TESLA

January 17th, 2018

Ohio Environmental Protection Agency (OEPA)

RE: Volkswagen Mitigation Trust D - Beneficiary Mitigation Plan

I am writing on behalf of Tesla to share our comments regarding Ohio EPA's Beneficiary Mitigation Plan for Ohio's allocation of the Volkswagen (VW) Mitigation Trust. It will be critical to utilize the $75 million allocated to Ohio under the VW settlement funds from Appendix D to maximize air quality benefits throughout the state. Replacing heavy-duty (HD) diesel trucks and investing in light-duty (LD), medium duty (MD) and HD Zero-Emission Vehicle (ZEV) charging infrastructure can help achieve this objective.

Tesla recognizes that all classes of ZEVs are important to meeting the Mitigation Plan's goals, yet given our expertise and products in the LD and HD electric vehicle (EV) market, our comments below focus primarily on LD and HD ZEVs. For instance, Tesla recently unveiled its Semi Truck, an all-electric Class 8 vehicle that consumes less than two kilowatt-hours of energy per mile and is capable of 500 miles of range.[1] Production is expected to begin in 2019 for the 500 mile range model.[2] Beyond reducing NOx emissions, the Tesla Semi also includes enhanced safety features, low cost of ownership, minimal loss of energy during idling, which is especially relevant to port drayage applications, and superior performance relative to standard, class 8 vehicles.[3]

Our comments below focus on providing several key principals and strategies for how the Beneficiary Mitigation Plan (BMP) can optimally allocate funds to maximize NOx reductions, in a cost-effective and equitable manner. These include:

1. Focus funds on replacement of diesel vehicles with ZEVs and investment in HD ZEV infrastructure first and foremost wherever feasible.
2. Provide funds as close as possible to point of sale under a first come, first served model.
3. Allocate the full 15% (~$11.3 million) of eligible ZEV supply equipment funds for investment in LD charging infrastructure and include make-ready infrastructure rebates.
4. Focus LD ZEV infrastructure funds should on workplace and multi-nit dwellings (MUDs)
5. Coordinate with other state agencies

[1] Tesla. Available at: https://www.tesla.com/semi/.
[2] *Ibid*
[3] *Ibid*

Focus funds on replacement of diesel vehicles with HD ZEVs and investment in HD ZEV infrastructure first and foremost wherever feasible.

Appendix D outlines a number of different mitigation actions and expenditures that are eligible to receive funds under the BMP, HD EVs are also up to four times more efficient than diesel and natural gas engines and provide additional benefits relative to diesel and other near-zero vehicles that should be taken into consideration when developing the BMP.[4] Beyond fuel efficiency, these benefits include reduced noise, lower overall maintenance cost, and no loss of energy during idling, which is especially relevant to port drayage applications, among other items.[5]

Replacement of Diesel Vehicles with HD ZEVs

Given the long term impact the BMP funds can have on reducing NOx and other emissions, we recommend focusing funds first and foremost on ZEVs whenever feasible to achieve maximum NOx reduction relative to replacement of other alternate fuel trucks and buses.[6] Using the EPA Diesel Emissions Quantifier, replacement of Class 8 Long Haul Trucks (with trailer) provides a 75% reduction in NOx over lifetime of the vehicle relative to replacement of Class 7 buses. The comparison was conducted using default values and a 2009 replacement date[7] The VW Beneficiary Mitigation Plan toolkit developed by NASEO also indicates that Class 8 vehicle replacement provides greater NOx reduction relative to Class 7 transit vehicles[15].

Finally, reducing NOx emissions is critical for Ohio to meet federal air quality standards for ozone in 2023 and 2031. It is, therefore, important that BMP funding target the remaining high NOx emitting fleet and further narrow the NOx reduction gap by replacing these vehicles with HD ZEVs wherever feasible.

Eligibility of HD ZEV charging infrastructure

Adoption of EV's are tied closely to the accessibility of charging infrastructure. The business case for a fleet owner to transition to HD ZEVs is greatly enhanced if the barrier to install make-ready charging infrastructure is reduced, thereby increasing adoption and further reducing overall NOx and GHG emissions. HD Charging Infrastructure it is an eligible expenditure under each section of the eligible truck replacement mitigation actions and expenditures. Therefore, Tesla recommends that HD charging infrastructure be explicitly highlighted in OEPA's BMP and funds allocated to include make-ready[8] components of the HD charging infrastructure as eligible expenditures under this section of the BMP

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[4] *Ibid,* p.2.
[5] CARB, Advanced Clean Local Trucks Workshop (April 2017), slide 7. Available at: https://www.arb.ca.gov/msprog/actruck/mtg/170425workshoppresentation.pdf.
[6] NASEO, VW Mitigation Plan Toolkit, Table 1.Available at: https://www.naseo.org/Data/Sites/1/03-27-17_naseo-vw-beneficiary-mitigation-plan-toolkit-final.pdf .
[7] https://www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq
[8] "Make-ready" includes the electrical infrastructure to support electric vehicle charging. Make-ready refers to the 'full circuit' infrastructure (i.e. panels, conduit, wiring) required for the EVSE to be connected up to but excluding the charging station itself.

Provide funds as close as possible to point of sale under a first come, first served model

Depending on the funding structure that is ultimately adopted by the BMP, we recommend that any incentive is offered as close as possible to the point of sale, which is broadly considered the most effective method of driving EV sales.[9] An incentive closer to the point of sale can also help provide some certainty to the customer for availability of funding.[10] Furthermore, to facilitate a seamless customer experience and ease of program administration, we support a first-come, first-serve project administration structure rather than a competitive bidding process.

Allocate the full 15% (~$11.3 million) of eligible ZEV Supply Equipment funds for investment in LD charging infrastructure and include make-ready infrastructure rebates

As of December 2017, the charging infrastructure in Ohio amounted to a total of 515 Level-2 and 148 Level-3 chargers.[11] A recent EV infrastructure study from the National Renewable Energy Laboratory (NREL) estimates that the state will require 19,900 Level-2 and 690 Level-3 chargers to support the number of EVs predicted by 2030[12] Tesla believes that these are conservative estimates and the actual need for charging infrastructure is greater.

Even when considering the on-going and additional investments in LD charging infrastructure being made by the investor-owned utilities (IOUs) and the remaining VW settlement funds being deployed by Electrify America, it appears that the state is far from meeting the need. Tesla recommends that the BMP allocate the full possible 15% of the funding to LD charging infrastructure and is pleased to see that the BMP is proposing the full amount. Tesla would like to provide additional detail on how best to spend the 15% of funds on charging infrastructure.

Appendix D provides several definitions that impact the development of the LD funding allocation under the BMP. Appendix D defines "'infrastructure' as the equipment used to enable the use of electric powered vehicles (e.g., electric vehicle charging station)."[13] It also states that "each Beneficiary may use up to fifteen percent (15%) of its allocation of Trust Funds on the costs necessary for, and directly connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment for projects as specified below."[14] While not explicitly defined in Appendix D, we strongly encourage the BMP to include funding of Level-2 make-ready infrastructure, which includes wiring, conduit and subpanel installation, etc. given that these are often the greatest costs of installing EV charging stations.[15]

Limiting funding to the final charging connector (only), unless leveraging alternative funds for EV make-ready infrastructure, indirectly hinders an essential component of an EV-ready parking structure – the electrical capacity upgrade and wiring. Including EV make-ready infrastructure (not just the electric vehicle supply equipment (EVSEs)) as approved criteria for funding could

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[9] "Cash at the time of purchase is by far the best financial incentive – over twice the value of a tax credit." Plug in America, *Evaluating Methods to Encourage Plug-in Electric Vehicle Adoption: A review of reports on PEV incentive effectiveness for California Utilities* (October 2016), p.13.
[10] ICCT, Principles for Effective Electric Vehicle Design (June 2016), p. 6. Available at: http://www.theicct.org/sites/default/files/publications/ICCT_IZEV-incentives-comp_201606.pdf .
[11] U.S. Department of Energy (DOE) (2017b). "Alternative Fueling Station Locator."
[12] https://www.nrel.gov/docs/fy17osti/69031.pdf
[13] Consent Decree Appendix D, p.12. Available at: https://www.arb.ca.gov/msprog/vw_info/vsi/vw-mititrust/documents/appendixd2.pdf.
[14] Consent Decree Appendix D, p.8. Available at: https://www.arb.ca.gov/msprog/vw_info/vsi/vw-mititrust/documents/appendixd2.pdf
[15] Southern California Edison, Charge Ready Advisory Board Meeting Number 5(August 2017), Slide 11.

substantively reduce barriers to EVSE deployment, particularly in multi-unit dwellings (MUDs). Thus, Tesla recommends funding focus on both make-ready infrastructure as well as EVSE.

Making funds available to support EV make-ready infrastructure in new and existing common parking areas could result in greater adoption of EVs by those residents who may be considering switching from a gasoline vehicle. Once a parking area or structure is EV make-ready, a relatively nominal amount of funds (<$1000) are then required to purchase and connect an EVSE at each occupant parking space.

Different rebate amounts can be provided for make-ready and EVSE components as the make-ready infrastructure can often represent a significantly higher portion of the installation costs. A separate rebate for the EVSE-only would also allow customer preference of EVSE depending on their required application. To ensure funds are better applied, OEPA should also consider economies of scale to improve overall cost-effectiveness of funding disbursement and thus set a minimum EVSE port number requirement per project. Additionally, the choice of EVSE should be left up to the site owner so that they can choose what best suits their needs.

LD ZEV infrastructure funds should be focused on Workplace and Multi-Unit Dwellings

Appendix C of the VW settlement allocates $800 million in California and more than $1.2 billion nationally for ZEV charging infrastructure through Electrify America.[16] Phase one of the investment plan is to spend 82% of the funds on a national Level-3 'Direct Current (DC) fast charging' network that covers almost every state, representing more than 2,500 DC fast chargers.[17] Future phases of the investment plans may target additional DC fast charging infrastructure. This initiative will satisfy some of the long distance charging needs along major highway corridors; however, Tesla acknowledges the need for more Level-2 home and workplace charging, where more than 80% of EV charging occurs.[18]

We, therefore, recommend that OEPA focus the 15% of LD ZEV charging infrastructure funds primarily on multi-unit dwellings and workplaces (Level-2 charging). In the context of MUDs, residents may not have access to any charging infrastructure nor have the ability to deploy such infrastructure to the extent that they do not own the physical property where the charging infrastructure would need to be deployed. Even in instances where residents can deploy this infrastructure, the costs of retrofitting a single parking spot can be prohibitive. Notably, in many cases, standard parking lots in multi-unit residences and workplaces do not have either the electrical capacity needed to charge EVs, nor do they have the correct wiring to connect an EV charging post and connector (EVSE).

Therefore it is critical that LD ZEV infrastructure funds target MUDs to reduce cost barriers associated with electrical upgrades and EVSE installation. The costs for a make-ready MUD infrastructure projects can be minimized through economies of scale by enabling multiple make-ready parking spaces per garage, thereby reducing the per-space cost. The Charge Ready Program

[16] EPA, VW Clean Air Act Civil Settlement. Available at: https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement.
[17] Electrify America, Investment Plan. Available at: https://www.electrifyamerica.com/our-plan.
[18] Idaho National Laboratory, Charging Behavior Revealed. Available at:https://www.inl.gov/article/charging-behavior-revealed-large-national-studies-analyze-ev-infrastructure-needs/.

initiated by Southern California Edison (SCE) found that in the case of retrofitting a building with EV make-ready infrastructure, a five space project averaged approximately $14,000 per space; however, a 25 space project resulted in a $7,000 cost per space.[19]

Specifically, Tesla recommends that LD ZEV infrastructure funds focus on upgrading the electrical capacity (i.e. adding panel breaker space) to support a minimum of 20% of total parking spaces, and install the necessary wiring to support as many additional spaces as possible, preferably up to 100% of spaces.

Coordination with other State Agencies should be undertaken

Coordination of investments between the various state agencies with similar programs to those being proposed in the BMP is critical to ensure funding is maximized and duplication does not occur. The impact from the expenditures under Appendix D should be incremental to what is already being done in the state, particularly when it comes to the deployment of EV charging infrastructure. One mechanism that could be helpful in tracking funding is maintaining a central database accessible to all state agencies that details project and funding categories for charging infrastructure and ZEVs. In addition, an Advisory Committee could be established comprised of the state agencies including local air districts and stakeholders to provide on-going input on mitigation actions.

* * *

Tesla appreciates the opportunity to provide feedback on the development of the BMP at this early stage of process and the level of transparency being provided by OEPA in designing this plan. As outlined above, Tesla provides several recommendations to help guide the implementation of the BMP. These include maximizing LD EV infrastructure investments, a ZEV centric strategy, replacement of heaviest NOx emitters, and coordination among state agencies.

We look forward to continuing engage in the development process and to reviewing the final BMP once available.

Sincerely,

Junaid Faruq
Sr. Charging Policy Engineer, Business Development and Policy
Tesla

[19] Southern California Edison, Charge Ready Advisory Board Meeting Number 5 (August 2017), Slide 11.

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January 26, 2018

Ms. Carolyn Watkins
Ohio EPA
Office of Environmental Education
P.O. Box 1049
Columbus Ohio, 43216-1049

Subject: Comments on the Ohio Draft Beneficiary Mitigation Plan (VW)

Dear Ms. Watkins:

The Miami Valley Regional Planning Commission (MVRPC) appreciates this opportunity to provide comments on Ohio's draft plan for use of the VW mitigation fund for valuable projects to reduce air pollution in our state. The Ohio EPA's regular engagement with stakeholders through this process will certainly contribute to the development of a well-considered, supportable plan for all Ohioans.

MVRPC supports the priority given in the draft plan to using a significant portion of the fund for replacements of transit buses and school buses, as these will have tremendous impact in reducing harmful emissions, particularly for the populations that use these transportation services (children and transit riders). Also, MVRPC is gratified to see that electric vehicle supply equipment (EVSE) will be eligible for a portion of these funds, in light of the state's recent nomination to the Federal Highways Administration of an EV Alternative Fuel Corridor for electric vehicles that spans the width of the state. MVRPC looks forward to working with eligible project sponsors and with Ohio EPA to develop viable project applications in all of these categories, once the program is launched.

It is MVRPC's preference that no distinction is made among the VW Priority Counties. MVRPC continues to have questions about the use of "First Priority" and "Second Priority" counties in the draft plan. The map included in the draft (page 9 of 24) distinguishes between first and second priorities, but nowhere else in the document does the text make reference to these distinctions, or their practical effect. As an example, Section B-1 includes the following sentences: "Ohio EPA proposes to spend up to $15,000,000 of these funds for school bus replacements in the VW **priority counties**." and "Ohio EPA proposes to spend up to $15,000,000 of these funds for transit bus replacements in the VW **priority counties**." (Emphases added) These statements do not make any distinction between counties identified on the priority county map. If no distinction between first and second priority counties is planned to exist, MVRPC would ask that the distinction be removed from the county map. If it is Ohio EPA's intention to use the distinction in project scoring/ranking, or in reimbursement percentages, MVRPC suggests these intentions should be spelled out in the plan.

In addition, Section B-2 of the draft plan includes the following language: "Ohio expects to request between 20 and 25 percent of the Mitigation Trust funding allocated to Ohio (between approximately $15,060,504 and $18,825,630) for projects involving non-road or off-road fleets and equipment **In Ohio**." (Emphasis added) From this text, MVRPC infers that this category of projects will be eligible statewide, not only in the VW Priority Counties. Finally, the provisions in Section B-3 also imply that location within a priority county is not required for EVSE projects. MVRPC requests confirmation of these two assumptions regarding statewide eligibility for these project types.

Finally, without repeating the case here, MVRPC agrees with and supports the comments delivered under separate cover from the Regional Air Pollution Control Agency (RAPCA) regarding raising the priority status of Montgomery County and the inclusion of Clark County on the VW Priority Counties list.

Again, the Miami Valley Regional Planning Commission thanks you for the opportunity to participate in the development of Ohio's plan to reduce air pollution, improve public health and economic sustainability through thoughtful use of the VW settlement funds.

Sincerely,

Brian O. Martin

Brian O. Martin, AICP
Executive Director

Shuman, Justin

From: Shayne Thomas <sthomas@seneca-county.com>
Sent: Tuesday, January 30, 2018 4:26 PM
To: EPA DERG
Cc: bennett.tate@epa.gov; anthony.bedell@dot.gov; William.H.Kirkland@who.eop.gov; rep82@ohiohouse.gov; ann_longworth_Orr@brown.senate.gov; neil.lynch@mail.house.gov; kelsey_krull@portman.senate.gov; rep88@ohiohouse.gov
Subject: VW Comment -Seneca County

Carolyn Watkins-Ohio EPA:

My name is Shayne Thomas, I am a County Commissioner for Seneca County in Ohio. I am writing to express my extreme dissatisfaction with the proposed VW Settlement mitigation plan.

Ohio has been allocated a total of $75,302,522.67 from the Mitigation Trust to fund eligible diesel source NOX-reducing projects as a result of the VW Settlement. In light of this settlement the OEPA has proposed a draft beneficiary mitigation plan. The entire document can be viewed at the following link.
http://epa.ohio.gov/Portals/42/documents/VW/OH%20Draft%20VW%20Beneficiary%20Mitigation%20Plan.pdf

Quite surprisingly the proposed plan explicitly prohibits rural counties from applying to the fund for qualifying projects. In Seneca County we have county owned public parking in the central business district that is being considered for electric charging stations. This project would serve a greater public good and would foster adoption of electric vehicles perhaps even in the county fleet. The VW mitigations funds are intended for a project precisely like Seneca County's EV charging stations. By design, we will not be allowed to apply to the Mitigation Fund because we are a rural county.

My suggestion is that 10% of the fund be set aside for a competitive funding round for rural (excluded) counties. This would ensure that **all** of Ohio's counties have an opportunity to fund air quality enhancing projects.

Thank you,

Shayne Thomas
Seneca County Commissioner

CC Representative William F Reineke
Representative Craig Riedel
Congressman Jim Jordan
Senator Bob Portman
Senator Sherrod Brown
County Commissioners Association of Ohio
Bennett Tate –Intergovernmental Affairs EPA
Anthony Bedell-Deputy Assistant Secretary for Intergovernmental Affairs DOT
William Kirkland-Special Assistant to the President
White House Office for Intergovernmental Affairs

Shayne E. Thomas
Seneca County Board of Commissioners
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419-447-4550 X106

Shuman, Justin

From: Michael Peters <michael@coventryland.com>
Sent: Monday, January 29, 2018 2:43 PM
To: EPA DERG
Subject: VW Comment

Thank you for recently hosting the information session in Cleveland on the VW Settlement program that is to be administered by your office. I left with concerns over the preference to focus the 15% allocation to EVSE infrastructure on the Alternative Fuel Corridors.

I am in agreement that accelerating EV adoption, and therefore reducing greenhouse gas and NOx emissions, should be the guiding principle behind distributing the settlement funds. However, there are two issues I ask that you consider as you prepare your criteria for scoring applications. The first is an emphasis on locations that have a lower near-term commercial viability and the second is the cost effectiveness of DC fast charging.

Commercial Viability and Equity

The focus on the Alternative Fuels Corridors places the benefit of the settlement funds on a small group of commuters that travel longer distances where arguably the better benefit is on denser urban neighborhoods. The rationale for this is broad based and includes near-term commercial viability, emissions per mile, equity, and resilience.

DC fast charge stations along the Interstate Highway System are already the focus of the commercial EVSE manufacturers and firms like Electrify America, so there is commercial viability for these locations already. Adding more funds to this privately-financed network is simply accelerating the inevitable. There are very few additional DC fast charge locations needed to meet the requirements for signage on the corridor between Columbus and Cleveland, for example. Rather, these de facto public funds would be better used to build out the EVSE network in locations that have the density to justify a reasonable level of utilization within a reasonable time period but need a public subsidy to start the process of converting drivers to EVs. A recent Rocky Mountain Institute study[1] makes the case that a public or publicly-subsidized entity will be required to build the EVSE infrastructure in low and moderate income neighborhoods to bridge the demand until there is commercial viability.

Likewise, higher emissions per mile in denser urban areas[2], where there is already a concentration of pollutants and particulate matter, seem like a better opportunity than the mostly suburban or rural areas around the highway corridors.

The ability for these funds to positively impact societal change should also be a consideration. Increasingly advocates for low and moderate income residents view electric vehicles as a means to reduce transportations costs and provide more affordable mobility. In areas of Cleveland, for example, transportation costs as a percent of income for residents can exceed 27 percent[3], more than the percent spent on housing. The lower per mile operating expenses and lower maintenance costs of electric vehicles are an important factor in lowering these transportation costs, especially in light of diminished public transportation service. Contrary to popular public thought, pre-owned electric vehicles can also be purchased for less than comparable gasoline-powered cars as the resale cost reflects the original incentives (including those in states like California and Colorado). This ideal combination of

lower acquisition costs, lower operating costs, and lower maintenance costs disproportionately benefits low and moderate income residents of the state.

Finally, the resiliency afforded by electric vehicles to low and moderate income residents is also disproportionately impactful. This ranges from the importance of having a car that starts every time in order to reliably get to work, which is the case with an electric vehicle given the vastly reduced number of moving parts and the elimination of common failure points – like starters, to reliably budgeting for fuel. Gasoline remains an anomaly in modern society by being a commodity that we use in relatively considerable amounts but it is priced daily without the ability for end users to hedge the cost. Most drivers have a fairly accurate knowledge of daily or weekly driving patterns but still can only estimate the corresponding fuel costs. Residential electricity prices can easily be locked in (or "hedged") for 12 or more months, allowing for accurate budgeting. Importantly consumers in Ohio can also choose their energy generation supplier and select a generation option that is 100 percent renewable energy. This results in electric vehicles being the only form of transportation where the user has control over the carbon intensity of its fuel. This substantially leverages the ability to reduce greenhouse gas emissions by not just shifting the fossil fuel burden but eliminating it entirely. The psychological benefit of this ability should not be underestimated and allows residents of all income levels to participate in making the state more sustainable.

Cost Effectiveness of DC Fast Charging

The second consideration relates to the stated preference for installing DC Fast Charge stations rather than Level 2 EVSEs in most circumstances. Many of the arguments above likewise apply to this preference.

The current inventory of electric vehicles has a considerable percentage – most likely well over half – that are not able to use DC Fast Charging. No plug-in hybrid currently on sale in the U.S. offers DC Fast Charging (and Ohio currently has about twice the number of PHEVs than battery electric vehicles, so this is a large percentage of the intended audience). As stated above, given that electric vehicles can significantly positively impact low and moderate income residents if they purchase pre-owned electric vehicles, the vast majority of these "first generation" cars will not have DC Fast Charging capabilities. This alone is an inequitable policy and strongly favors higher income suburban drivers.

In addition, the cost of DC Fast Charging equipment, installation, and operation are multiples of Level 2 charging. In 2014 Rocky Mountain Institute surveyed EVSE installers and concluded that on average a DC Fast Charger costs about ten times what a commercial Level 2 EVSE costs for equipment and installation. Since that time prices for Level 2 equipment have declined with new entrants to the market while DC Fast Charging has stayed relatively constant. The operating cost of DC Fast Charging is also multiples of a Level 2 unit due to demand charges. The bottom line, however, is in the cost to the user. In the Greater Cleveland area almost no Level 2 EVSE location charges the user while every DC Fast Charger does. From hospitals to supermarkets to co-work offices, there are dozens of free Level 2 locations, only strengthening the argument that electric vehicles can reduce transportation costs for residents: if it costs roughly a third per mile to operate an electric vehicle but a portion of that electricity is free, the cost savings becomes even more pronounced.

There are also at least four DC Fast Charge standards: CCS, CHAdeMO, Tesla, and GB/T[4] plus variations like the European CCS and evolving standards like CCSplus. Even if this program were to pick a "winner" like CCS, even that equipment could quickly become obsolete due to increased charging rates. Level 2, on the other hand, will remain the same for some time. This can be said with some confidence because most electric vehicle drivers charge at home. Level 2 effectively maxes out the power capacity at most homes unless the owner upgrades, at their own cost, to higher power levels. Even this, however, is limited as the

power company is unlikely to provide three-phase service to a residential customer, and even if it did the monthly charges would make the choice uneconomical.

The prospect of prioritizing a large portion of these funds on equipment that serves an artificially small population (and one that skews wealthier and less racially diverse) and that may be obsolete before the trust even completes its life seems ill advised. Conversely the ability to deploy ten times the number of EVSEs in the State, especially in areas where they would have a large societal impact, is better aligned with both the cost effectiveness argument made for other aspects of how the funds will be allocated and the rationale for the best deployment of public resources that will benefit the largest number of residents.

Conclusion

Ohio has the opportunity to lead the country in deploying the VW Settlement Funds in a smart, economical, and equitable manner. Regardless of what other states are planning or the desire to deploy the funds quickly, opportunities exist to work with the state's leaders in shared mobility, EVSE infrastructure, and electric vehicle advocacy. I recognize that is what you were asking at the information session and I trust you will take these comments in the constructive manner in which they are intended.

I would be happy to discuss any of this with you further.

With best regards,

Michael Peters
CEO, REV Community Car Share
Organizing Member, Drive Electric Northeast Ohio
Citizen Member, Shaker Heights Climate Change Task Force

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[1] Fitzgerald, Garrett and Chris Nelder. *From Gas to Grid: Building Charging Infrastructure to Power Electric Vehicle Demand.* Rocky Mountain Institute, 2017. **https://www.rmi.org/insights/reports/from_gas_to_grid**

[2] The Database of Road Transportation Emissions reveals that urban areas are responsible for 80% of on-road emissions growth since 1980 and for 63% of total 2012 emissions as cited in Gately, C. K., Hutyra, L. R., & Sue Wing, I. (2015). Cities, traffic, and CO2: A multidecadal assessment of trends, drivers, and scaling relationships. Proceedings of the National Academy of Sciences of the United States of America, 112(16), 4999-5004. http://doi.org/10.1073/pnas.1421723112

[3] https://htaindex.cnt.org/

[4] This standard is currently offered in Chinese-made fleet vehicles sold in the U.S.; one of these vehicles is currently being considered by at least two Ohio fleet operators

February 2, 2018

Carolyn Watkins (derg@epa.ohio.gov)
Ohio EPA- OEE
P.O. Box 1049
Columbus, OH 43216-1049

RE: Ohio EPA's Draft Beneficiary Mitigation Plan, *In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, MDL No. 2672 CRB (JSC)* (December 7, 2017)

Dear Ms. Watkins,

In response to the above-referenced docket, American Municipal Power, Inc. (AMP) and the Ohio Municipal Electric Association (OMEA) hereby provide the following comments for the record. While supportive of Ohio EPA's Draft Beneficiary Mitigation Plan, additional adjustments to the counties eligible for funds and a refocus from fast charging along freeways to Level 2 charging in publicly available locations would provide a more significant impact to the health and welfare of Ohioans.

Background on AMP and OMEA

American Municipal Power, Inc. (AMP) is a non-profit wholesale power supplier and service provider for 135 members, including 134 member municipal electric systems in the states of Ohio (84), Pennsylvania (29), Michigan (6), Virginia (5), Kentucky (6), West Virginia (2), Indiana (1), Maryland (1) and the Delaware Municipal Electric Corporation, a joint action agency with nine members headquartered in Smyrna, Delaware. Combined, these member utilities serve more than 650,000 customers. AMP's core mission is to be public power's leader in wholesale energy supply and value-added member services. It offers member municipal electric systems the benefits of scale and expertise in providing and managing energy services.

AMP's diverse energy portfolio makes the organization a progressive leader in deploying renewable and advanced power assets that include a variety of baseload, intermediate and distributed peaking generation using hydropower, wind, landfill gas, solar and fossil fuels, as well as a robust energy efficiency program. While power supply remains its primary mission, AMP also offers a wide variety of other services including, but not limited to, safety programs, technical services, financial assistance, legislative coordination, green power pricing, energy efficiency, regulatory and compliance assistance.

AMP • 1111 Schrock Road, Suite 100 • Columbus, Ohio 43229 • Tel. 614.540.1111 • Fax 614.540.1081 • www.amppartners.org

The OMEA was formed in 1962 and represents the state and federal legislative interests of AMP and 84 Ohio municipal electric systems. The OMEA is closely aligned with AMP and shares AMP's concerns, comments and recommendations herein.

BENEFITS OF PUBLIC POWER

Public power utilities are not-for-profit entities owned by their communities and run as a division of local government. They are governed by a local city council or an elected or appointed board. As a result, public power is an integral part of local communities and they provide a direct link between customers and their power supply. The goal of public power is to provide safe, reliable electricity to customers at low rates.

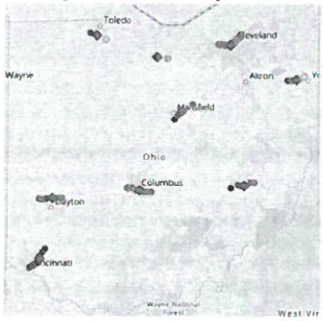
COMMENTS ON OHIO EPA'S DRAFT BENEFICIARY MITIGATION PLAN

The Draft Beneficiary Mitigation Plan demonstrates that Ohio EPA has conducted a deliberative and measured approach to appropriating funds in order to meet the fully executed *Environmental Mitigation Trust Agreement for State Beneficiaries* (Trust Agreement) and maximize available funds. AMP's comments outline recommendations to further assist Ohio EPA in meeting and exceeding the goals outlined in the Draft Plan by maximizing air emissions reductions and mitigating the negative air quality impacts already experienced.

AMP and OMEA commend Ohio EPA's decision to use the maximum allocation of 15% towards Zero Emission Vehicle (ZEV) supply equipment ($11,295,378). Under this allocation, the Plan states that "Priority will be accorded to installation of DC fast charging stations in areas where Phase 3 electric service is already available, and filling in gaps along Ohio's major highway corridors where transportation legislation under the FAST ACT is establishing a national network of alternative fueling and charging infrastructure." In addition to the maximum allocation towards ZEVs, the Ohio EPA provided that "Ohio may also fund some Level 2 stations at locations where demand makes these more appropriate."

AMP and OMEA encourage Ohio EPA to redirect the focus from fast charging along highway transportation corridors to Level 2 charging in publicly available locations. The U.S. DOE conducted a study in 2016 which showed that DC fast charger installations were by far the most expensive ranging from $8,500 to $50,000 per installation. The cost for public level 2 charger installations ranged from about $600 to $12,660. By focusing on Level 2 charging infrastructure, countless additional chargers could be deployed in highly frequented public locations.

As recognized by Ohio EPA, other groups are already focusing on primary freeway corridors including Electrify America and the Electric Vehicle Charging Association in partnership with AEP Ohio. According to the Electrify America plan, they will be installing between four and ten DC fast chargers at each highway site, on average 70 miles apart. Electrify America has informed us they are evaluating sites in Ohio along interstates 80/90, 71 and 70. These areas significantly overlap Ohio EPA's first and second priority areas. See below map of Electrify America's proposed target zones within Ohio.



Electric vehicles are broadly recognized as day-to-day commuter vehicles. Charging stations in pedestrian friendly public locations would increase familiarity with the technology and demonstrate that charging is easily accessible in local communities. According to the US Census, 72% of drivers live in their principal city metro area. According to the Electric Vehicle Readiness Plan for Ohio, over 70% of drivers in Cleveland and Columbus commute less than 20 miles round trip each day, and over 80% of drivers commute less than 50 miles. This implies that the likelihood of their needing a fast charging station on a daily basis is minimal. The study also found that by 2030, the Cleveland and Columbus metro-service areas combined will need over 50,000 non-residential charging stations installed at workplaces and destinations.

Ohio EPA's stated goal to "expedite deployment and widespread adoption of zero-emission and near zero emission vehicles..." should be a key factor in fund distribution. In order to maximize the funds available, AMP and OMEA recommend funding for the installation of Level 2 charging stations (not DC fast) in public locations, for public use, within local communities. AMP/OMEA communities are uniquely positioned to take advantage of Level 2 charging and many AMP/OMEA communities have expressed interest in Level 2 charging infrastructure in publicly accessible areas of their communities. By working directly with these municipal electric utilities, installation of public charging stations would be streamlined resulting in direct benefits to Ohioans.

The map created by Ohio EPA on page 9 of the Plan identifies first and second priority counties that are eligible for funds. While the map largely represents counties with historical air quality challenges, AMP and OMEA recommend that Ohio EPA expand eligibility of mitigation funds to additional Ohio counties, particularly those with historical air quality issues and those located upwind of priority areas. Specifically, Belmont, Clark, Clinton, Miami, Preble and Wood counties all have experienced attainment challenges in the past and should be added as second priority areas. In addition, Williams, Henry, Fulton, Huron, Wayne, and Dover should be considered due to their geographic location as upwind from non-attainment and/or priority counties. Reductions in NOx and particulate emissions in these upwind counties would have a direct impact on air quality in downwind counties.

CONCLUSION

We thank Ohio EPA for the opportunity to provide these comments on behalf of AMP and OMEA. If you need additional information, please don't hesitate to contact us.

Respectfully submitted,

Jolene M. Thompson

Jolene M. Thompson
AMP Executive Vice President
jthompson@amppartners.org
614.540.1111

Airlines for America®

We Connect the World

February 2, 2018

Submitted via email to derg@epa.ohio.gov

Carolyn Watkins
Ohio EPA—Office of Environmental Education
50 West Town Street, Suite 700
Columbus, Ohio 43215

Re: Comments on Ohio's Draft Beneficiary Mitigation Plan under VW Settlement

Dear Ms. Watkins:

Airlines for America® ("A4A") would like to thank the Ohio Environmental Protection Agency for the opportunity to comment on its Draft Beneficiary Mitigation Plan ("Draft Plan") pursuant to the Volkswagen Settlement's Environmental Mitigation Trust and to commend Ohio EPA and the State for including projects that replace or repower airport ground support equipment ("GSE") with all-electric forms ("GSE projects") in the Draft Plan.

A4A and its members are committed to environmental progress and view the Volkswagen Environmental Mitigation Trust ("Trust") as a unique opportunity to accelerate those efforts, particularly in disproportionately impacted communities. Our industry looks forward to working with Ohio EPA and the State to optimize this opportunity, and offer these comments on the Draft Plan.

*****

In accordance with the Consent Decree and Ohio's overall goal for the use of the Trust funds, A4A member airlines are well positioned to assist the State in making cost-effective, sustained emissions reductions where they are needed most: disproportionately impacted communities. GSE projects are often located in areas that receive a disproportionate quantity of air pollution from diesel fleets simply because airports are major hubs of economic activity. Funding GSE projects will improve air quality not only for nearby residents but also for the workers on airport grounds.

GSE projects are cost-effective. Member airlines have unlocked state grant funds with cost-effectiveness thresholds in the past,[1] and that experience readies them to propose equally cost-effective projects to make real differences in the local air quality surrounding airports in Ohio.

Similarly, member airlines and the airports they partner with have demonstrated experience and programmatic structures in place to effectively and efficiently implement GSE projects to reduce emissions. Member airlines have experience with the Federal Aviation Administration's Voluntary Aircraft

[1] *See e.g.*, Carl Moyer Program Guidelines (2011), Appendix G, available at https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm.

Low Emissions ("VALE") Program, the Carl Moyer Program, and other state and local programs, and have implemented their qualifying projects effectively and efficiently. In fact, the VALE program has provided funding to electrify four gates at Cleveland Hopkins International and eleven gates at Port Columbus International airports. Securing funding from the Trust for further GSE electrification will allow the airlines to realize additional air quality benefits for the communities surrounding these and other airports in Ohio.

Our member airlines have specifically expressed interest to repower or replace at least 145 pieces of equipment at Cleveland Hopkins International Airport at an estimated cost of just over $10 million total exclusive of associated charging infrastructure. This airport is located in one of the State's primary priority counties, Cuyahoga County.[2] Furthermore, Cuyahoga County has been designated a nonattainment area for particulate matter by the U.S. EPA and is predicted to be a nonattainment area for U.S. EPA's 2015 ozone standard.[3] Allocating funding to GSE projects is, therefore, a strategy the State should employ to "achieve further emission reductions in Ohio priority counties of concern for ozone," and for particulate matter.[4] Ohio can rest assured that sustained emission reductions will be realized in this county when it funds GSE projects there because GSE operate exclusively on airport grounds.

That said, electric GSE cannot be deployed without supporting infrastructure such as onsite power distribution and sufficient point of use recharging equipment, which typically is owned and operated by airport operators. The Draft Plan notes that Ohio EPA prefers to focus available funds on equipment and therefore does not plan to use the Trust funds for charging infrastructure for GSE projects. A4A urges Ohio EPA to reconsider this decision because airlines will hesitate to purchase electric GSE without guaranteed supporting infrastructure, and it is our understanding that Cleveland Hopkins International as well as other airports in the State do not have sufficient charging infrastructure for the magnitude of equipment our member airlines are interested in converting to all-electric forms at the airports.

In addition, A4A recommends that Ohio use non-competitive funding programs to disburse the Trust funds to GSE projects. These projects are a cost-effective, long-term solution to mitigate nitrogen oxide emissions, but competitive grant processes are often prohibitively risky for GSE projects in particular. Airline budgetary plans require higher levels of certainty throughout the planning process than competitive grants can guarantee. On the other hand, vouchers and rebates provide airlines the certainty necessary to invest resources in planning for equipment acquisition and in coordinating with airports to secure associated infrastructure. Reducing risk and streamlining the disbursement of Trust funds are especially important for our members who intend to continue to promote emissions reductions across the nation through investment in GSE projects under the Trust.

Lastly, it is worth noting that our member airlines' interest in GSE electrification at Cleveland Hopkins International is based on a preliminary analysis, and there is likely to be additional interest there and at other major commercial airports in the state if Ohio EPA's final beneficiary mitigation plan is conducive to supporting GSE projects. This is of particular import because these other major airports are also located in priority counties and supporting GSE projects at them can have lasting air quality benefits for the surrounding communities.

* * * * *

We greatly appreciate the opportunity to comment on Ohio's Draft Beneficiary Mitigation Plan and thank you for your consideration of the points we have outlined above. Please let us know if you have any

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[2] Ohio EPA, Draft Beneficiary Mitigation Plan, Figure 3 at 8.
[3] *Id.* at 3; U.S. EPA, 2015 Ozone Standards, https://ozoneairqualitystandards.epa.gov/OAR_OAQPS/OzoneSliderApp/index.html# (last visited Jan. 19, 2018).
[4] Ohio EPA, Draft Beneficiary Mitigation Plan, at 3.

questions regarding our comments, and we look forward to working with Ohio EPA and the State moving forward.

Sincerely,

Veronica Bradley
Manager
Environmental Affairs
Airlines for America

VNG®

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www.vng.co

February 5, 2018

Carolyn Watkins
Ohio EPA-OEE
P.O. Box 1049
Columbus, OH 43216-1049
Delivered electronically to: derg@epa.ohio.gov

Subject: Draft VW Beneficiary Mitigation Plan

Dear Ms. Watkins:

VNG.co is a developer of compressed natural gas (CNG) fuel dispensing infrastructure for medium- and light-duty natural gas vehicles (NGVs). Funding from the VW Beneficiary Mitigation Plan is an important opportunity to not only remedy the damage caused by VW's emissions fraud but to help encourage new investments that will create increasing clean air benefits in the future. As such, EPA should allocate these funds wisely, with decisions based not on a pre-determined preference for ZEVs but on cost-effectiveness.

And a proper cost-effectiveness analysis must consider *life-cycle* emissions benefits of different solutions, not only tailpipe emissions. NOx emissions are just as harmful when emitted from a smokestack instead of a tailpipe, and Ohio depends on heavily-polluting, coal-fired power plants for over 50% of its electricity. Not only that, but these power plants are often located in low-income areas, effectively displacing air pollution onto areas that can least afford to suffer its costs.

We believe that a full lifecycle analysis of emissions solutions will show NGVs to be a far more cost-effective use of these funds per unit of NOx (and GHGs) reduced. New CNG engine technologies can achieve NOx levels as low as 0.02 g/bhp-hr, over a 90% reduction compared to current standards; the lifecycle NOx emissions of an EV powered by coal are almost certainly worse. In addition to comparable or greater emissions benefits, NGVs offer significantly lower costs compared to EVs across all vehicle classes.

However, due to the tailpipe emission and ZEV bias of the draft plan, funds may be wasted on pricey, pollution-generating vehicles that provide much less bang for Ohio's buck. It's important to note that EVs also receive funding through the multi-billion dollar ZEV Infrastructure Fund, so there is already a program completely dedicated to providing support for this sector.

Allocating a further 15% of Beneficiary Mitigation Plan grants to EVs is both unnecessary and a poor use of program funds due to the cost-effectiveness issues outlined here.

Thus, we recommend using the Beneficiary Mitigation Plan funds *exclusively* to support NGV deployment, which will provide far greater emissions reduction benefits per dollar. This will also support the development of a more diverse alternative fuels industry and infrastructure in Ohio than a process unfairly tilted towards EVs.

Finally, while a concern for cost-effective emissions mitigation should be paramount in the use of these funds, there also are significantly greater local economic development opportunities for Ohioans from investments in NGVs compared to EVs. Ohio is rich in shale gas resources, and its farms and municipalities all have potential resources for the generation of ultra-low emission renewable natural gas (RNG) as a biofuel for these vehicles. Ohio is also home to Ariel Corp, the world's largest manufacturer of reciprocating gas compressors – and an equipment provider that we rely on in building our stations.

We hope that the Ohio EPA takes a comprehensive view in ensuring that Ohioans receive the maximum benefit from the use of these funds, and we are confident that NGVs have a major role to play in achieving this goal. Thank you for the opportunity to provide input into this important process.

Respectfully,

Robert Atkinson
VNG, Chief Regulatory Officer
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Carolyn Watkins
Ohio EPA-OEE
P.O. Box 1049
Columbus, OH 43216-1049
RE: Public Comment Ohio's VW Mitigation Plan
28 January, 2018

Ms. Watkins,

The VW Mitigation Session held in Cleveland, 18 January 2018, was both informative and well delivered. Rational for the distribution and best use of funds was logical and seemly well balanced. It was stated that the only infrastructure funding would be for public charging stations along Ohio's major highway corridors, primarily Cleveland to Columbus; Columbus to Dayton and Cincinnati.

This public comment is for the allowance of funding for alternative hydrogen fueling stations along the existing and proposed fuel corridors. Ohio is the Midwest's technological leader, both for alternative fuels and autonomous vehicle testing. Without the addition of hydrogen stations the advancement of these zero emission vehicles will not be adopted as quickly as they could. Without the infrastructure in place many organizations both public and private, will not move forward to this technology because of lack of ability to travel as those using gasoline or diesel fuels. With the addition of even a few strategically placed hydrogen stations zero emission vehicles can become a reality in the state of Ohio.

VW State Beneficiary Trust Agreement Case 3:16-cv-00295-CRB Document 51-1, Appendix D-2, number 9 Light Duty Zero Emission Vehicle Supply Equipment b. states:

> b. "Light duty hydrogen fuel cell vehicle supply equipment includes hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70 megapascals (MPa) (or analogous successor technologies) that is located in a public place."

The allowance of hydrogen infrastructure is recognized. We are respectfully requesting consideration for the allowance of hydrogen stations building the Midwest Corridor, taking that step not just to lower emissions but for zero emissions. Ohio has already started the movement. The VW funding could give others the backing they need to also go zero emission.

Thank you,

Kirt Conrad
CEO/Executive Director
Stark Area Regional Transit Authority

Shuman, Justin

From: Chris Bott <cmbott0329@gmail.com>
Sent: Tuesday, February 06, 2018 2:51 PM
To: EPA DERG
Subject: Team 88: Call to Action!

Chris Bott
336 Laurel Lane
Wadsworth, OH 44281

February 6, 2018

Dear EPA Representative,

I am writing to you today to encourage your support of the trucking industry by delegating funds from the Volkswagen Emissions Grant to over-the-road trucking.

In the state of Ohio, trucking provides 1 out of every 15 jobs. Trucks transport 75% of the total manufactured tonnage in the state, and 82.2% of Ohio communities depend exclusively on trucks to move their goods. This sheer volume of product and impact that the industry has on daily life warrants support from multiple communities, as without trucks, all Ohioans would be greatly impacted in every aspect of their world. While other industries claim their need for this money over trucking's need for these funds is essential, the simple fact is that, without trucking, many of these other industries would simply cease to be productive because of the absence of the supplies of materials and services they need that would be carried by trucks, but may not be if not given adequate funding.

Trucking also already supports other industries by supporting the roads that they use with passenger vehicles every day: the trucking industry pays 37% of all taxes owed by Ohio motorists, but trucks only represent 10% of vehicle miles traveled within the state. Since trucking is carrying its weight three times over, it is not unreasonable to ask for support of the industry so that it can better serve all industries. The trucking industry also participates in the SmartWay Transport Partnership, which works with government and businesses to quantify greenhouse gas emissions, taking steps to reduce them. The trucking industry supports the environmental industry and wishes that, through continued financial collaboration, both industries can continue to improve environmental conditions for all citizens within the state of Ohio.

In continued support of the environment, trucks continue to improve energy and environmental efficiency, even while increasing mileage. In 2014, trucks used 97 billion fewer gallons of fuel than passenger cars, and through advancements in engine technology and fuel refinements, new diesel truck engines produce 98% fewer particulate matter and nitrogen oxides emissions than a similar manufactured engine.

If you have any questions, please feel free to contact me. I want to thank you for your continued support of this very important industry.

Sincerely,
Chris Bott

Shuman, Justin

From: Evan Newman <Evan@ohiotrucking.org>
Sent: Tuesday, February 06, 2018 2:51 PM
To: EPA DERG
Subject: Team 88: Call to Action!

Evan Newman
21 East State Street
Columbus, OH 43068

February 6, 2018

Dear EPA Representative,

I am writing to you today to encourage your support of the trucking industry by delegating funds from the Volkswagen Emissions Grant to over-the-road trucking.

In the state of Ohio, trucking provides 1 out of every 15 jobs. Trucks transport 75% of the total manufactured tonnage in the state, and 82.2% of Ohio communities depend exclusively on trucks to move their goods. This sheer volume of product and impact that the industry has on daily life warrants support from multiple communities, as without trucks, all Ohioans would be greatly impacted in every aspect of their world. While other industries claim their need for this money over trucking's need for these funds is essential, the simple fact is that, without trucking, many of these other industries would simply cease to be productive because of the absence of the supplies of materials and services they need that would be carried by trucks, but may not be if not given adequate funding.

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If you have any questions, please feel free to contact me. I want to thank you for your continued support of this very important industry.

Sincerely,
Evan Newman

Submitted via derg@epa.ohio.gov

February 6, 2018

Carolyn Watkins
Ohio EPA-OEE
P.O. Box 1049
Columbus, OH 43216-1049

Re: VW Comment

Dear Ms. Watkins,

BYD America ("BYD") appreciates the opportunity to submit the following comments on the preliminary draft of the Beneficiary Mitigation Plan for the State of Ohio. We believe that our comments and recommendations align with and build upon the state's priorities of achieving broad, multi-sector deployments of zero-emission vehicles and equipment. Such deployments will take advantage of this unprecedented opportunity to reduce mobile source emissions and provide both near- and long-term nitrogen oxide (NOx) emissions reductions in those areas that bear a disproportionate share of the state's air pollution burden.

BYD is a global company that is changing what is possible in zero-emission transportation. Our commitment to "solve the whole problem" has made BYD an industry pioneer and leader in not only the transportation sector, but also high-efficiency energy storage, solar power, LED lighting, and information technology. BYD and its shareholders, including Warren Buffett, see these environmentally and economically forward products as the way of the future.

Our North American headquarters and manufacturing facilities are in California. We are vertically integrated in order to control the quality and costs throughout the manufacturing chain – we produce every major vehicle component, including our 100% recyclable batteries, inverters, and traction motors. This business structure ensures seamless communication and efficiency across components, which creates better operational experiences and competitive pricing.

Provide Support for Transformative Technologies in Areas Disproportionately Burdened with Air Pollution

Specific to the state's draft plan, BYD commends Ohio on its efforts to prioritize as much as $15 million for transit bus replacement projects as well as $11.3 million to light-duty electric vehicle supply infrastructure. By aligning these two allocations, we encourage Ohio to recognize the potential synergies and the benefits of electrifying transit fleets.

Transit buses, by virtue of their high mileage, see even more substantial maintenance and fuel savings than other on-road vehicles. For example, BYD's standard 40' bus can generate yearly savings on the order of $45,000 per bus. Over a 15-year vehicle lifetime, that can add up to $675,000 in reduced maintenance and fuel costs. Further, BYD's recyclable battery technology

enables these vehicles to operate as much as 200 miles on a single charge, all while producing zero emissions.

In other words, for every dollar invested in all-electric transit buses, Ohio can generate tremendous savings for public transit agencies and their customers while also accomplishing the Environmental Mitigation Trust's goal of reducing emission-caused public health concerns. With these added savings, transit agencies have the option to offer increased services for riders, providing more alternatives to private transportation and thereby further displacing vehicle emissions.

As the world's largest producer of battery electric buses, BYD has demonstrated experience and established customer delivery and deployment processes. Indeed, BYD has deployed more than 35,000 zero-emission buses internationally and has received orders for over 3,000 additional buses. These buses have accumulated hundreds of millions of miles of service, saved over tens of millions of gallons of diesel, and reduced over a billion pounds of greenhouse gases (GHGs).

Specific to transit vehicles, BYD's product line of transit and coach buses, ranging from 23' coach buses to 60' articulated transit buses, are American Disabilities Act and Buy America-compliant. They are therefore eligible to help transit agencies in Ohio reduce fuel costs and minimize maintenance expenses, increasing reliability and performance.

ZERO EMISSION TRANSIT SOLUTIONS

BYD has long prided itself on its commitment to supporting municipalities achieve public health and sustainability goals. As a reflection of that commitment, BYD has helped turn over public bus fleets throughout the U.S.

BYD is committed to continuing to expanding municipal electric fleets and, by leveraging Volkswagen settlement funds, intends to support Ohio achieve its air quality goals.

Electrified Freight Equipment Maximizes Total Cost of Ownership Benefits

Beyond transit projects, BYD also sees tremendous opportunity for Ohio to radically transform on-road transportation and is enthused by the state's proposed 50% allocation to on-road fleet and equipment projects. Given the state's proactive prioritization of specific counties, we encourage Ohio to look to electrifying delivery, cab forward, and tractor trucks, many of which are "captive" fleets that operate almost entirely within dense communities or areas overburdened with air pollution (e.g., ports and terminals) and are thus capable of delivering immediate environmental benefits.

In its own legislation and past solicitations of the Diesel Emission Reduction Grant (DERG) Program, Ohio has consistently addressed air quality at ports, rail yards, depots and terminals due to environmental justice concerns. By allocating funds cargo handling equipment, Ohio will be able to further its goals of reducing non-road diesel equipment emissions.

In particular, focusing funds on terminal tractors (also referred to as yard tractors, yard hostlers, or yard trucks,) presents Ohio with a pathway to significant non-road emissions reductions. Terminal tractors receive heavy use in order to move freight quickly and efficiently through Ohio's ports and inland terminals. However, this productivity is at the cost of clean air as terminal tractors typically use older, high-emitting diesel engines. Ohio can therefore make an immediate and

lasting impact on local air quality in these disproportionately burdened areas by replacing outdated equipment with zero-emission electric terminal tractors.

In addition to providing 100% reductions in harmful NOx and particulate matter emissions that support the state's air quality goals, electrified on-road trucks, such as those servicing ports and freight distribution centers, generate total cost of ownership benefits for the vehicle owners and operators.

BYD Solutions

BYD's model 8Y terminal tractor is a 100% battery-electric class 8 truck that is capable of 16 hours of continuous operation between charges with minimal battery degradation. Each terminal tractor eliminates 1,590 metric tons of CO2 over its deployment lifetime. Related to the vehicle's hugely beneficial total cost of ownership, the T8Y saves operators $19,100 in fuel costs and $8,800 in maintenance costs per truck each year – lower downtime, fewer moving parts, less wear and tear, and improved environmental efficiency are the hallmarks of BYD's T8Y terminal tractor. Further, they are able to be deployed immediately as they are compliant with Federal Motor Vehicle Safety Standards (FMVSS).

Electrified on-road trucks, such as BYD's various Class 5, 6, and 8 models, create additional benefits for the environment and operators alike, as shown in Table 1 below. Each of these models presents customers with a basic chassis readily available for customization. BYD works with top outfitters and upfitters to meet customer specifications; thus, each of our chassis can be outfitted into a dry box, flatbed, stake bed, refrigerated unit, and refuse truck version.

Vehicle Type	Models[1]	Battery Performance	CO2 Reduced per Truck	Fuel Savings / Year	Maintenance Savings / Year
Class 5 Medium-Duty Truck	5D, 5F	155 mile range	340 tonnes	$ 6,000	$ 4,000
Class 6 Medium-Duty Truck	6D, 6F, 6R	124 mile range	450 tonnes	$ 8,200	$ 4,600
Class 8 Heavy-Duty Truck	8Y, 8R, 8TS, and 8TT	92 mile range	636 tonnes	$ 9,600	$ 4,500

Closing Remarks

The commercial-scale heavy-duty electric transportation market is rapidly maturing, as demonstrated by the price reduction of more than 20% in our bus products over the last five years. This Volkswagen opportunity represents a unique chance to create immediate emission and

[1] "B" stands for "Bucket." "D" stands for "Delivery." "F" stands for "Forward / Cab Forward." "R" stands for "Refuse." "TS" stands for "Tractor Single." "TT" stands for "Tractor Tandem."

economic benefits for Ohio's residents, as well as build the groundwork for a sustainable electric transportation marketplace.

The economic, emissions, and energy-specific benefits of electrified equipment are clear – all-electric trucks, buses, and equipment generate no tailpipe emissions while, over the lifetime of the vehicles, deliver a lower total cost of ownership than conventional petroleum fuels and natural gas.

BYD believes early-market incentive funding is critical to achieving more favorable upfront economics and that increasing sales will lead to cost-competitive purchase prices. We have committed to and successfully delivered substantial price reductions from our first generation of products. We hope to continue this progress in Ohio and support the state in addressing a broad spectrum of environmental issues, resiliency and sustainability chief among them.

BYD thanks the Governor's Office of Planning and Budget for the opportunity to submit these recommendations, and would like to work with you and your team to ensure an efficient and effective rollout of Ohio's Beneficiary Mitigation Plan. Towards that end, we request an in-person meeting to discuss our recommendations further. We look forward to future collaboration that will help Ohio meet its environmental, fiscal, and social justice goals.

Sincerely,

Zachary S. Kahn
Director of Government Relations
BYD America

Shuman, Justin

From: Rebecca Calvin <rebecca.calvin@gmail.com>
Sent: Tuesday, February 06, 2018 2:31 PM
To: EPA DERG
Subject: Team 88: Call to Action!

Rebecca Calvin
21 East State Street, Suite 900
Columbus, OH 43215

February 6, 2018

Dear EPA Representative,

I am writing to you today to encourage your support of the trucking industry by delegating funds from the Volkswagen Emissions Grant to over-the-road trucking.

In the state of Ohio, trucking provides 1 out of every 15 jobs. Trucks transport 75% of the total manufactured tonnage in the state, and 82.2% of Ohio communities depend exclusively on trucks to move their goods. This sheer volume of product and impact that the industry has on daily life warrants support from multiple communities, as without trucks, all Ohioans would be greatly impacted in every aspect of their world. While other industries claim their need for this money over trucking's need for these funds is essential, the simple fact is that, without trucking, many of these other industries would simply cease to be productive because of the absence of the supplies of materials and services they need that would be carried by trucks, but may not be if not given adequate funding.

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If you have any questions, please feel free to contact me. I want to thank you for your continued support of this very important industry.

Sincerely,
Rebecca Calvin

GENERAL MOTORS

Britta K. Gross Director
Advanced Vehicle Commercialization Policy
Environment, Energy & Safety Policy

General Motors Global Headquarters
MC: 482-C30-C76
300 Renaissance Center
Detroit, MI 48265-3000

6 February, 2018

Carolyn Watkins
Ohio EPA - OEE
P.O. Box 1049
Columbus, OH 43216-1049
derg@epa.ohio.gov

Subject: GM Comments relative to Ohio's draft Beneficiary Mitigation Plan

Ms. Watkins:

General Motors LLC (GM) appreciates the opportunity to provide comments to the proposed Ohio Beneficiary Mitigation Plan for the VW Environmental Mitigation Trust and we fully support the proposed plan to use the maximum allowed 15% of the fund (equating to approximately $11mil) to increase the availability of critically-needed electric vehicle (EV) charging stations. There are currently almost 8,000 plug-in EVs registered in Ohio, and in order to grow the EV market and attract even more innovative and advanced mobility technologies to the state, such as car-sharing, ride-hailing, and self-driving EVs, Ohio needs to invest in a charging infrastructure network that addresses consumer and industry concerns. The ability to introduce and grow these advanced mobility services relies on a robust foundation of EV charging infrastructure, especially DC fast-charging (SAE industry standard).

Automakers have made enormous investments in the electrification of transportation – GM alone has invested billions of dollars to develop electrification technologies, including the state-of-the-art Chevrolet Volt and Chevrolet Bolt EV, which has swept the industry's most prestigious car awards, including North America Car of the Year, Motor Trend's® 2017 Car of the Year, MotorWeek's 2017 Drivers' Choice "Best of the Year" Award, and Green Car Journal's Green Car of the Year. The Bolt EV is the industry's first affordable, long-range EV with an EPA estimated range of 238 miles-per-charge, and is now available at Chevrolet dealers across all 50 states, including Ohio. This advanced technology will require more widespread charging infrastructure, and thus the urgency to rapidly expand EV charging infrastructure that is highly visible to consumers and drives consumer-confidence in the ability to drive EVs anywhere in the state.

While the majority of all EV charging today is done at the home, there are still critical infrastructure needs not met by single-family home charging. And to maximize the impact of limited state funds, it is important to invest strategically. GM would prioritize today's key infrastructure needs as follows:

1. **Highway corridor DC fast-charging** most visibly inspires consumer confidence in the driving range, and practicality, of EVs. A 2016 survey of 2,500 consumers by Altman Vilandrie & Company found the top reason customers gave for not wanting to purchase a plug-in electric vehicle was a perceived lack of charging stations (85%). Highly visible corridor EV charging (SAE industry standard) can help address this consumer perception issue.
2. **Workplace EV charging** creates an EV "showroom" that very effectively grows EV awareness among corporations, and employees of these corporations. According to US DOE data, workplace charging results in employees 6X more likely to purchase an EV than employees at companies not offering workplace charging.
3. **Multi-unit dwelling EV charging** provides an important opportunity to expand EV adoption to consumers residing in townhomes, condominiums, and apartments, who may not have access to a "home" charger every evening. This is currently an untapped segment of potential EV buyers. This need can be met by Level 1 or Level 2 charging directly at the multi-unit dwellings, or by neighborhood DC fast-charge hubs that can serve these residents.
4. **Public EV charging at key destinations** is also important to increase the practicality of EVs and the number of places an EV can go, with a special focus on destinations typically outside a consumer's normal daily driving patterns (e.g. airports, beaches, hotels, resorts, etc.).

EV charging infrastructure is vital to the growth of the EV market and will lead to long-lasting emissions reductions that increase over time as the market expands. And Ohio's relatively low electricity prices mean that electric vehicles are an important economic driver for Ohio. We also encourage the state to directly engage all electric utilities in the strategic planning and execution of EV infrastructure to ensure charging stations are part of a cohesive infrastructure strategy for the entire state. Infrastructure should be targeted for locations where it will be most beneficial to consumers and electric utilities can share these learnings to inform subsequent infrastructure programs in the state. Additionally, the direct engagement of utilities in the execution of EV charging infrastructure will ensure the most cost-effective and grid-responsible EV charging solutions.

The VW Environmental Mitigation Trust is an opportunity to invest in forward-looking infrastructure that lays a much-needed foundation for EV market growth and will help attract even more advanced transportation technologies to Ohio. GM greatly appreciates Ohio's commitment to support the strategic transition to transportation electrification and all efforts to help drive this emerging market. The speed with which EV charging infrastructure can be expanded will determine the pace of EV adoption in Ohio as well as the ability to drive towards even more advanced transportation technologies.

Sincerely,

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February 6, 2018

Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049

Re: VW Mitigation Settlement

To whom it may concern:

We are writing to you today from the Trumbull County Engineer's Office.

We respectfully request that you consider including class 7 dump trucks with snow and ice removal packages to the allowable trucks obtained through the Volkswagen Mitigation Settlement.

A class 7 dump truck, although heavily utilized for snow and ice control in the winter months, is also greatly utilized in the spring, summer and fall months. A primary use is to transport aggregate to and from paving and chip seal applications. They are utilized to transport road grinding from paving sites, dirt and soils from the cleaning of roadside ditches and berms, as well as litter and tires picked up along the road side. These trucks are commonly used to haul asphalt to fill and repair potholes as well. During these seasons, these diesel vehicles are often times idling or moving very slowing as they are being used, thus contributing many pollutants to the environment.

Because of our excellent vehicle maintenance staff, our vehicles last many years. Several are circa 20 years old, and although they run well, the bodies and frames are failing not to mention they are heavy polluters. Trumbull County has made a commitment to transition to CNG fuel operated trucks. We currently have 4 CNG powered plow trucks and one CNG powered pick-up truck, in our fleet. We will be receiving 4 more CNG plow trucks in late 2018 or early 2019. The CNG portion of our fleet pales in comparison to the rest of the fleet. We have over 30 class 7 diesel powered dump trucks and over 20 other pieces of large equipment that pollute the environment.

Including funding in the Volkswagen Mitigation Settlement for class 7 government owned vehicles to include plow trucks with snow and ice removal packages would allow us to keep the roads safe for all users, including first safety responders, while providing a reduction of pollutants to the environment.

As funding to our department remains stagnant from gasoline taxes and license plate taxes, many local governments are also facing funding cuts from the State Government. Providing funding to these necessary vehicles will give local governments the ability to replace some of their aging fleet and not continue to force them to make costly repairs to their heavy polluters.

We appreciate the opportunity given to us to offer our input.

Sincerely;

Steven J. Gerberry
Deputy Administrative Assistant
and Special Projects Coordinator