ACCELERATING TRANSPORTATION ELECTRIFICATION

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EXECUTIVE SUMMARY

The transportation sector is the leading source of carbon dioxide pollution in the Commonwealth, and it produces a number of other pollutants that harm our health and environment. The General Assembly took an important step towards reducing these emissions by passing the Clean Cars bill in 2021, helping to make electric vehicles (EVs) more available in Virginia, but many more steps are needed. Rapidly transitioning from pollution producing fossil fuel-powered engines to electric-powered cars, trucks, trains, and buses will produce numerous public health, economic, and climate benefits, creating a cleaner mobility future for all Virginians.

CHALLENGE

The transportation sector generates almost half of Virginia's carbon dioxide emissions.[1] These emissions have negative climate, public health, and economic impacts, and disproportionately affect low-income populations and communities of color, who breathe 66% more air pollution from vehicles than white residents on average in the Northeast and Mid-Atlantic.[2] As the world finds itself in this decisive decade to avoid the worst impacts of climate change, these toxic emissions must be addressed as quickly as possible.[3]

Virginia-specific vehicular particulate pollution ($PM_{2.5}$) accounts for 92 deaths, 2,600 cases of exacerbated asthma, and 10,000 lost workdays each year.[4] When considering transportation emissions in their entirety, these emissions led to 750 premature deaths in Virginia in 2016.[5] To comprehensively address carbon pollution, cleaner transportation alternatives such as transit and rail need to be expanded, and thoughtful land use incentivized and pursued, in order to reduce vehicle miles traveled (see *Guaranteeing Transit Equity*, pg 63 and *Increasing Access to Walking & Biking,* pg 71), but we must also simultaneously accelerate transportation electrification to eliminate emissions from the vehicle trips that remain.

While electric cars and buses are far cheaper to own in the long run, and battery prices are falling, the higher upfront purchase price is keeping these benefits out of reach for many Virginians, particularly low- and moderate-income communities.[6,7,8] Many households also lack access to reliable charging infrastructure, as roughly 40% of U.S. households don't park within 20 feet of an electrical outlet, making access to public EV charging essential for widespread adoption.[9] Bridging these affordability and accessibility gaps will be critical to ensure a successful and equitable transition to electric mobility.

SOLUTION

Every gas-powered vehicle that gets replaced with an electric model helps clean our air and supports the Commonwealth's climate goals. When powered by Virginia's current electricity mix, EVs produce up to 70% fewer emissions compared to internal combustion engine vehicles.[10] And as Virginia's grid gets cleaner and cleaner, the EVs on our roads will too. The more Virginia transitions to electrified transportation, the more the entire Commonwealth benefits.

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By providing thoughtfully designed financial incentives that make EVs, electric buses, and e-bikes more affordable, Virginia can help put electric mobility within reach for more people and accelerate adoption rates.[11]

Reliable access to charging infrastructure for every neighborhood will also help accelerate transportation electrification. Current studies and investments are underway to help Virginia map out and implement further infrastructure developments, but simple fixes exist that can also help improve the accessibility of existing infrastructure.[12,13]

Virginia's government can also lead by example by electrifying its fleet. Progress is already underway in the City of Roanoke, where fueling and maintenance costs have been reduced by 80%. State and municipal fleets are uniquely poised to take advantage of the lifecycle savings EVs provide[14] Virginia needs a roadmap to ensure state and municipal vehicle fleets are electrified as soon as possible.[15]

From reduced greenhouse gas emissions and decreased dependency on foreign oil, to better air quality and the creation of new local jobs, transitioning to electric vehicles is good for both state residents and our economy as a whole. Supporting Virginians in this transition means making electric mobility options more accessible and affordable while leading by example.

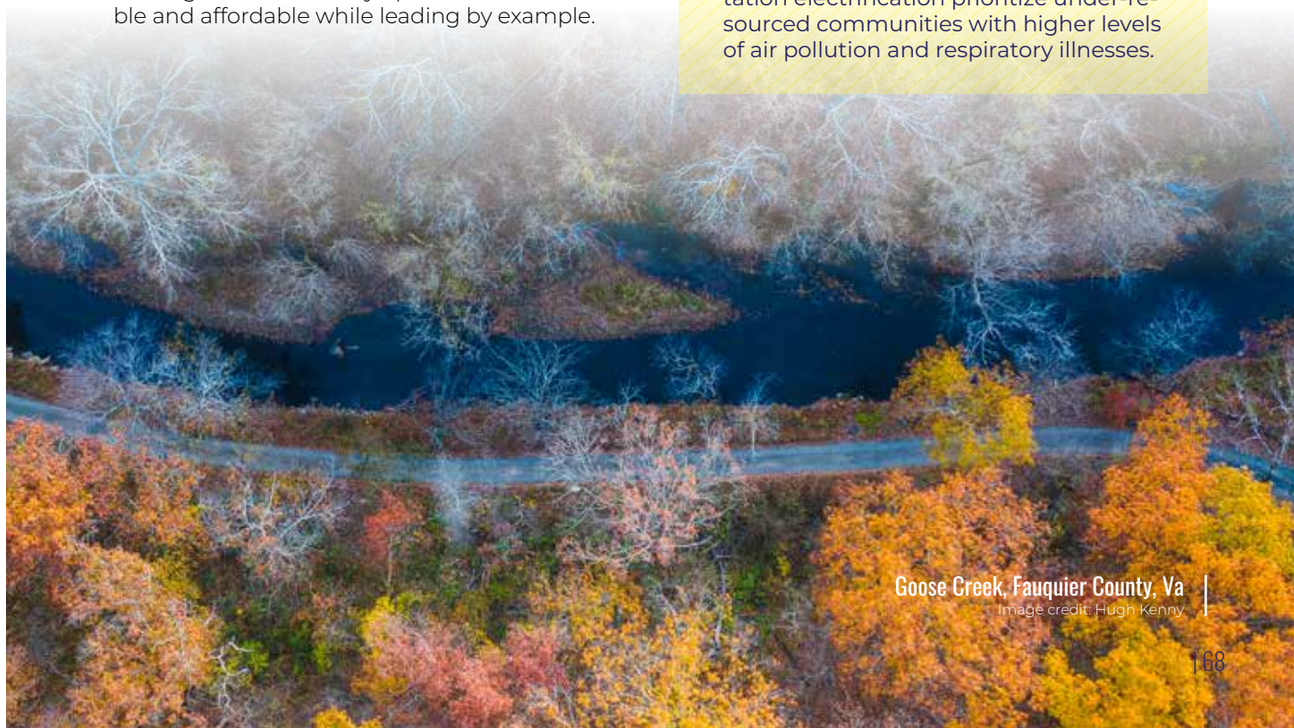
POLICY RECOMMENDATIONS

Allocate robust funding for financial incentives to expand access to electrified mobility and help Virginians overcome the higher upfront cost of EVs, electric school and transit buses, and e-bikes.

Improve access to charging infrastructure by providing funding for EV chargers, protecting EV charging stations, and streamlining EV charging signage.

Conduct a fleet electrification feasibility study of all publicly-owned vehicles in Virginia, including inventory, critical replacement list, cost analysis of EV fleet adoption targets, and identify opportunities to implement fleet pools and utilize vehicle-to-grid technology, prioritizing vehicles used in areas with the poorest air quality.

Ensure all efforts to accelerate transportation electrification prioritize under-resourced communities with higher levels of air pollution and respiratory illnesses.



Goose Creek, Fauquier County, Va
Image credit: Hugh Kenny