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Public Notice

2021 DEC -2 AM 11:50

CITY SECRETARY
DALLAS, TEXAS

City of Dallas

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POSTED CITY SECRETARY
DALLAS, TX

1500 Marilla Street,
Council Chambers, 6th Floor
Dallas, Texas 75201



Environment and Sustainability Committee

REVISED

December 7, 2021

9:00 AM

The Environment and Sustainability Committee will be held by videoconference and in the City Hall Council Chambers (6th Floor).

Members of the public are encouraged to attend the meeting virtually. However, City Hall is available for those wishing to attend the meeting in person following all current pandemic-related public health protocols.

The meeting will be broadcast live on Spectrum Cable Channel 16 and online at <https://bit.ly/cityofdallastv>.

The public may also listen to the meeting as an attendee at the following videoconference [link](#).

2021 CITY COUNCIL APPOINTMENTS

COUNCIL COMMITTEE	
ECONOMIC DEVELOPMENT Atkins (C), Arnold (VC), McGough, Narvaez, Resendez, West, Willis	ENVIRONMENT AND SUSTAINABILITY Blackmon(C), Ridley (VC), Arnold, Bazaldua, Resendez, Schultz, West
GOVERNMENT PERFORMANCE AND FINANCIAL MANAGEMENT Mendelsohn (C), Willis (VC), Atkins, Bazaldua, McGough, Ridley, West	HOUSING AND HOMELESSNESS SOLUTIONS Thomas (C), Moreno (VC), Arnold, Blackmon, Mendelsohn, Ridley, Schultz
PUBLIC SAFETY McGough (C), Mendelsohn (VC), Atkins, Moreno, Resendez, Thomas, Willis	QUALITY OF LIFE, ARTS, AND CULTURE Bazaldua (C), West (VC), Arnold, Blackmon, Narvaez, Ridley, Thomas
TRANSPORTATION AND INFRASTRUCTURE Narvaez (C), Atkins (VC), Bazaldua, Mendelsohn, Moreno, Schultz, Willis	WORKFORCE, EDUCATION, AND EQUITY Schultz (C), Thomas (VC), Blackmon, McGough, Moreno, Narvaez, Resendez
AD HOC JUDICIAL NOMINATING COMMITTEE Resendez (C), Arnold, Bazaldua, Ridley, Thomas, West, Willis	AD HOC LEGISLATIVE AFFAIRS Atkins (C), McGough, Mendelsohn, Narvaez, Willis
AD HOC COMMITTEE ON COVID-19 RECOVERY AND ASSISTANCE Thomas (C), Atkins, Mendelsohn, Moreno, Ridley	AD HOC COMMITTEE ON GENERAL INVESTIGATING & ETHICS Mendelsohn (C), Atkins, Blackmon, McGough, Schultz

(C) – Chair, (VC) – Vice Chair

Handgun Prohibition Notice for Meetings of Governmental Entities

"Pursuant to Section [30.06](#), Penal Code (trespass by license holder with a concealed handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a concealed handgun."

"De acuerdo con la sección [30.06](#) del código penal (ingreso sin autorización de un titular de una licencia con una pistola oculta), una persona con licencia según el subcapítulo h, capítulo 411, código del gobierno (ley sobre licencias para portar pistolas), no puede ingresar a esta propiedad con una pistola oculta."

"Pursuant to Section [30.07](#), Penal Code (trespass by license holder with an openly carried handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a handgun that is carried openly."

"De acuerdo con la sección [30.07](#) del código penal (ingreso sin autorización de un titular de una licencia con una pistola a la vista), una persona con licencia según el subcapítulo h, capítulo 411, código del gobierno (ley sobre licencias para portar pistolas), no puede ingresar a esta propiedad con una pistola a la vista."

"Pursuant to Section [46.03](#), Penal Code (places weapons prohibited), a person may not carry a firearm or other weapon into any open meeting on this property."

"De conformidad con la Sección [46.03](#), Código Penal (coloca armas prohibidas), una persona no puede llevar un arma de fuego u otra arma a ninguna reunión abierta en esta propiedad."

Note: A quorum of the Dallas City Council may attend this Council Committee meeting.

Call to Order**MINUTES**

- A. [21-2326](#) Approval of the November 1, 2021 Committee Minutes

Attachments: [Minutes](#)

BRIEFING ITEMS

- B. [21-2327](#) Analysis of Electric Vehicle Charging Infrastructure in the City of Dallas
[Lori Clark, Program Manager, DFW Clean Cities Coordinator]

Attachments: [Presentation](#)

- C. [21-2328](#) Leaf Blower Regulations
[Susan Alvarez, Assistant Director, Environmental Quality & Sustainability]

Attachments: [Presentation](#)

ACTION ITEM

- D. [21-2329](#) Public Utility Commission Power Market Re-Design Comments
[Celina Bonugli, Associate, Clean Energy Innovation, World Resources Institute and Susan Alvarez, Assistant Director, Environmental Quality & Sustainability]

Attachments: [D_PUC_Marker_Redesign_Municipal_Response_120721_Combin](#)

BRIEFING MEMORANDUM

- E. [21-2330](#) TCEQ Texas Volkswagen Environmental Mitigation Program Grant
Summary Memo
[Pharr Andrews, Sr Climate Coordinator, Environmental Quality & Sustainability]

Attachments: [Memorandum](#)

ADJOURNMENT

EXECUTIVE SESSION NOTICE

A closed executive session may be held if the discussion of any of the above agenda items concerns one of the following:

1. seeking the advice of its attorney about pending or contemplated litigation, settlement offers, or any matter in which the duty of the attorney to the City Council under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the Texas Open Meetings Act. [Tex. Govt. Code §551.071]
2. deliberating the purchase, exchange, lease, or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the city in negotiations with a third person. [Tex. Govt. Code §551.072]
3. deliberating a negotiated contract for a prospective gift or donation to the city if deliberation in an open meeting would have a detrimental effect on the position of the city in negotiations with a third person. [Tex. Govt. Code §551.073]
4. deliberating the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee unless the officer or employee who is the subject of the deliberation or hearing requests a public hearing. [Tex. Govt. Code §551.074]
5. deliberating the deployment, or specific occasions for implementation, of security personnel or devices. [Tex. Govt. Code §551.076]
6. discussing or deliberating commercial or financial information that the city has received from a business prospect that the city seeks to have locate, stay or expand in or near the city and with which the city is conducting economic development negotiations; or deliberating the offer of a financial or other incentive to a business prospect. [Tex Govt. Code §551.087]
7. deliberating security assessments or deployments relating to information resources technology, network security information, or the deployment or specific occasions for implementations of security personnel, critical infrastructure, or security devices. [Tex Govt. Code §551.089]



City of Dallas

1500 Marilla Street
Council Chambers, 6th Floor
Dallas, Texas 75201

Agenda Information Sheet

File #: 21-2326

Item #: A.

Approval of the November 1, 2021 Committee Minutes

Environment and Sustainability Committee Meeting Record

The Environment and Sustainability Committee meetings are recorded. Agenda materials are available online at www.dallascityhall.com.

Meeting Date: November 1, 2021

Convened: 9:01 a.m.

Adjourned: 10:55 a.m.

Committee Members Present:

Paula Blackmon, Chair
Paul E. Ridley, Vice Chair
Carolyn King Arnold
Adam Bazaldua
Jaime Resendez
Jaynie Schultz
Chad West

Committee Members Absent:

Other Council Members Present:

Presenters:

Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability
Jay Council, Director, Sanitation Services Department
Sarah Standifer, Assistant Director, Dallas Water Utilities
M. Renee' Johnson, Assistant Director, Park and Recreation
Erick Thompson, Director, Building Services Department
Srinivas Vemuri, Senior Program Manager, Building Services Department

AGENDA

Call to Order (9:01 a.m.)

A. Approval of the October 4, 2021 Environmental and Sustainability Committee Minutes

Presenter(s): Paula Blackmon, Chair

Action Taken/Committee Recommendation(s): A motion was made to approve the minutes for the October 4, 2021 Environmental and Sustainability Committee meeting.

Motion made by: Jaynie Schultz
Item passed unanimously: X
Item failed unanimously:

Motion seconded by: Paul E. Ridley
Item passed on a divided vote:
Item failed on a divided vote:

B. Energy Management for City Buildings

Presenter(s): Erick Thompson, Director, Building Services; Srinivas Vemuri, Senior Program Manager

Action Taken/Committee Recommendation(s): The Committee discussed: Focus on transportation that accounts for 68% of emissions, in comparison to 6% emissions from building services. City's electricity use. Cost effectiveness of solar PV systems and the economic difference between electric and solar power. Cost-comparison study that would determine the most efficient way to provide solar electricity. City-owned solar PV initiatives versus contracting with third party utilities. Policy recommendation process between the Committee and the commissions. Possibility of using PACE funds for the City in terms of upgrading buildings. Leasing solar storage

equipment instead of purchasing it. Nonfinancial benefits to retrofitting older buildings such as emission reduction. Lobbying Oncor or the State to bridging the gap in transmission costs. A motion was made to examine the possibility of working with Oncor and the State to bridge the potential costs, brief the Environmental Commission and return to Committee with actionable items.

Motion made by: Paul E. Ridley
Item passed unanimously: X
Item failed unanimously:

Motion seconded by: Jaynie Schultz
Item passed on a divided vote:
Item failed on a divided vote:

C. Sanitation Services Performance & Initiatives Update

Presenter(s): Jay Council, Director, Sanitation Services Department

Action Taken/Committee Recommendation(s): The Committee discussed: The number of alleys and residents being serviced throughout the City. The lifespan of McCommas Landfill and systemic issues being faced throughout the City. Market for organic brush and recycling programs. Possibility of selling 100% of the recycled materials. Completion of the 2011 Local Solid Waste Management Plan (LSWMP) implementation strategies. Re-engaging community stakeholders in 2022 regarding the implementation of the LSWMP. Community outreach with residents in the pilot programs to solicit feedback and those outside of the pilot programs. Pilot program working with neighborhoods to test curb pick up versus alley pick up.

Motion made by:
Item passed unanimously:
Item failed unanimously:

Motion seconded by:
Item passed on a divided vote:
Item failed on a divided vote:

D. Emerald Ash Borer Planning Update

Presenter(s): City of Dallas Forestry Team: Sarah Standifer, Assistant Director, Dallas Water Utilities; M. Renee' Johnson, Assistant Director, Park and Recreation

Action Taken/Committee Recommendation(s): The Committee discussed: Anticipation of new emerald ash borer populations in the spring and summer. Possible carbon credits for the Trinity Forest before future infestation and are no longer eligible.

Motion made by:
Item passed unanimously:
Item failed unanimously:

Motion seconded by:
Item passed on a divided vote:
Item failed on a divided vote:

E. Comprehensive Environmental & Climate Action Plan (CECAP) FY 20-21 Performance Summary Memo

Presenter(s): Susand Alvarez, Assistant Director, Environmental Quality & Sustainability

Action Taken/Committee Recommendation(s): The Committee discussed:

Motion made by:
Item passed unanimously:
Item failed unanimously:

Motion seconded by:
Item passed on a divided vote:
Item failed on a divided vote:

Adjourn (10:55 a.m.)

APPROVED BY:
Paula Blackmon, Chair
Environment & Sustainability Committee

ATTESTED BY:
Juan Garcia, Committee Coordinator
Environment & Sustainability Committee



City of Dallas

1500 Marilla Street
Council Chambers, 6th Floor
Dallas, Texas 75201

Agenda Information Sheet

File #: 21-2327

Item #: B.

Analysis of Electric Vehicle Charging Infrastructure in the City of Dallas
[Lori Clark, Program Manager, DFW Clean Cities Coordinator]

Analysis of Electric Vehicle Charging Infrastructure in the City of Dallas



Dallas-Fort Worth
CLEAN CITIES



North Central Texas
Council of Governments

Environment & Sustainability Council Committee
Lori Clark, Program Manager & DFW Clean Cities Coordinator

December 7, 2021



EV GOALS IN THE CITY OF DALLAS COMPREHENSIVE ENVIRONMENTAL & CLIMATE ACTION PLAN (CECAP)

Goal 3: Dallas communities have access to sustainable, affordable, transportation options.

Objectives

- Shift the surface transportation system to move people and goods in fuel-efficient vehicles.
- Reduce trips where people drive alone.
- Synergize jobs and housing with transportation infrastructure to increase access to walking and biking options, and public transit.
- Ensure that walking, biking, public transit, vehicular transportation infrastructure is reliable and safe.

Targets

Publicly Available EV Charging

- 1,500 outlets to support 39,000 vehicles by 2030
 - **EXISTING:** 176 stations with 380 outlets and 3,476 registered EVs (as of August 2021)
 - **NEED:** 1120 additional outlets by 2030

Electric fleets

- All new transit vehicle purchases by the City, DISD, DART fully electric by 2030
- 100% electrified fleet by 2040

Single occupant vehicle travel mode shift

- 88% to 79% in 2030
- 88% to 62% in 2050

REGIONAL AND NATIONAL EV TRENDS

Regional Trends (December 2021)¹

37,832 EVs Regionwide

7,371 in City of Dallas

49.6% Average Annual Growth in EV
Registration 2015-2021

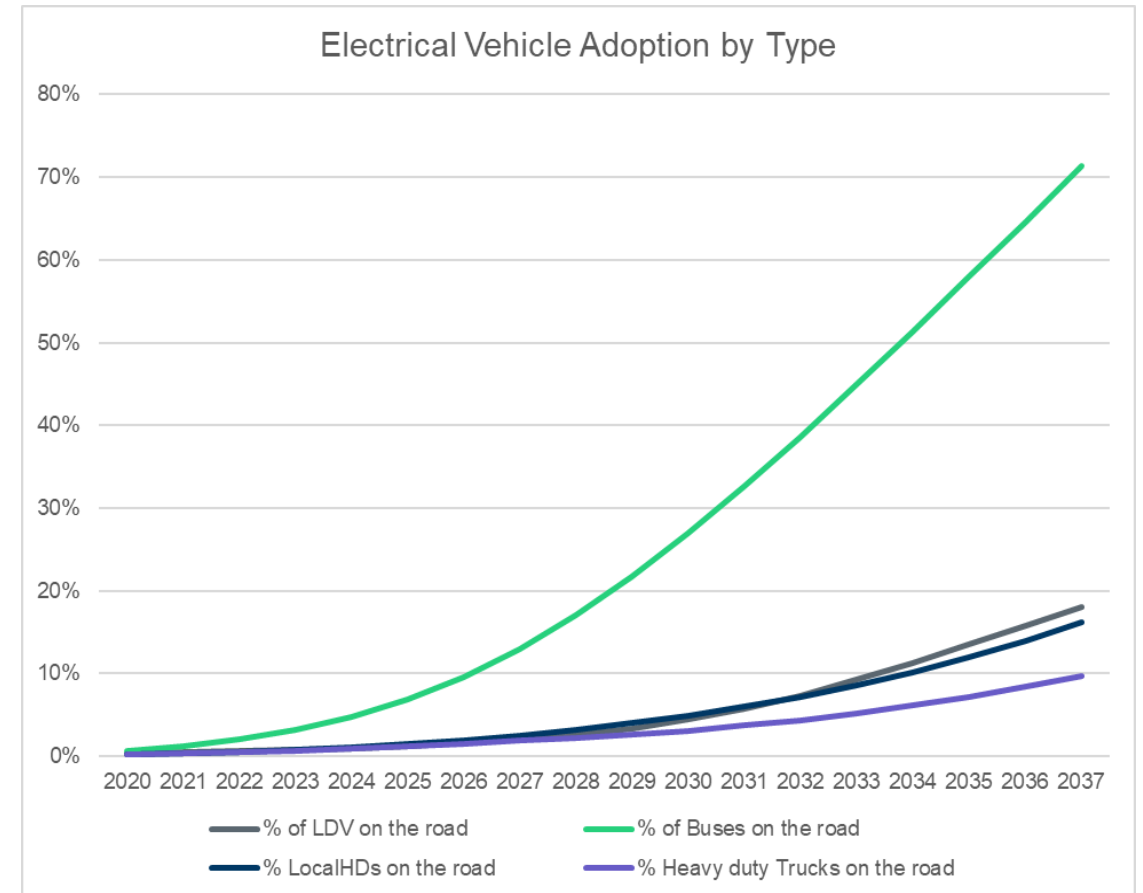
National Trends

EV Fleet Has Doubled in Past 4 Years²

EVs >5% of all New Car Sales in 3rd Quarter
2021³

Bloomberg New Energy Finance Suggests
EVs ~20-30% of New Sales by 2025⁴

Executive Order Aims for Half of All New
Vehicles Sold in 2030 be Zero-Emission⁵



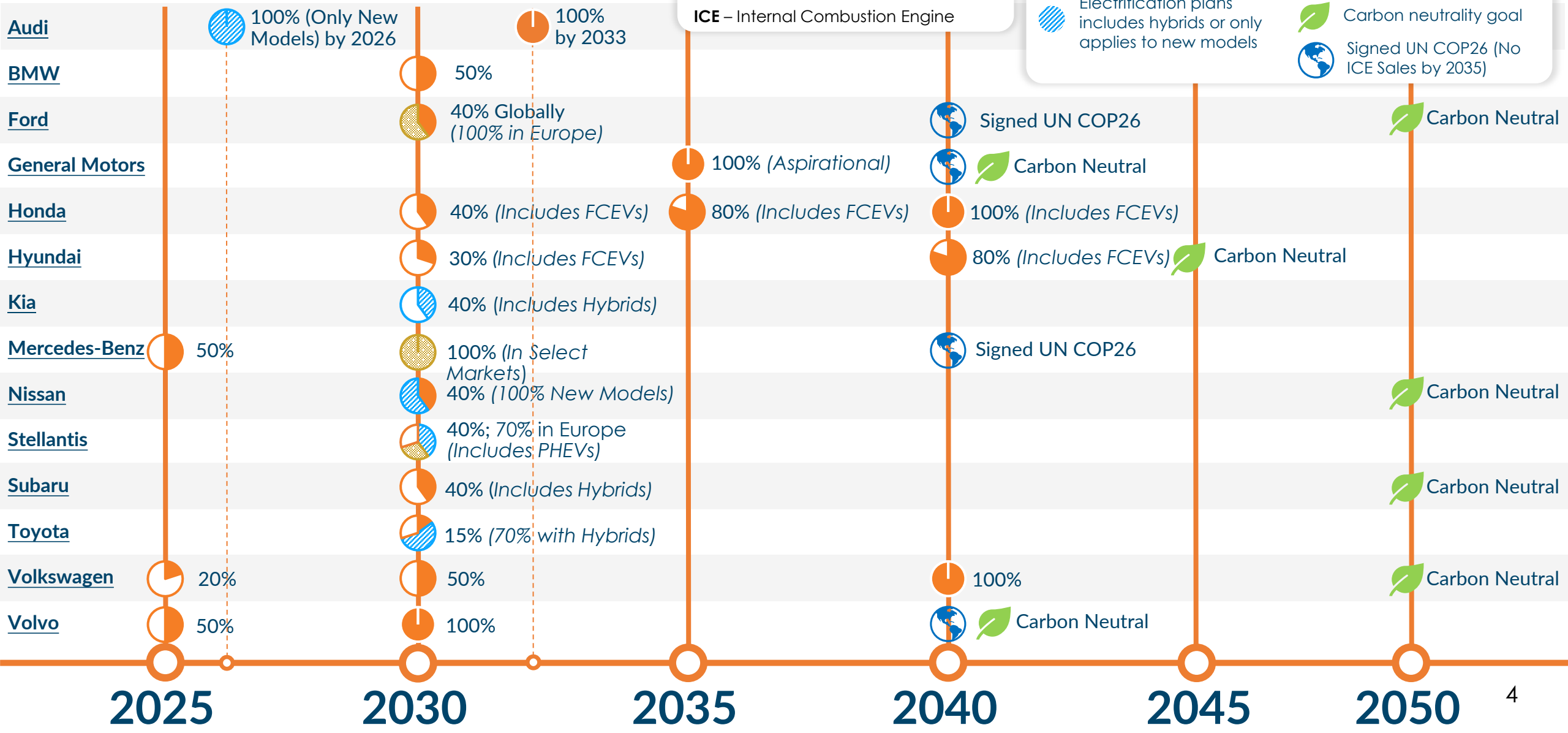
Source: Electric Reliability Council of Texas (ERCOT) Long-Term System Assessment, <https://www.ercot.com/gridinfo/planning>. Uses an adjusted (delayed) forecast from Bloomberg New Energy Finance Electric Vehicle Outlook (<https://about.bnef.com/electric-vehicle-outlook/>).

¹NCTCOG EV Registration Data, based on DMV Registration (www.dfwcleancities.org/evnt); ²EPA Automotive Trends Report (<https://www.epa.gov/automotive-trends>); ³Atlas EV Hub (<https://www.atlasevhub.com/tools-resources/quarterly-review-of-ev-market/>); ⁴Zero-Emission Vehicles Factbook (https://assets.bbhub.io/professional/sites/24/BNEF-Zero-Emission-Vehicles-Factbook_FINAL.pdf); ⁵White House News Room (<https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/05/fact-sheet-president-biden-announces-steps-to-drive-american-leadership-forward-on-clean-cars-and-trucks/>)

ELECTRIFICATION TRANSITION GOALS OF MANUFACTURERS

(% of Sales) | Data as of 11/10/2021

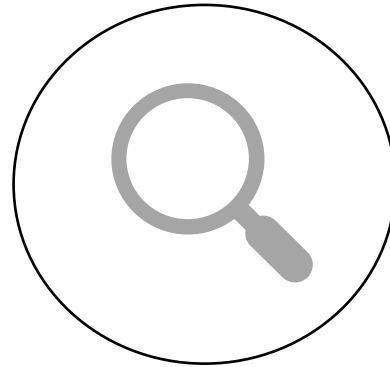
*This list is not comprehensive, and manufacturers are not endorsed by NCTCOG



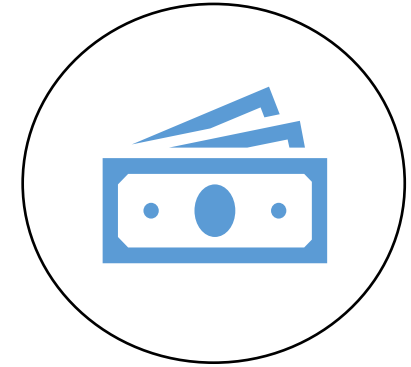
ANALYSIS GOALS



Assess Resident
Proximity to Public-
Access EV Charging
Stations



Identify Charging
Gaps to Guide
Equitable and
Strategic EV
Charging Station
Investments



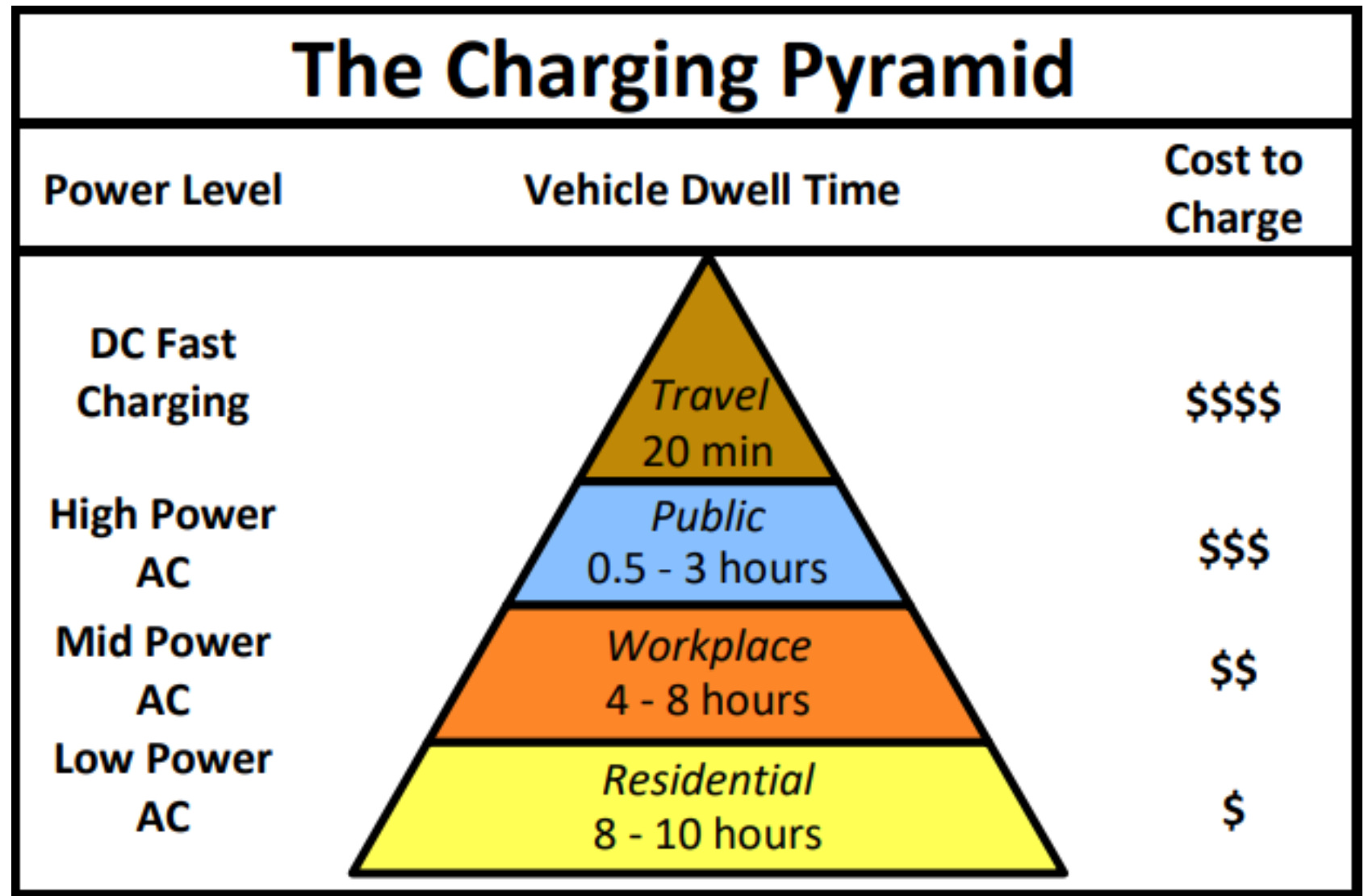
Promote Existing
Funding
Opportunities for New
EV Charging Stations

**Policy Question: Will Installation of Charging Infrastructure in
Underserved Areas Help Increase Equitable EV Adoption?**

CHARGING HIERARCHY

DID YOU KNOW?

According to the Department of Energy, drivers do **more than 80%** of their charging at home



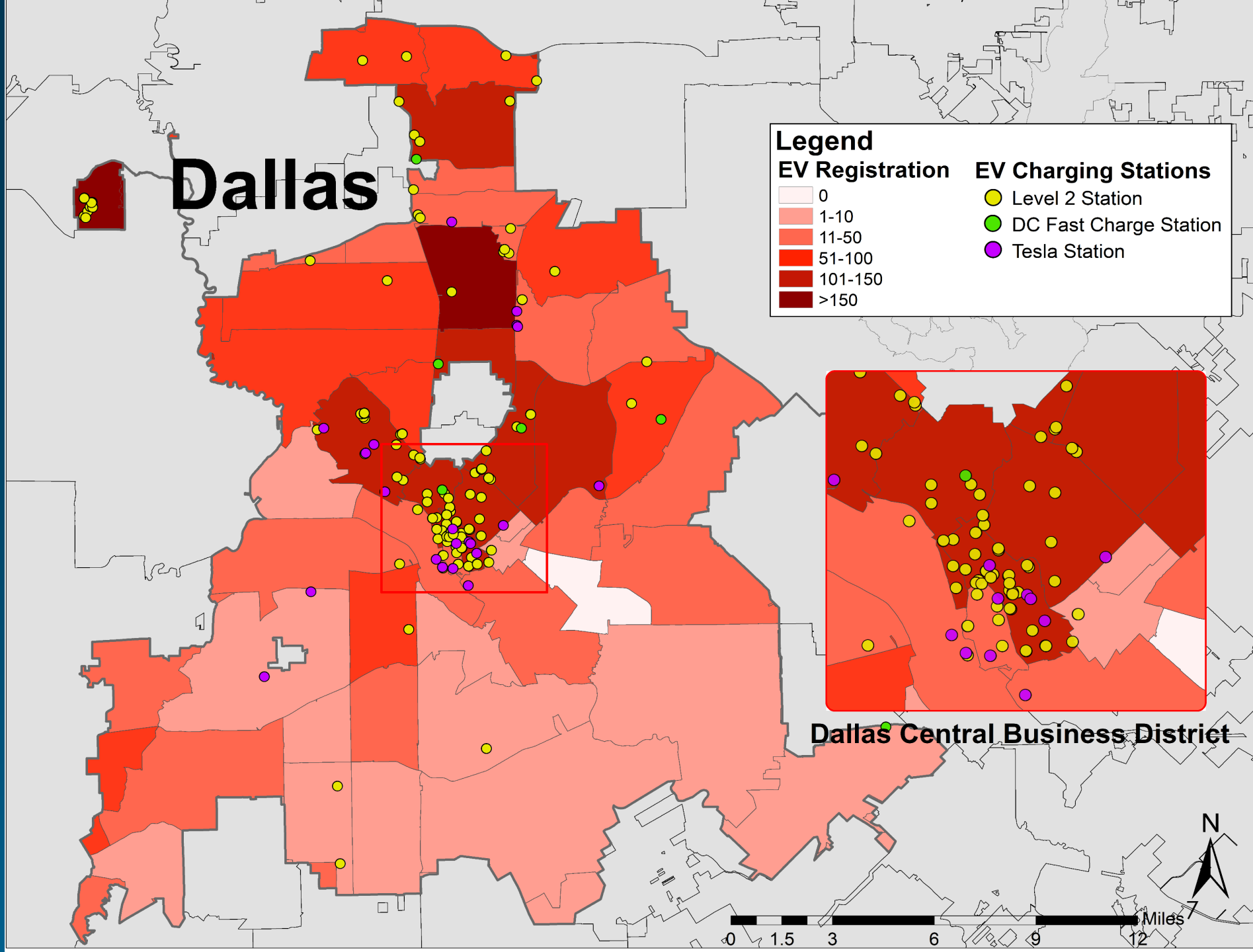
Based on Location Type and Average Time Spent, Different Charging Levels May be Better Suited by Site than Others

EXISTING EV REGISTRATION BY ZIP CODE & PUBLIC EV CHARGING STATIONS

176

Existing Publicly
Accessible EV
Charging Stations in
the City of Dallas

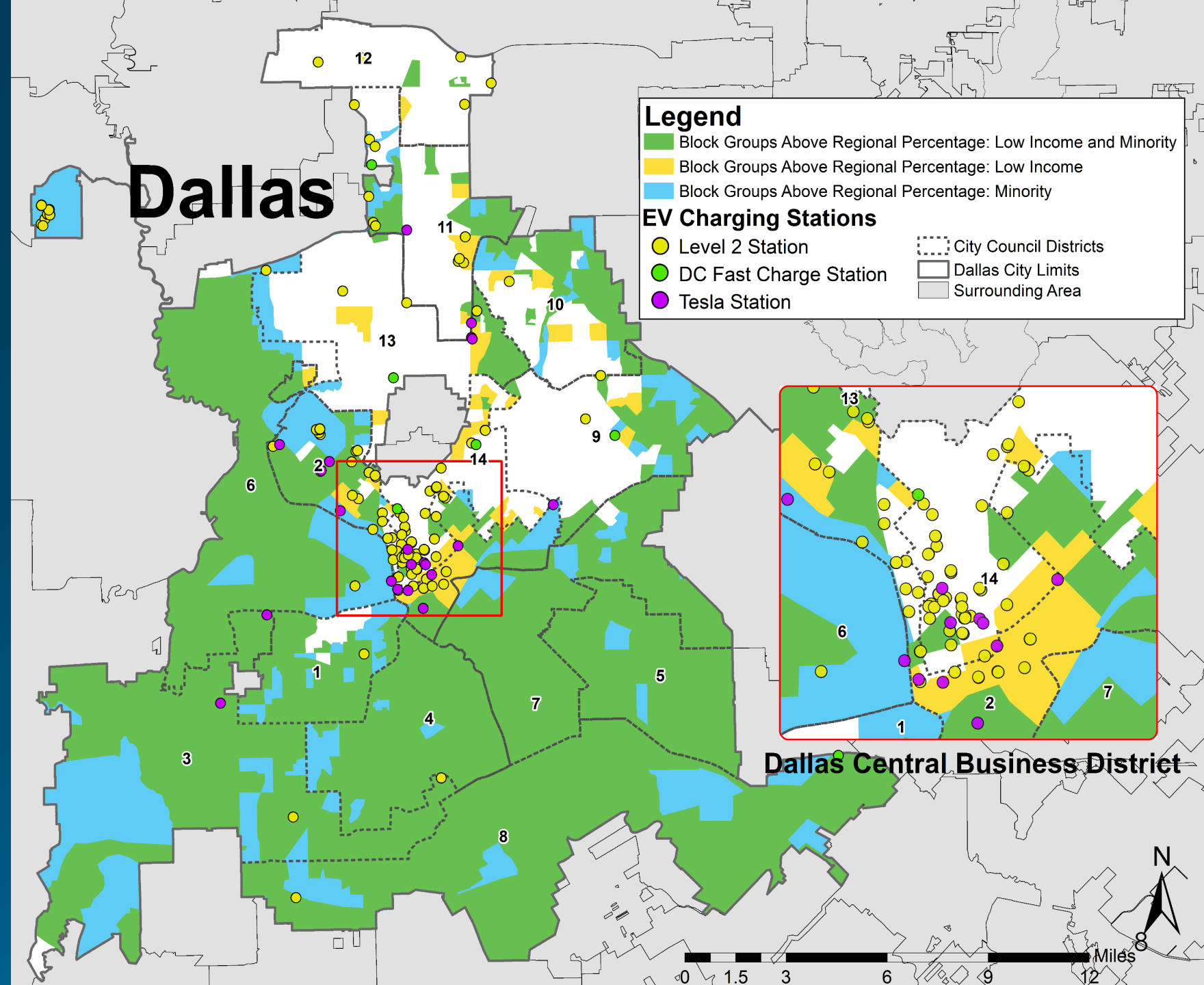
Data indicates a
correlation between
proximity to EV
charging stations and
EV registration.



NCTCOG ENVIRONMENTAL JUSTICE INDEX AND PUBLIC EV CHARGING STATIONS

Relatively few EV charging stations are located in Environmental Justice areas.

The NCTCOG Environmental Justice (EJ) Index identifies block groups that are above the region's percentage for low-income (below poverty) individuals (16.11% of population), minority (54.67% of population), or both.



MULTI-FAMILY PROPERTIES (MFP) & EV CHARGING INFRASTRUCTURE

Lack of access to EV charging is one of the top barriers to adoption

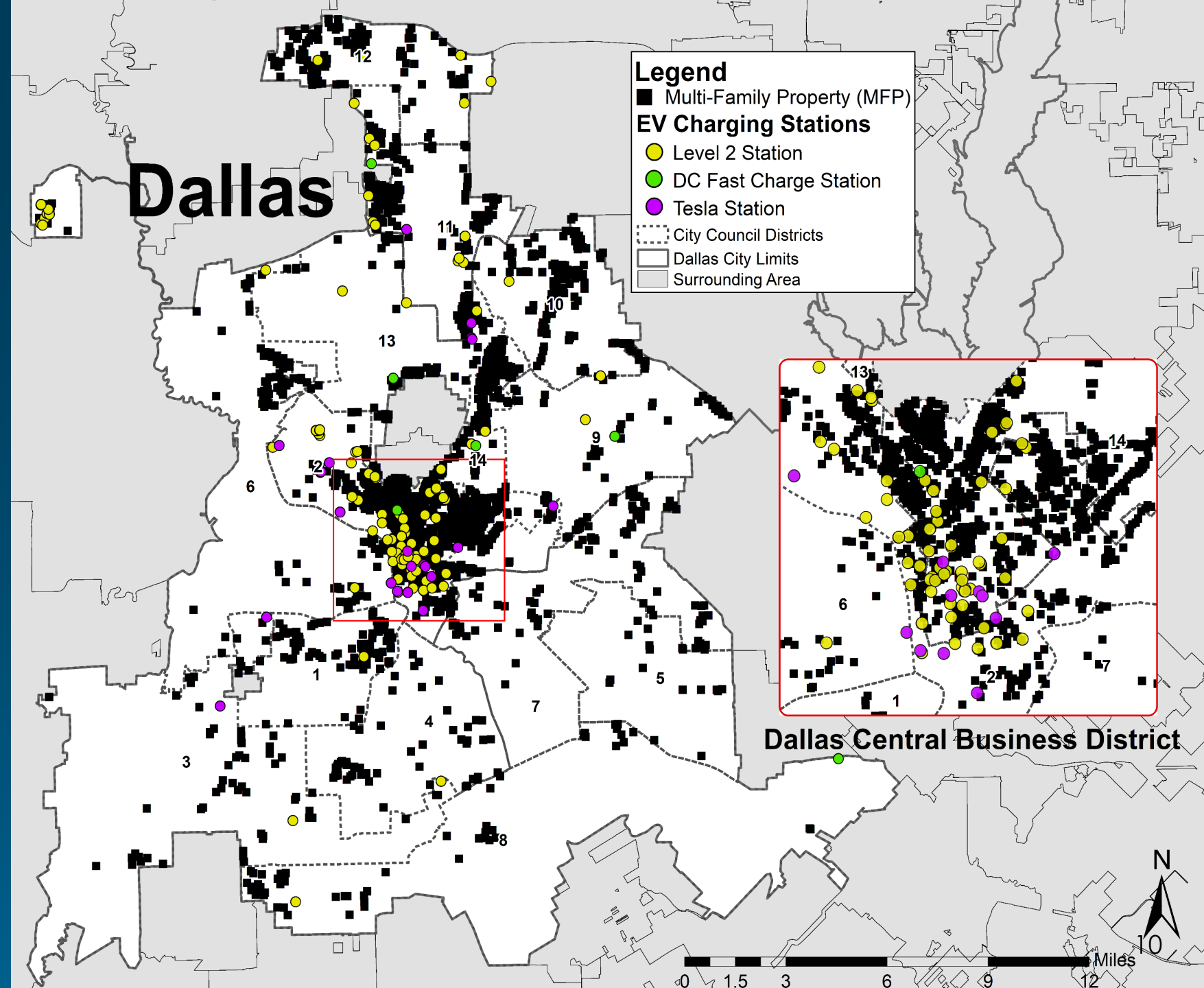
↳ Most multi-family residents do not have the ability to charge their car at home

Many multi-family residents rely on workplace or public charging stations elsewhere to charge their vehicles

18.2% Percent of Residents in the Dallas-Fort Worth-Arlington Urbanized Area Living in Apartments

Source: [2019 American Community Survey, 1-Year Estimates, US Census Bureau](#)

MULTI-FAMILY PROPERTIES AND LOCATION OF PUBLIC ACCESS EV CHARGING STATIONS



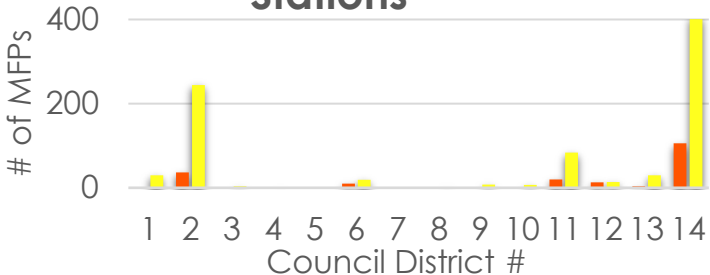
EV OWNERSHIP AT MULTI-FAMILY PROPERTIES NEAR EV CHARGING STATIONS

CITYWIDE

MFPs with Access to Charging within 1/2 Mile

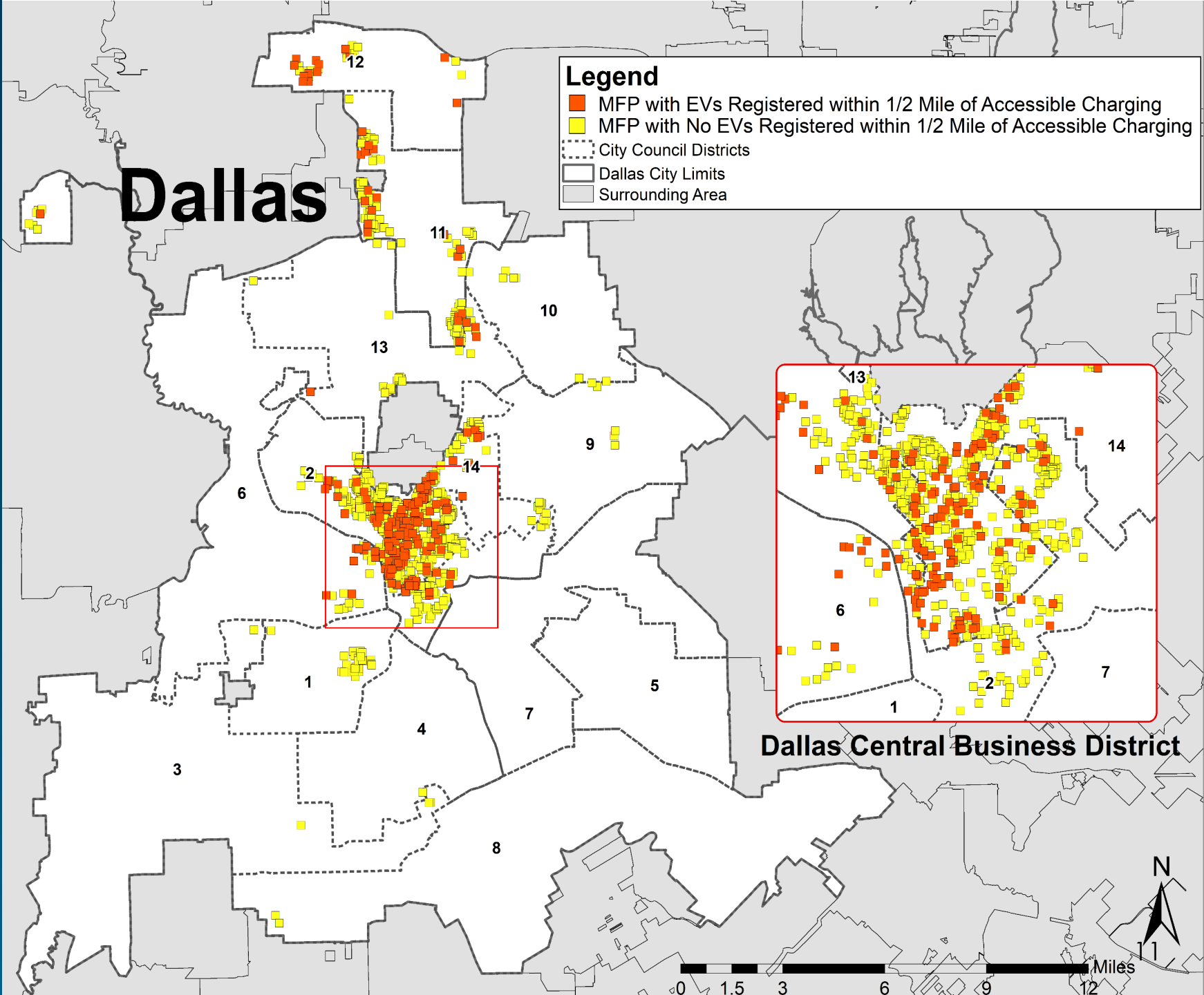
46%

MFPs Near EV Charging Stations



■ MFPs with Accessible Charging within 1/2 Mile with EVs Registered
■ MFPs with Accessible Charging within 1/2 Mile with No EVs Registered

Source: NCTCOG Data (from Texas DMV Registration), U.S. DOE, [Alternative Fuels Station Locator](#)

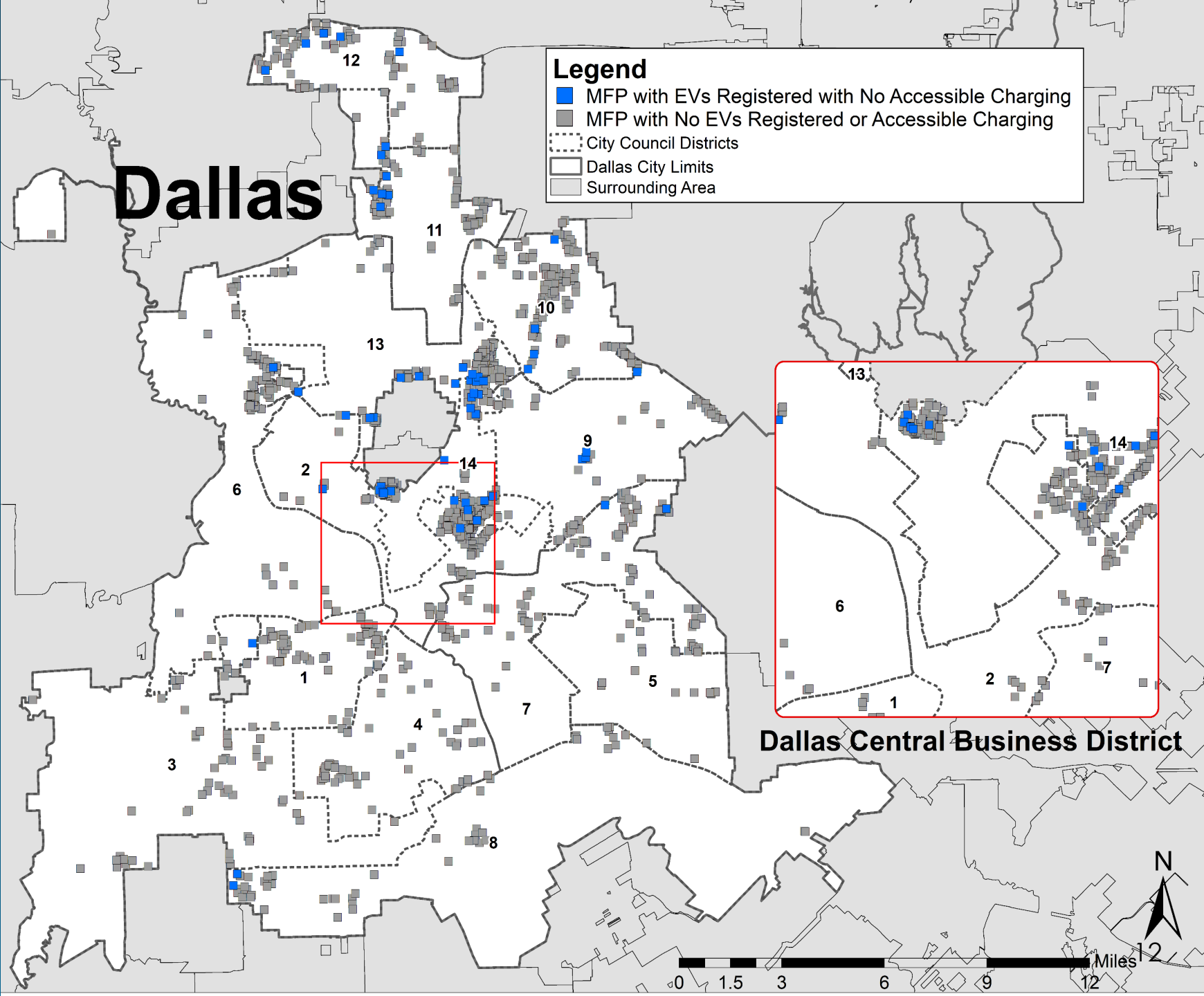
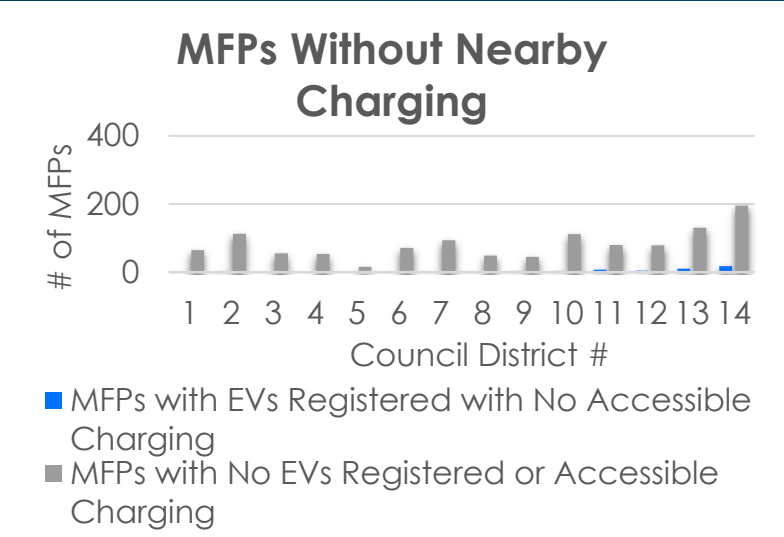


EV OWNERSHIP AT MULTI-FAMILY PROPERTIES WITHOUT CHARGING NEARBY

CITYWIDE

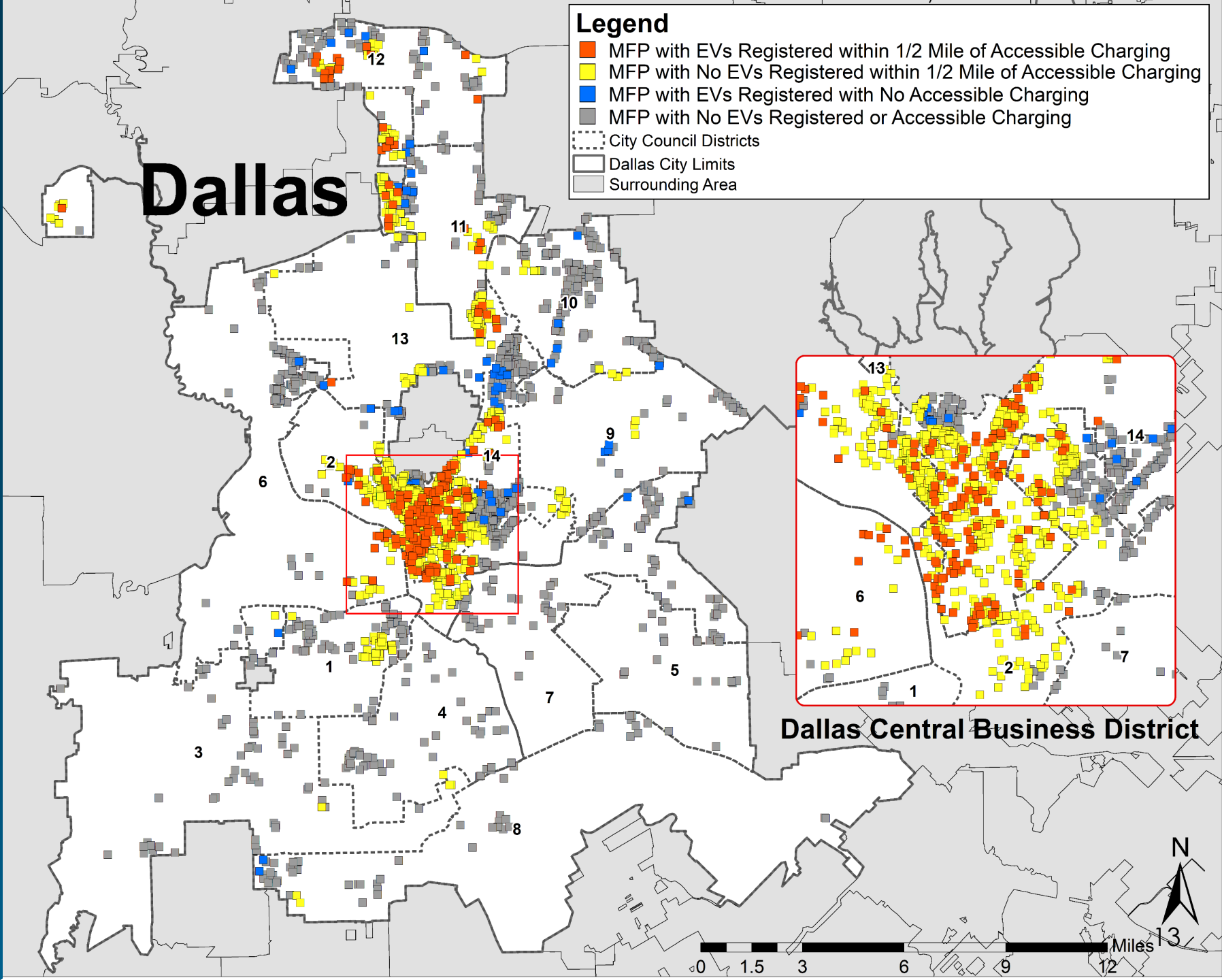
MFPs with No Charging Stations Within ½ Mile

54%





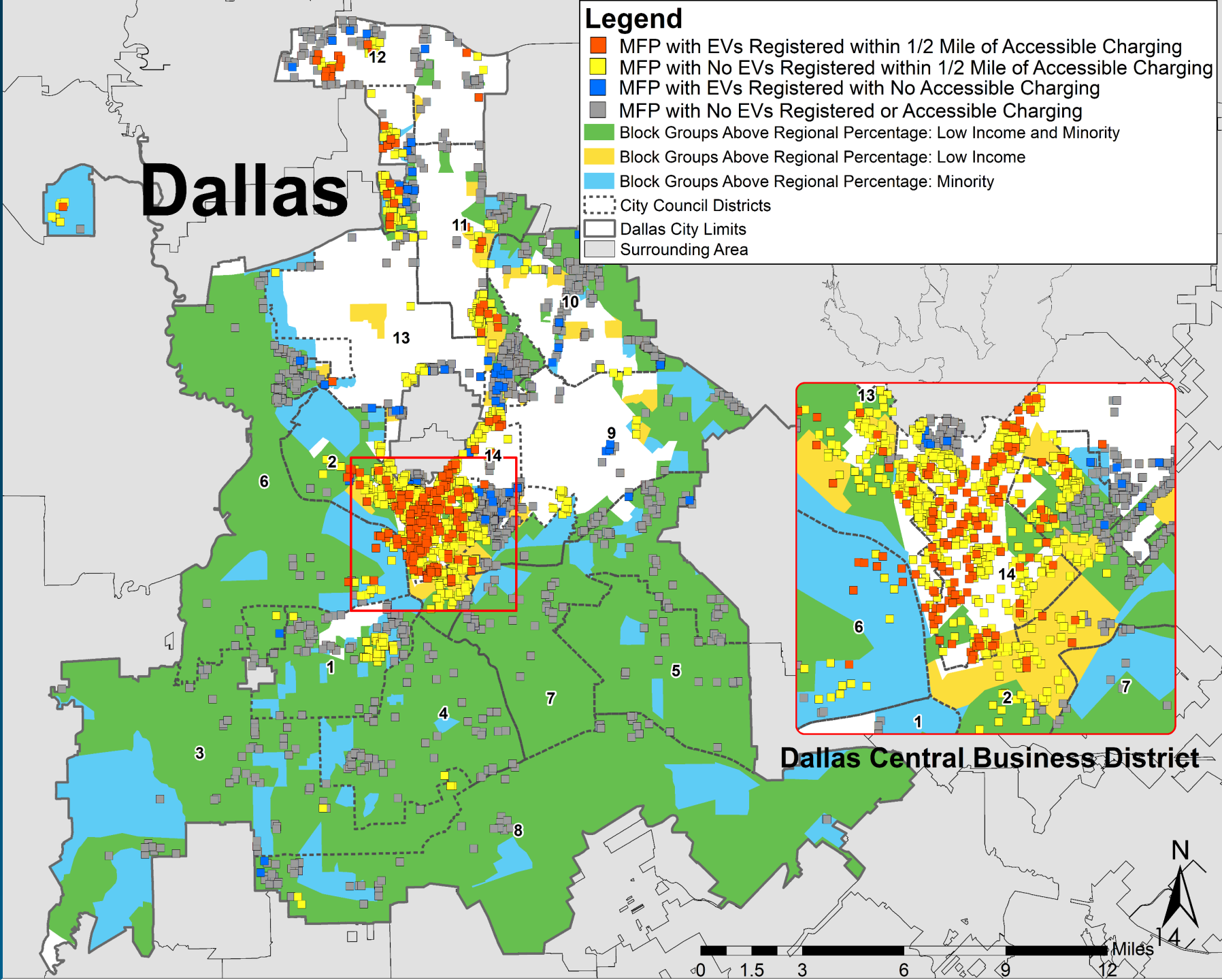
MULTI-FAMILY PROPERTIES WITH AND WITHOUT CHARGING STATIONS NEARBY, OR WITH REGISTERED EVs

Data indicates a correlation between proximity to EV charging stations and EV registration.

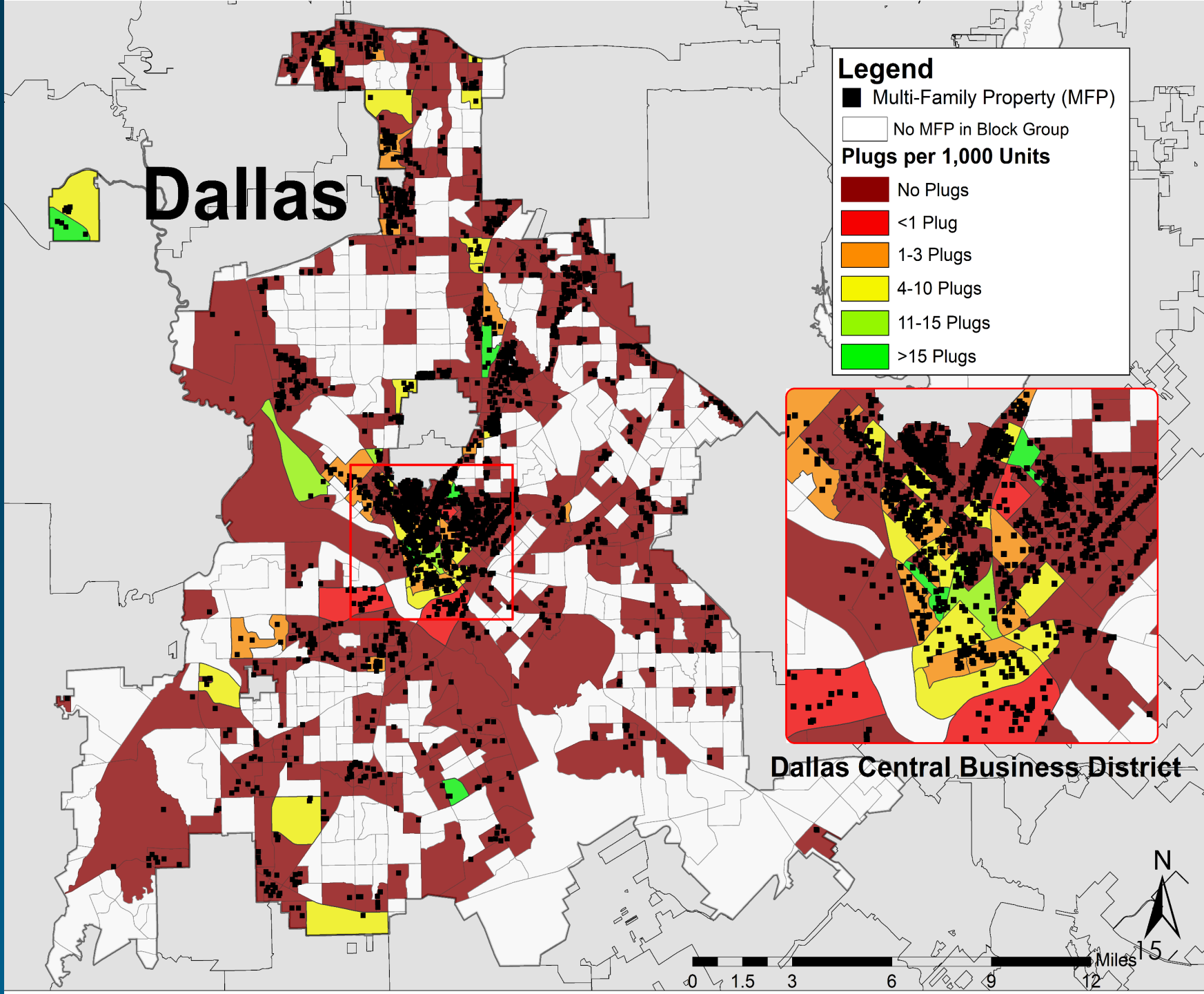


MULTI-FAMILY PROPERTIES WITH AND WITHOUT CHARGING STATION ACCESS OR REGISTERED EVs

CITYWIDE	
	
MFPs Without Nearby Charging	MFPs in an EJ Area Without Nearby Charging
54%	67%

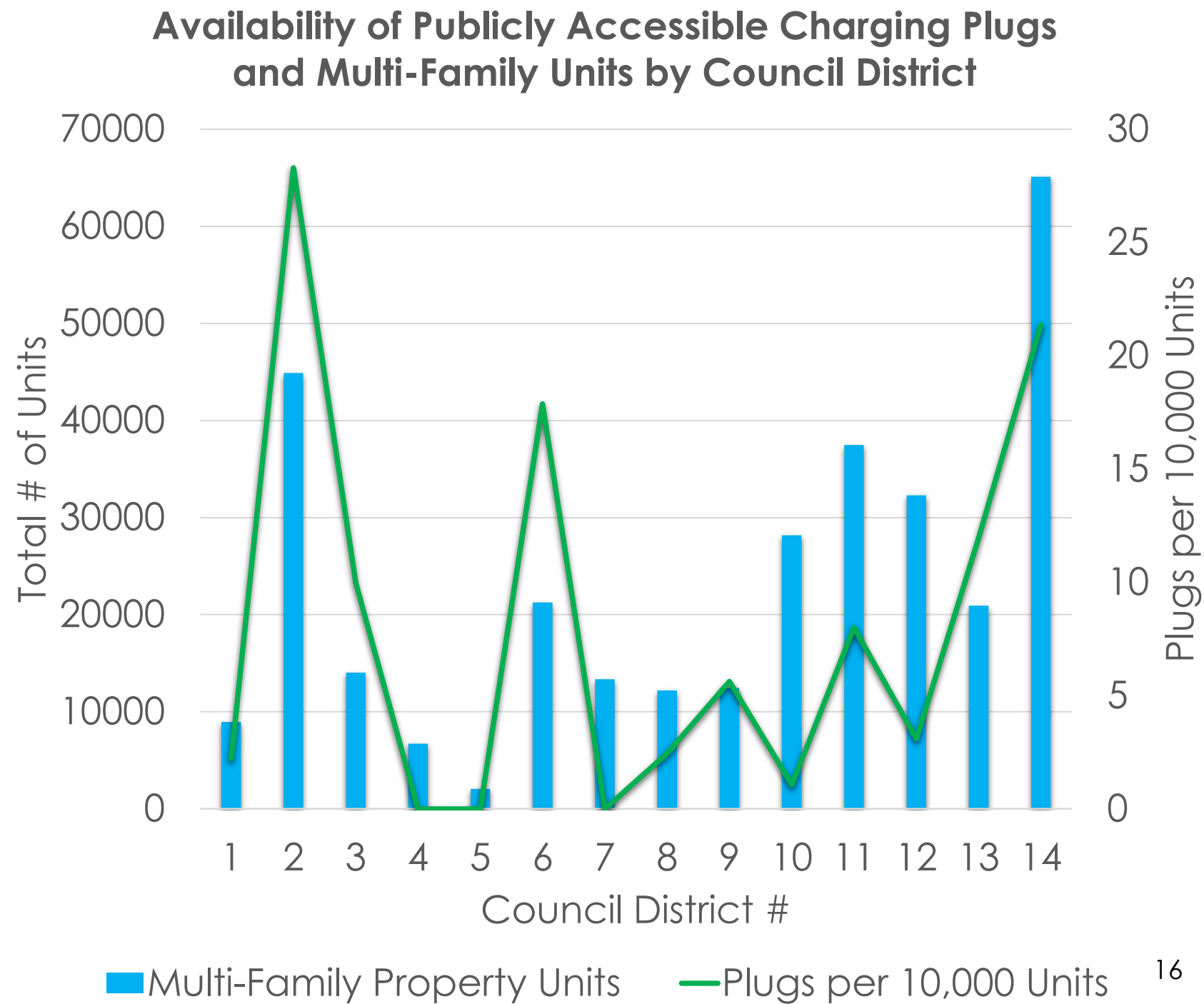


MULTI-FAMILY
PROPERTIES AND
AVAILABILITY OF
PUBLIC ACCESS EV
CHARGING BY
BLOCK GROUP






Source: NCTCOG Data (from Texas DMV Registration), U.S. DOE, [Alternative Fuels Station Locator](#)

MULTI-FAMILY UNITS
AND CHARGING
STATION
AVAILABILITY BY
COUNCIL DISTRICT



CHARGING STATION ACCESS BY COUNCIL DISTRICT

In general, multi-family properties in an Environmental Justice area are less likely to have charging stations nearby.

Council District	Multi-Family Properties Without Nearby Charging		 Public Charging Plugs per 10,000 MFP Units
	 Overall	 In an EJ Area	
1	68%	67%	2.2
2	29%	35%	28.3
3	93%	93%	10.0
4	98%	98%	0.0
5	100%	100%	0.0
6	73%	71%	17.9
7	100%	100%	0.0
8	96%	96%	2.5
9	86%	88%	5.6
10	94%	96%	1.1
11	46%	51%	8.0
12	76%	100%	3.1
13	81%	92%	11.9
14	30%	43%	21.4

PROPOSED NEXT STEPS FOR CITY OF DALLAS

Continue Existing City Efforts

Coordination with the Apartment Association of Greater Dallas, Direct Outreach to all Multi-Family Properties, Applications for New City-Owned Charging Stations

Identify and Fill Charging Gaps

Identify locations that would fill a charging gap. Encourage Property Owners to Install Public EV Charging or Consider Additional Chargers on City-Owned Property.

Consider Adopting a Multi-Family Charging Policy/Ordinance

Requires Minimum EV Charging Readiness/ Installation for Existing or New Construction Multi-Family Housing

Partner for Available Funding

Pursue and Promote Funding Incentives

Educate Property Owners on the Benefits of EV Charging at their Property

DATA SOURCES: MULTI-FAMILY PROPERTIES

<u>Data Set</u>	<u>Source</u>	<u>Date of Data Set in Analysis</u>
Publicly Accessible EV Charging Stations	<u>Department of Energy Alternative Fuel Station Locator</u>	September 2021
EV Registration Data	<u>NCTCOG Analysis from NCTCOG EV Registration Dataset</u>	August 2020
Multi-Family Properties	<u>NCTCOG Development Monitoring Program Dataset</u>	August 2021
Environmental Justice Index	<u>NCTCOG Environmental Justice Data</u>	December 2020

DATA LIMITATIONS

EV registration analysis was pulled at a single date. Need to replicate efforts to get updated list of EVs registered at different multi-family properties.

CONTACT

Lori Clark

Program Manager,
DFW Clean Cities Coordinator
NCTCOG
lclark@nctcog.org



Dallas-Fort Worth
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Bailey Muller

Senior Planner
NCTCOG
bmuller@nctcog.org



North Central Texas
Council of Governments



City of Dallas

1500 Marilla Street
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Dallas, Texas 75201

Agenda Information Sheet

File #: 21-2328

Item #: C.

Leaf Blower Regulations

[Susan Alvarez, Assistant Director, Environmental Quality & Sustainability]

LEAF BLOWER REGULATIONS

**Environment & Sustainability
Committee**

December 07, 2021

The logo of the City of Dallas, featuring a stylized white 'D' on a dark blue background. Inside the 'D' is a white leaf-like symbol. Below the 'D' is the text 'City of Dallas' in white.

City of Dallas

Susan Alvarez, P.E. Assistant Director
Office of Environmental Quality and Sustainability



Leaf Blower Overview

- **The Good:** Quick, cheap powerful equipment widely used for many landscaping tasks
- **The Bad:** Air Quality & Noise Impacts
- **The Ugly:** Public Health & Equity Concerns
- **Municipal /State Action**
- **Options for Consideration in Dallas**

The Good: Types of Leaf Blowers



Type of Equipment	Primary Use		Windspeed	Material Moved (CFM)**	Operating Noise (dB)	Weight Range (lbs)	Cost Range (2021 \$)
	Comm'l	Resid'l					
*Gas-powered Hand-held	X	X	>180 MPH	400-450	73-100	9-12	~\$100 - 200
Backpack	X		~200 MPH	910-940	75-125	23-26	~\$300 - 550
Battery Electric - Handheld	X	X	110-165 MPH	530-580	64	8-9	\$150 - 200
Backpack	X		145 MPH	600	64	13-20	\$400 - 1,200
Data Sources: https://www.protocolreviews.com/gas-vs-battery-powered-leaf-blowers/ https://www.popularmechanics.com/home/tools/g37442980/best-gas-leaf-blowers/							

* Gas-powered data reflects more commonly used 2-stroke motor

**CFM= Cubic Feet /Minute





Sound Level Chart

Perceived Sound Level Sound Level Examples Leaf Blower Reference

	dB	μPa		
PAINFULLY LOUD	160	2×10^9	fireworks at 3 feet	OSHA limit for impulse noise
	150		jet at takeoff	
	140	2×10^8	threshold of pain	
UNCOMFORTABLY LOUD	130		power drill	90-105 dB leaf blower at operators ear
	120	2×10^7	thunder	
	110		auto horn at 1 meter	
VERY LOUD	100	2×10^6	snowmobile	90 dB OSHA permissible exposure limit
	90		diesel truck, food blender	
	80	2×10^5	garbage disposal	
MODERATELY LOUD	70		vacuum cleaner	62-75 dB Leaf blower at 50 feet
	60	2×10^4	ordinary conversation	
	50		average home	
QUIET	40	2×10^3	library	
	30		quiet conversation	
	20	2×10^2	soft whisper	
VERY QUIET	10		rustling leaves	
BARELY AUDIBLE	0	2×10^1	threshold of hearing	

dB= decibels
 μPa = micro Pascals

OSHA Hearing Protection Threshold

Typical Municipal Noise Ordinance Threshold

Provided by California Air Resources Board, 2000



The Good: Leaf Blower Market Information

GLOBAL LEAF BLOWER MARKET: KEY DRIVERS AND FIGURES

KEY MARKET FIGURES

CORDLESS LEAF BLOWER

The cordless leaf blower segment by product accounted for **69.93%** of the global market in 2016.

COMMERCIAL LEAF BLOWER

The commercial leaf blower market by end user is expected to reach **\$597.89 million** by 2021.

GAS LEAF BLOWER

The global gas leaf blower market by fuel type was valued at **\$379.52 million** in 2016.

- Data Source:

<https://www.businesswire.com/news/home/20170512005466/en/Leaf-Blower-Market---Trends-and-Forecasts-by-Technavio>

GLOBAL MARKET GROWTH



The Bad: Potential Environmental Impacts



Gas powered leaf blowers are associated with several potential environmental impacts:

- **Air quality impacts** from equipment operation and maintenance (also related waste management)
- Localized **noise impacts**
- Supports continued **fossil fuel use**

Air Quality & Waste Management Concerns



- 1.2 billion gallons of gas are burned per year by United States garden equipment ⁽⁵⁾
- Chemical solvents used to degrease and clean carburetors, spark plugs, fuel and air filters, and decks of gas-powered machines can evaporate into the air, be poured into the soil, or washed down a drain. ⁽⁵⁾
- Ongoing equipment fueling and maintenance can result in related extra waste volumes for our landfills and spills that can impact air quality and stormwater. ⁽⁵⁾



Gas-powered Leaf Blowers



- Typically powered by two-stroke gasoline engines that produce more pollution than four stroke engines⁽¹⁾
- A two-stroke engine requires lubricant (oil) to be mixed with the fuel (gasoline)⁽¹⁾
- Fuel and lubricant leak out of a two-stroke engine during each cycle⁽²⁾
- “About one-third of the gasoline that goes into this sort of engine is spewed out, unburned, in an aerosol mixed with oil in the exhaust.”⁽³⁾

Leaf Blower Impacts on Air Quality



- Leaf blowers emit pollution levels comparable to automobiles⁽¹⁾
- A 2011 test by the car experts at Edmunds showed that “[a consumer-grade leaf blower emits more pollutants than a 6,200-pound 2011 Ford F-150 SVT Raptor.](#)”⁽¹⁾⁽⁴⁾
- The two-stroke engine (in the Edmunds study) emitted nearly 299 times the hydrocarbons of the pickup truck and 93 times the hydrocarbons of the sedan.
- Leaf blowers emit more carbon monoxide and nitrogen oxides as well.⁽¹⁾ Nitrogen oxides are precursors to ground level ozone for which North Texas is in “Severe Non-Attainment” status.
- Switching to electric (battery or plug in) leaf blowers would sharply reduce local air pollution⁽¹⁾





1 hour lawn mower use

driving ~300 miles
from Dallas to Lubbock



1 hour leaf blower use

driving ~1,100 miles
from Dallas to Orlando, FL

Adapted from California Air Research Board, 2020

Leaf Blower Noise Pollution



- A gas blower at full power can exceed a 100 decibels for the operator (OSHA requires hearing protection at 85 db).
- Sound carries for hundreds of feet in every direction, affecting everyone in all directions for hundreds of feet. ⁽³⁾
- Noise in the lower sound frequencies can travel through structures. ⁽³⁾
- Center for Disease Control reports leaf blowers create a common noise that can contribute to hearing loss. ⁽⁴⁾
- Noise from leaf blowers can lead to hearing loss, hypertension and negatively impact cognitive development in children.
- Noise pollution can cause stress, headaches, difficulty sleeping, productivity loss, higher heart attack rates, and other impacts. ⁽⁴⁾
- Noise pollution poses critical physical and psychological health effects including tinnitus & hearing loss, stress, hypertension, headaches, and productivity loss. ⁽⁵⁾



The UGLY: Public Health & Equity Impacts



Leaf blowers are also associated with both public health and equity concerns:

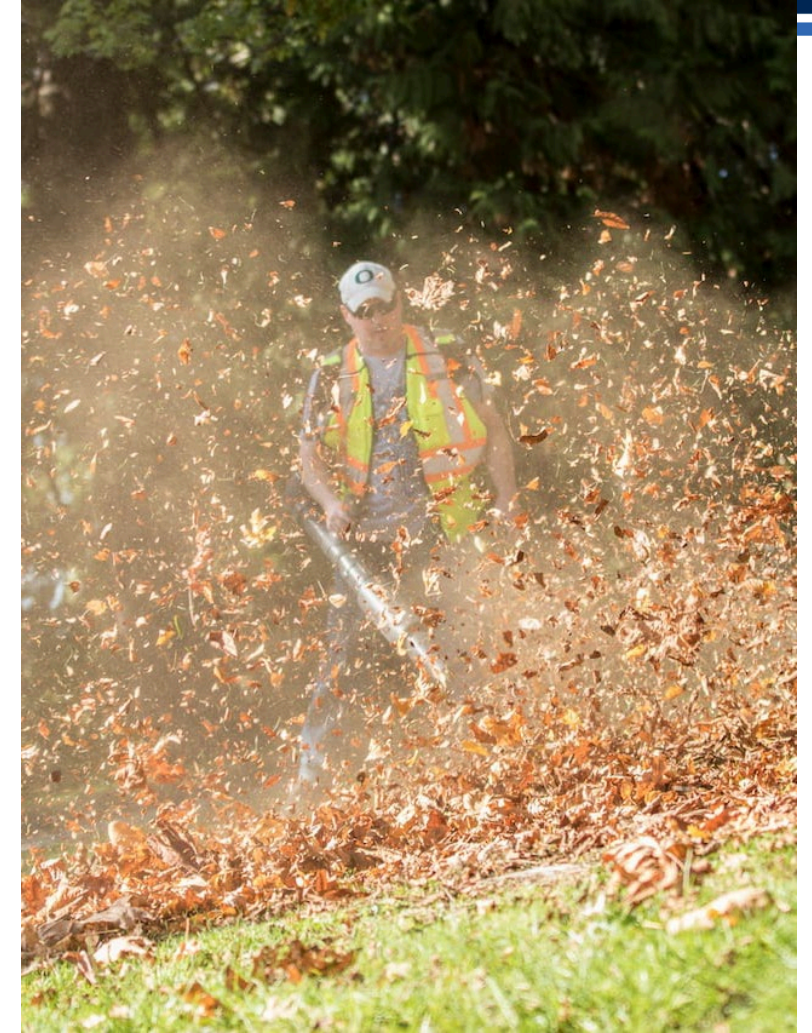
- Public health issues are associated with the direct air and sound emissions from the equipment, as well as ancillary impacts from maintenance, and fossil fuel use.
- Equity impacts can be associated with both the use, and the potential transition away from using two-stroke landscape equipment.



Leaf Blower Impacts on Public Health



- Children and the elderly are especially vulnerable to the dust (particulate) and toxic emissions from leaf blowers
- Manufacturers recommend a 50 feet minimum safe distance for bystanders.
- The low frequency noise from leaf blowers can penetrate most barriers such as walls. This contributes to hearing loss for adjacent residents.
- In densely populated neighborhoods, a gas blower can affect up to 15 times the number of households as an electric leaf blower.



Leaf Blower Impacts on Health



- Leaf blowers generate wind speeds of approximately 180 mph that can result in airborne particles of potentially hazardous substances such as dirt, mold, pollen, animal feces, and pesticides ⁽⁴⁾
- These dust clouds can take hours to settle causing damage to respiratory systems for a prolonged period ⁽⁴⁾
- The EPA, the American Lung Association, the American Heart Association and others all report that exposure to the emissions from leaf blowers can lead to serious health issues, including cancer, lung disease, respiratory illness, and dementia.



Leaf Blower Environmental Justice Concerns



- Most landscapers using gas-powered lawn care equipment are subject to exposures to toxic gas & oil, carcinogenic emissions, noxious exhaust, and unsafe noise levels
- Most lawn crews are unprotected and work full-time at the source of emissions and noise. Workers have few options and little agency. ⁽⁵⁾
- Between 2002 and 2016, the number of professional ground maintenance workers, including supervisors, grew by 85 percent to 1.6 million, according to Quiet Communities. ⁽⁶⁾
- A large portion of landscape workers are Hispanic⁷.
- In 2021 the average annual income for landscape workers was \$30,160 and the average hourly wage was \$14.50 an hour⁽⁸⁾
- Any movement towards reducing or eliminating gas-powered leaf blowers in Dallas will need to address equity considerations related to potential impacts to local landscape crews.



Local Government Actions Related to Leaf Blowers

Over 475 different cities have joined the U.S. Climate Mayors' pledge to reduce emissions and implement local climate plans.

Over 100 cities have implemented policies, codes and ordinances related to gas-powered landscape equipment.

Drivers of local government action related to leaf blowers, include, but are not limited to:

- Addressing compliance reducing local air quality non-attainment designations.
- Meeting climate plan related emissions reductions
- Meeting local noise ordinances.
- Addressing community complaints





Cities With Leaf Blower Restrictions

Arlington, MA	Lawndale, CA	Santa Monica, CA
Aspen, CO	Los Altos, CA	Scarsdale, NY
Belvedere, CA	Los Angeles, CA	Scottsdale, AZ
Berkeley, CA	Malibu, CA	Sunnyvale, CA
Beverly Hills, CA	Mamaroneck, NY	Tampa, FL
Boulder, CO	Maplewood, NJ	Tiburon, CA
Brookline, MA	Menlo Park, CA	Toronto, ON
Cambridge, MA	Mill Valley, CA	San Antonio, TX
Carmel, CA (banned in 1975 – first city in the USA)	Montclair, NJ	Sunnyvale, CA
Claremont, CA	New Rochelle, NY	Tampa, FL
Del Mar, CA	Oyster Bay, NY	Tiburon, CA
Dobbs Ferry, NY	Palm Beach, FL	Toronto, ON
Evanston, IL	Los Altos, CA	Vancouver BC
Foster City, CA	Palo Alto, CA	Washington, DC
Framingham, MA	Pelham Manor, NY	Westchester County, NY
Hastings, NY	Pelham, NY	West Hollywood, CA
Honolulu, HI	Portland, OR	White Plains, NY
Houston, TX	Portsmouth, NH	Winnetka, IL
Indian Wells, CA	Rye, NY	Yonkers, NY
Laguna Beach, CA	Santa Barbara, CA	(Highland Park, TX – under consideration)



Common Approaches in Use/ Dallas Options:



- **Bans on gas-powered lawn equipment:** some are complete bans; some are partial bans related to towards blowers and mowers
- **Decibel ordinances:** Noise ordinances to limit decibels from lawn equipment to less than **65 dB** (becomes effective gas-powered equipment limit)
- Most cities address equity challenges through **equipment exchanges, rebates and incentives;**
- Some **cities worked with local merchants /landscape professionals** to develop and implement program.
- Many programs included **an implementation time lapse** between ordinance adoption and the date for enforcement, to allow public education, exchange/replacement activities, and training for compliance and enforcement personnel.
- Many **worked with local landscape equipment merchants** towards conversion.



Case Study: Houston, Texas:



- **Does not directly ban gas-powered lawn equipment**
- **Noise ordinance:** Noise ordinances to limit decibels from lawn equipment to less than 65 dB (becomes effective gas-powered equipment limit).
 - Quiet City from 7:00 pm to 8:00 am: Max 65 dB day/58 dB night
 - Max 85 dB @ property line.
- Did not address equity challenges.
- Implemented per resident complaints.
- Included a **6 - month implementation time lapse** between ordinance adoption and the implementation date.



Case Study: San Antonio:



- **Does not directly ban gas-powered lawn equipment**
- **Noise ordinance:** Noise ordinances to limit decibels from lawn equipment to less than 65 dBA (becomes effective gas-powered equipment limit).
 - Quiet City during nighttime;
 - Max 63 dBA residential/70 dBA business/ commercial
 - Max 80 dBA @ property line.
- Not directly addressing equity challenges through **equipment exchanges, rebates and incentives;**
- Developed a **Noise Update Task Force** of businesses, residents & Code Department to develop and implement program.
- Program includes a 90-day pilot period; has extended to 6 months as **an implementation pilot program prior to final adoption.**
- Overall, ordinance seems more focused to local celebration noise impacts.



Related City of Dallas Codes and Ordinances:



- **Does not directly ban gas-powered lawn equipment....**
- **Stormwater Ordinance:** Section 19-118.2(f)(5) of the Dallas City Code prohibits discharge of garbage, rubbish and yard waste into the storm drain with fines of up to \$2,000 per occurrence.
- **Code enforcement:** Chapter 30 and Chapter 51A-6 for noise violations. 51A-6 regulates noise by decibel level. These regulations have maximum decibel thresholds that change dependent on the property zoning.
 - (F) **Exceptions:** the following activities, as long as they are conducted between the hours of 7:00 AM. – 10:00 PM., M-F and between 8:00 AM. and 7:00 PM – weekends and holidays:
 - (i) **Lawn maintenance.**

(1) A person may not conduct a use that creates a noise level that exceeds the levels established in Subsections (b) through (e) or that exceeds the background level by five dB(A), whichever is greater.	
Decibel Limit	A Scale
(dBA re 0.0002 Microbar)	56
Maximum Permissible Daytime Decibel Limits at the Bounding Lot Line of an Office, Retail, Mixed Use, Multiple Commercial, P(A), WR with a Shopfront Overlay, or WMU District	
Decibel Limit	A Scale
(dBA re 0.0002 Microbar)	63
Maximum Permissible Daytime Decibel Limits at the Bounding Lot Line of a Use in a CS, LI, or IR District	
Decibel Limit	A Scale
(dBA re 0.0002 Microbar)	65
Maximum Permissible Daytime Decibel Limits at the Bounding Lot Line of a Use in the IM District	





Questions or Comments?

References



- ¹ Palmer, Brian. Washington Post. September 16, 2013: https://www.washingtonpost.com/national/health-science/how-bad-for-the-environment-are-gas-powered-leaf-blowers/2013/09/16/8eed7b9a-18bb-11e3-a628-7e6dde8f889d_story.html?utm_term=.e68f5b5d5284
- ² <https://science.howstuffworks.com/transport/engines-equipment/two-stroke.htm>
- ³ Sapate, K.D, et al Pollution Aspects of Emissions From Small Two-Stroke Automobile Engines, Nature Environment and Pollution Technology, 2008: <https://neptjournal.com/upload-images/NL-19-6-6-comB-112.pdf>
- ⁴ Su, Tanli. "Lifestyle Eco-Actions: "Gas-Powered Leaf Blowers" Sierra Club: <https://www.sierraclub.org/loma-prieta/blog/2017/08/lifestyle-eco-actions-gas-powered-leaf-blowers>
- ⁵ <https://www.momscleanairforce.org/leaf-blowers-health/>
- ⁶ Kaysen, Ronda. "On Banning Leaf Blowers" New York Times. March 17, 2017: <https://www.nytimes.com/2017/03/17/realestate/on-banning-on-leaf-blowers.html>
- ⁷ <https://www.osha.gov/SLTC/landscaping/index.html>
- ⁸ Time, Forest. "Pay Rate for Lawn Care Workers". Houston Chronicle. <https://work.chron.com/pay-rate-lawn-care-workers-2784.html>; updated to 2021 through Zip recruiter data for Dallas, TX.
- ⁹ <https://panethos.wordpress.com/2018/05/11/it-is-time-to-ban-gas-powered-leaf-blowers/>
<https://www.quietcleanpdx.org/leaf-blowers-facts-myths/>
<https://www.theatlantic.com/magazine/archive/2019/04/james-fallows-leaf-blower-ban/583210/>
<https://www.protoolreviews.com/gas-vs-battery-powered-leaf-blowers>
<https://www.popularmechanics.com/home/tools/g37442980/best-gas-leaf-blowers/>





LEAF BLOWER REGULATIONS

**Environment & Sustainability
Committee**

December 07, 2021

Susan Alvarez, P.E. Assistant Director
Office of Environmental Quality and Sustainability





City of Dallas

1500 Marilla Street
Council Chambers, 6th Floor
Dallas, Texas 75201

Agenda Information Sheet

File #: 21-2329

Item #: D.

Public Utility Commission Power Market Re-Design Comments

[Celina Bonugli, Associate, Clean Energy Innovation, World Resources Institute and Susan Alvarez, Assistant Director, Environmental Quality & Sustainability]



City of Dallas

Public Utility Commission Power Market Re-Design Comments

Environment & Sustainability Committee

December 07, 2021

Celina Bonugli, Clean Energy Innovation,
World Resources Institute

Susan Alvarez, P.E. Assistant Director
Office of Environmental Quality &
Sustainability

Presentation Overview



Photo: NBCNews/ 2021 Getty Images

- Background
 - FERC Report of Texas' February Storm
 - PUC Market-Redesign Effort
- Texas Cities Cohort
- Draft PUC Market Re-design Comments



Federal Energy Regulatory Commission Report



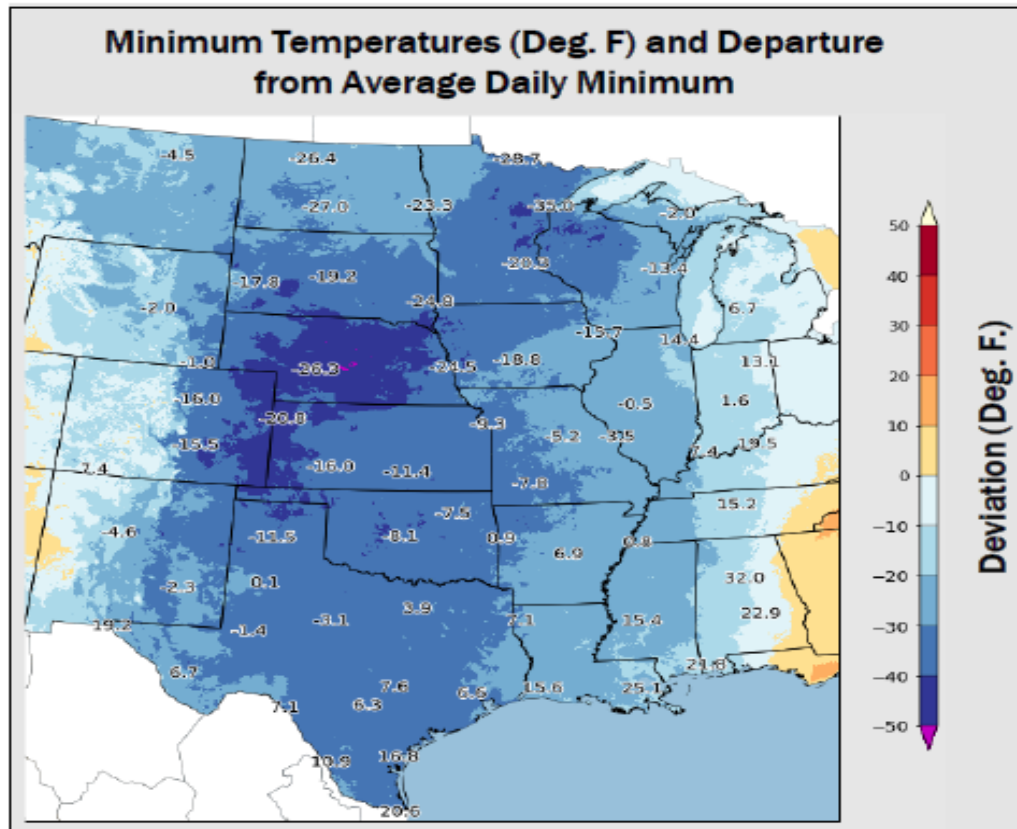
- Federal Energy Regulatory Commission (FERC)
- Report issued November 16, 2021
- Describes investigation by FERC, the North American Electric Reliability Corporation (NERC), the Regional Commissions and over 50 experts on grid reliability, Including the Texas Reliability Entity



Source: <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and#>



Cold Weather Conditions – February 15, 2021



(Source: NOAA)

- The February 2021 event is the **fourth** in the past 10 years which jeopardized bulk-power system reliability due to unplanned cold weather-related generation outages:

- 2011 – 29,700 MW
- 2014 – 19,500 MW
- 2018 – 15,800 MW
- 2021 – **61,800 MW**

Source: <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and#>

Federal Energy Regulatory Commission Report



Inquiry Commencement Cold Weather Week of February 14, 2021

- Unprecedented electric generation outages
- Affected Balancing Authorities (BAs) declared Energy Emergencies and ordered firm load shed at different points of time within their respective footprints, in total exceeding **23,400 MW** during severely cold weather to avoid entire system blackouts.
 - ERCOT BA: nearly three consecutive days and at its worst point, **20,000 MW**
 - SPP BA: approximately five hours total and at its worst point, **2,700 MW**
 - MISO BA (MISO South): over two hours and at its worst point, **700 MW**



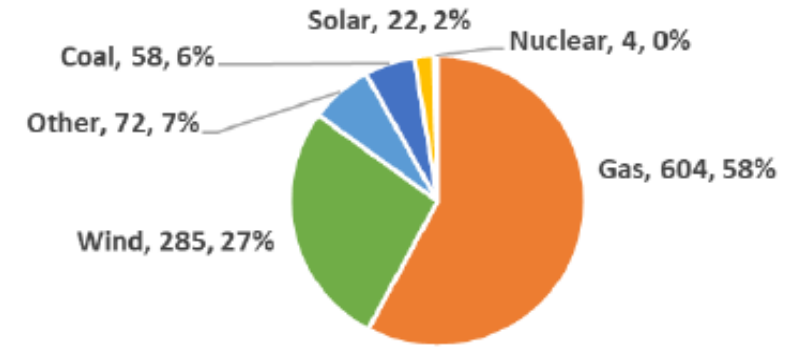
Source: <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and#>



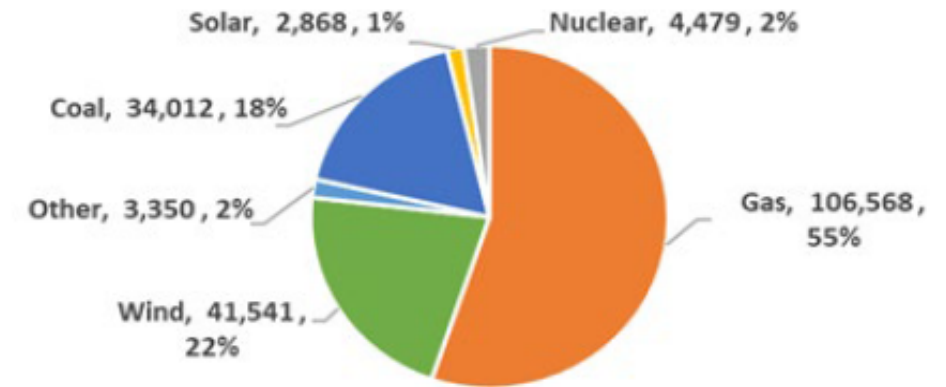
Unprecedented Electric Generation Shortfalls Due to Cold Weather Conditions

- **1,045** individual generating units experienced **4,124** outages, derates or failures to start, of which **604** were natural-gas fired generators.
- During the week of February 14, 2021, for over two consecutive days, ERCOT averaged **34,000 MW** of generation outages, **49%, or nearly half** of ERCOT's 2021 actual all-time winter peak load of 69,871 MW.

Fuel Type of Generating Units That Experienced Unplanned Outages and Derates (by Number of Generators), Total Event Area



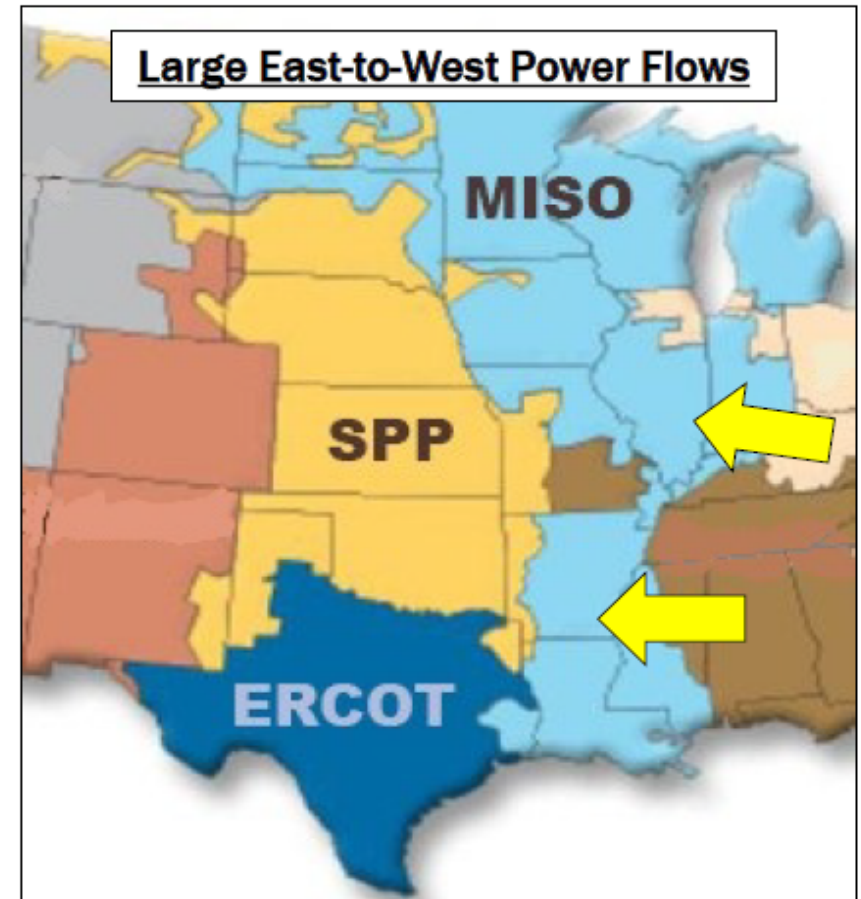
Fuel Type of Generating Units That Experienced Unplanned Outages and Derates (by MW of Nameplate Capacity), Total Event Area



Generation Shortfalls Also Led To Transmission Emergencies in MISO and SPP

- The bulk-power system was heavily constrained with large power flows.
- On February 15, 2021, east-to-west import power flows approached **13,000 MW** to help mitigate generation shortfalls and meet winter peak energy demands in MISO and SPP.
- MISO shed in total over **2,000 MW** firm load at different points in time on February 15 and 16 to avoid transmission overloads.

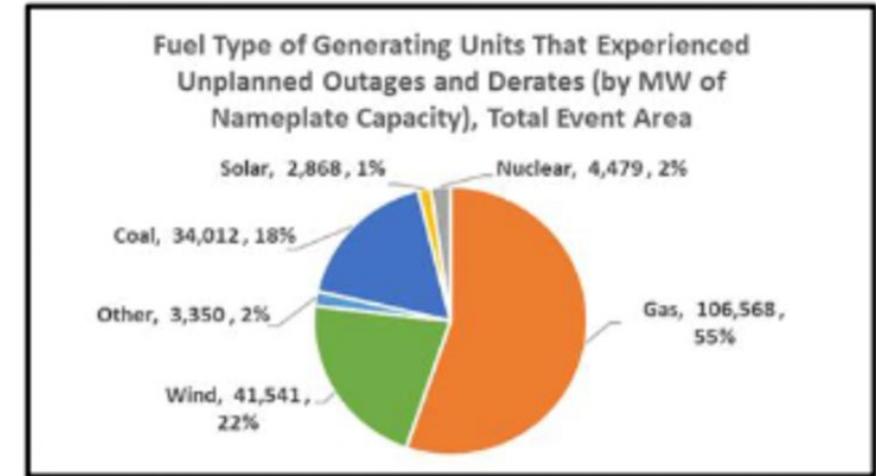
Source: <https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and#>



What happened?



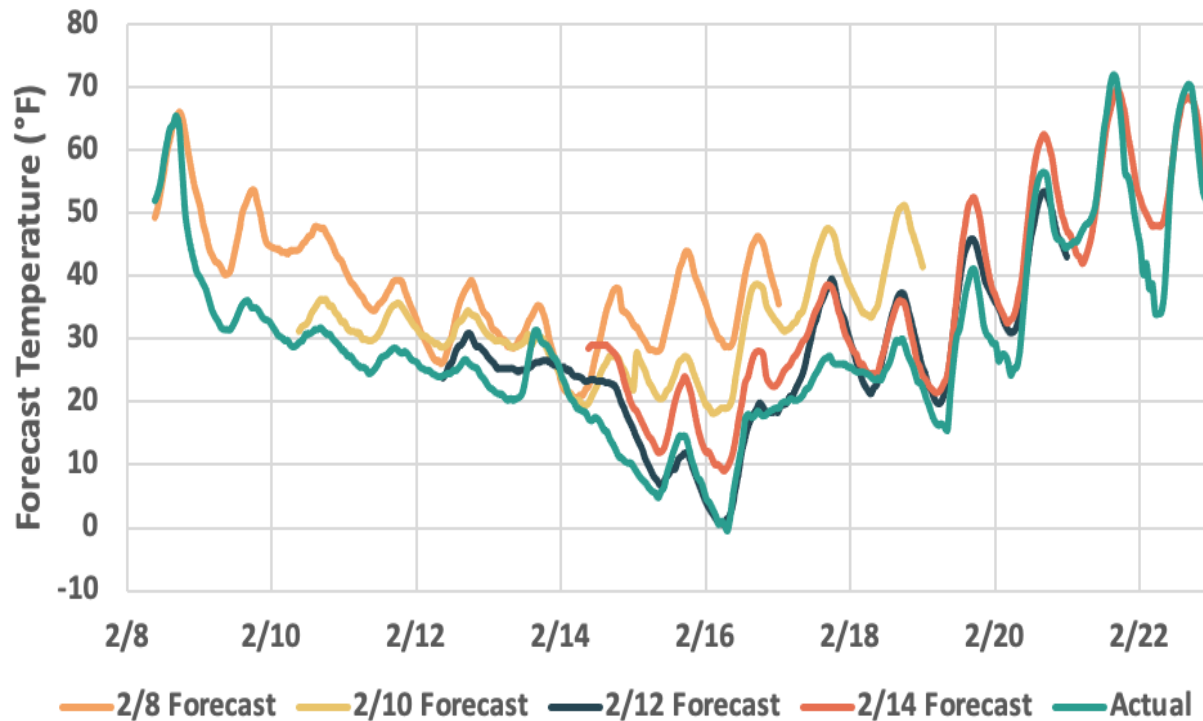
- Natural gas production and delivery failures started on 2/9 due to frozen natural gas production
- Natural gas delivery failure facilities before 2/15, compounded by loss of electricity starting with load-shed beginning 2/15 1:25am.
- Texas production and pipeline outage impacts rippled across entire Midwest.
- Power generation outages – 1,045 units out of service for multiple days between 2/8-20 across ERCOT, SPP and MISO South.
 - Generation failed due to frozen equipment and insufficient fuel
 - ERCOT lost 49% of its generation capacity of every type
- Texas impacts
 - Over 250 deaths electricity failure, hundreds more from cold
 - Millions without safe drinking water
 - Millions of homes and buildings damaged by burst water pipes
 - \$60 billion of excess charges for ancillary services, natural gas and electricity priced at up to 1,000x over normal condition prices
 - \$ Estimated economic impact >\$130 billion (US. Federal Reserve Dallas)



Much Colder + Less Power Online than Expected



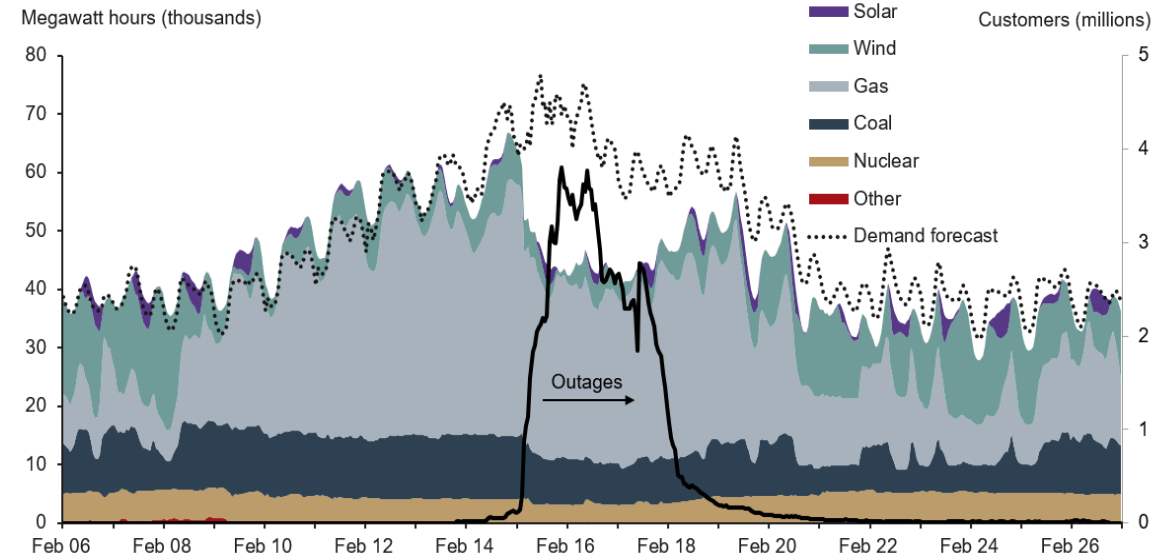
Hourly Temperature Forecasts: North Central Texas



[https://www.puc.texas.gov/agency/resources/reports/UIAustin \(2021\) EventsFebruary2021TexasBlackout \(002\)FINAL 07 12 21.pdf](https://www.puc.texas.gov/agency/resources/reports/UIAustin%20(2021)%20EventsFebruary2021TexasBlackout%20(002)FINAL%2007%2012%2021.pdf)

Chart 1

ERCOT Electricity Generation by Source, Demand and Outages During Texas Deep Freeze



NOTES: "Demand forecast" is what is anticipated in the Electric Reliability Council of Texas day-ahead market. "Other" includes hydroelectric power and grid interchange.

SOURCES: Energy Information Administration; Poweroutage.us; Federal Reserve Bank of Dallas.

Federal Reserve Bank of Dallas

Source:

<https://www.dallasfed.org/research/economics/2021/0415.aspx>





Why it happened –

- Texas buildings and appliances are generally inefficient and under-insulated;
- Energy efficiency building codes not implemented until 2001, still lag...
- 60% of Texas buildings use inefficient electric resistance heating, so in frozen temperatures kept running w/o actually heating air
- TX utility energy efficiency programs put most \$ into Commercial & Industrial programs, not much into residential, low-income and multi-family housing or weatherization.

Winter Weather Impacts on Load by Customer Type

Thursday, Nov. 16, 2017
7:15 a.m.
ERCOT Load: 36,795 MW
Temperature in Dallas: 63°



Wednesday, Jan. 17, 2018
7:15 a.m.
ERCOT Load: 65,904 MW
Temperature in Dallas: 15°



>29,000 MW of weather-sensitive load -- 44% of peak



- Customer class breakdown is for competitive choice areas; percentages are extrapolated for municipals and co-ops to achieve region-wide estimate
- Large C&I are IDR Meter Required (>700kW)
- 15-minute demand values



Insufficient preparation



- No regulatory requirements for power plant/ gas system winterization to prevent freezing and failure to perform;
- ERCOT power market designed and managed for minimal costs, not adequate reliability
- Minimal recognition of interdependencies and insufficient coordination between gas, electric and water infrastructures
- Minimal transmission lines to neighboring interconnections so no ability to import energy to alleviate energy shortfalls
- Multi-day power outages exacerbated by “critical facilities” without backup power sources and too-large distribution circuits, so no ability to rotate outages among customers
- Terrible communication and warnings between ERCOT, governments, utilities and public
- Decision-making by the PUC about how and how long to apply electric energy price caps
- Under-investment in energy efficiency and demand response.



Texas Legislature Actions:



What Passed?

- Changes to ERCOT Market Design, PUCT, and ERCOT (SB 2, SB 3, SB 2154, and SB 713)
- Securitization of Winter Storm Uri Costs (HB 4492, SB 1580, HB 1510, and HB 1520)
- Transmission and Distribution System Planning (SB 1281 and HB 2483)
- Targeted Increased of Backup Generation (HB 3916)

What Did Not Pass?

- No increase of energy efficiency goals.
- No increase in demand response, distributed energy resources, or virtual power plants.
- No increase in building standards.
- No real weatherization requirement for natural gas supply.





- Four new Commissioners (one vacancy)
- New ERCOT Board of Directors
- Significant Increase in Regulatory Proceedings (20+)
 - Weatherization of Generation and Transmission & Distribution (51840; 52691; 52785; 52786; 52787)
 - Fuel Supply for Generation Resources (51839; 52345; 52404)
 - Critical Load Designation (51888)
 - Customer Communication (51889; 52287)
 - Securitization of Costs from Winter Storm Uri (52321; 52322; 52364; 52709; 52710; 52731)
 - Wholesale Market Design (51871; 52373; 52631)



Governor's Direction to the PUC (July 6, 2021):



- Streamline incentives within ERCOT to foster development and maintenance of adequate and reliable sources of power, like natural gas, coal, and nuclear power.
- Allocate reliability costs to generation resources that cannot guarantee their own availability, such as wind or solar power.
- Instruct ERCOT to establish a maintenance schedule for natural gas, coal, nuclear, and other non-renewable electricity generators to ensure supply.
- Strategically schedule routine maintenance of natural gas, coal, and nuclear plants to prevent too many plants from being offline at the same time.
- Order ERCOT to accelerate the development of transmission projects that increase connectivity between existing or new dispatchable generation plants and areas of need.

<https://gov.texas.gov/news/post/governor-abbott-directs-public-utility-commission-to-take-immediate-action-to-improve-electric-reliability>



ERCOT Market Re-Design on Fast Track



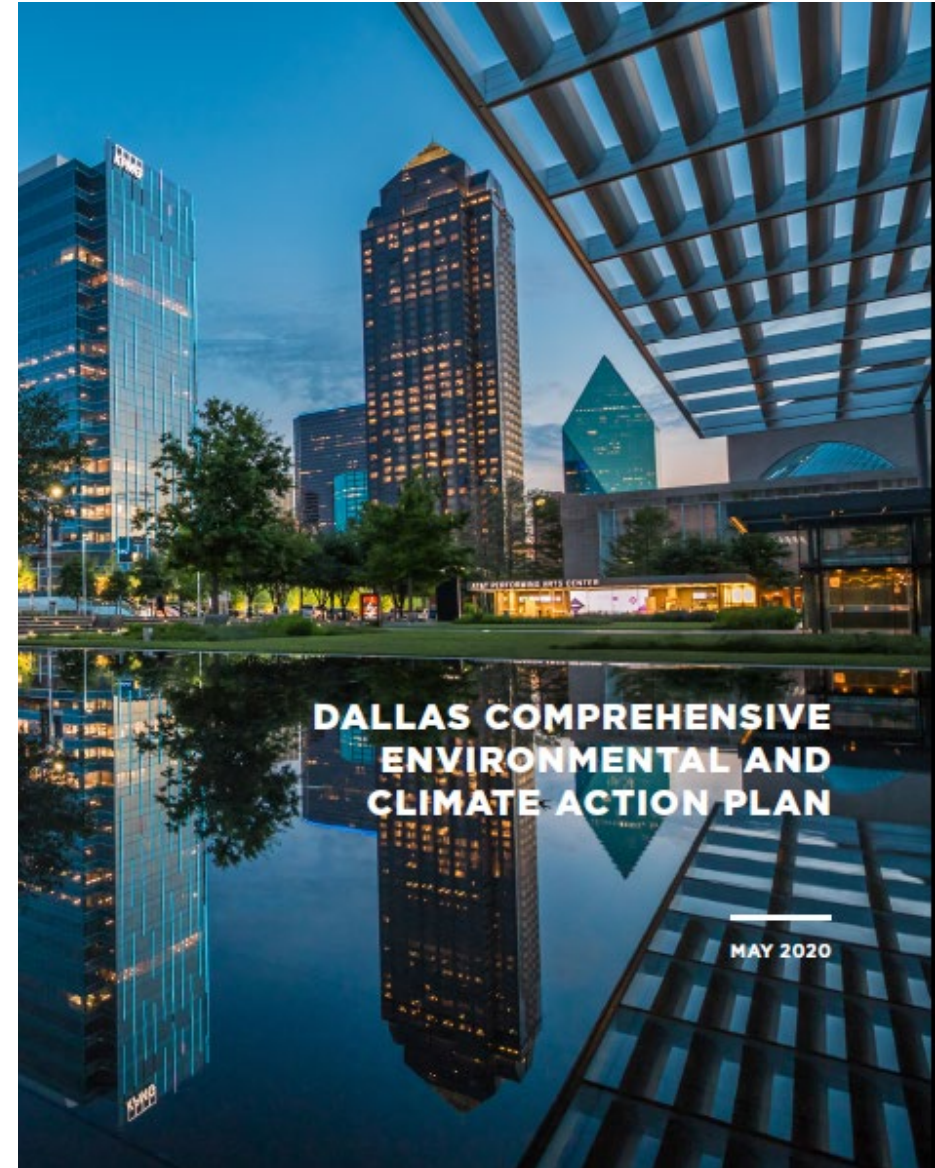
- What and Why? : Wholesale Market Design per 52373
- Multiple PUC Work Sessions since July 1, 2021
- Governor's Letter on July 6, 2021
- Strawman Blueprint #1 – October 20
- Strawman Blueprint #2 – December 3
 - [We are here!!]
- Final Blueprint – December 20



City of Dallas Involvement?

CECAP Actions:

- **E1:** Maintain a high level of reliability in the electric delivery grid through cooperative actions between City & PUC
- **E10:** Advocate for renewable energy policies at the state and federal levels

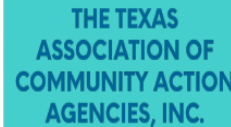


Texas Climate Cities Cohort



- Implemented by RMI/ WRI with funding from the George P. Mitchell Foundation
- Technical assistance to local governments working towards greater climate resilience
- 9 cities and Travis County participating
- Supports local efforts in four areas:
 - Increased Energy Grid Reliability
 - Energy Efficiency
 - Weatherization
 - Green Infrastructure Implementation

Local government, and community action network, involvement



Summary of Comments?



Elevate local priorities in wholesale market design:

- 1. Increase the use of energy efficiency and demand response programs*
- 2. Value and encourage a diversified resource base*
- 3. Minimize the severity and disproportionate impacts of power outages.*
- 4. Consider expanding Texans' access to reliable electricity by connecting with adjacent grids.*

Prioritize equity as an integral component of any market reform and associated policy and rule changes.^[2] This is in alignment with the Commission's public-interest mandate to ensure rates, operations, and services are just and reasonable to all Texans.^[3]

Ensure a robust and inclusive stakeholder process

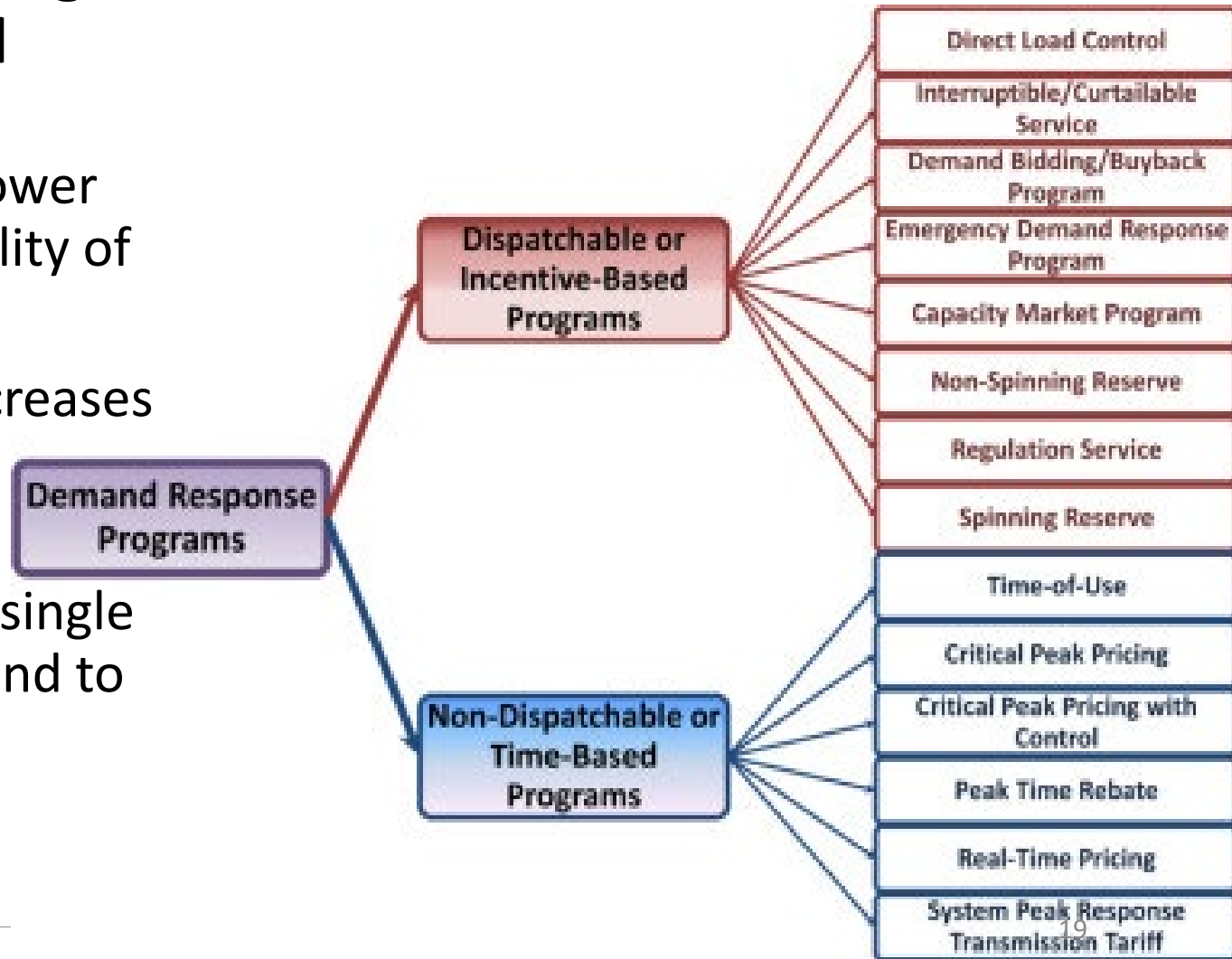


Increase Energy Efficiency/ Demand Response



Increase energy efficiency and demand response programs to equitably manage electricity demand and improve grid reliability:

- Provides tangible benefits through lower customer energy bills, improved quality of life, and decreased energy burden
- Lowers peak load on the grid and increases residential resiliency during extreme weather.
- Benefits low- and moderate-income single and multifamily residences, which tend to be aging, energy inefficient, and less weather prepared.





Encourage a diversified fuel base:

Value and encourage a diversified resource base to provide a variety of grid benefits and services, and further strengthen grid reliability and resilience.

- A desirable market design would permit all types generation, storage, and distributed energy storage (like residential solar) equal access to the grid.

Minimize impacts of power outages



Minimize the severity and disproportionate impacts of power outages on different customer types:

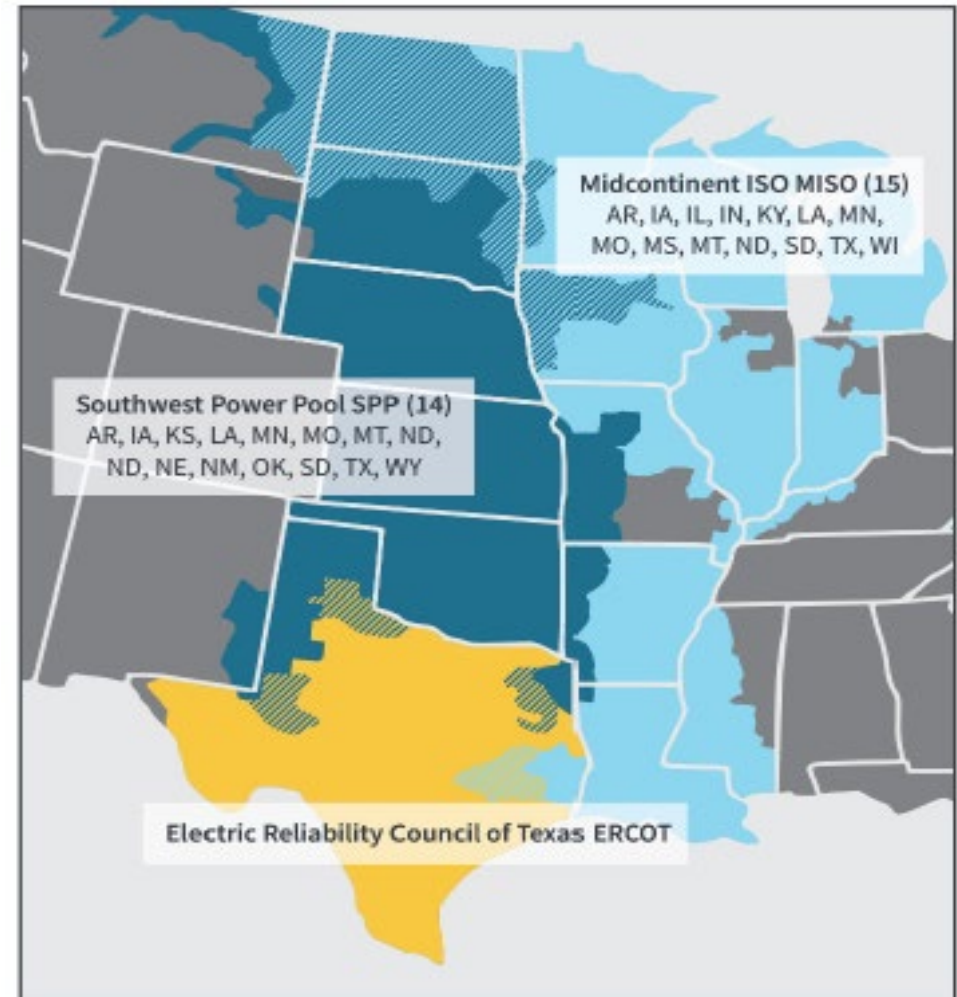
- Modify current distribution circuit designs to increase circuit segmentation to provide smaller sections to minimize outages and supporting critical facilities.
- Better identification of critical facilities
- Transmission and distribution utilities are encouraged to work more closely with customers, especially local governments, in disaster planning and response efforts.





Consider expanding Texans' access to reliable electricity by connecting with adjacent grids.

This creates redundancy and improves emergency management response during grid outage events.

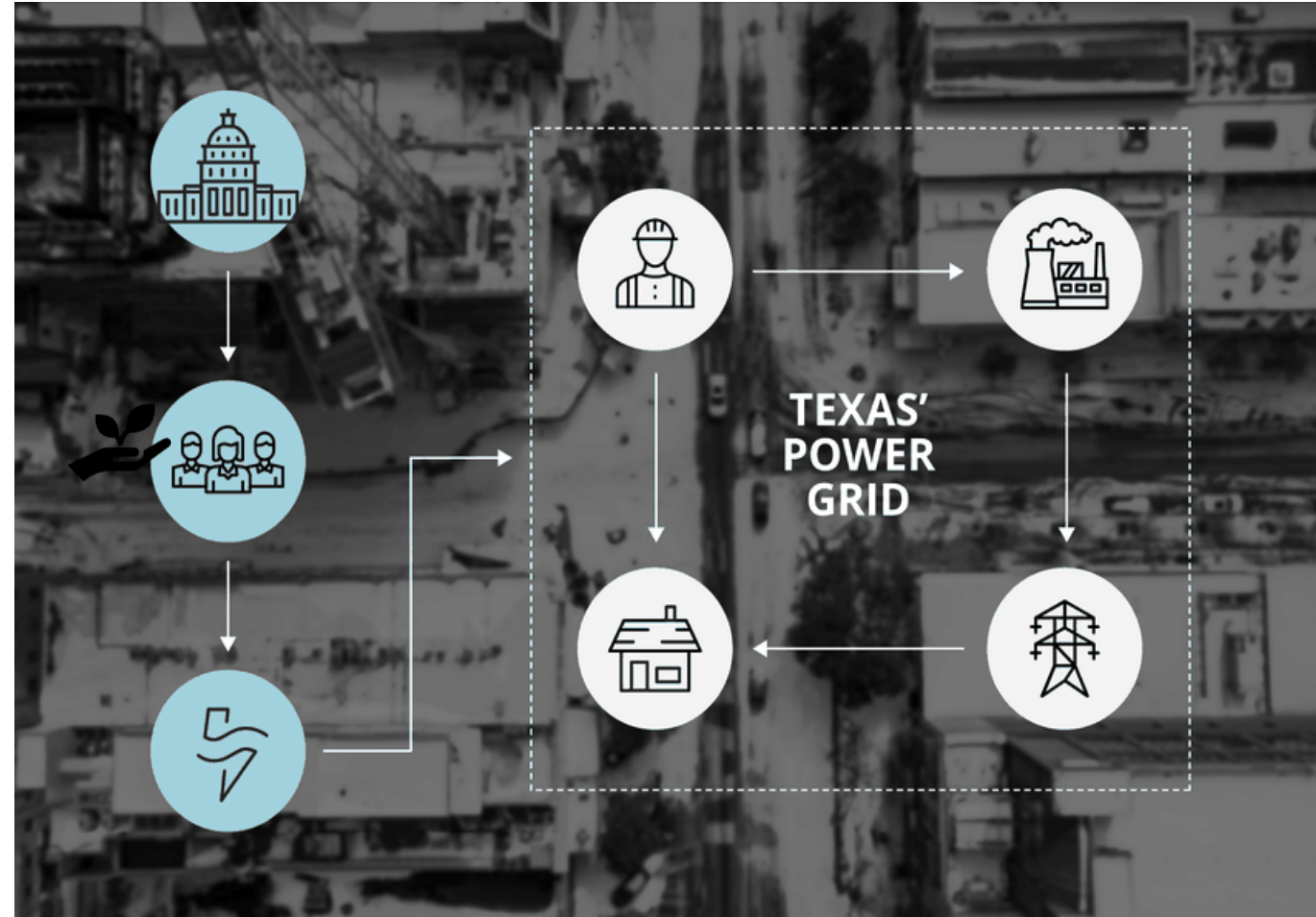


Ensure there is a robust and inclusive market redesign stakeholder engagement process



Local governments are large electricity consumers and have unique voices that are essential to wholesale electric market redesign decisions.

They should be engaged in the process to ensure that electricity is affordable for all customers, that communities are safe and resilient, and that local governments can achieve their energy goals.





Questions or Comments?



Public Utility Commission Power Market Re-Design Comments

Environment & Sustainability Committee

December 07, 2021

Celina Bonugli, Clean Energy Innovation,
World Resources Institute

Susan Alvarez, P.E. Assistant Director
Office of Environmental Quality &
Sustainability



PROJECT NO. 52373

REVIEW OF WHOLESALE § PUBLIC UTILITY COMMISSION ELECTRIC MARKET DESIGN § OF TEXAS

COMMENTS OF THE CITIES OF DALLAS, EL PASO, LEWISVILLE, MESQUITE, PLANO, SAN ANTONIO, AND TRAVIS COUNTY

The City of Dallas, El Paso, Lewisville, Mesquite, Plano, San Antonio and Travis County (subsequently referred to as “the undersigned” or “we”), respectfully offer these joint-filed comments for consideration in Project No. 52373, the Review of Wholesale Electric Market Design.

Introduction

The undersigned are large municipal energy consumers and represent a diverse array of energy customers in the state. As local governments, the undersigned are also frontline responders and critical actors in crisis prevention and management. During Winter Storm Uri, we experienced firsthand the far-reaching impacts of energy loss. These went beyond enormous customer bills, loss of life and over 130 billion in property damages, the untenable living situations caused our communities great physical suffering, death, and emotional harm. Further, as political subdivisions of the state of Texas, we also have a legislatively mandated goal per SB 241 to reduce municipal electric consumption by at least five percent each state fiscal year for seven years, beginning September 1, 2019.^[1] Together, we share a vision of a safe, reliable, and resilient energy system, that is affordable, clean, and equitable.

The undersigned, and the constituents we represent, are greatly impacted by energy market decisions—including those being considered in Project No. 52373—and how those decisions are implemented. In alignment with the undersigned’s shared vision, we encourage the Commission to elevate local priorities in wholesale market design.

We urge the Commission to:

1. Increase the use of energy efficiency and demand response programs to equitably manage electricity and improve grid reliability;
2. Value and encourage a diversified resource base to provide a variety of grid benefits and services, and further strengthen grid reliability and resilience;
3. Minimize the severity and disproportionate impacts of power outages on different customer types;
4. Consider expanding Texans’ access to reliable electricity by connecting with adjacent grids; and
5. Ensure that there is a robust and inclusive market redesign stakeholder engagement process.

Across our recommendations and throughout the entire market redesign effort, the Commission should prioritize equity as an integral component of any market reform and all associated policy and rule changes.^[2] This is in alignment with the Commission’s public-interest mandate to ensure that rates, operations and services are just and reasonable to all Texans.^[3] In application, this may include more diverse stakeholder engagement across all phases of a reform effort. The Commission could explicitly include traditionally underrepresented communities, mandate program or rate directives that both ensure equal access and reduce the disparity of energy burden across all residents and communities, ensure equitable economic and environmental impacts of any market changes, and more.

We appreciate the Commission’s effort to host a collaborative process to understand market redesign opportunities and challenges. As this and other related proceedings unfold, the undersigned encourage the Commission to consider opportunities to reduce the burdens associated with participation that will help build a truly robust and inclusive process for all stakeholders. This may include providing more notice of processes, extending timelines for responses, and offering additional assistance to new parties. By expanding engagement to more stakeholders, the Commission can more effectively make decisions that benefit all Texans.

We offer the following comments for your consideration:

1. Increase the use of energy efficiency (EE) and demand response programs (DR) to equitably manage electricity demand and improve grid reliability

The undersigned are aligned with the Commission on the importance and prioritization of grid reliability and resilience to future extreme weather-related or other crises. A reliable grid is central to ensuring that electricity in our communities remains adequate, safe, and stable on a day-to-day basis. Further, a resilient grid is paramount to ensuring that the grid and our communities are prepared for and able to operate through significant disruptions no matter the cause.

An immediate opportunity to achieve grid reliability and resilience is to utilize integrated energy efficiency (EE) and demand response (DR) programs for customers across Texas. The undersigned believe that EE and DR programs should be designed and utilized simultaneously to maximize customer benefits, that EE programs should be deployed aggressively to lower peak load, that new and existing EE programs should be designed to support residential home preparedness for extreme weather and that—overall—the Commission should increase program target for EE programs and residential DR aggregation.

These programs are not only highly effective and cost-competitive grid resources, but these programs can also tangibly benefit Texans on a day-to-day basis by lowering customer energy bills, improving quality of life, and decreasing energy burden. Integrated programs—where EE and DR are utilized simultaneously—can increase the benefits of EE and DR measures beyond what either type of program could deliver alone.^[4] Given this, we ask that the Commission mandate that transmission and distribution utilities (TDUs) implement complementary residential DR programs with EE programs. This will help to optimize grid reliability for Texas communities.

According to an October 13, 2021 study from the American Council for an Energy-Efficient Economy (ACEEE), deploying residential EE and DR measures under statewide direction over five years in Texas could offset about 7 GW of summer and 11 GW of winter peak load.^[5] These measures could offset the need for new gas combined-cycle generators, which would likely only operate during peak demand. They would also likely cost 39% less than the addition of new gas plants, resulting in significant customer bill savings.^[6]

To expand EE programs, the undersigned urge the Commission to conduct an exploratory study to raise EE targets in the state and subsequently direct TDUs to create and promote new EE programs.^[7] Both new and existing programs should place an emphasis on home(insulation, smart thermostats, and home heating and cooling, and other energy efficiency improvements to reduce both energy use and peak loads and improve the preparedness of residential homes for extreme weather or other crisis conditions.^[8]

To better optimize and increase the impact of aggregated residential DR programs, the undersigned suggest that the Commission require TDUs to design DR aggregation programs that are transparent to customers,

are standard across the state, and compensate customers for the services that they provide to the grid.^[9] Through these program design changes, customers will be better educated on their real-time energy data and program options, be able to make educated decisions to enroll, and be compensated for the value of their services.^[10] The undersigned believe that this would increase residential customers' willingness and ability to participate in DR aggregation programs.

EE and DR programs in Texas could provide a particularly high benefit for low- and moderate-income (LMI) residences. They should be designed transparently so that LMI customers can understand and utilize the programs. Programs should not create the unintended negative impacts that can arise from other load shaping mechanisms like responsive tariffs. This is because LMI and multi-family (MF) residences in Texas tend to be less weather-prepared, energy-efficient homes that waste large amounts of energy.^[11] To achieve this, the Commission could require that at least 40% of electric utility energy efficiency program savings come from retrofits of LMI and MF housing.^[12] They could also look to ACEEE's October 13, 2021 report for specific programs and program compensation plans that would target LMI and MF residences. The development of energy efficiency programs could—and should—have significant equity impacts. Well-designed programs would reduce barriers to more affordable energy for those communities most confronted with energy burden.

Implementing EE and DR programs in low income areas are immediate opportunities to improve Texas' grid reliability and can complement a full wholesale electric market solution that includes firm capacity and other market design changes. That said, we look forward to the opportunity to grow these EE and DR programs in our communities to assist the Commission in building a more reliable and resilient grid in Texas.

2. Value and encourage a diversified resource base to provide a variety of grid benefits and services, and further strengthen grid reliability and resilience

In addition to EE and DR programs, we urge the Commission to design a market that permits all generation, storage, and distributed energy resources (DERs)—like residential solar—equal access to the grid. Enabling these resource types to participate in the competitive wholesale market expands the resources that can contribute to a stable, resilient wholesale energy market. Many local governments in Texas—and some of the undersigned—have specific energy goals which are driving investment in and construction of renewable energy and storage projects. Residents are also investing in DERs. Furthermore, as local governments continue to evolve their thinking about community resiliency and consider options, such as microgrids or facilities centered around shelter-in-place services, there is an increasing opportunity that customer assets can be utilized to beneficially serve the grid. These non-traditional generating resources and storage assets should be maximized to provide services when needed and increase grid reliability.^[13]

We also encourage the Commission to establish policies that allow residential customers to see and respond to real-time electric prices and requests for demand flexibility to enable them to make well-informed decisions about participating in residential DR aggregation. The Commission can facilitate this by using mechanisms to make individual customer energy data accessible to customers and aggregators (with customer agreement), enhance availability of demand automation and management technologies, and facilitate aggregation of loads and behind-the-meter generation and storage to provide DR. This would signal the need for DR to residential customers who otherwise might not have pursued DR technologies in their homes or businesses.

To achieve these outcomes, the Commission should create a competitive and robust market for generation, storage, and DERs that reflects the need for additional grid services and enables their participation. This

may necessitate the establishment of a new ancillary services market, which should be technology agnostic and permit many buyers and sellers to easily enter and exit.

3. Minimize the severity and disproportionate impacts of power outages on the most vulnerable customers;

To avoid a repeat of sustained power outages and to enable the grid to quickly recover from outages, we request that the Commission work to ensure that outages do not disproportionately impact certain types of customers. To accomplish this, the Commission could require that TDUs modify their current distribution circuit designs using sectionalization for more granular outage management and modernize distribution segmentation strategies to proactively address future weather or other extreme crises.^[14] TDUs could divide circuits into small sections, with critical facilities on their own or with few customers. This would also enable them to rotate what power they have more evenly amongst customers. To ensure that health and associated impacts of outages are minimized and equitable across all circuits, the Commission should encourage TDUs to work more closely with customers, especially local governments, in disaster planning and response efforts.

Local governments are critical actors in emergency prevention, response, and management. They have emergency management plans for crises and are the first line of support to communities in a disaster. As such, the undersigned are well positioned to be thought partners in TDU disaster planning and response. They can help make TDU planning processes more comprehensive, efficient, and collaborative with existing local government efforts. Further, the Commission could require stakeholder engagement in TDU planning processes or otherwise encourage and guide customer-TDU collaboration.^[15]

The Commission could also mandate or otherwise help incentivize TDUs to develop and implement energy storage programs for all critical facilities, so that customers have equal access to emergency care in crisis. For example, the Commission could require that TDUs co-develop critical facility backup planning with local governments to ensure that all community needs—especially those in low-income areas, are considered. This could be a prerequisite for receiving Commission approval on resource or other investment plans. Financial support for these programs could be pursued through assistance funds or rebate programs, and could also have specific targets for reaching LMI customers.

4. Consider expanding Texans’ access to reliable electricity by connecting with adjacent grids

While we recognize Texas’s electricity market has historically been able to effectively serve its residents on its own, we understand that there may be opportunity to strategically utilize energy resources from adjacent markets.^[16] A study conducted by Americans for a Clean Energy Grid in the wake of Winter Storm Uri found that each additional gigawatt (GW) of transmission ties between ERCOT and the Southeastern U.S. could have saved nearly \$1 billion, while keeping the heat on for hundreds of thousands of Texans.^[17] Expanding Texas’ traditional approach by directly connecting with other regional grids or implementing other infrastructure changes to allow transfer of electricity to ERCOT expands the available resources, potentially reducing costs, and ultimately allowing for more opportunity to effectively serve our communities. Interconnecting to other markets can help make the ERCOT grid more reliable and improve both Texas’s and regional actors’ emergency management capabilities during grid outage events.

5. Ensure there is a robust and inclusive market redesign stakeholder engagement process

Local governments are large electricity consumers and also represent millions of energy customers across Texas, so these entities have unique voices that are essential to wholesale electric market redesign decisions

and future proceedings. Local governments seek to prioritize the interests of Texas communities. As such, they should be actively engaged to shape these efforts alongside the Commission and other key stakeholders to ensure that electricity is affordable for all customers, that our communities are safe and resilient, and that local governments can achieve their energy goals.

We urge the Commission to consider a few pathways to improve opportunities for local governments to fully participate. First, the Commission should provide education on each engagement opportunity and how stakeholders can be involved. Second, Commission-led stakeholder engagement processes should actively seek out local governments' perspectives, as they are essential to making well-informed state-wide energy decisions. This could be through working groups, advisory groups, task forces, or in-person meetings with local governments across the state. Third, the Commission should provide comprehensive and clear communication around their plans for stakeholder engagement in regulatory proceedings and ample and timely notice of changes. Fourth, timelines for comment submission should consider the resource and capacity constraints of local governments that could limit their ability to participate in proceedings. For example, providing only one week for review and comment on substantive issues will likely prevent local governments from participating because they would be unable to receive internal review and sign-off on such a short timeline. Providing at least four weeks to respond to comments is more tenable for local governments' internal timelines. Local governments should not face undue burden or unnecessary hardship to stay informed and participate in Commission efforts—especially on issues that impact both their operations and their constituency of Texas residents and businesses.

Conclusion

We appreciate your consideration of these comments. Alongside other stakeholders, we are looking for opportunities to actively participate in or contribute to ensuring Texas's grid remains safe, reliable, resilient, affordable, clean, and equitable. We look forward to working with the Commission and other interested parties through a fair, robust, and collaborative process.

[Signatures]

^[1] S.B. 241, 85th Tex. Leg., §1.29.c (2017)

^[2] "Social equity is the active commitment to fairness, justice, and equality in the formulation of public policy, distribution of public services, implementation of public policy, and management of all institutions serving the public directly or by contract, regardless of race, gender, national origin, or income level." Svara, James H., and James R. Brunet. "Social Equity Is a Pillar of Public Administration." *Journal of Public Affairs Education* 11, no. 3 (2005): 253–58. <http://www.jstor.org/stable/40215707>.

^[3] Public Utility Regulatory Act, Tex. Util. Code Ann. § 11.002 (PURA).

^[4] Review of Wholesale Electric Market Design: Comments of American Council for an Energy-Efficient Economy. Washington, D.C.: American Council for an Energy-Efficient Economy, 2021. https://interchange.puc.texas.gov/Documents/52373_104_1152424.PDF.

^[5] "ACEEE finds that a set of seven residential energy efficiency and demand response retrofit measures, deployed under statewide direction over five years (2022 start-up, 2023–2027 deployment) could serve about 9 million Texas households and offset about 7,650 MW of summer peak load and 11,400 MW of winter peak load—approximately equaling the capability of the proposed new gas combined-cycle generators—at a 5-year total programmatic cost of about \$4.9 billion. Once installed, these efficiency measures would continue delivering around-the-clock comfort, energy and energy bill savings, and peak load reduction for 10- to 20-year measure lives." From Nadel, Steven, Christine Gerbode, and Jennifer Amann. 2021. Energy Efficiency and Demand Response: Tools to Address Texas's Reliability Challenges. Washington, D.C.: American Council for an Energy-Efficient Economy. https://www.aceee.org/sites/default/files/pdfs/energy_efficiency_and_demand_response_for_texas_10-13-21_final_0.pdf.

^[6] Ibid, 19.

^[7] The undersigned suggest that the Commission raise the Energy Efficiency Resource Standard (EERS) to at least 1% energy saving by the end of 2025.

^[8] “Energy efficiency—the kilowatt-hours we avoid by eliminating waste—is, on average, our nation’s least-cost resource. Efficiency also delivers a host of other benefits. It improves electric [grid reliability and resilience](#), can target savings where and when needed the most, creates jobs, spurs other economic development, reduces customer utility bills, makes homes and buildings more comfortable, and reduces harmful pollution.” From Maggie Molina, “Renewables Are Getting Cheaper but Energy Efficiency, on Average, Still Costs Utilities Less,” ACEEE, December 18, 2018, <https://www.aceee.org/blog/2018/12/renewables-are-getting-cheaper-energy>.

^[9] Enabling proactive residential customers to use DR in the wholesale market is challenging due to the diversity in power consumption patterns. We propose that a aggregator (which could be an established load-serving entity or other player should bid aggregated residential DR resources—or DR resources from a group of residential customers—in a wholesale market. The aggregator executes load curtailment contracts with the DR resources to ensure their availability and incentivizes customers to participate at pre-contracted prices.

^[10] TDUs would need to equip customers with smart meters to benefit from this type of program design.

^[11] Drehobl, Ariel, Lauren Ross, and Roxana Ayala. 2020. How High Are Household Energy Burdens? Washington, D.C.: American Council for an Energy-Efficient Economy. <https://www.aceee.org/research-report/u2006>.

^[12] See footnote 5

^[13] In addition to allowing all resources to participate in markets, the Public Utility Commission of Texas (PUC) should establish better rules for individual customer and DER participation in the Energy Reliability Council of Texas (ERCOT) and Texas’ grid outside of ERCOT.

^[14] “The PUCT should order utilities to modify their distribution systems using sectionalization devices wherever feasible to cut up each circuit into smaller sections, starting on those circuits hosting critical facilities so that a single hospital doesn’t lock in service for a giant chunk of a city and leave others literally out in the cold. Sectionalization around critical facilities and industrial customers will enable more granular outage management and outage rotation among customers.” From Wood, P., Gee, R., Walsh, J., Perlman, B., Klein, B., Silverstein, A. 2021. Never Again: How To Prevent Another Major Texas Electricity Failure. PUC of Texas Commissioners Report.

^[15] We recognize that disaster planning may be directly influenced by Texas legislation, and we will continue to work alongside the Commission and our partner TDUs to ensure that legislation enables and drives truly equitable and resilient outage management solutions.

^[16] If ERCOT connects to and is subsequently able to use resources across more geographic area, it will lessen the impacts of resiliency and reliability issues Texas, because Texas will be able to transport electricity from a much broader area than just the state of Texas. Additionally, in terms of peak demand, the hottest time of the day in Texas is potentially a less hot part of the day for more northern or western states, so other regions could support Texas peak demand during those times.

^[17] Goggin, Michael. 2021. Transmission Makes the Power System Resilient to Extreme Weather. Washington, D.C.: Americans for a Clean Energy Grid. <https://cleanenergygrid.org/transmission-makes-the-power-system-resilient-to-extreme-weather/>.



City of Dallas

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Agenda Information Sheet

File #: 21-2330

Item #: E.

TCEQ Texas Volkswagen Environmental Mitigation Program Grant Summary Memo
[Pharr Andrews, Sr Climate Coordinator, Environmental Quality & Sustainability]

Memorandum



DATE December 2, 2021

CITY OF DALLAS

TO Honorable Members of the Environment & Sustainability Committee: Paula Blackmon (Chair), Paul Ridley (Vice Chair), Carolyn King Arnold, Adam Bazaldua, Jaime Resendez, Jaynie Schultz, Chad West

SUBJECT **Texas Volkswagen Environmental Mitigation Program (TxVEMP) Grant**

This memorandum provides information on a December 8th Council Agenda item to authorize the acceptance of a grant from the Texas Commission on Environmental Quality (TCEQ) for the Texas Volkswagen Environmental Mitigation Program (TxVEMP) in the amount of \$2,500.00 per unit to purchase and install thirty-five Level 2 charging equipment for light-duty zero-emission electric vehicles, for the 24-month period after contract effective date. The total reimbursement amount is not to exceed \$87,500.

As background, in the CECAP, the City of Dallas has established a goal to reduce its greenhouse gas (GHG) emissions by 43 percent by 2030 and 100% by 2050. In May 2020, the City adopted the CECAP that establishes goals and pathways to guide the city in reaching its overall objectives, including a focus on transportation and mobility. This action supports the CECAP transportation target of increasing the amount of available electric vehicle charging infrastructure.

Dallas has developed bold, long-term strategies to address climate change, one of the key means of demonstrating stronger climate action was by setting a target to install 1500 new electric vehicle (EV) charging stations. EVs produce no greenhouse gas after manufacturing, unlike gas-powered cars. Implementing new charging stations will support current EV owners on the road as well as encourage more Dallas residents to make the switch to EV by expanding current infrastructure.

According to current trends on electric vehicles, more than thirty percent of all vehicles on the road will be electric by 2040. The DFW Clean Cities program currently estimates City of Dallas has approximately 3476 electric vehicles on the road, on par with regional growth trends, and growing at more than 32% annually for each of the past 5 years. However, Dallas is below the capacity of public and workplace EV charging infrastructure necessary to meet these demands. This grant opportunity will help Dallas close that gap and support existing as well as future electric vehicle owners.

OEQS will provide the City Council with program updates for this grant as a part of regular status briefings for the CECAP. If you have questions, or need additional information, please contact Sheila Delgado, OEQS Interim Director (214-670-1642) or OEQS Assistant Director, Susan Alvarez (214-671-9505).



Joey Zapata
Assistant City Manager

c: T.C. Broadnax, City Manager
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Directors and Assistant Directors