



The Transportation Policy Body for the North Central Texas Council of Governments
(Metropolitan Planning Organization for the Dallas-Fort Worth Region)

July 15, 2021

Mr. Jon Niermann, Commissioner
Texas Commission on Environmental Quality
P.O. Box 13087 MC 100
Austin, Texas 78711-3087
ATTN: VW Settlement

Re: Comments Regarding Investment Priorities of Remaining Texas Volkswagen Environmental Mitigation Program Funding

Dear Commissioner Niermann,

On behalf of the Regional Transportation Council (RTC), the Metropolitan Planning Organization for the Dallas-Fort Worth (DFW) area, and the North Central Texas Council of Governments (NCTCOG) Transportation Department, which serves as staff to the RTC, enclosed are formal comments regarding allocation of remaining funds under the Texas Volkswagen Environmental Mitigation Plan (TxVEMP), including the upcoming opportunity for Zero Emission Vehicle (ZEV) supply equipment and balances remaining from prior funding rounds.

The RTC appreciates the hard work completed by the Texas Commission on Environmental Quality (TCEQ) staff in developing the Plan and awarding funds to date. Much has been accomplished since inception leading to critical emission reductions and advancing technologies across many sectors. However, moving forward, the RTC makes the following recommendations to further maximize limited resources and program effectiveness:

- Incorporate the following selection criteria for the upcoming ZEV supply equipment funding round, which will be focused on Direct Current Fast Charge electric vehicle charging and/or hydrogen fueling stations:
 - Fill inter-regional gaps in infrastructure, using criteria established by the Federal Highway Administration Alternative Fuel Corridor Program.
 - Prioritize projects in urbanized areas with the greatest shortfall in existing infrastructure availability.
- For funding distributions of dollars remaining from previously competed funding cycles:
 - Revisit allocation methodology and distribute “leftover” dollars from the bus, refuse truck, and local freight funding rounds to priority areas based on observed demand. The RTC notes that demand for funding made available to date has not been aligned with the allocation of funding made by the TCEQ.
 - Ensure future funding is offered for ZEV projects only, as the TxVEMP presents an opportunity to help transition to the cleanest available technologies without the cost effectiveness requirements of the Texas Emissions Reduction Plan.

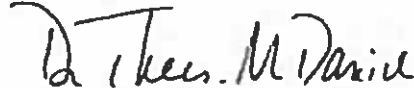
Technical detail and suggested analyses supporting these recommendations are included in the attachments. The RTC wishes to convey our commitment to partnership regarding implementation of these funds. To date, the DFW area is the only TxVEMP priority area that has requested every

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dollar made available through the program with demand exceeding allocated supply. NCTCOG staff is committed to continue promoting availability of funds and ensuring that fleets in the DFW priority area take advantage of the opportunities made available. We appreciate your consideration of these recommendations. In the event you have any questions, please contact Chris Klaus, Senior Program Manager of Air Quality Planning and Operations at NCTCOG, at (817) 695-9286 or cklaus@nctcoq.org.

Sincerely,



Theresa M. Daniel, Ph.D., Chair
Regional Transportation Council
County Commissioner, Dallas County

BM/LPC:ch
Attachment

cc: Donna Huff, Director, Air Quality Division, TCEQ
Mike Wilson, Deputy Director, Air Quality Division, TCEQ
Joe Walton, Technical Advisor, Air Quality Division, TCEQ
Chris Klaus, Senior Program Manager, NCTCOG

Regional Transportation Council Policy Paper Regarding Investment Priorities of Remaining Texas Volkswagen Environmental Mitigation Program Funding

The Regional Transportation Council (RTC) recommends the Texas Commission on Environmental Quality (TCEQ) consider the following when planning future funding opportunities under the Texas Volkswagen Environmental Mitigation Program (TxVEMP):

1. Use Federal Highway Administration (FHWA) Alternative Fuel Corridor Designations and Corridor Gaps as a Selection Criteria for Direct Current Fast Charge (DCFC) Electric Vehicle (EV) Charging Stations Under the Upcoming ZEV Supply Equipment Funding Cycle

In response to the Electrify America solicitation for input on their “Cycle 3” investments, NCTCOG evaluated gaps in access to EV charging infrastructure between the urban areas across Texas and identified a list of highway exits that may have priority locations for installation of DCFC infrastructure. This analysis was completed based on criteria set out by the Federal Highway Administration (FHWA) under the Alternative Fuel Corridors program. The RTC recommends that the TCEQ review this analysis, provided in [Attachment A](#), and establish selection criteria for DCFC locations based upon a similar approach.

2. Recommend Use of ZEV Supply Equipment Analysis Tool to Determine Priority Locations for DCFC Investments Under the Upcoming ZEV Supply Equipment Funding Cycle

The RTC recommends that the TCEQ utilize the analysis provided in [Attachment B](#) when setting selection criteria for DCFC selection, or similar approach in order to justify meaningful allocation of funds. NCTCOG conducted this analysis on the priority areas defined within the TxVEMP to determine which areas are most in need of DCFC investment. The Electric Vehicle Infrastructure Projection (EVI-Pro) Lite tool, developed by the National Renewable Energy Laboratory as a simple way to estimate amount of EV charging needed in an area, was used to determine the total necessary charging infrastructure needed to support EVs across the TxVEMP priority areas.

Results highlight the need for additional infrastructure proves to be greater in certain priority areas compared to others based upon two different scenarios: scenario 1: current EV registration and scenario 2: two percent EV penetration of all registered vehicles.

Based on scenario 1: existing EV registration, the DFW, Austin, and Bell County priority areas currently show deficits in public DCFC and should be the highest priority areas for new DCFC investment. This deficit is the most severe in Bell County, which currently has no public DCFC options available, followed by the DFW area showing the second greatest deficit.

Scenario 2: two percent EV penetration was completed to identify the amount of DCFC locations needed to support a hypothetical target of two percent EV penetration over each priority area. The two percent EV adoption rate was selected to represent a potential target benchmark for all regions to advance toward, which would represent an increase in EV adoption for all areas. NCTCOG analysis shows the greatest EV penetration exists in the Austin area at approximately 1.2 percent of all vehicle

registration. The greatest need is once again in Bell County, followed by Beaumont-Port Arthur, then DFW, El Paso, San Antonio, and Houston. The TCEQ should consider whether it wishes to use funds to support existing adoption, or to drive additional adoption, and leverage this analysis tool to develop data-driven criteria to meet the chosen objective.

Additionally, to ensure equitable investment in EVs, the TCEQ is encouraged to utilize environmental justice data to identify location of minority and low-income populations compared to existing and EV charging infrastructure. For North Texas, environmental justice data can be accessed via <https://www.nctcog.org/trans/involve/ej>. For other priority areas, the Environmental Protection Agency maintains an Environmental Justice Screening and Mapping Tool at <https://ejscreen.epa.gov/mapper/>, which includes a “Demographic Index” layer similar to the data in the NCTCOG tool.

3. Reallocate Remaining Balances From Prior TxVEMP Funding Rounds to ZEV Projects Which Will Achieve Greatest Emissions Reductions

The RTC recommends that the TCEQ reallocate unspent funds from prior TxVEMP funding rounds toward projects that achieve the greatest emission reduction. As shown in Table 1, there is approximately \$39.7 million in unrequested funds from the first three funding rounds.

Table 1. Unrequested Funds for Bus, Refuse, and Freight Rounds by Priority Area.

Area	Unrequested Funds			Total
	Bus	Refuse	Freight	
Austin	\$0	\$178,530	\$1,696,215	\$1,874,745
Beaumont/Port Arthur	\$0	\$1,569,362	\$1,082,198	\$2,651,560
Bell County	\$0	\$520,766	\$0	\$520,766
Dallas/Fort Worth	\$0	\$0	\$0	\$0
El Paso	\$1,999,948	\$2,760,340	\$2,806,501	\$7,566,789
Houston/Galveston/Brazoria	\$0	\$5,266,067	\$2,259,748	\$7,525,815
San Antonio	\$0	\$11,898,849	\$7,652,666	\$19,551,515
Total	\$1,999,948	\$22,193,914	\$15,497,328	\$39,691,190

As demand for funding in the DFW area exceeded available funds in all three funding cycles, the RTC recommends all vehicle types be eligible in a future funding cycle released to exhaust remaining balances. As regions continue to violate national ozone standards, projects that maximize ozone-forming nitrogen oxides (NO_x) reduction are valuable. As delivery trucks accumulate more miles consistently throughout the year than a bus, more benefits would likely be achieved from a ZEV delivery truck than from a ZEV school bus, especially in an ozone season. Thus, rather than a first-come, first-served program, a competitive evaluation after close of an application window would ensure funding for the projects with the most vehicle utilization, which offer the greatest emissions reductions. Allowing all vehicle types to compete together in a single funding round could help balance goals to fund the most cost-effective ZEV projects, to fund

projects which are in demand, and to ensure expeditious implementation to achieve emissions reductions quickly.

Additionally, it is recommended the additional funding rounds be available only to ZEV projects. Given the lack of demand demonstrated for clean diesel projects across the majority of sectors, coupled with the increasing need for emissions reductions to reach attainment and the opportunity to award TxVEMP funding without statutory obligations to meet specific cost per ton criteria, the opportunity to use remaining TxVEMP funding to support ZEV projects should not be missed.

4. Reallocate Remaining Balances Among Regions Based Upon Fair Share Allocation and Observed Demand

Further, it is recommended the TCEQ revisit its methodology of allocating TxVEMP funds to ensure a fair-share allocation to each priority area. The approach used in the mitigation plan resulted in a substantial portion of funds in most areas left unrequested, while the DFW area demonstrated substantial demand and was left with projects unable to be funded. This was especially evident in the Freight & Port Drayage Vehicles and Refuse Vehicles funding rounds with \$15,497,328 and \$22,193,914 left unrequested respectively across all areas (Table 1), while DFW was the only area that requested 100% of its allocation, as shown in Attachment C. By contrast, San Antonio was allocated nearly twice the amount of funding as DFW for these two funding rounds and requested less than 40% of its allocation per round.

As the DFW region again faces reclassification under federal ozone standards, every available dollar to implement emissions-reducing projects is needed. As shown by the funding requests from the region, there is substantial demand for these dollars in DFW. The demand for funding remains high in DFW, especially for ZEV buses. Note the number of DFW-area school districts that signed on to a letter to Governor Abbott on the topic of reallocating funds for electric school buses, which was recently coordinated by Environment Texas (Attachment D). Representation from North Texas far outweighed any other part of the State.

Opening future funding cycles with the same allocation distribution among regions as the original release – or worse, opening future cycles with remaining balances allocated among regions left as-is - is likely to again result in missed opportunities to quickly implement projects in areas with high demand. During development of the TxVEMP, the RTC had recommended different allocation methodologies which would have provided better balance between funds available, and funds requested among various regions. A copy of this correspondence is enclosed as Attachment E. RTC encourages the TCEQ to again consider this approach when evaluating any future allocations to specific priority areas.

ATTACHMENT A

NCTCOG Priority Locations for DCFC Stations Based on FHWA Corridor Designations and Infrastructure Gap Analysis*							
Interstate	Exit	Location Site Type	Parking Type	24 Hr Access	Public/Private	Nearest retail space	Also Recommended By TxETRA**
I35W	15	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
I35E	TX-34	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
	403	Truck stop	Surface	Y	Private	Colocated	N
		Store/Retail	Surface	N	Private	Colocated	N
I35	302	Store/Retail	Surface	N	Private	Colocated	Y
		Truck stop	Surface	N	Private	Colocated	Y
I30	124	Store/Retail	Surface	Y	Private	Colocated	Y
		Truck stop	Surface	Y	Private	Colocated	Y
		Truck stop	Surface	Y	Private	Colocated	Y
	201	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Store/Retail	Surface	Y	Private	Colocated	N
I20	178	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
	217	Truck stop	Surface	Y	Private	Colocated	Y
	288	Store/Retail	Surface	Y	Private	Colocated	Y
		Store/Retail	Surface	N	Private	Colocated	Y
	386	Truck stop	Surface	N	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
	444	Store/Retail	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
	556	Store/Retail	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Store/Retail	Surface	N	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
	503	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
	596	Store/Retail	Surface	N	Private	Colocated	N
Truck stop		Surface	N	Private	Colocated	N	
Truck stop		Surface	Y	Private	Colocated	N	
Truck stop		Surface	Y	Private	Colocated	N	
US-75	48	Store/Retail	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
I40	36	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
	113	Truck stop	Surface	N	Private	Colocated	N
	163	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
Truck stop		Surface	N	Private	Colocated	N	
	231	Truck stop	Surface	Y	Private	Colocated	N

I45	197	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
		Truck stop	Surface	N	Private	Colocated	N
	178	Truck stop	Surface	Y	Private	Colocated	Y
		Truck stop	Surface	Y	Private	Colocated	Y
		Truck stop	Surface	Y	Private	Colocated	Y
		Truck stop	Surface	Y	Private	Colocated	Y
	164	Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N
		Truck stop	Surface	Y	Private	Colocated	N

Source: NCTCOG/DFW Clean Cities

*NCTCOG/DFW Clean Cities has identified the properties listed above as being located along highway corridors in areas that potentially fill gaps in the existing EV charging network. Listing of a particular exit does not imply any endorsement or promotion of EV charging at any specific company in proximity to the location over another, nor does it imply any intent or agreement by these sites to install EV charging. This list was developed for informational purposes only.

** The Texas Electric Transportation Alliance (TxETRA) recommended electric charging sites during the Electrify America Cycle 3 comment period. Some of these locations were also identified using NCTCOG's analysis.

Data of existing Electric Vehicle (EV) charging stations was gathered by using the Alternative Fueling Station Locator tool from the Alternative Fuels Data Center (AFDC) website on June 2020. Initial data included EV charging stations with CCS and CHAdeMO connectors.

2021 EVSE Needs Analysis by Urbanized Area

Conducted by NCTCOG, May 2021

SCENARIO 1: Current EV Registration

Methodology: Evaluated using EVI-Pro Lite Tool, using DFW Clean Cities current EV Registration Data by priority area and EVSE data from the Department of Energy Alternative Fuels Station Locator

Key: EVI-Pro Lite calculates the total amount of plugs needed to support the specific amount of EVs within that region. The assumptions within the tool vary the amount of plugs needed, including: multifamily population, percent battery electric (BEV) vs. plug-in hybrid electric (PHEV), and what assumption of PHEV support. These are NOT additional plugs needed, these are total plugs needed within that region to support the current amount of registered vehicles. Cells in RED are highlighted as the calculated plug need in that region is greater than the amount of available existing plugs for that EVSE type.

URBANIZED AREAS

EVI-Pro Lite Assumption	Texas		Dallas-Fort Worth			Austin			Houston		San Antonio		El Paso			Bell County			Beaumont-Port Arthur			
	# of Total Plugs Needed in 2021	Number	# of Total Plugs Needed in 2021	Plugs Needed	Plugs Deficit	# of Total Plugs Needed in 2021	Plugs Needed	Plugs Deficit	# of Total Plugs Needed in 2021	Plugs Needed	Plugs Deficit	# of Total Plugs Needed in 2021	Plugs Needed	Plugs Deficit	# of Total Plugs Needed in 2021	Plugs Needed	Plugs Deficit	# of Total Plugs Needed in 2021	Plugs Needed	Plugs Deficit		
Partial Support of PHEVs	1245	456	268			282			99			22			11			2			6	
Public Level 2	816	286	173			177			67			16			8			4			4	
Public DC Fast	429	170	95	21%	36	105	16%	15	32	105	6	32	105	6	3	100%	3				2	
Total	668	261	146			162			50			9			4			3			3	
No Support of PHEVs	239	91	51			57			18			3			1			1			1	
Public Level 2	429	170	95	21%	36	105	16%	15	32	105	6	32	105	6	3	100%	3				2	
Public DC Fast	1823	651	389			403			148			35			18			9			10	
Total	1394	481	294			298			116			29			15			6			8	
Full Support of PHEVs	429	170	95	21%	36	105	16%	15	32	105	6	32	105	6	3	100%	3				2	
Priority Rank Based on Results			2						3			6			7			5			1	4

Existing EVSE Stations by Urbanized Area as of May 2021- Source: EVI-Pro Lite tool, Department of Energy Alternative Fuel Data Center Station Locator

EVI-Pro Lite separates EVSE analysis by Urbanized Areas defined by the US Census at https://www2.census.gov/geo/pdfs/maps-data/maps/reference/2010UAUC_List.pdf. Urbanized areas do not encompass all stations within each region. All numbers are based upon plugs and not stations. There may be multiple plugs per station.

URBANIZED AREAS

Texas	Dallas-Fort Worth-Arlington Denton-Lewisville McKinney			Austin		Houston- Texas City Conroe The Woodlands		San Antonio		El Paso		Killeen Temple		Beaumont Port Arthur	
	Total	Public Level 2 plugs	Public DC Fast plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs	# of Existing Plugs
4726	1295	915	1064	915	347	69	9	11	9	9	9	9	9	11	
3979	1161	797	984	797	300	56	9	7	9	9	9	9	9	7	
747	134	118	80	118	47	13	0	4	0	0	0	0	0	4	

Registered EVs as of May 2021- Source: DFW Clean Cities EV Registration Tools

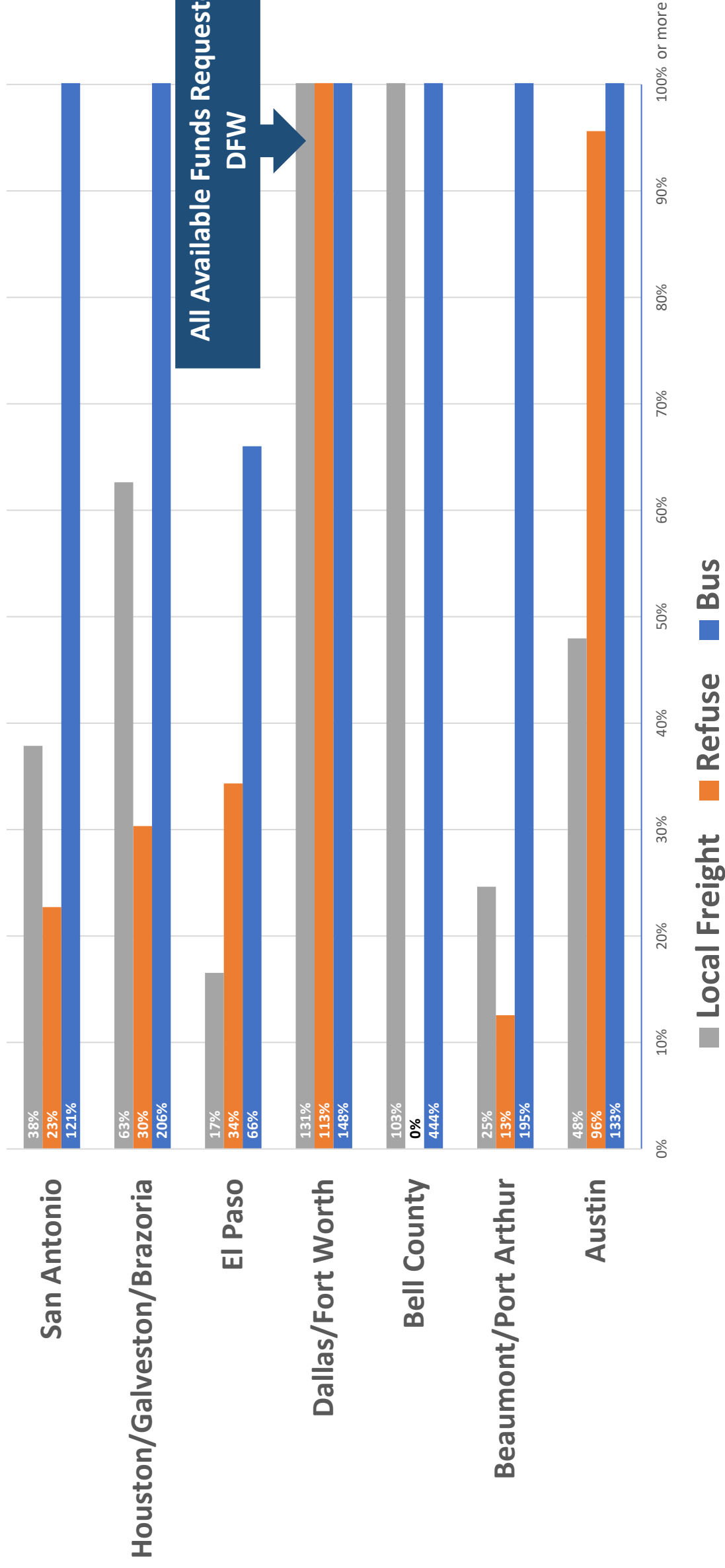
EV registration numbers are pulled from the counties identified as priority areas in the Texas Volkswagen Mitigation Action Plan (TxVEMP) at https://www.tec.texas.gov/assets/public/implementation/air/terp/VW/RG-537_Revised_May_2020.pdf

Texas Volkswagen Mitigation Action Plan (TxVEMP) Priority Areas

Texas	Dallas-Fort Worth		Austin		Houston Galveston Brazoria		San Antonio		El Paso		Bell County		Beaumont-Port Arthur	
	Total Registered EVs*	EV Registration Rate	Total Registered EVs*	EV Registration Rate	Total Registered EVs*	EV Registration Rate	Total Registered EVs*	EV Registration Rate	Total Registered EVs*	EV Registration Rate	Total Registered EVs*	EV Registration Rate	Total Registered EVs*	EV Registration Rate
41859	14666	8393	9138	3422	631	315	142	59.10%	17.73%	41.37%	40.90%	12.27%	28.63%	
72.72%	75.10%	73.07%	75.27%	70.40%	60.90%	57.40%	59.10%	21.82%	21.12%	18.27%	17.73%	17.73%	17.73%	
21.82%	22.53%	21.92%	22.58%	21.12%	18.27%	17.73%	17.73%	50.90%	49.28%	42.63%	40.18%	41.37%	41.37%	
27.28%	24.90%	26.93%	24.73%	29.60%	39.10%	42.60%	40.90%	8.18%	7.47%	11.73%	12.27%	12.27%	12.27%	
19.10%	17.43%	18.85%	17.31%	20.72%	27.37%	29.82%	28.63%							

PERCENT FUNDING REQUESTED BY REGION

Percent Available Funds Requested by Funding Round



ATTACHMENT C

Letter to Governor Abbott on Electric School Buses

Environment Texas invites community leaders across Texas, including school board members, directors of transportation, health professionals, and others to add their names to the following letter to Governor Abbott on protecting children's health by replacing diesel school buses with clean electric buses. To sign and support this letter, please fill out the form below.

Dear Governor Abbott,

We write to ask you to protect children's health by helping school districts replace dirty diesel school buses with clean electric buses. Specifically, we request that you reallocate unspent funds from the Texas Volkswagen Environmental Mitigation Program toward a new funding round open only to electric buses and support full funding for, and improvements to, the Texas Emissions Reduction Program (TERP) Clean School Bus Program in the upcoming legislative session.

As parents, teachers, administrators, and school board members, we are very concerned with the daily exposure of our children to toxic diesel exhaust.

Approximately 95 percent of school buses, carrying some of the most vulnerable passengers, run on diesel. Numerous studies have shown that inhaling diesel exhaust can cause respiratory diseases and worsen existing conditions like asthma. The negative effects are especially pronounced in children.

Diesel exhaust is internationally recognized as a cancer-causing agent and classified as a likely carcinogen by the U.S. Environmental Protection Agency. In a study of 61 million people in 2015, researchers found that exposure to diesel soot and ground-level ozone created by diesel exhaust was linked to higher rates of mortality. New diesel still has some of these negative emissions.

A new study from the Brookings Institute analyzed 2,656 school bus retrofits in Georgia which reduced harmful emissions by 95%. Approximately 750,000 students were part of this data set each year from 2007-2017. Researchers saw significant improvements in students' respiratory health, with twice the benefit for elementary students, whose younger age increases their vulnerability. The study also found strong evidence of academic improvements after the change, most significantly noted in English test scores.

Getting to school shouldn't include a daily dose of toxic pollution or increase the chances that people will get sick. The good news is that Texas can clean up its buses by making them electric. All-electric buses are here, and they're cleaner, healthier and often cheaper for transit agencies, school districts and bus contractors to run in the long-term. To clear our air and protect our health, we urge you to help accelerate the replacement of diesel and other fossil fuel-powered buses with clean, electric buses.

Dramatic declines in battery costs and improvements in performance, including expanded driving range, have made electric buses a viable alternative to diesel-powered and other fossil fuel buses. Additionally electric school buses have no tailpipe emissions.

There is significant demand for clean school buses. TCEQ awarded \$56,962,317 from the VW Grants for School Buses, Shuttle Buses, and Transit Buses, compared to \$84,840,054 requested. The program was extremely popular and was the only VW grant round to run out of funding. The others haven't even come close.

However, those funds went almost exclusively to new diesel buses. Proposals for electric buses often take

longer to prepare, given the necessity to coordinate with electric utilities and plan for new infrastructure. As a result, we need a new program which gives school districts interested in electric buses the ability to properly compete.

Everman ISD (near Fort Worth) received the only VW grant for electric buses. Each electric school bus is expected to save the District nearly \$2,000 a year in fuel and \$4,400 a year in reduced maintenance costs compared to a diesel school bus, saving tens of thousands of dollars over the lifetime of a bus. While the total lifetime cost of an electric school bus is lower than a diesel bus because of these fuel savings, electric school buses do have a higher upfront cost. State grants can mitigate the upfront cost and help school districts save money during these difficult times.

We respectfully request you take the following actions to help more Texas school districts buy electric buses:

- Reallocate unspent Texas VW funds to an additional funding round that will be open only to electric buses.
- Support \$22 million in funding for the TERP Clean School Bus Program. In the last biennium, this program received \$6.2 million. Under HB 3745 funding for the TERP Clean School Bus Program's budget will increase to as much as \$22 million in the new biennium, as long as budget writers don't use the clean air funds for other purposes. The Legislature should also amend the program to specifically encourage electric buses.

We request the opportunity to meet with you or your staff to discuss in greater detail our ideas for protecting children's health by investing in electric school buses.

Sincerely,

Luke Metzger, Executive Director, Environment Texas
Douglas Becker, Managing Director of Transportation, Frisco ISD
Stacey Abel, Policy and Communications, Texas Electric Transportation Resources Alliance (TxETRA)
Rebecca Hallmark, Superintendent, Garner ISD
Kiley Zylman, School board Trustee, Garner ISD
Sarah Pennebaker, Trustee, Garner ISD School Board
BJ Carlton, Director of Operations, Garner ISD
Kathy Wakefield, Teacher, Garner ISD
Diane Shaw, Principal, Garner ISD
Terry Penn, Director of Transportation, Rockwall ISD
Bill Powell, Assistant Superintendent for Support Services, Cypress-Fairbanks ISD
Greg Fletcher, Director of Operations, Paradise ISD
Andrew Dillon, Innovation Fellow, West Monroe
Patrick A Cardoza, Director, Kaufman ISD
Kayne Smith, Director of Transportation Services, Cypress-Fairbanks ISD
Sandra Holliday, Manager, Houston-Galveston Area Council
David Brower, Trustee, Garner ISD
Steve McKee, Executive Director, Texas Physicians for Social Responsibility
Jason Gillis, Transportation Director, Everman ISD
Catherine Flowers, Texas Field Organizer, Moms Clean Air Force
Bay Scoggin, Director, TexPIRG
Bakeyah Nelson, Executive Director, Air Alliance Houston
Mike Herschenfeld, CEO, BlueScope Group
Michael J. Osborne, Chair Board of Directors, Texas Transportation Resources Alliance (TxETRA)
Hanna Mitchell, Program Director, Solar United Neighbors
Aaryaman Singhal, Environment and Sustainability Committee, Dallas ISD
Molly Rooke, Environment and Sustainability Committee, Dallas ISD
Jessica House, Environment and Sustainability Committee, Dallas ISD
Jack Youngkin, Director of Transportation, Garland ISD

Arati Singh, Trustee, Austin ISD
Mellen West, Member, DISD Sustainability Subcommittee
Jimmy W. Hosch, Team Leader, 350Dallas

SOURCES:

- Liu NM, Grigg J. Diesel, children and respiratory disease. *BMJ Paediatr Open*. 2018;2(1):e000210. Published 2018 May 24. doi:10.1136/bmjpo-2017-000210

- World health Organization www.iarc.fr/wpcontent/uploads/2018/07/pr213_E.pdf

- Austin, W., Heutel, G. and Kreisman, D., 2019. School bus emissions, student health and academic performance. *Economics of Education Review*, 70, pp.109-126.

- <https://www.forbes.com/sites/energyinnovation/2018/05/21/electric-buses-can-save-americas-local-governments-billions-chinas-showing-us-how-its-done/?sh=6011987b5f78>

- <https://house.texas.gov/news/press-releases/?id=7072>

https://www.tceq.texas.gov/assets/public/implementation/air/terp/VW/TxVEMP_Buses_Status_4.27.2020.pdf

Source: Environment Texas

Accessed online through Google docs: https://docs.google.com/forms/d/1m-QzPb-3g4MdSrCzGEYsjr0YiTnDZSvVc_-qF9Xv0TM/viewform?gxids=7628&edit_requested=true



The Transportation Policy Body for the North Central Texas Council of Governments
(Metropolitan Planning Organization for the Dallas-Fort Worth Region)

September 13, 2018

Texas Commission on Environmental Quality
Air Quality Division
Implementation Grants Section, MC-204
P.O. Box 13087
Austin, TX 78711-3087
ATTN: VW Settlement

Re: Comments Regarding Draft Beneficiary Mitigation Plan for Texas

Dear Chairman Niermann:

On behalf of the Regional Transportation Council (RTC), the Metropolitan Planning Organization (MPO) for the Dallas-Fort Worth area, attached are formal comments on the Draft Beneficiary Mitigation Plan (Plan) for Texas. The RTC appreciates the hard work completed by the Texas Commission on Environmental Quality (TCEQ) staff in developing the draft Plan and supports the goals laid out by the TCEQ. We are in agreement with several elements of the Plan, including:

- Requiring some match for all projects;
- Setting aside funding for statewide zero-emission vehicle infrastructure; and
- Dedicating 81 percent of funds for eligible mitigation actions in certain "priority areas" of the state to maximize impacts.

However, after review of the Plan, the RTC requests that certain items be revised as the Plan is finalized. These items are detailed in the enclosed policy paper and accompanying attachments. We appreciate the TCEQ's recognition of the important role that Councils of Governments and MPOs play, and the commitment to give particular weight to comments received from our organization along with our peers across the state.

The RTC wishes to convey our commitment to partnership with regard to implementation of these funds. We appreciate your consideration of these recommendations, and will schedule a meeting to discuss these points in the event you have any questions. In the meantime, please contact Chris Klaus, Senior Program Manager of Air Quality Planning and Operations at the North Central Texas Council of Governments, at (817) 695-9286 or cklaus@nctcog.org.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Fickes", is written over a horizontal line.

Gary Fickes
Chair, Regional Transportation Council
Commissioner, Tarrant County

LPC:ch
Enclosure

cc: Donna Huff, Director, Air Quality Division, TCEQ
Joe Walton, Manager, Implementation Grants Section
Steve Dayton, Technical Specialist, Implementation Grants Section
Chris Klaus, Senior Program Manager, NCTCOG

Regional Transportation Council Policy Paper Regarding Requested Changes to the Draft Beneficiary Mitigation Plan (Plan) for Texas as Released August 8, 2018

The Regional Transportation Council (RTC) requests the following be revised as the Plan is finalized.

1. Provide a Fair-Share Funding Allocation to the Dallas-Fort Worth (DFW) Area

The proposed funding allocation to the DFW Area, which is approximately \$29 million, is inexplicably low and should be modified to properly reflect an equitable distribution based on realistic expectations and technical data. The Texas Commission on Environmental Quality (TCEQ) lists the first two goals as reducing nitrogen oxides (NO_x) emissions in the areas most impacted by emissions, and reducing the potential for exposure of the public to pollutants. The Plan identifies a two-thirds to one-third division of funding between areas “close” to the ozone standard and the long-time ozone nonattainment areas. This proposal lacks sufficient technical details and ignores regional fair-share funding allocation. As the DFW Area is designated nonattainment for both the 2008 and 2015 ozone standards with a population of over 7 million persons, a higher allocation of funding to DFW is critical to meeting the stated goals of the TCEQ. The RTC previously recommended that the DFW Area receive approximately \$63 million of the Texas allocation, and stands by this original recommendation.

To aid the TCEQ’s fair-share technical assessment, the North Central Texas Council of Governments (NCTCOG) staff evaluated various metrics to determine if the original \$63 million request was valid. A summary of this evaluation is detailed in Attachment 1. This analysis shows that regardless of what metric is used to determine funding distribution across the state, the appropriate allocation to the DFW Area is far greater than what has been proposed. Thus, the RTC reiterates the need for a substantially higher allocation to the DFW Area and recommends a data-based, transparent explanation of methodology for geographic distribution in the final Plan.

2. Allow Regional Agencies to Serve as Third-Party Administrators of Mitigation Trust Funds

The RTC reiterates our previous recommendation that the TCEQ allow Councils of Governments (COGs) to serve as third-party administrators of the Trust in their areas. Regional agencies add value by being more closely attuned to regional priorities and opportunities. Moreover, the NCTCOG houses the DFW Clean Cities Coalition, which focuses on working with fleets and is a natural conduit for connecting with potential applicants and leveraging national expertise on vehicle technologies eligible under the Plan. NCTCOG has also proven its abilities as a third-party administrator of Texas Emissions Reduction Plan (TERP) funds.

The RTC respects the TCEQ’s aggressive proposal to limit administrative costs to only four percent. We support the effort to maximize funding available for project implementation. Therefore, the RTC commits that if allowed to serve as a third-party administrator, the NCTCOG would not charge any administrative costs to the Mitigation Trust fund. All administrative costs would be paid through other funding sources available to NCTCOG, thus preserving 100 percent of the funds allocated to the DFW Area for project implementation.

3. Update Emission Calculation Methodology to Use Latest/Greatest Tools

The RTC recommends the TCEQ update its emissions calculation practices to other commercially available and user-friendly tools that provide more robust project analysis, rather than rely on the in-house TERP calculator that has been proposed. It is highly recommended that the TCEQ utilize the Argonne National Laboratory Alternative Fuel Life-Cycle Environment and Economic Transportation (AFLEET) Tool for quantification of all on-road vehicle projects. AFLEET includes adjustment factors for new diesel engines that reflect the higher emission rates at low speeds, based on the real-world research detailed in Attachment 2, and will also provide multi-pollutant emissions benefits. The Environmental Protection Agency's Diesel Emissions Quantifier (DEQ) tool is recommended for non-road projects, as it also provides multi-pollutant benefits.

TERP methodology is inadequate for two reasons. First, it only estimates impacts of a single pollutant, NO_x. While NO_x emissions are the focus of the Trust, multi-pollutant benefits should be quantified in order to provide a more holistic view of Mitigation Plan impacts. Second, and more importantly, TERP methodology relies on engine certification to determine emission rates. Numerous studies have shown that the newest, cleanest diesel engines emit NO_x at rates far higher than their certification levels under various conditions, especially when at low speeds. A sample listing of research projects on this topic is included as Attachment 2. Thus, relying on engine certification alone will underestimate the emissions of new diesel engines, and overestimate potential emissions reductions achieved. This not only delays progress in reaching attainment, but also has consequences for project selection. As the Volkswagen Settlement put much emphasis on all-electric technology, it is likely that submitted projects will include several all-electric projects, as well as other alternative fuels. These technologies typically cost more, but because they can achieve superior emissions reductions, have the potential to be competitive on a cost-effectiveness basis if real-world emissions expectations are considered. If a competitive evaluation is based only on certification data, the underestimation of new diesel emissions will likely result in a decision to award funding to a project that appears to be more cost-effective on paper only, at the expense of an alternative fuel vehicle project that would have achieved more emissions reductions. Ironically, the discrepancy between certified and real-world emissions rates is what led to the Volkswagen Settlement and development of the Mitigation Trust.

4. Confirm and Clarify Equal Eligibility of Zero-Emission Vehicle Infrastructure

It is our understanding that for heavy-duty replacement or repower projects involving a new all-electric vehicle, both hydrogen refueling and electric recharging infrastructure are equally eligible to receive up to 60 percent funding as part of the project costs. The RTC supports this interpretation as it provides equity between multiple fuel types, within the constraints of the court settlement. However, we recommend that the TCEQ clarify this by adding a definition of "charging infrastructure" that specifies both hydrogen and battery-electric eligibility, similar to the definition of "All-Electric".

5. Quantify Cost Effectiveness Based Only on Mitigation Plan Funding

The RTC recommends that the TCEQ only consider the amount of Mitigation Plan funding requested for a project when calculating cost effectiveness. Applicants are likely to leverage Mitigation Plan funding with other sources to offset match requirements or to enable a smaller funding request that would make more expensive projects, such as those involving alternative fuels or infrastructure to support all-electric vehicles, more competitive on a cost-effectiveness evaluation. These projects should not be penalized for leveraging other funding sources to stretch limited dollars further.

Summary of DFW Area Fair-Share Allocation Under the Draft Beneficiary Mitigation Plan for Texas

Exhibit 1: Potential Fair Share Allocations to DFW Area Based on Various Metrics

Metric	DFW Area as % of Areas Originally Recommended by the Regional Transportation Council	DFW Area as % of Counties Proposed as Priority Counties by the TCEQ
Registered Violating Vehicles	32.77%	41.10%
Population	35.97%	41.21%
Vehicle Miles of Travel	38.82%	44.26%
NO _x Emissions	37.14%	42.66%
VOC Emissions	36.13%	40.76%
Heavy-Duty Diesel Vehicles Eligible for Replacement/Repower	34.04%	38.37%

Exhibit 2: Potential Fair Share Allocations to DFW Area Based on Various Metrics

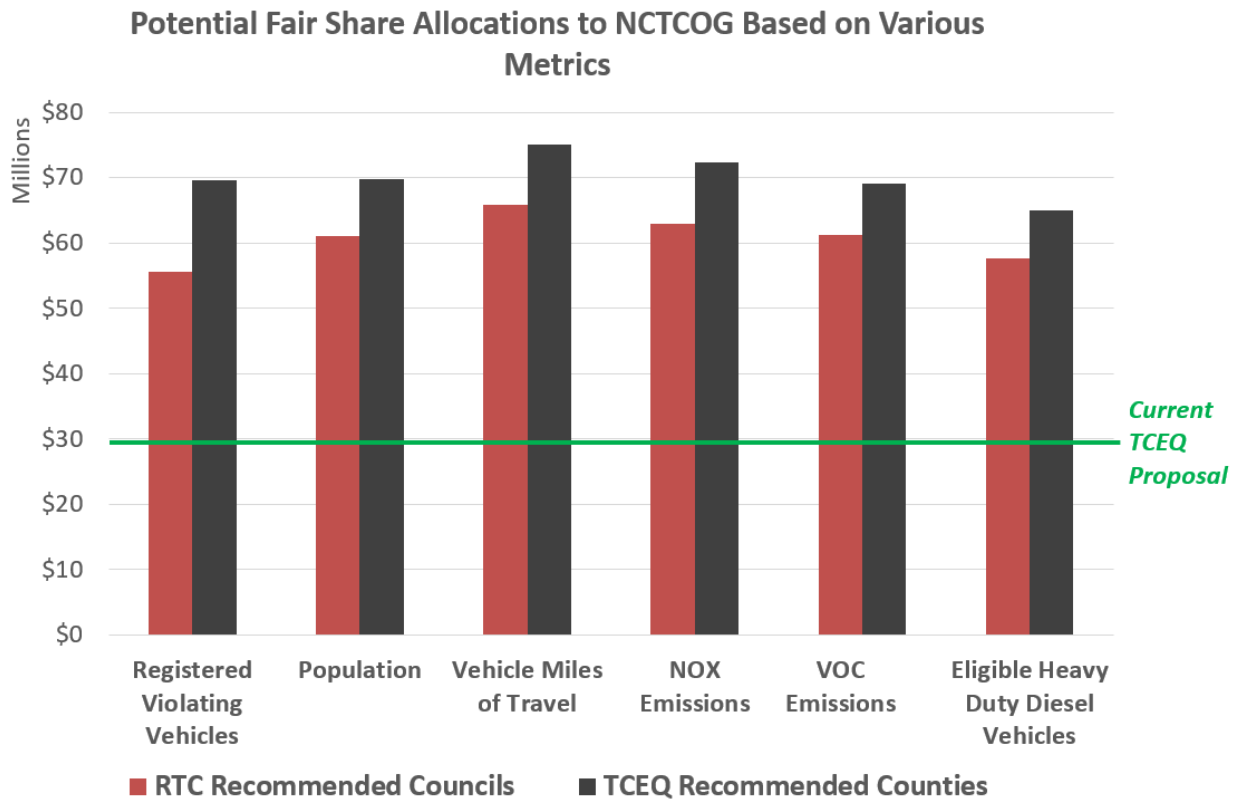
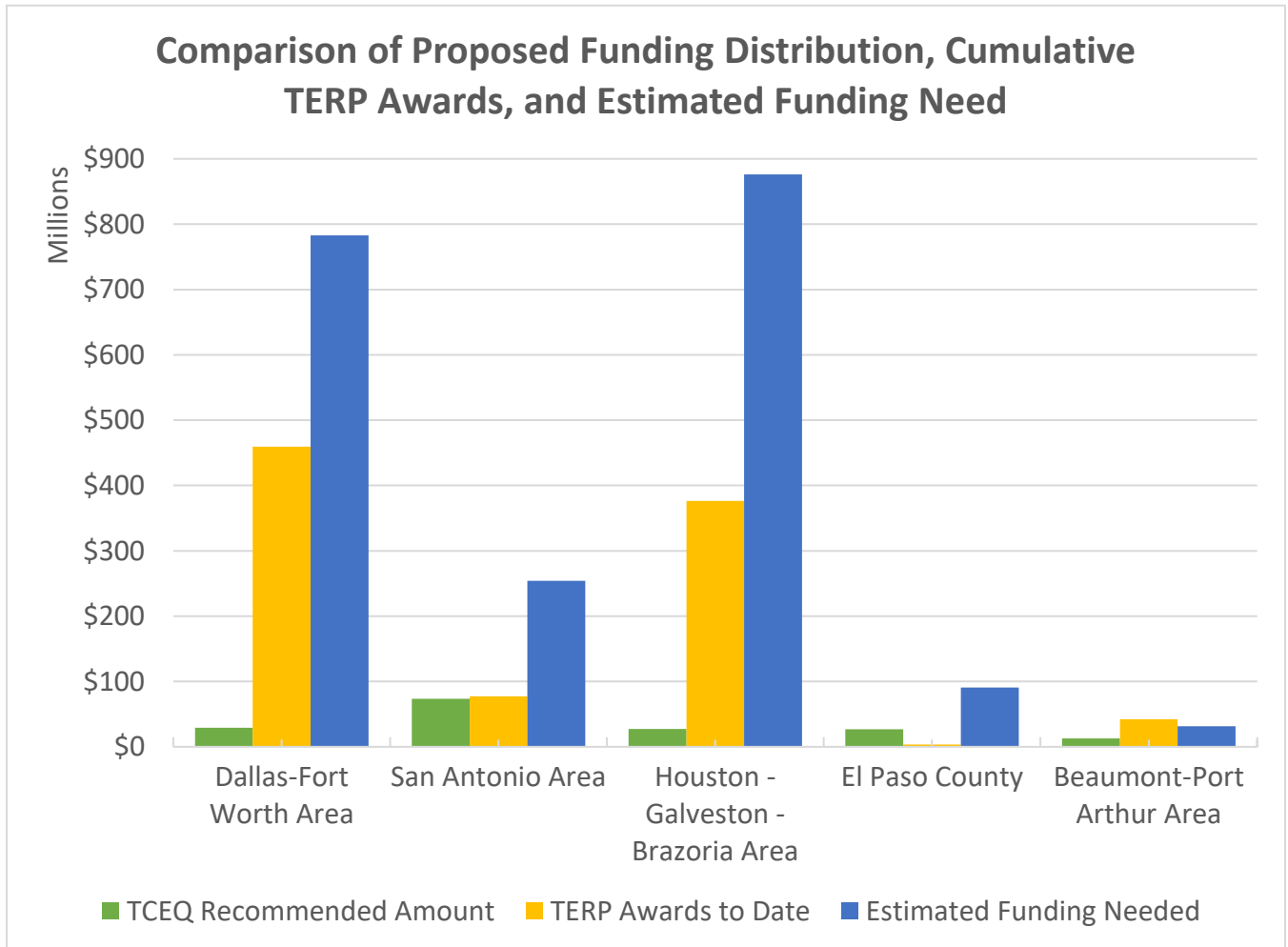


Exhibit 3: Estimated Distribution of Eligible Heavy-Duty Diesel Vehicles and Funding Need Among TCEQ-Proposed Priority Areas

Region	Estimated Number of Eligible Vehicles	Minimum Funding Need (in Millions)
Dallas-Fort Worth	21,340	\$782.8
San Antonio	6,877	\$254.2
Houston–Galveston-Brazoria	23,989	\$876.0
El Paso	2,475	\$90.6
Beaumont-Port Arthur	726	\$31.3

NCTCOG evaluated Department of Motor Vehicle Registration Data as of August 20, 2018 and identified potentially eligible heavy-duty diesel vehicles based on model year, gross vehicle weight, fuel type, and vehicle type. Minimum Funding Need is based on lowest estimated project cost identified by TCEQ in Table D.3 of the Draft Beneficiary Mitigation Plan for Texas, multiplied by the number of vehicles in each area of that type.

Exhibit 4: Comparison of TCEQ-Proposed Funding, Estimated Funding Needs from Exhibit 3, and Cumulative Texas Emissions Reduction Plan Funds Awarded from 2001-2017



Subset of Research Indicating that Heavy-Duty Diesel Engine Emissions Certification Levels are not an Accurate Indication of Real-World Emissions of Nitrogen Oxides (NO_x)

1. Seunju Yoon et al. "Comparison of NO_x Emissions from In-Use 2010 Technology Heavy-Duty Engines to Their Certification Standards." 25th CRC On-road Emissions Workshop, March 23-25, 2015, Long Beach, CA. California Air Resources Board (2015). <https://www.arb.ca.gov/research/veh-emissions/onroad-nox/crc2015-nox.pdf>
 - Slide 14: "In-use NO_x emissions from 2010 diesel trucks were higher than the certification standard and the certification level NO_x."
2. Johnson, Kent et al. "Ultra-Low NO_x Natural Gas Vehicle Evaluation ISL G NZ." Center for Environmental Research & Technology, University of California Riverside (2016). http://www.cert.ucr.edu/research/efr/2016%20CWI%20LowNOx%20NG_Finalv06.pdf
 - Section 1.2, page 11: "Although the 2010 certification standards were designed to reduce NO_x emissions, the in-use NO_x emissions are actually much higher than certification standards for certain fleets... For diesel engines low load duty cycles have a significant impact in the NO_x emissions... The cold start emissions were ten times higher than the certification standard and much higher than the corresponding hot start emissions... The main cause for the high NO_x emissions is low selective catalytic reduction (SCR) inlet temperatures resulting from low power operation."
3. Anenberg, Susan C. et al. "Impacts and mitigation of excess diesel-related NO_x emissions in 11 major vehicle markets." *Nature* 545 (2017). <https://www.nature.com/articles/nature22086>
 - Pages 467-471: "...across 11 markets, representing approximately 80 per cent of global diesel vehicle sales, nearly one-third of on-road heavy-duty diesel vehicle emissions... are in excess of certification limits."
4. Thiruvengadam, Arvind, et al. "Emission Rates of Regulated Pollutants from Current Technology Heavy-Duty Diesel and Natural Gas Goods Movement Vehicles. *Environ. Sci. Technol.* 49.8 (2015). <https://pubs.acs.org/doi/10.1021/acs.est.5b00943>
 - Pages 5236-5244: "The low percentage of activity SCR over the local and near-dock cycles contributed to a brake-specific NO_x emissions that were 5-7 times higher than in-use certification limit."
5. Quiros, David C. et al. "Real-World Emissions from Modern Heavy-Duty Diesel, Natural Gas, and Hybrid Diesel Trucks Operating Along Major California Freight Corridors." *Emission Control Science and Technology* 2.3 (2016) <https://link.springer.com/article/10.1007/s40825-016-0044-0>
 - Pages 156-172: "The ranking of certification NO_x emissions for the seven engines reported during engine-dynamometer-based certification was not maintained during real-world testing; for example, highway driving NO_x emissions were lower than certification values for some engine families and higher than certification values for others."
6. Center for Alternative Fuels, Engines, and Emissions, West Virginia University. In-Use Emissions and Performance Testing of Propane-Fueled Engines. (2017).
 - Summary Attached, courtesy of the Texas Propane Gas Association.

West Virginia University (WVU) In-Use Emissions and Performance Testing of Propane-Fueled Engines

West Virginia University performed a research program for PERC to establish exhaust emissions and performance characteristics of propane-fueled vehicles/engines through in-use testing methods in comparison to vehicles/engines fueled with other common transportation fuels. WVU used portable emissions measurement systems (PEMS) on each vehicle to collect the data (CO, CO₂, NO_x, and total hydrocarbon emissions) as they drove predetermined test routes using hot and cold starts. The Morgantown route consisted of city and highway driving, while the Stop and Go route simulated low speed operation and passenger pick up. The table below shows the specifications of the tested school buses.

Fuel	Propane (LPG)	Ultra-Low Sulfur Diesel
Vehicle	Blue Bird School Bus (6.8L, 10 Cylinder)	Blue Bird School Bus (6.7L, 6 Cylinder)
Model Year	2015	2014
Exhaust Aftertreatment	Three-Way Catalyst	Diesel Oxidation Catalyst, Diesel Particulate Filter, Selective Catalytic Reduction System

Pros: The approach to collect real-world data on specific propane-fueled vehicles/engines was robust and accurate. NO_x results are very favorable for propane.

Cons: The results are specific to the conditions of the test environment and differ from the requirements (e.g., temperature) for engine certification testing.

Noteworthy Results

- 96% NO_x reduction: Propane school bus vs. diesel school bus (stop-and-go route)
- >95% NO_x reduction: Propane school bus vs. diesel school bus (Morgantown route, cold start)
- >93% NO_x reduction: Propane school bus vs. diesel school bus (Morgantown route, hot start)
- >13% CO₂ reduction: Propane school bus vs. diesel school bus (stop-and-go route)

The findings from the WVU in-use tests of high NO_x emissions for heavy-duty vehicles are supported by other tests in literature. See “Real-World Emissions from Modern Heavy-Duty Diesel, Natural Gas, and Hybrid Diesel Trucks Operating Along Major California Freight Corridors” ([link](#)) and “Emission rates of regulated pollutants from current technology heavy-duty diesel and natural gas goods movement vehicles” ([link](#)).