dallas-Fort Worth
CLEAN CITIES

Charging Smart Cohort Session 5

Government Operations and
Shared Mobility Categories

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Agenda

Cohort Structure/Timeline

Peer Updates

Bronze Designation Requirements

Government Operations Category Walk-Through

EV Transition Planning

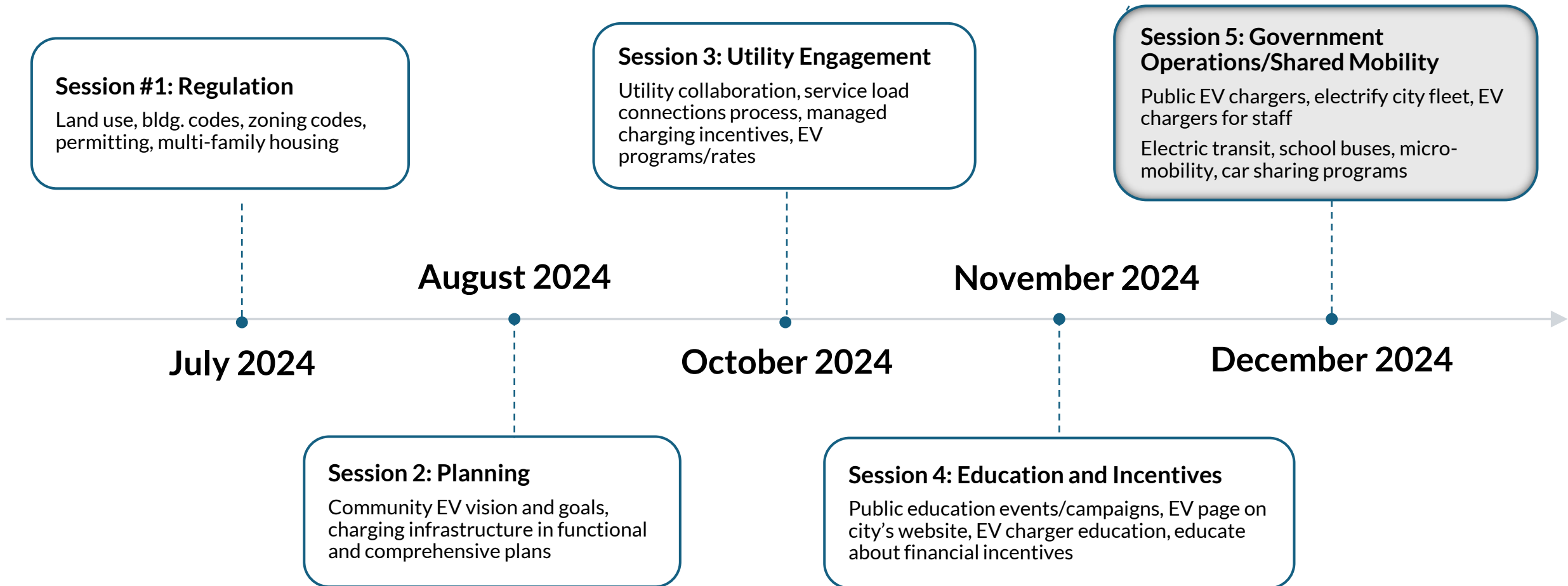
Shared Mobility Category Walk-Through

Group Discussion

Continuation of the Program



Cohort Structure and Timeline



Peer Updates

- What updates do you have on your progress on the criteria actions since the last session?
- Any questions for us?



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Bronze Designation Point Breakdown

General Points

Prerequisites	35
Education & Incentives	15
Planning	10
Actions of Your Choice	20

R1.5: Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit EVSE deployment (15 points)
R4.1: Adopt a standard EV charging infrastructure permit application process (10 points)
R4.4: Develop a charging infrastructure permitting checklist (5 points)
U1.1: Meet with utilities to discuss EV collaboration opportunities (5 points)

Total (General Points) 80

PLUS

EVs for All Points 15



Government Operations Category Explanation

This category focuses on actions local governments can take within their municipally-controlled assets and resources to lead by example in embracing transportation electrification.

Best practices include:

- Provide publicly available EV chargers in the community
- Electrify city fleet
- Install staff-reserved EV chargers

Best Practice: Provide Publicly Available EV Chargers in the Community

G1.1	Complete an assessment of community charger placement and opportunities (such as in the right-of-way)		10
G1.2	Adopt goals and timelines for community charger installations based on use case and projected demand		10
G1.3	Develop a RFP (Request For Proposal) to install EVSE in the ROW and parking structures, etc.		10
G1.4	Install EV chargers in the community for public use based on adopted goals and timelines. Ensure these are consistent with national charging connection system standards. Consider operations and maintenance.	At least one of these actions must be completed for Gold level designation	20
G1.5	Install EV chargers for public use within right-of-ways based on adopted goals and timelines. Ensure these are consistent with national charging connection system standards. Consider operations and maintenance.		20
G1.6	Install EV chargers for public use within walking distance of multi-family housing areas based on adopted goals and timelines. Ensure these are consistent with national charging connection system standards. Consider operations and maintenance.		20
G1.7	Power public EV chargers with clean energy		10
G1.8	Install solar carports connected with EV charging at public location(s)		10
G1.9	Update EV charger maps (i.e., AFDC) with newly installed chargers		5
G1.10	Track charging metrics (i.e., usage, reduced GHG emissions, pm2.5 emissions, earnings, savings, etc.)		5

Best Practice: Electrify the Municipal Fleet

G2.1	Provide fleet operators and maintenance with resources and/or opportunities to test EVs		5
G2.2	Complete a fleet analysis (also consider plans for future EV purchases.)	Silver	10
G2.3	Adopt EV conversion goals for fleet with timelines and create charging assessments/ plans for fleets		10
G2.4	Purchase EVs for fleet use to meet adopted goals	Gold	20
G2.5	Train employees on best practices for EV and EV charger use		5
G2.6	Power fleet chargers with clean energy		10
G2.7	Track EV metrics over time (i.e., tracking savings, reduced GHG emissions, pm2.5 emissions, and/or community goals and timelines)		5



Best Practice: Install Staff-Reserved EV Chargers

G3.1	Complete assessment of staff need for chargers		5
G3.2	Adopt goals and timelines for charger installation		10
G3.3	Develop policies and training for staff use of EV chargers		10
G3.4	Purchase and install chargers in accordance with adopted goals		20
G3.5	Install signage marking staff-reserved charging stalls		5
G3.6	Track charging metrics (i.e., usage, reduced GHG emissions, pm2.5 emissions, savings, etc.)		5

Government Operations EVs for All Example

Government Operations Sample Actions		Possible Ratings			
		5	10	15	20
G2.3	Adopt EV conversion goals for fleet with timelines and create charging assessments/plans for fleets	Make a statement that recognizes that using EV fleet vehicles in communities that have experienced disproportionate impacts of emissions can be a step in reducing future harm.	Make a plan to prioritize the conversion of vehicles that spend the most time in disadvantaged communities, particularly those vehicles that idle for extended periods. Alternatively, make plans for policies or systems that will encourage or require staff to select an electrified vehicle from the fleet when doing work in disadvantaged communities whenever possible. You may also consider planning to place EVSE in or near these communities to facilitate their use.	Make a commitment to using only electrified vehicles in disadvantaged communities.	Demonstrate a consistent increase in the percentage of fleet travel in disadvantaged communities that is now completed using electric vehicles.



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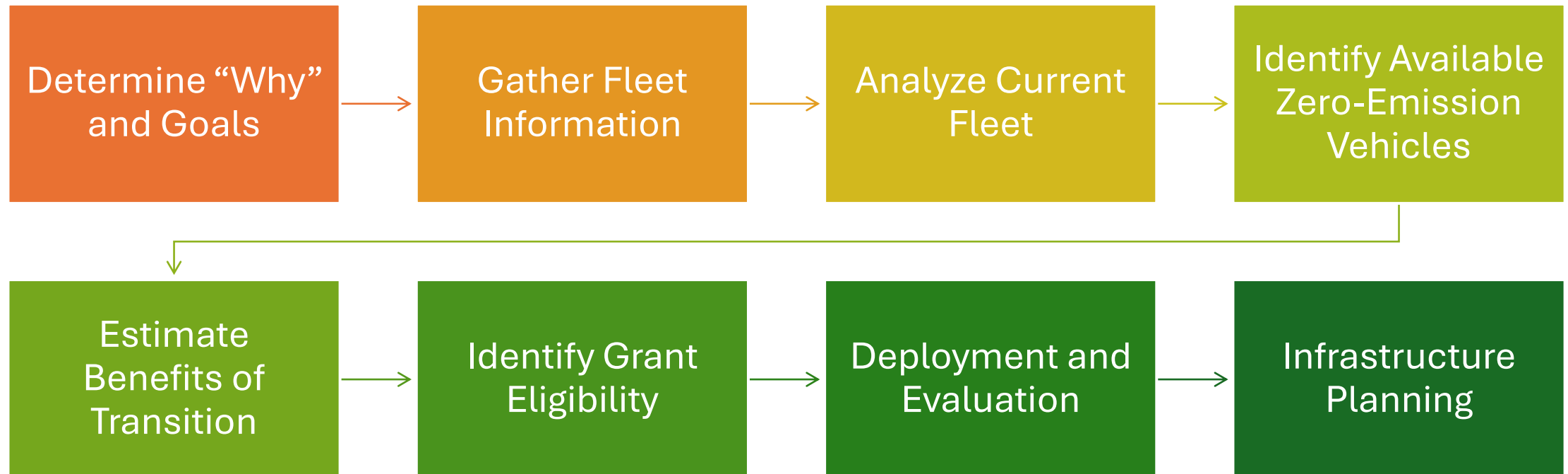


Electric Vehicle Transition Planning

NCTCOG Clean Vehicles Initiatives Team

12.03.2024

Developing a Fleet Transition Plan



Step 1: Determine “Why” and Goals

Example Why	Example Goals
Increase domestic security by reducing consumption of conventional fuels	Reduce gasoline and diesel consumption
Reduce costs	All new purchases will be the most fuel-efficient vehicle possible All new purchases will be the vehicle with lowest total cost of ownership
Compliance with clean fleet policy (or similar policy)	Maximize use of lowest emission vehicle Adopt an idle-reduction policy Establish practices to reduce vehicle miles traveled
Environmental impacts	All new purchases will produce less oxides of nitrogen than old vehicle All new purchases will produce less greenhouse gases than old vehicle
Interest in emerging technology	Implement GPS tracking/telematics Test 5 new all-electric vehicle types
Other	Reduce vehicle downtime

Step 2: Gather Fleet Information

Key Fleet Data Points

Identifying Number	VIN, license plate, etc.
Vehicle Description	Warehouse box truck, cherry picker
Gross Vehicle Weight Rating (GVWR)	Determines if classified as light-duty, medium-duty, heavy-duty Classifications vary depending on funding agency - Alternative Fuels Data Center: Maps and Data - Vehicle Weight Classes & Categories (energy.gov)
Engine Fuel Type and Model Year	Engine year and fuel type determines emissions rating, which can impact air quality benefits, funding amounts, and eligibility for program
Annual Mileage	Grant programs can have minimum usage requirements, mileage helps determine if alternative fuel vehicles could meet operational needs
Operational Needs	Towing needs, frequency of use, cargo space needed, number of passengers
Years of Planned Ownership Remaining	Grant programs can require a certain amount of “life” be left in the vehicle to guarantee the funding is being used to ensure an early replacement

Telematics- If your organization cannot easily gather the previous information, it might be beneficial to install telematics. Go to [Alternative Fuels Data Center: Vehicle Parts and Equipment to Conserve Fuel](#) for more information.



Step 3: Analyze Current Fleet

Recommended Tool: Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET)
Tool Available at www.dfwcleancities.org/resources ➡ “Estimate Emissions & Vehicle Cost”

AFLEET Online:

- Easy online tool
- Simple payback

AFLEET Tool (.xlsx):

- Fleet footprint
- Infrastructure
- Simple Payback
- Total Cost of Ownership

The screenshot shows the AFLEET website interface with the following sections:

- Welcome To AFLEET**: The Department of Energy's Technology Integration Program has enlisted the expertise of Argonne to develop a tool to examine both the environmental and economic costs and benefits of alternative fuel and advanced vehicles (AFVs). Argonne developed the Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Tool to help stakeholders estimate petroleum use, greenhouse gas (GHG) emissions, air pollutant emissions, and cost of ownership of light-duty and heavy-duty vehicles. AFLEET can be accessed via spreadsheet and online versions. In addition, the ATRAVEL Tool has been built using AFLEET data to examine the costs and benefits of different modes for personal travel.
- AFLEET Tool (xlsx)**: The AFLEET spreadsheet provides detailed energy, emission, and cost data for light-duty, heavy-duty, and off-road AFVs. It has the following 5 calculators depending on the user's goals:
 - Simple payback
 - Total cost of ownership
 - Fleet footprint
 - Idle reduction
 - Electric vehicle charging
- AFLEET Online**: AFLEET Online replicates three of the spreadsheet's calculators: Payback On-Road, Payback Off-Road, and TCO with a user-friendly interface and analyzes the following metrics:
 - Petroleum use
 - Greenhouse gas emissions
 - Air pollutant emissions
 - Simple payback
 - Total cost of ownership
- HDVEC**: The Heavy Duty Vehicle Emissions Calculator (HDVEC) is an AFLEET-based online tool that compares NOx, PM, GHGs and funding cost-effectiveness of environmental mitigation projects for the following fuel types:
 - Diesel
 - Electric
 - Natural gas
 - Propane
- ATRAVEL**: The ATRAVEL Tool was developed to estimate costs, travel time, and emissions of private vehicle ownership and other travel modes based on your location and travel patterns, while also providing related travel metrics at both local and regional levels. The travel modes currently included are:
 - Private vehicle
 - Transit
 - Ridehail
- AFLEET CFI**: The AFLEET Charging and Fueling Infrastructure (CFI) Emissions Tool estimates GHG and air pollutant emissions for proposals to the FHWA's CFI Discretionary Grant Program for the following fuel types:
 - Electric
 - Hydrogen
 - Natural gas
 - Propane

Other Tools to Calculate Environmental and Economic Benefits of EV:

- Fueleconomy.gov
- [Environmental Protection Agency's Diesel Emissions Reduction Quantifier](#)
- [Vehicle and Infrastructure Cash-Flow Evaluation \(VICE\) model](#)
- [Alternative Fuels Data Center Vehicle Cost Calculator](#)
- [Original Equipment Manufacturers Unique Tool](#)



Electric Vehicle Transition Planning

Step 4: Identify Currently Available Zero-Emission Vehicles

Light-duty vehicles: www.fueleconomy.gov

Compare Electric Vehicles Side-by-Side

I Want To Compare...

New Electric Vehicles



Electric Vehicles With These Characteristics

Expand any feature by selecting its title. Choose as many or as few features as you like.

Model Year

From: 2024 To: 2025

Make

Market Class

My Selections

Year(s): 2024 - 2025

Search Clear

All available vehicles: Alternative Fuels Data Center Vehicle Search – www.afdc.energy.gov/vehicles/search

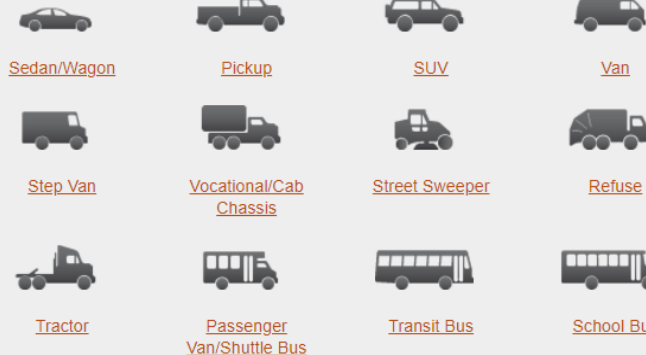


Alternative Fuel and Advanced Vehicle Search

Find and compare alternative fuel vehicles, engines, and hybrid/conversion systems. Some of the light-duty vehicles may count toward vehicle-acquisition requirements for [federal fleets](#) or [state and alternative fuel provider fleets](#) regulated by the Energy Policy Act. For downloads of past model years, see the [publications search](#).

Light-Duty Vehicles
 All Vehicles

Vehicles by Type



Vehicles by Manufacturer

Light-Duty

All

Medium- and Heavy-Duty

All

Engines and Hybrid/Conversion Systems

For medium- and heavy-duty vehicles:

ENGINE & POWER SOURCES CONVERSION & HYBRID SYSTEMS

Cooperative Procurements with Electric Vehicles

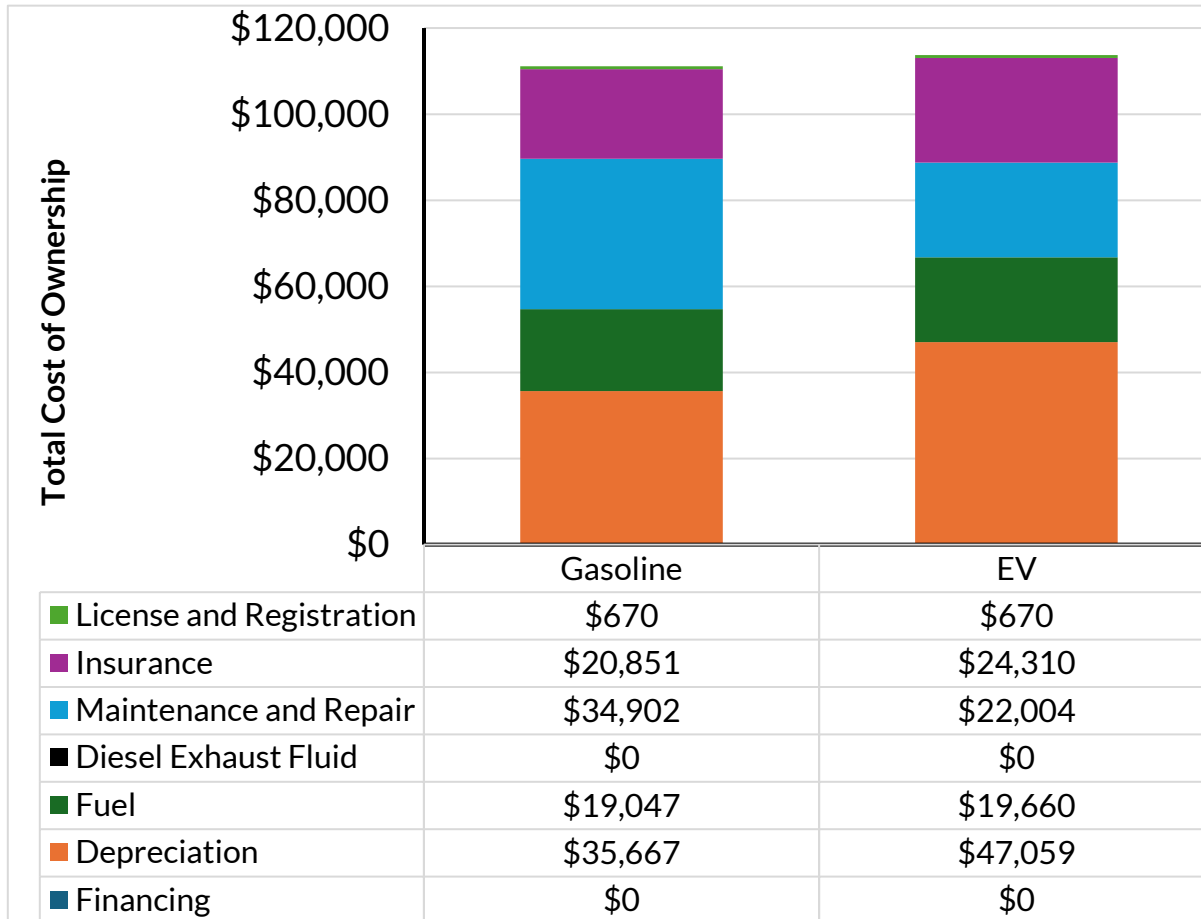
[Climate Mayors Collaborative](#)
[HGAC-Buy](#)
Sourcewell, through [TXShare](#)



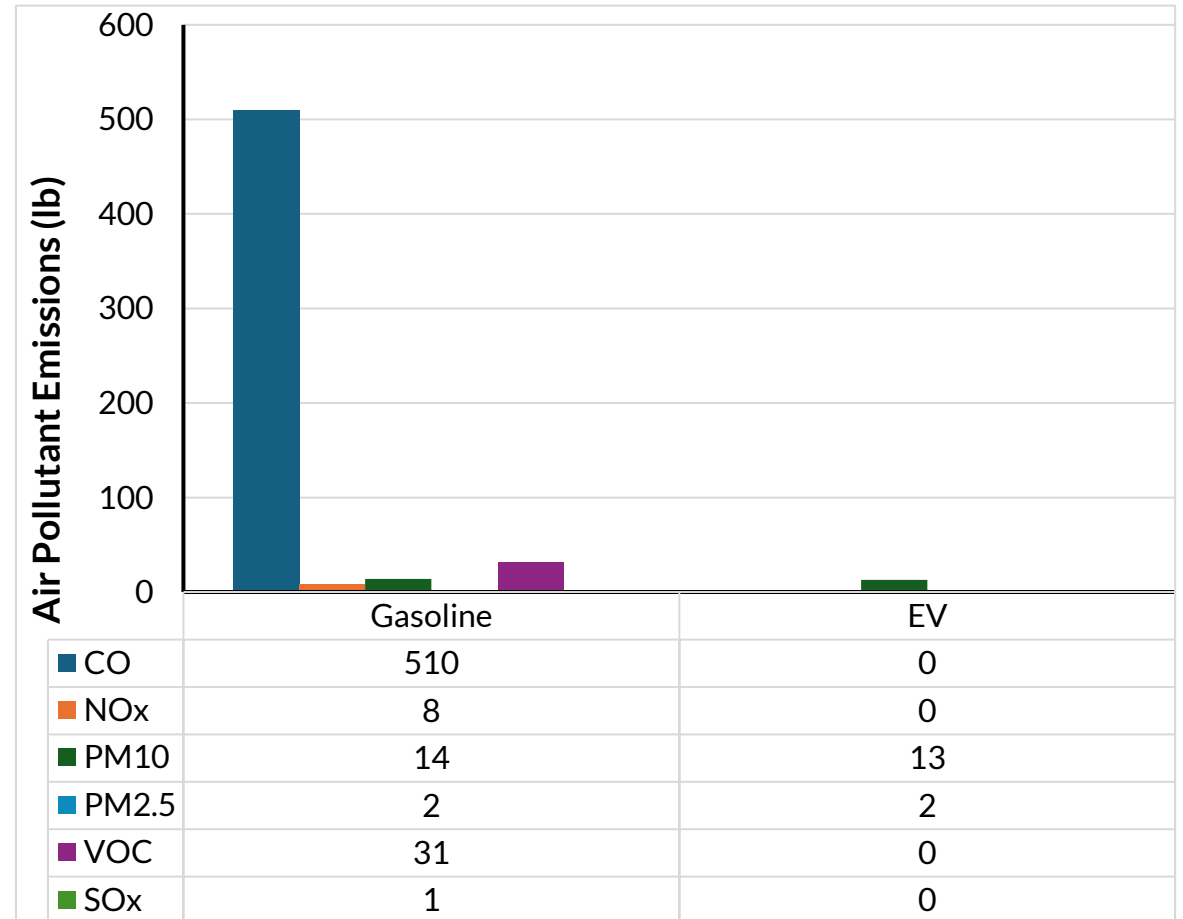
Electric Vehicle Transition Planning

Step 5: Estimate Benefits of Transition – Chevy Blazer Gasoline vs Chevy Blazer EV

Total Cost of Ownership

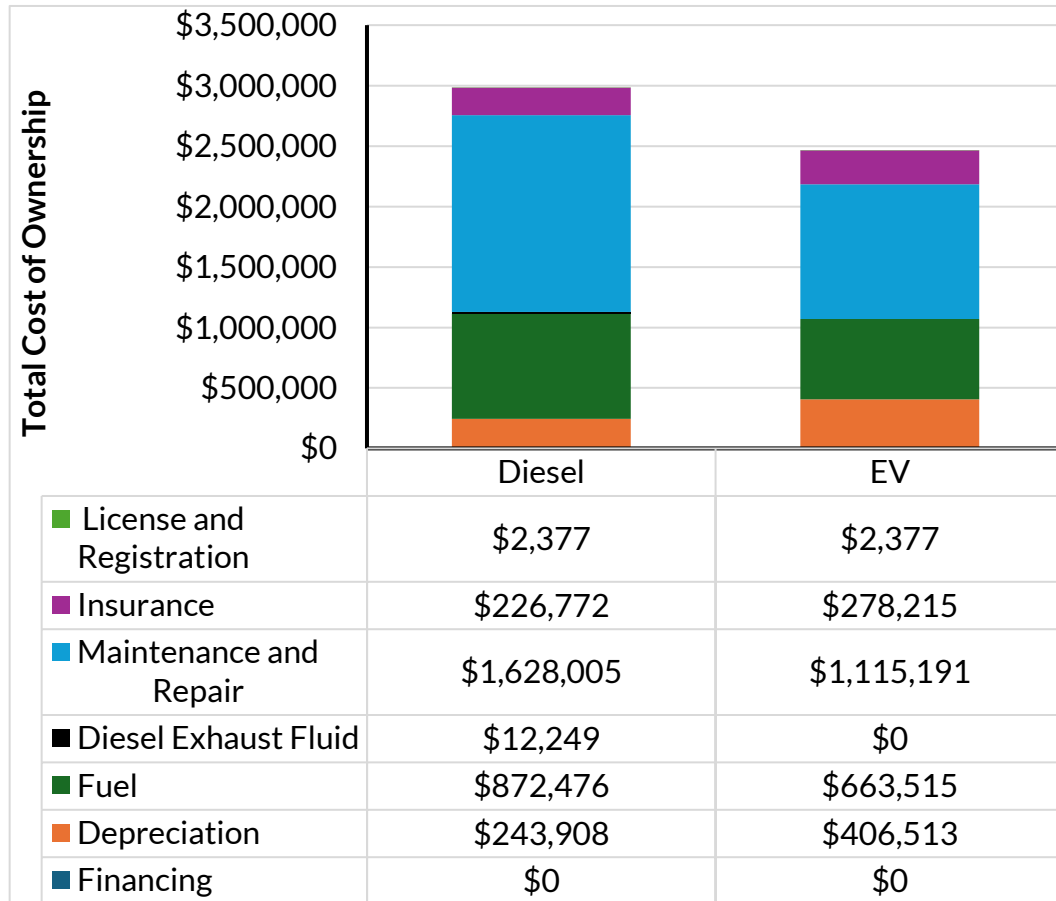


Lifetime Vehicle Operation Air Pollutants

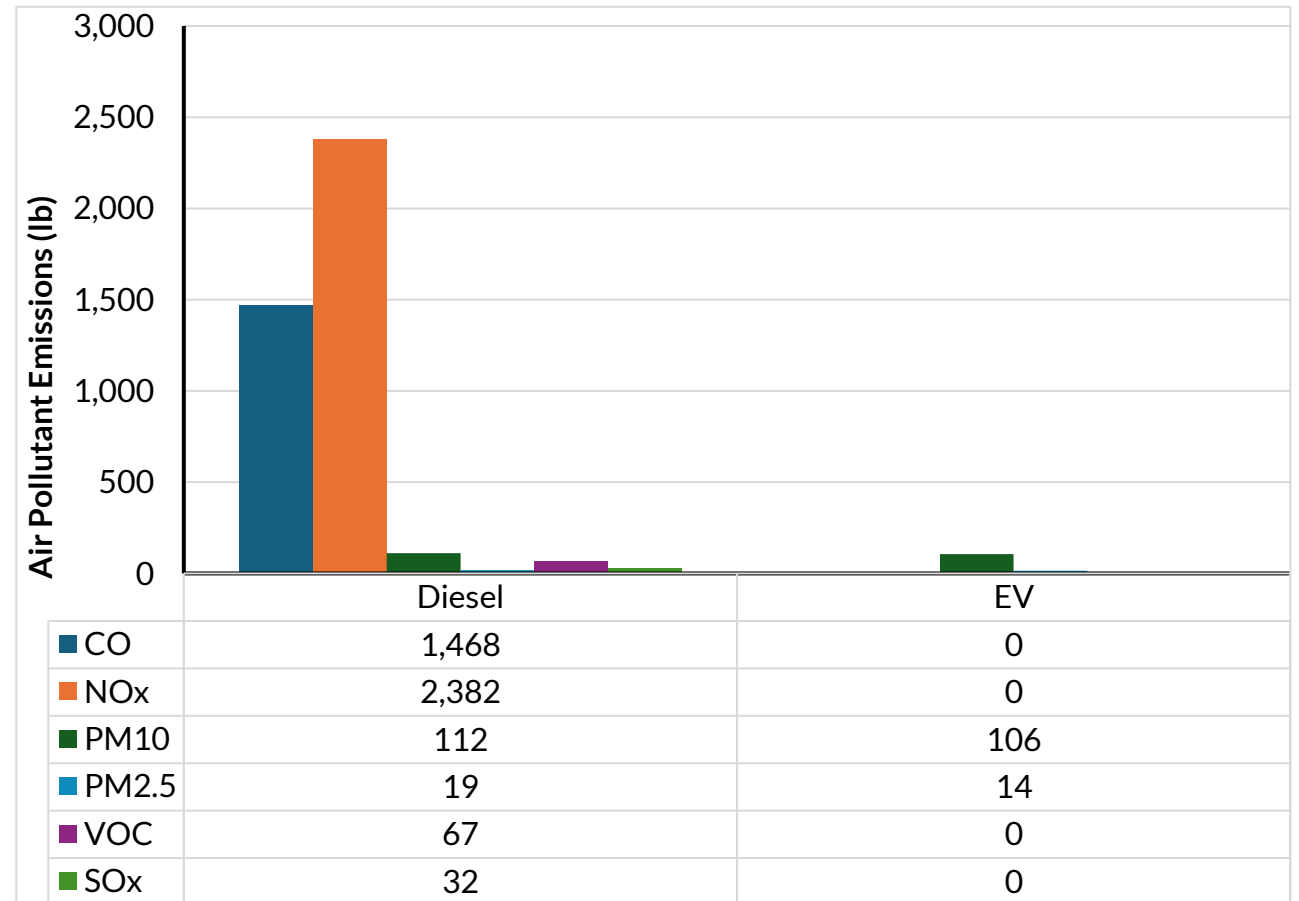


Step 5: Estimate Benefits of Transition – Diesel Refuse Truck vs. All-Electric Refuse Truck

Total Cost of Ownership



Lifetime Vehicle Operation Air Pollutants



Step 6: Identify Grant Eligibility

Considerations for Vehicle Funding



Can a vehicle be scrapped?



Fuel type of old or new vehicle?



Is infrastructure funding needed?



Minimum funding needed to make TCO break even?



When will the new vehicle be purchased?

Sources of Vehicle Funding

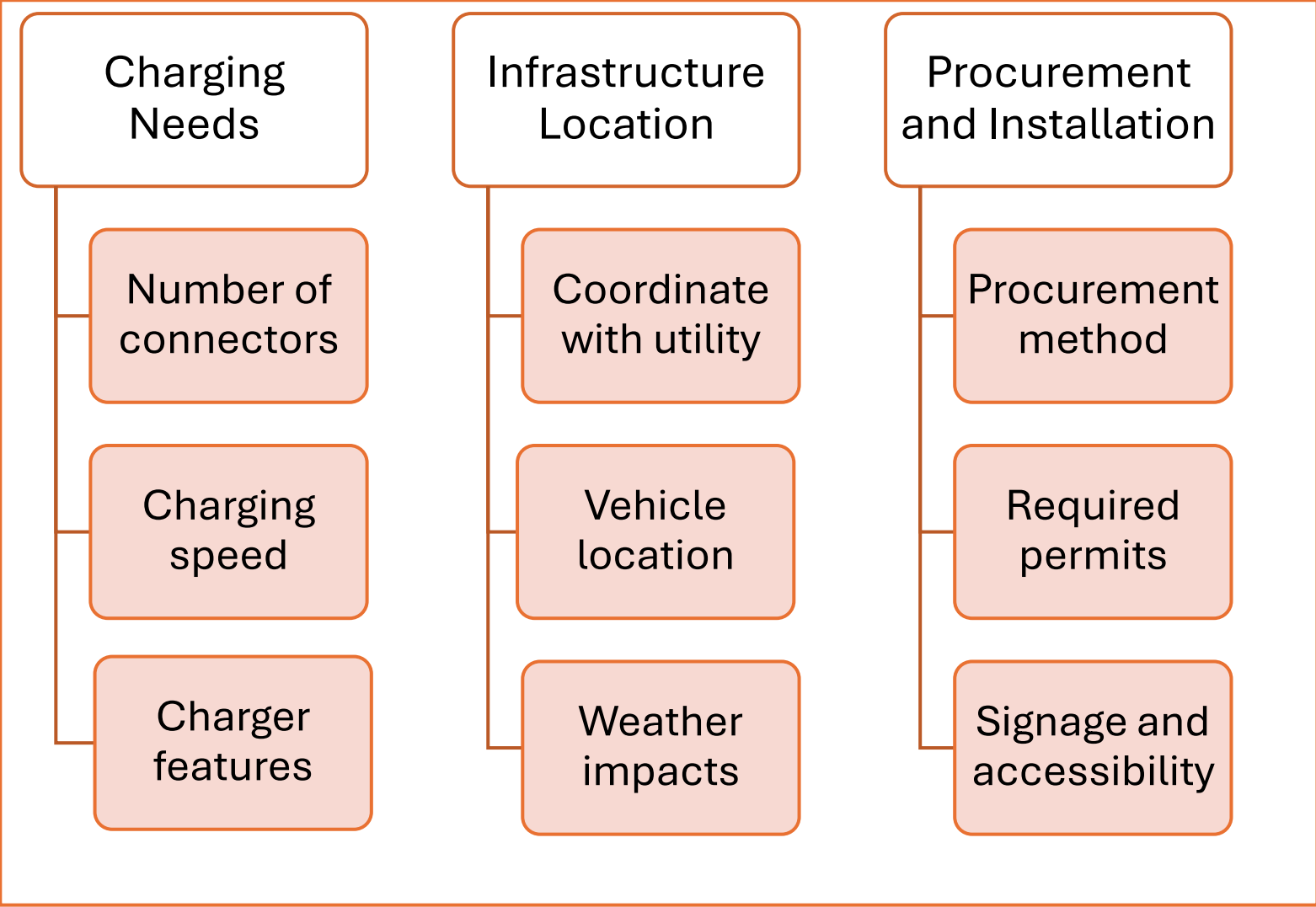
Funding Program (s)	Funding Administrator
Texas Emissions Reduction Plan	Texas Commission on Environmental Quality
Diesel Emission Reduction Act; Clean School Bus; Clean Heavy-Duty Vehicle Grant Program; Clean Ports Program	Environmental Protection Agency
Commercial Clean Vehicle Tax Credit and Alternative Fuel Station Tax Credit	Internal Revenue Service
Rural Business Development Grants; Community Facilities Direct Loan and Grant Program;	United States Department of Agriculture
Reduction of Truck Emissions at Port Facilities	U.S. Department of Transportation
Vehicle Technologies Office Program Wide Funding Opportunity	U.S. Department of Energy
Surface Transportation Block Grant; Congestion Mitigation Air Quality; Other	North Central Texas Council of Governments
For more information on vehicle funding check out www.nctcog.org/aqfunding	

Step 7: Deployment and Evaluation

Example Why	Example SMART Goals	Example Metric to Track	Example Method of Tracking
Increase domestic security	Reduce gasoline and diesel consumption by 5% each year	Total consumption of each fuel type each year	Purchase orders; Telematics
Reduce costs	10% of new purchases will be the vehicle with lowest total cost of ownership	Initial estimated total cost of ownership; Actual fuel costs; Maintenance costs	AFLEET; Maintenance orders
Environmental impacts	50% of new purchases over next 5 years will have a 25% reduction in oxides of nitrogen and greenhouse gases	Emission rating of old vehicle and emission rating of new vehicle; Vehicle utilization; Percentage of electricity from renewable sources	Purchase orders; Telematics; Utility REP
Interest in emerging technology	Test 5 new all-electric vehicle types in next year	Driver comfort and space; Expected vehicle range to actual	Driver Feedback; Telematics
Other	Reduce vehicle downtime by 20% in next year	Number of maintenance needs per vehicle (routine and non-routine); Length of downtime	Maintenance Orders



Infrastructure Planning



Plan for future electrification across all steps

Get Involved with DFWCC

Contact us at cleancities@nctcog.org for any questions on fleet electrification, funding opportunities, or other inquiries

Upcoming webinars and events posted regularly at dfwcleancities.org/events

Past event presentations and recordings available

Follow our LinkedIn at linkedin.com/showcase/dfwcleancities

Template zero-emission vehicle transition plan coming in 2025



Sign up for our weekly email list
dfwcleancities.org/getinvolved



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Shared Mobility Category Explanation

This category focuses on electrifying public transit, school buses, and micromobility.

Example actions include:

- Setting bold electric conversion targets
- Provide charging infrastructure access
- Direct budgetary resources towards electrified modes
- Educate riders on the individual and collective benefits of participation

Shared Mobility Action S1.1

S1.1- Work with transit operator to complete assessment of EV transit or para-transit conversion opportunities (5 points)

Partner with local transit agencies to assess the potential for converting transit and paratransit fleets to electric vehicles.

- The assessment should analyze route characteristics, charging requirements, fuel/ maintenance cost savings, available incentives, and funding opportunities.

Verification: Provide a link to or attach the assessment completed in partnership with the transit operator.

Shared Mobility Action S2.1

S2.1- Work with school district to complete assessment of EV school bus conversion opportunities (5 points)

Partner with local school districts to assess the potential for converting school bus fleets to electric vehicles.

- The assessment should analyze route characteristics, charging requirements, fuel/ maintenance cost savings, available incentives, and funding opportunities.

Verification: Provide a link to or attach the assessment completed in partnership with the school district.

Shared Mobility Action S3.1

S3.1- Complete assessment of micromobility transportation needs (5 points)

Evaluate the role of micromobility options like electric scooters and bikes in expanding access to transportation and reducing reliance on single-occupancy vehicles.

- Analyze factors such as existing micromobility usage patterns, barriers to adoption, and opportunities for integration with transit systems or electric car share systems.
- Insight from this assessment should be incorporated into EV plans and used to guide investments in micromobility charging infrastructure and parking facilities

Verification: Provide a link to or attach the documentation of the completed assessment

Shared Mobility EVs for All Example

Shared Mobility Sample Actions		Possible Ratings			
		5	10	15	20
S1.1	Work with transit operator to complete assessment of EV transit and/or paratransit conversion opportunities	Acknowledge the needs of members of your community that are transit and/or paratransit dependent, as well as the needs of those community members who live near fixed transit routes. Explain how electrification conversion opportunities could impact those needs.	Assess the potential for electrification conversion opportunities of transit/paratransit to impact those who need and/or are impacted by their service. For example, explore options of completing an assessment of micromobility transportation needs, or of EV car-sharing program needs and interest, as seen in Charging Smart criteria S3.1 and S4.1.	Address the needs of your community members, with the help of transit operators, that use and/or are impacted by transit or paratransit in a manner that seeks to minimize barriers and maximize opportunities that help the community.	Create and share the developed assessment with community members in a manner they can access, acknowledging the barriers they face and the resources added to minimize them.

Shared Mobility Category Resources

S1.1- Work with transit operator to complete assessment of EV transit or para-transit conversion opportunities (5 points)

- [A Strategic Assessment of Needs and Opportunities for the Wider Adoption of Electric Vehicles in Indiana](#) | Indiana Department of Transportation and Purdue University
- [Electric Vehicle Charging Needs Assessment](#) | NASEO
- [Electric Vehicle Infrastructure - Projection Tool](#) | National Renewable Energy Laboratory

S2.1- Work with school district to complete assessment of EV school bus conversion opportunities (5 points)

- [Electric Vehicle Blueprint for Twin Rivers Unified School District](#) | California Energy Commission
- [Electric School Bus Education](#) | U.S. Department of Energy
- [Quick Start to Electrifying Your School Bus Fleet](#) | Joint Office of Energy and Transportation

S3.1- Complete assessment of micromobility transportation needs (5 points)

- [Micromobility in Cities: A History and Policy Overview](#) | National League of Cities
- [Clean Mobility Options Voucher Pilot Program Community Transportation Needs Assessment](#) | California Air Resources Board
- [SEPTA Micromobility Playbook](#) | SEPTA

Group Discussion

Any questions, comments, or concerns?

Has your city's fleet adopted EVs?

Has your city installed public charging stations?

Has your city installed staff-reserved charging stalls?

Do you have any advice to share with your cohort partners? Any challenges to sort out?

Continuation of the Program

- Continue addressing your criteria actions to achieve Bronze designation
- Regular check-ins on progress via email (monthly?)
- Spread the word to other cities in the DFW region about our second cohort beginning in January!

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