

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421

September 6, 2019

Via E-Mail

Climate Executive Designees

Bobby Lewis, Chief Operating Officer
NCDOT
rwlewis1@ncdot.gov

Christopher Werner, PE, Technical Services
Administrator
Division of Highways
cmwerner@ncdot.gov

Climate Program Designees

Colin Mellor, LG
Environmental Policy Unit
cmellor@ncdot.gov

Heather Hildebrandt
Statewide Initiatives Group
hjhildebrandt@ncdot.gov

Eric Frazier
Facilities Management Unit
erfrazier@ncdot.gov

N.C. Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Comments on draft ZEV Plan

Dear Mr. Lewis, Mr. Werner, Mr. Mellor, Ms. Hildebrandt, and Mr. Frazier:

On behalf of Environment North Carolina, Sustain Charlotte, Clean Air Carolina, North Carolina Housing Coalition, North Carolina Justice Center, and itself, the Southern Environmental Law Center submits these comments on the draft Zero-Emission Vehicle (“ZEV”) Plan that the Department of Transportation (the “Department” or “NCDOT”) published for public comment on August 22, 2019 pursuant to Governor Cooper’s executive order on climate change, Executive Order No. 80.¹ We are pleased to see NCDOT and other cabinet agencies responding to climate change under the order, and we commend NCDOT for completing the draft ZEV Plan on a tight timeline, which was no small task.

We support NCDOT’s work on the ZEV Plan. It contains many sound recommendations

¹ Exec. Order No. 80, North Carolina’s Commitment to Address Climate Change and Transition to a Clean Energy Economy (2018), <https://files.nc.gov/ncdeq/climate-change/EO80--NC-s-Commitment-to-Address-Climate-Change---Transition-to-a-Clean-Energy-Economy.pdf>.

that will help to increase the number of ZEV registrations in North Carolina.² ZEVs have the potential to substantially reduce greenhouse gas (“GHG”) emissions as well as traditional air pollution while saving North Carolinians money in the process,³ and these benefits will continue to increase rapidly as the technology matures and costs come down. In light of the lifetime cost savings, local air pollution reductions, and other benefits, we must work to ensure that *all* North Carolinians, regardless of income level and race, have access to ZEVs and benefit from increased market penetration. However, we must note that ZEVs are not a panacea. To address GHG emissions, traditional air pollution, and loss of habitat and carbon sinks—not to mention traffic and quality of life—we must look at transportation policy more holistically, and Executive Order No. 80 requires nothing less.

1. The Department has created a sensible ZEV Plan that will benefit North Carolina, but it should be even stronger.

The draft plan is an important start. The policy recommendations contained in each of the plan’s four strategic initiative areas—education, convenience, affordability, and policy—are informed by the stakeholder process that the Department conducted, including several in-person stakeholder workshops that were attended by over 100 participants. The plan is the direct result of that stakeholder engagement as well as NCDOT’s own research. By thoughtfully developing strategic initiatives based on that work, the plan incorporates lessons from other jurisdictions while tailoring its recommendations for North Carolina. We look forward to working with the Department to see the plan implemented as quickly as possible in the coming years.

But the plan could be stronger. Below we recommend key ways to strengthen it. We begin with general recommendations that apply to the plan as a whole, and then discuss specific recommendations for the different actions areas. We conclude by urging the Department to set its sights higher than the ZEV Plan as it continues to implement Executive Order No. 80 and help our state confront the climate emergency.

2. General Recommendations

a. Make equity integral to the plan.

The ZEV Plan should ensure that all North Carolinians benefit from increased market penetration. This involves improving access to the vehicles themselves. With their lower lifetime ownership costs, ZEVs can help to make mobility more affordable. As mentioned, it is evident that the draft plan is grounded in substantial research and stakeholder input. However, we recommend that the Department deepen its investigation into all possible ways to expand

² The draft ZEV Plan defines ZEV to include plug-in hybrid vehicles (“PHEVs”). PHEVs do not have zero tailpipe emissions and should not be part of our long-term clean-transportation future.

³ See UNION OF CONCERNED SCIS., ELECTRIC VEHICLE BENEFITS FOR NORTH CAROLINA (2019), https://www.ucsusa.org/sites/default/files/attach/2019/05/State%20Benefits%20of%20EVs_batch%20202_NC.pdf; MARK LEWIS, BNP PARIBAS ASSET MANAGEMENT, WELLS, WIRES, AND WHEELS . . . EROCI AND THE TOUGH ROAD AHEAD FOR OIL (2019), <https://docfinder.bnpparibas-am.com/api/files/1094E5B9-2FAA-47A3-805D-EF65EAD09A7F>.

equitable access to ZEVs.⁴

Expanding the benefits of ZEVs also involves considering their second-order benefits such as reduced local air pollution. One of the many manifestations of environmental injustice is the proximity impact of transportation facilities, which are disproportionately borne by people of color and, to a lesser extent, people with low incomes.⁵ The primary problem is air pollution, which increases the risk for asthma and impaired lung function in children as well as for cardiac and pulmonary mortality, and likely increases the risk for lung cancer.⁶ By eliminating tailpipe emissions ZEVs reduce these proximity impacts. NCDOT should work to target these reductions to communities disproportionately burdened by transportation pollution.

We provide additional recommendations for making the ZEV Plan more equitable in the specific recommendations below. In particular, to make access to ZEVs more affordable we recommend NCDOT add three recommendations to the plan, including partnering with municipalities to establish ZEV car-share programs. To improve access to charging stations (“convenience”), we recommend focusing on distributing the stations more equitably.

b. Strengthen the goal.

The draft plan should strengthen the goal for the number of ZEVs registered in-state by 2025, by setting the following *sales* targets for 2025: at least fifteen percent of light-duty vehicles and at least five percent of medium- and heavy-duty vehicles sold in-state will be ZEVs. Doing so would make the plan more consistent with Executive Order No. 80. As written, the draft plan treats the goal of 80,000 ZEVs by 2025 as a ceiling,⁷ but under Executive Order No. 80 it is the floor.⁸ Furthermore, the order directs all cabinet agencies to examine ways to reduce

⁴ For a good set of model policies including recommendations on expanding equity and access, see SIERRA CLUB AND PLUG IN AMERICA, *ACHIEVE: MODEL STATE & LOCAL POLICIES TO ACCELERATE ELECTRIC VEHICLE ADOPTION* (2018), <https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/EV%20Policy%20Toolkit.pdf>. For a general overview of electric-vehicle policies, see ARGONNE NAT’L LAB., *INCENTIVIZING ADOPTION OF PLUG-IN ELECTRIC VEHICLES: A REVIEW OF GLOBAL POLICIES AND MARKETS 51* (2018), https://greet.es.anl.gov/files/incentivizing_pev (identifying conclusions from comparison of EV policies).

⁵ See UNION OF CONCERNED SCIENTISTS., *INEQUITABLE EXPOSURE TO AIR POLLUTION FROM VEHICLES IN THE NORTHEAST AND MID-ATLANTIC 2* (2019), <https://www.ucsusa.org/clean-vehicles/electric-vehicles/northeast-air-qualityequity>.

⁶ *Id.*; Doug Brugge et al., *Near-highway pollutants in motor vehicle exhaust: A review of epidemiologic evidence of cardiac and pulmonary health risks*, PUBMED CENTRAL (2007), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1971259/>; JULIANA MAANTAY ET AL., U.S. ENVTL. PROT. AGENCY, *PROXIMITY TO ENVIRONMENTAL HAZARDS: ENVIRONMENTAL JUSTICE AND ADVERSE HEALTH OUTCOMES 62* (2010), <https://archive.epa.gov/ncer/ej/web/pdf/maantay.pdf>.

⁷ Draft ZEV Plan 3 (stating that the goal is to increase the number of registered ZEVs “to 80,000 by 2025”).

⁸ Exec. Order No. 80 § 1.b. (setting the goal of increasing “the number of registered, zero-

emissions.⁹ And strengthening the goal is readily achievable. The draft plan itself estimates that the state will reach approximately 80,000 under the base-case projection.¹⁰ Accordingly, we recommend setting the sales goal above.

c. Act quickly.

The draft plan should recommend doing as much as possible as quickly as possible. The draft plan locates each recommendation along a timeline for implementation as a short-, medium-, or long-term action, corresponding to actions to be completed by 2021, 2023, and 2025, respectively.¹¹ As the Governor’s Office takes up the ZEV Plan, this timeline will help to prioritize its work. As it finalizes the plan, the Department should review each action to see whether and how it can be accelerated to a shorter term. The sooner we replace internal-combustion-engine (“ICE”) vehicles with ZEVs, the sooner we will begin to benefit from reduced emissions and the greater the climate benefits. In addition, as noted above, ZEV penetration is expected to increase rapidly and the sooner we prepare for the shift, the better-served our residents will be.

The Department also should identify the specific actions that should be taken to develop and carry out each recommendation. For example, the first specific recommendation is for local car dealerships and NCDOT to coordinate ride-and-drive events.¹² It would be helpful to recommend a timeline and process for contacting dealerships, convening a meeting, and holding ride-and-drive events, particularly because this is a short-term recommendation to be completed in the coming year.

d. Improve transparency.

In the interest of making our state’s ZEV Plan more transparent to the public, the Department should make all of the data underlying the ZEV Plan publicly available. In particular, we request the Department publish its data on ZEV sales and registrations, as well as the related GHG emissions reductions that have been estimated or measured. Data transparency is wise policy, helping North Carolinians to understand our state government’s operations and to inform our opinions about policy choices. North Carolina recently has re-committed to providing public access to as much information as possible under law.¹³ Whenever possible, the state should provide open access to public records without the need for a public records request. Accordingly, we request that the Department host this information publicly in an easily accessible location and format online.

emission vehicles . . . to at least 80,000”).

⁹ *Id.* § 2.

¹⁰ Draft ZEV Plan 4, Fig. 2.

¹¹ *Id.* at 19 (showing timeline for adoption).

¹² *Id.* at 9.

¹³ OFFICE OF GOVERNOR ROY COOPER, GUIDANCE FOR PUBLIC RECORDS AND MEETINGS ACCESS 2 (Draft: March 8, 2018), <https://www.ncdot.gov/news/public-records/Documents/public-records-policy.pdf>.

3. Specific Recommendations

For convenience, the specific recommendations in this section are organized to follow the organization of the ZEV Plan through its four strategic initiative areas.

a. Education

i. Coordinate Ride & Drive Events (Short-term)¹⁴

The Department should refine the primary objective for this recommendation. Rather than determining *whether* drivers would benefit from municipal partnerships with local dealerships, the objective should be quickly to determine when, where, and how to hold ride-and-drive events to best facilitate ZEV uptake, including by piloting these events—and then to commence holding the events accordingly. Key stakeholders should include municipalities.

ii. Fleet Education And Outreach (Short-term)¹⁵

The Department should refine the primary objective for this recommendation. Rather than *considering whether* to engage with key government and private fleet owners to discuss electric vehicle options, the objective should be to engage with at least a certain number of these stakeholders within a short timeframe, collect and synthesize their input, and develop a plan to support fleet uptake. We understand that the Department is following the development of Duke Energy’s proposed electric transportation pilot program (“ET Pilot”). If the Utilities Commission approves the ET Pilot, which remains pending before the Commission, the Department should be sure to educate stakeholders on the available fleet rebates.

b. Convenience

The recommendations in this area show that the Department intends to focus on adding charging stations in two types of locations: electric-vehicle corridors and at workplaces. Although these focus areas are sound, we urge the Department to expand its focus in two ways.

First, the Department should carefully ensure that its work complements the charging station deployment that will be conducted by private-sector entities, including Volkswagen’s subsidiary Electrify America pursuant to the settlement of a federal lawsuit over its diesel emissions-cheating scheme, and Duke Energy pursuant to the ET Pilot program.¹⁶ The Department should consider private entities’ existing plans for deploying charging stations, as well as their incentives and likely deployment locations. Private actors seeking immediate returns on their investments likely will focus on areas with high levels of ZEV ownership per capita and corridors likely to be used by existing ZEV owners.¹⁷ Installing additional chargers in

¹⁴ Draft ZEV Plan 9.

¹⁵ *Id.* at 10.

¹⁶ NCUC Docket Nos. E-2, Sub 1197 and E-7, Sub 1195.

¹⁷ See Chao Luo, et al., *Placement of EV Charging Stations—Balancing Benefits among Multiple Entities*, IEEE (2018), <https://arxiv.org/pdf/1801.02129.pdf> (finding that charging station placement is highly consistent with the heatmap of the traffic flow and that that service providers prefer clustering instead of separation); DALE HALL & NIC LUTSEY, THE INT’L COUNCIL ON

these areas certainly will help to meet out state’s rapidly growing need for chargers.¹⁸ However, concentrating all new chargers in these areas likely will not facilitate ZEV uptake best. Locating at least some chargers in areas that are less likely to be used heavily immediately—such as destinations like the beach, mountains, and state parks, and gaps en route to these destinations¹⁹—will increase the perception among members of the public that a ZEV can take them anywhere in the state. In addition, present investments in charging infrastructure should be made taking into account projected ZEV growth and future needs.²⁰

Second, the Department should seek to ensure that ZEV charging infrastructure is deployed equitably to serve all North Carolinians. As discussed above, private-sector actors likely will cluster ZEV infrastructure near existing ZEV owners, who currently tend to be wealthier and whiter.²¹ Because access to charging near home is essential to ZEV uptake, focusing on these areas likely will delay the time that many North Carolinians are able to adopt the technology and take advantage of lower lifetime ownership costs and reduced local air pollution. A good place to focus would be multifamily dwellings located in disadvantaged communities.

i. Establish Confident Wayfinding Signage (Short-term)²²

The Department should refine the primary objective for this recommendation. The

CLEAN TRANSP., EMERGING BEST PRACTICES FOR ELECTRIC VEHICLE CHARGING INFRASTRUCTURE 19 (2017), https://theicct.org/sites/default/files/publications/EV-charging-best-practices_ICCT-white-paper_04102017_vF.pdf (discussing statistical link between charging infrastructure and ZEV ownership).

¹⁸ By 2025, North Carolina likely will need over 700 DCFC plugs to accommodate electric vehicles and by 2030 it likely will need over 3,000. These charging station figures were calculated using the Department of Energy’s EVI-Pro Lite tool, with the default vehicle mix and full support for PHEVs selected, and assuming 100% of drivers had access to home charging. *See Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite*, ALTERNATIVE FUELS DATA CTR., <https://afdc.energy.gov/evi-pro-lite> (last visited July 3, 2019).

¹⁹ *See* Robert Walton, *Location matters: Utilities focus on charger placement to drive electric vehicle adoption*, UTILITYDIVE (Aug. 31, 2016), <https://www.utilitydive.com/news/location-matters-utilities-focus-on-charger-placement-to-drive-electric-ve/425276/> (discussing importance of siting chargers en route to existing destinations).

²⁰ *See* MEHRNAZ GHAMAMI, MICHIGAN STATE UNIVERSITY, ELECTRIC VEHICLE CHARGER PLACEMENT OPTIMIZATION IN MICHIGAN: PHASE I – HIGHWAYS at v (2019), https://www.michigan.gov/documents/energy/EV-Charger-Placement-Opt-PhaseI-Final-Report-021319_646220_7.pdf.

²¹ *See* PETER SLOWIK & NIC LUTSEY, THE INT’L COUNCIL ON CLEAN TRANSP., EXPANDING THE ELECTRIC VEHICLE MARKET IN U.S. CITIES 14 (2017), <http://www.theicct.org/publications/expanding-electric-vehicle-market-us-cities> (finding that early adopters tend to be educated, middle-aged, married, male, have relatively high incomes, and live in detached homes).

²² Draft ZEV Plan 11.

Department should describe its current actions to develop clear, uniform road signage to indicate public charging stations and how it will identify critical areas for placing ZEV signage. It appears that the Department intends sensibly to adopt the Federal Highway Administration’s approved ZEV signage, and to gather input on placement. It should outline its plans for each of these steps and set interim deadlines.

ii. Facilitate Fast Charging Collaboration (Medium-term)²³

The Department should refine the primary objective for this recommendation. It should describe its ongoing actions to “support existing Fast Charging Corridor efforts.” At least some of this ongoing work should be completed in the short term.

Because a fast-charging ZEV draws a high amount of electricity capacity at one time it can incur high “demand charges” from the electric utility, which can make it difficult to keep direct-current fast chargers (“DCFC”) affordable and profitable. In the interest of facilitating DCFC deployment and ensuring that charging is affordable, the Department should consider supporting a demand-charge holiday.²⁴

Not all fast chargers should be placed on highways; at least some should be placed in urban areas. Among other reasons, this is essential to enable drivers for ride-hailing platforms to drive ZEVs. Ride-hailing drivers working longer shifts—i.e., working full-time, as many do—need to be able to charge quickly and continue working.

iii. Enhance Corridor Definitions (Short-term)²⁵

As discussed above, the Department should be careful not to focus unduly on developing corridors. It also should take care in how it enhances corridors. The draft plan proposes that in its work to enhance corridors, the Department will focus on “factors such as proximity to employment, availability of power, modal connections, right of way ownership, and others” and “travel behavior indicators such as annual average daily traffic (AADT) and zero emission vehicle ownership per capita.”²⁶ These are sound criteria. However, for reasons discussed above, these criteria likely will identify corridors and locations that private-sector actors are also likely to identify and will not necessarily extend to historically disadvantaged areas. The Department should strive to complement the other work taking place and extend benefits to all North Carolinians. In addition, the Department should attempt to take into consideration neighboring states’ charging infrastructure and plans and work to develop a corridor network throughout the South.

²³ *Id.*

²⁴ See DAVID FARNSWORTH, ET AL., REGULATORY ASSISTANCE PROJECT, BENEFICIAL ELECTRIFICATION OF TRANSPORTATION 67 (Jan. 2019), <https://www.raponline.org/wp-content/uploads/2019/01/rap-farnsworth-shipley-sliger-lazarbeneficial-electrification-transportation-2019-january-final.pdf>.

²⁵ Draft ZEV Plan 12.

²⁶ *Id.*

iv. Develop Workplace Charging Programs (Medium-term)²⁷

The Department should refine the primary objective for this recommendation. Rather than seeking to “[a]ssess viability of launching a pilot workplace charging program for North Carolina municipal employees,” the objective should be simply to work with municipalities and launch the program. The Department should recommend that municipalities use (or request) ZEV-specific electric rates and other best practices.

The ZEV Plan should recommend that the state take the lead developing workplace charging programs. Pursuant to Executive Order No. 80, all cabinet agencies must prioritize ZEVs for agency business, and the Department of Administration is developing a “Motor Fleet ZEV Plan” to further this goal.²⁸ The Motor Fleet ZEV Plan was not released for public comment²⁹ and it is unclear whether it will address issues related to workplace charging, such as deploying additional charging equipment at the state’s parking facilities that could accommodate employee charging. NCDOT should recommend that the state develop its own program and use the program to develop a set of best practices for workplace charging programs, and to pilot innovative strategies such as requesting ZEV-specific electric rates that incorporate automated emissions-reduction technology.³⁰

c. Affordability

As discussed above, providing equitable access to ZEVs must be an integral part of the plan. In support of this aim, it should include at least three additional recommendations.

First, NCDOT should work with municipalities to establish ZEV car-share programs. Because ZEVs are still relatively new, the used market is small and new vehicles carry some price premium above the cost of a comparable ICE vehicle. There are many ways to address the up-front cost issue, such as tax breaks and rebates. However, a new vehicle still will likely cost many thousands of dollars. Car-share programs, which have been adopted by cities around the country,³¹ can provide access at very low cost. For example, Los Angeles leveraged a California Climate Investments grant—funded by the state’s economy-wide cap-and-trade program—to establish BlueLA in order to deliver a system of 100 electric vehicles and 200 chargers to central

²⁷ *Id.* at 13.

²⁸ Exec. Order No. 80 § 7.

²⁹ On the Department of Environmental Quality’s webpage for Executive Order No. 80 plans, the link to the Motor Fleet ZEV Plan reroutes to the same webpage. *Climate Change & Clean Energy: Plans & Progress*, N.C. DEP’T OF ENV’T L QUALITY, <https://deq.nc.gov/energy-climate/climate-change/nc-climate-change-interagency-council/climate-change-clean-energy> (last visited Sept. 3, 2019).

³⁰ See Mark Dyson, et al., *Catalyzing the Market for Automated Emissions Reduction*, ROCKY MTN. INST. (May 15, 2017), <https://rmi.org/catalyzing-market-automated-emissions-reduction/>.

³¹ See PETER SLOWIK & MICHAEL NICHOLAS, THE INT’L COUNCIL ON CLEAN TRANSP., EXPANDING ACCESS TO ELECTRIC MOBILITY IN THE UNITED STATES 5-6 (2017), <http://www.theicct.org/publications/expanding-access-to-USElectric-mobility>.

Los Angeles.³² Members pay \$5 per month and \$0.20 per minute, with the second and third hours free; or for income-qualified residents, \$1 per month and \$0.15 per minute.³³ Sacramento's Our Community CarShare provides residents of designated neighborhoods entirely free access to EVs for up to three hours per day or a total of nine hours per week.³⁴

Second, NCDOT should work with electric utilities to develop a pilot ZEV rental program for low-income customers. Electric utilities can potentially offer low-income customers the opportunity to rent a ZEV affordably, keeping costs down through bulk purchasing and compensating ZEV owners for allowing managed charging or even bi-directional flow. For many low-income customers, the savings in avoided fuel and maintenance costs likely would outweigh the rental price, making ZEV rental an affordable choice. The rental price could potentially be added to the customer's utility bill as a line item.

Finally, NCDOT should work with municipalities to replace aging fossil-fueled transit buses with electric models. Public transit is an affordable mobility option for many low-income residents, increasing access to employment, education, healthcare, and other destinations. Electric buses present multiple benefits to municipalities and their residents. In a dense city, each electric bus can save approximately \$150,000 per year in avoided health costs compared to diesel.³⁵ Each bus also saves approximately 500,000 metric tons of CO₂-equivalent per year.³⁶ Of course, even a *diesel* transit bus produces far fewer greenhouse gas emissions per passenger-mile than private cars.³⁷ And each electric bus saves approximately \$39,000 per year in reduced fuel and maintenance costs, which alone is more than enough to offset the additional up-front cost.³⁸ Replacing aging buses with electric represents an additional opportunity to reduce harmful emissions in communities burdened by air pollution.

In addition, NCDOT should evaluate the following policies:

- Waive or eliminate all state taxes and fees for ZEVs
- Eliminate tolls for ZEVs

³² *About BlueLA*, BLUELA, <https://www.bluela.com/about-bluela> (last visited July 3, 2019).

³³ *Offers*, BLUELA, <https://www.bluela.com/#offers> (last visited July 3, 2019).

³⁴ *About Our Community CarShare Sacramento*, OUR COMMUNITY CARSHARE SACRAMENTO, <http://www.airquality.org/Our-Community-CarShare> (last visited July 3, 2019).

³⁵ JUDAH ABER, COLUMBIA UNIVERSITY, ELECTRIC BUS ANALYSIS FOR NEW YORK CITY TRANSIT 5 (2016), <http://www.columbia.edu/~ja3041/Electric%20Bus%20Analysis%20for%20NYC%20Transit%20by%20J%20Aber%20Columbia%20University%20-%20May%202016.pdf>.

³⁶ *Id.*

³⁷ U.S. DEP'T OF TRANSP., PUBLIC TRANSPORTATION'S ROLE IN RESPONDING TO CLIMATE CHANGE 2 (2010), <https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/PublicTransportationsRoleInRespondingToClimateChange2010.pdf>.

³⁸ ABER, *supra*, at 5.

- Create incentives for local governments to include required ZEV parking within minimum parking requirements and free EV charging stations
- Pay for all NC Teachers and other public employees to charge ZEVs for free at their workplaces
- Replace aging diesel school buses with electric school buses

Each of these policies would expand access to this beneficial technology and reduce emissions.

i. Rebates and/or Credits (Short-term)³⁹

This recommendation entails creating a “task force to identify and recommend financial incentives appropriate for NC.”⁴⁰ The Department should establish reporting deadlines for the task force and final deadlines for the task force to report to the Department and for the Department in turn to recommend appropriate action. The task force should investigate how to structure rebates, credits, and other financial incentives to enable low-income drivers to transition to ZEVs.

ii. Green Vehicle Loans with Credit Unions (Short-term)⁴¹

The Department recommends that state credit unions and local dealerships “[c]onsider a state-wide program with credit unions and commercial banks to provide low-interest financing for customers who purchase electric vehicles.”⁴² To ensure that these entities take up this recommendation, the Department should recommend that the state proactively contact these stakeholders and convene these discussions. The state also should assess how it can facilitate low-interest financing programs for ZEVs, paying particular attention to how these programs can be designed equitably to benefit all North Carolinians. The Department should establish deadlines for convening these discussions, deciding whether to take action, and taking action.

iii. Create Dealership Incentives (Short-term)⁴³

The Department should refine the primary objective for this recommendation. Not only should the department “[o]utline and evaluate potential incentives to local dealerships to ensure electric vehicle models are displayed on showrooms and charged for test drives,”⁴⁴ it should select incentives and work to deploy them. The recommendation should include interim deadlines for these actions and a final deadline consistent with completing the recommendation in the short term. One incentive the Department should consider is ZEV “dealer-of-the-month” or -year recognition.⁴⁵ In addition, the Department should expand the goal of this objective to

³⁹ Draft ZEV Plan 14.

⁴⁰ *Id.*

⁴¹ *Id.* at 15.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ See *Dealer Recognition*, MULTISTATE ZEV TASK FORCE, <https://www.zevstates.us/dealer-recognition/> (last visited Sept. 5, 2019).

include creating an incentive for dealers to increase the range of ZEV models available in the state.⁴⁶

iv. Incentivizing Networked or “Smart” Charging Infrastructure (Medium-term)⁴⁷

This recommendation is somewhat unclear. The stated objective is: “Form working group with key stakeholders to map out infrastructure pilots in detail and set specific ‘triggers’ that would lead to future fund increases.” It is not completely clear which fund increases this refers to. It is also unclear whether the purpose of the recommendation is to increase the amount of funding available for charging infrastructure or to require that charging infrastructure be networked. The funding in question seems to be ratepayer funding allocated to Duke Energy’s proposed ET Pilot. The Department recommends increased stakeholder oversight of this pilot as it is deployed. We strongly support that recommendation as applied to any utility investments in ZEV infrastructure, including the ET Pilot (if it is approved).

v. Encouraging Secondary Electric Vehicle Markets (Medium-term)⁴⁸

In this recommendation, the Department explains that in states that have adopted the Zero Emissions Vehicle Memorandum of Understanding (“ZEV States”) the warranty on ZEVs is extended from the federally mandated eight years and 80,000 miles on the battery to fifteen years and 150,000 miles. The Department surely is correct that doing so would drive a larger and healthier secondary market for used ZEVs. Accordingly, the Department should recommend becoming a ZEV State.

d. Policy

i. Participate in a Regional Electric Vehicle Initiative (Short-term)⁴⁹

The primary regional electric vehicle initiative is the Multistate ZEV Task Force.⁵⁰ We recommend the Department simply name the initiative and recommend joining. The Task Force is a useful resource and facilitates sharing best practices, which will help to achieve our ZEV goals. The State may join easily: a state joins the Task Force when its governor executes a memorandum of understanding that has been adopted by the other member states.⁵¹

⁴⁶ See *Vehicles*, MULTISTATE ZEV TASK FORCE, <https://www.zevstates.us/vehicles/> (last visited Sept. 5, 2019).

⁴⁷ Draft ZEV Plan 16.

⁴⁸ *Id.* at 17.

⁴⁹ *Id.*

⁵⁰ See *About the ZEV Task Force*, MULTISTATE ZEV TASK FORCE, <https://www.zevstates.us/> (last visited Sept. 5, 2019).

⁵¹ See *Memorandum of Understanding*, MULTISTATE ZEV TASK FORCE, <http://www.nescaum.org/documents/zev-mou-9-governors-signed-20180503.pdf/>.

ii. EV User Fees (Long-term)⁵²

The Department should connect the objective of this recommendation with the work of the NC FIRST Commission. The primary objective of the recommendation is to evaluate the optimal fee structure for ZEVs, potentially including road-usage charges or mileage-based fees. It is essential that ZEVs are charged fairly and appropriately under any funding system. The considerations involved are too lengthy to elaborate here,⁵³ but the user fees recently imposed by the General Assembly do not do so. The Department explains that the NC FIRST Commission⁵⁴ will be responsible for considering registration fees to charge ZEV drivers fairly in lieu of the gas tax that they do not pay.

The Department should clarify which entity will evaluate an optimized fee structure for ZEVs—NCDOT, making its recommendation to the NC FIRST Commission, or the Commission itself. To ensure that the NC FIRST Commission’s recommendation properly counts the benefits and costs of ZEVs, the Department should recommend that the Commission be expanded to include at least one ZEV or environmental policy expert. The final recommendation should take into consideration stakeholder input from the ZEV driver community, the ZEV industry, and environmental and justice advocates.

iii. Update Building Codes (Medium-term)⁵⁵

Since a majority of low-income populations live in multifamily settings, creating charging opportunities in multifamily housing communities is essential. Building codes for new construction should require the installation of charging infrastructure in all new multifamily developments and programs to add infrastructure to existing multifamily projects should be implemented. The North Carolina Building Code Council should be a key stakeholder.

iv. Fleet & Bus Infrastructure Grants (Short-term)⁵⁶

The Department should expand the primary objective of this recommendation to include—as the Department later describes—serving as a resource for grant availability and details to applicable agencies. In addition, the Department should not limit the recommendation to the “Low-No” emissions program. As the Department recognizes, there are many other federal grants, some of which are entirely within NCDOT’s control rather than competitive.⁵⁷

⁵² Draft ZEV Plan 18.

⁵³ As an example, U.C. Davis researchers recently recommended switching ZEVs to a mileage-based fee while maintaining a gas tax for ICE vehicles. Stephen Kulieke, *How to fund roads and ensure electric vehicles pay their share*, PHYS.ORG (Jan. 4, 2019), <https://phys.org/news/2019-01-fund-roads-electric-vehicles.html>.

⁵⁴ See *NC FIRST Commission*, N.C. DEP’T OF TRANSP., <https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Pages/default.aspx> (last visited Sept. 5, 2019).

⁵⁵ Draft ZEV Plan 18.

⁵⁶ *Id.*

⁵⁷ See U.S. DEP’T OF ENERGY & U.S. DEP’T OF TRANSP., *GUIDE TO FEDERAL FUNDING, FINANCING, AND TECHNICAL ASSISTANCE FOR PLUG-IN ELECTRIC VEHICLES AND CHARGING*

Good examples include CMAQ and STPBG funds.

4. The Department should set its sights higher than the ZEV Plan.

While we are excited about the plan to expand the number of ZEVs in North Carolina, we want to stress that this step forms only a small part of the Department's responsibility to help our state meet its emissions reductions. For one thing, Executive Order No. 80 itself directs NCDOT to do more. Executive Order No. 80 directs *all* cabinet agencies to “evaluate the impacts of climate change on their programs and operations and *integrate climate change mitigation and adaptation practices into their programs and operations.*”⁵⁸

To reduce GHG emissions sufficiently we simply must look beyond the transition to ZEVs. Even replacing a full 80,000 ICE vehicles with ZEVs would reduce emissions by about 262,000 tons per year⁵⁹ out of present transportation emissions of 48.72 million metric tons,⁶⁰ or about 0.5 percent—and the state has a stock of approximately eight million ICE vehicles in the state⁶¹ with turnover approximately every ten years.⁶² In addition, although ZEVs eliminate tailpipe emissions and are far more efficient than ICE vehicles, they do not necessarily reduce the upward trend in vehicle-miles traveled (“VMT”) in the state and the consequent land-use changes that increase the number of VMTs driven by ICE vehicles and eliminate carbon sinks and habitat.

Conservation groups recommended many steps that the Department can take in a letter in February, which is attached and incorporated by reference.⁶³ We commend the Department for committing recently to carrying out one of these recommendations, establishing a statewide VMT reduction target, as well as other smart climate policies including commissioning a study on VMT reduction strategies, creating a VMT-reduction toolkit for local governments, setting up

STATIONS (2016),

<https://www.energy.gov/sites/prod/files/2016/07/f33/Guide%20to%20Federal%20Funding%20and%20Financing%20for%20PEVs%20and%20PEV%20Charging.pdf>.

⁵⁸ Exec. Order No. 80 § 2 (emphasis added).

⁵⁹ *See How Clean is Your Electric Vehicle?*, UNION OF CONCERNED SCIS., <https://www.ucsusa.org/clean-vehicles/electric-vehicles/ev-emissions-tool> (last visited Sept. 4, 2019) (showing that an EV in Raleigh's 27513 zip code emits 138gCO₂e/mi compared to 381gCO₂e/mi from an ICE vehicle); *Highway Statistics 2016: Selected Measures for Identifying Peer States – 2016*, FED. HWY. ADMIN, <https://www.fhwa.dot.gov/policyinformation/statistics/2016/ps1.cfm> (showing annual per capita VMT of 12,244 for NC).

⁶⁰ NC 2019 GHG Inventory 5.

⁶¹ *Highway Statistics 2017: State Motor-Vehicle Registrations – 2017*, FED. HWY. ADMIN. (Jan. 2019), <https://www.fhwa.dot.gov/policyinformation/statistics/2017/mv1.cfm>.

⁶² *See U.S. households are holding on to their vehicles longer*, U.S. ENERGY INFO. ADMIN. (Aug. 21, 2018), <https://www.eia.gov/todayinenergy/detail.php?id=36914>.

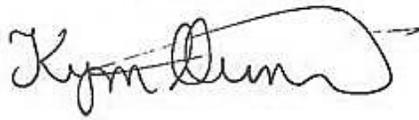
⁶³ Attachment 1.

a VMT-reduction task force, and beginning to monitor VMTs in North Carolina and setting targets for per capita VMT reductions. We are also pleased to see North Carolina join the Transportation and Climate Initiative as an observer. These are steps in the right direction. To confront the climate emergency properly and to carry out Executive Order No. 80, NCDOT should continue down this path.

5. Conclusion

Thank you for your good work on this sensible draft ZEV Plan and for considering these comments. Under the leadership of the Governor's Office and the Department, our state can and will confront the climate emergency with the bold action that it demands.

Sincerely,



Kym Hunter, Senior Attorney
Southern Environmental Law Center



Nick Jimenez, Associate Attorney
Southern Environmental Law Center

Drew Ball, State Director
Environment North Carolina

Meg Fencil, Program Director
Sustain Charlotte

Daniel Parkhurst, Policy Manager
Clean Air Carolina

Pamela Atwood, Director of Housing Policy
North Carolina Housing Coalition

Al Ripley, Director, Consumer & Housing Project
North Carolina Justice Center

cc (via email, with attachment):

James H. Trogon, III
Tom Taft
Jeremy Tarr
Sushma Masemore

Attachment 1

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220
CHAPEL HILL, NC 27516-2356

Facsimile 919-929-9421



February 14, 2019

VIA E-MAIL

James H. Trogdon, III
Secretary of Transportation
North Carolina Department of Transportation
1501 Mail Service Center
Raleigh, N.C. 27699-1501
jhtrogdon@ncdot.gov

RE: Department of Transportation's Role in Achieving the Goals of Executive Order 80

Dear Secretary Trogdon:

The Southern Environmental Law Center, North Carolina Conservation Network, Center for Biological Diversity, National Resource Defense Council, Sierra Club, Clean Air Carolina, Sound Rivers, MountainTrue, and Sustain Charlotte write to you today with a renewed sense of optimism about North Carolina's role in tackling the climate crisis. By issuing Executive Order

80, Governor Cooper took a strong first step in bringing the state's resources to bear on this critical problem, and we are pleased to see cabinet agencies accelerating their responses to climate change under the order.

We are particularly excited to collaborate with the Department of Transportation (the "Department" or "NCDOT") on finding and implementing the best ways to carry out the governor's goals under Executive Order 80. As you know, the transportation sector of the economy is the second leading contributor to greenhouse gas ("GHG") emissions in the state, and poised to quickly become the first. Accordingly, the Department has a tremendous opportunity to help mitigate North Carolina's contribution to the climate crisis, and to achieving the GHG emissions reduction goal established in Executive Order 80. We are very pleased to see the Department beginning to recognize this enormous potential and its responsibility to see it realized, and we look forward to working with the agency to take advantage of every opportunity to reduce emissions and to improve resiliency.

We want to be sure, then, that NCDOT takes full advantage of this Executive Order to think about climate change broadly. While we are excited about the plan to expand the number of Zero-Emission Vehicles in North Carolina, we want to stress that this step forms only a small part of the Department's responsibility to help our state meet its emissions reductions. There are many other steps the Department can and must take for North Carolina to make meaningful progress. We recommend the following.

- **NCDOT Leadership:** As a first step, it is essential that the Department take a leadership role in our state's request to reduce GHGs. We look forward to working with you on an expanded presence going forward. Specifically, we urge you to include climate change considerations prominently on the NCDOT website, and to create a communications strategy around climate change, the Executive Order, and the Interagency Council that deploys the use of both traditional media and NCDOT's social media platforms. We urge that climate change be given meaningful consideration in NCDOT documents, and during meetings and summits. We recognize that to fully seize on these opportunities it will likely be necessary to add staff members with relevant expertise and experience, and we look forward to working with you on securing the necessary funding.
- **Defend the Federal Clean Car Standards:** The current Corporate Average Fuel Economy ("CAFE") and greenhouse gas emissions standards for passenger cars and light trucks, which were finalized in 2012, were estimated "to save approximately 4 billion barrels of oil and to reduce GHG emissions by the equivalent of approximately 2 billion metric tons over the lifetimes of these light duty vehicles produced in MYs 2017-2025." 77 Fed. Reg. 62,624, 62,627. In April 2018, the Trump Administration decided to reevaluate the greenhouse gas emission standards for model year 2022-2025 light-duty vehicles. 83 Fed. Reg. 16077-01. It subsequently proposed a replacement rule freezing CAFE and GHG standards. 83 Fed. Reg. 42986-01. The proposed rollback would result in an increase in petroleum consumption of 0.5 million barrels per day by the early 2030s. In response, in May 2018 a coalition of 17 states led by California sued to preserve the existing standards. NCDOT should urge Governor Cooper and Attorney

General Stein to join North Carolina to this coalition and take a stand for cleaner cars, cleaner air, and lower emissions.

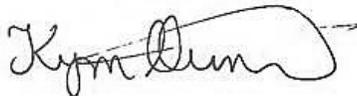
- **Measure GHG Emissions:** The Trump Administration eliminated an Obama era requirement that would have required states and cities to track the GHG emissions associated with transportation systems within their jurisdiction. NCDOT need not take its lead from this disappointing federal rollback. North Carolina can and should start immediately to map out how the transportation sector is contributing to GHG emissions across the state. This information is an essential first step in setting GHG reduction goals and planning transportation infrastructure investments to achieve the reductions.
- **Establish a Statewide VMT Reduction Target:** Studies are clear that technological improvements alone—such as electric vehicles—will not be sufficient to reduce GHG emissions from the transportation sector sufficiently to meet the targets set by international climate agreements. Meaningfully reducing GHG emissions from transportation in North Carolina will require reducing vehicle-miles traveled (“VMT”) as well. As a first step towards this goal, NCDOT should join states including California, Massachusetts, New York, and Oregon—all of which are U.S. Climate Alliance members—and establish a VMT reduction target. This target would help inform NCDOT’s decisions on future infrastructure projects to ensure that they support the goals set in Executive Order 80.
- **Consider Climate Change in NEPA analyses:** It is settled law that a review of climate change effects and impacts is an essential part of analysis under the National Environmental Policy Act (“NEPA”), which is required for all major transportation projects receiving federal funding or requiring federal permits. To date, NCDOT’s consideration of climate change in these documents has been largely a repeated boilerplate discussion, with little to no project-specific investigation. The Department should revamp its procedures and use the NEPA process, as intended, to truly consider the environmental impacts of different alternative transportation solutions, including with regard to climate change. This analysis could also be used to analyze and disclose lower impact alternatives that would result in fewer GHG emissions and guide informed decision-making on this point.
- **Fund More Multi-Modal Projects:** NCDOT currently aims to allocate just 6% of its capital funding to multi-modal projects. That total includes aviation, ferries, and freight rail, and so leaves a very small percentage for public transportation. This 6% allocation is not a statutory limit, but rather a percentage agreed upon by the Strategic Transportation Investments (“STI”) workgroup, in which NCDOT plays a leading role. NCDOT should aim to spend significantly more on multi-modal projects, particularly rail and public transportation, and in doing so reap large gains in GHG reductions.
- **Revisit Legacy Highway Projects:** There are several projects currently in the planning stages at NCDOT that have been on the books for decades and which have the capacity to foster sprawl, increase vehicle miles traveled, and escalate GHG emissions. Many of these projects have not been reviewed with their climate-changing impact in mind, many

are costly and outdated, and many have alternatives available that would be less expensive and do less to exacerbate climate-changing emissions. NCDOT should take a leadership role in reviewing these projects and giving a careful, hard look at alternative solutions before pushing forward with projects that will perpetuate an auto-centric culture, and associated emissions, for decades to come.

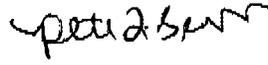
- **Use and Require Low-Emissions Equipment:** With control over the procurement and operation of its own fleet, and over contracting, NCDOT has the opportunity directly to reduce the carbon intensity of its operations. The draft GHG inventory indicates that heavy-duty vehicles and construction equipment contribute significantly to North Carolina’s overall GHG emissions. In addition, diesel-powered equipment, and particularly older models, emits substantial quantities of black carbon (soot), a “short-lived climate pollutant” that ranks among the top three overall climate-forcing pollutants along with carbon dioxide and methane. (Black carbon is not included in the GHG inventory.) Soot also contributes to dangerous levels of particulate pollution that threatens public health. NCDOT should establish a preference for zero- or low-emission equipment in all of its procurement and in its operations (using this equipment whenever possible), and should require its contractors to do the same.
- **Adapt to a Changing Climate:** In addition to taking the above steps to help reduce GHG emissions from the transportation sector, NCDOT should also be carefully planning future transportation investments to adapt to a changing climate. The recent hurricanes and flooding events showed us just how time-sensitive this issue is. Sea levels are rising, hurricanes and storms are becoming more intense, and our coastal areas are becoming more vulnerable to flooding. NCDOT must factor in these future realities both in designing future infrastructure, and in determining where and when to invest in infrastructure.

In sum, we are excited to work with NCDOT to fulfill its obligations under Governor Cooper’s Executive Order. The transportation sector has such a huge role to play in tackling climate change – the most important environmental issue of our time. The good news is that each of the solutions outlined above will not only assist with climate change, but will also help to foster strong, healthy, resilient, connected communities. As you move forward to implement your plans for the Executive Order we look forward to discussing these issues with you further.

Sincerely,



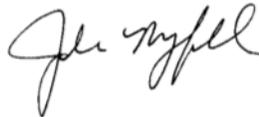
Kym Hunter
Southern Environmental Law Center



Peter Galvin
Center for Biological Diversity



June Blotnick
Clean Air Carolina



Julie Mayfield
MountainTrue



Grady McCallie
NC Conservation Network



Luis Martinez
National Resources Defense Council



Molly Diggins
Sierra Club



Heather Deck
Sound Rivers



Shannon Binns
Sustain Charlotte

CC:

Peter Galvin
Center for Biological Diversity

June Blotnick
Clean Air Carolina

Julie Mayfield
MountainTrue

Grady McCallie
NC Conservation Network

Luis Martinez
National Resource Defense Council

Molly Diggins
Sierra Club

Heather Deck
Sound Rivers

Shannon Binns
Sustain Charlotte

Jeremy Tarr
Office of Governor Roy Cooper

NC Board of Transportation:

Michael S. Fox, Chairman
Nina Szlosberg-Landis, Chairwoman
Anthony T. Lathrop
Andrew M. Perkins, Jr.
Landon G. Zimmer
Hugh Overholt
Allen Moran
Thomas Taft Jr.
Michael K. Alford
Gus H. Tulloss
Valerie D. Jordan
Grady Hunt
Patrick D. Molamphy
R. Michael Wells Sr.
Samuel B. Bowles
Cullie M. Tarleton

John R. Pope
William Clarke
Jack Debnam

Bobby Lewis
NCDOT

Chris Werner
NCDOT

Chuck Watts
NCDOT