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# Electric Vehicle Technology Part 4

## The Promise, Pitfalls, Adoption Benefits and Challenges

*Editor's Note: This is the final paper in a 4-part series from McBride Consulting covering the promise, pitfalls, and adoption of Electric Vehicles. The shift from internal combustion engines to battery powered conveyance will be highly consequential for societies around the world. This shift offers many advantages, but it is not without tradeoffs for the planet and challenges for individuals and governments alike. In this series, McBride consultants examine the good, bad, and uncertain aspects of the biggest change to wheeled transportation in over 100 years and the impacts it will have on all of us.*

As part of the Biden-Harris Administration's Investing in America Agenda, funding for Electric Vehicle (EV) infrastructure and adoption is expanding. This EV-positive environment broadens funding streams available to aid individuals, non-profits, businesses, and government agencies in transitioning to EVs and expanding charging infrastructure. The Federal and State opportunities described throughout this paper illustrate the possibilities and avenues for adoption within the emerging industry aided by government incentives. While not exhaustive, they are examples for individuals, business, non-profits, government organizations and more to identify and participate in greater opportunities for the adoption of EVs.

A prominent example of federal government incentives is the U.S. Department of Transportation's Federal Highway Administration (FHWA) Charging and Fueling Infrastructure Discretionary Grant Program (CFI Program), which aims to invest \$2.5 billion over the next five years and increase/enhance publicly accessible EV charging and alternative fueling infrastructure. This two-pronged program provides Community Charging and Fuel Grants as well as Alternative Fuel Corridor Grants funding to serve people in the places they live and work—urban or rural—with a focus on underserved and disadvantaged communities.

The CFI Program builds upon the National Electric Vehicle Infrastructure (NEVI) Formula Program, designating \$5 billion for the development of EV charging infrastructure along interstates, U.S. routes, and state highways. The NEVI Formula



Program intends to fill gaps in EV charging infrastructure and data by prioritizing Alternative Fuel Corridors (AFCs) while the CFI Program prioritizes underserved and disadvantaged communities in urban and rural areas. Both programs are designed to spur the creation of well-paying jobs and progress towards a nationwide network of 500,000 EV chargers by 2030.

Furthermore, the U.S. Environmental Protection Agency (EPA) established the Diesel Emissions Reduction Act (DERA) Program to reduce pollution emitted from diesel engines. The DERA Program, a national and state-level grant and loan program, funds projects and technologies that replace

legacy diesel engines. This program differs from the CFI and NEVI Formula Programs by retrofitting or replacing diesel engines in vehicles, vessels, locomotives, and other equipment rather than building out charging infrastructure. Though the scope of funding is not limited to EVs, this funding has been used to install electric battery technology in heavy machinery, school and transit bus fleets, and switch locomotives. The EPA is currently preparing to issue a notice of funding for DERA National Grants and has transitioned to a 2-year competition cycle to reduce the administrative workload attributed to grants for applicants and the EPA. Interested applicants should monitor the EPA's DERA webpage.

On a state level, agencies such as Ohio Environmental Protection Agency (EPA) have been fundamental in enhancing EV infrastructure through funding opportunities. The Ohio EPA and the Ohio Department of Transportation (DOT) offer the Diesel Emission Reduction Grant (DERG) Program—supported by FHWA funding—which focuses on replacing older diesel transit buses with modern electric-powered vehicles in public transit systems. Ohio EPA also offers Clean School Bus Grants, Alternative Fuel Vehicle Grants, VW Mitigation Grants, and other programs which have contributed to a more robust adoption of electric-powered vehicles throughout the state.

Another state, Colorado, has created targeted plans to accelerate the electrification of personal vehicles. In March 2023, Colorado released the third iteration of its EV Plan, outlining the state's strategy to meet transportation electrification goals. Additionally, Colorado passed the "Sustainability of The Transportation System" bill (SB21-260) in 2021 creating three new transportation electrification enterprises, dedicating \$730 million to state transportation programs over the next decade. There are also individual Coloradoan incentives to drive EVs, such as a \$2,000 state EV tax credit. These efforts all drive towards Colorado's goal of zero emissions in its transportation system.

The identification and securing of federal and state grants are instrumental parts of EV adoption for everyone, individuals and organizations alike. These capabilities are critical to development of the EV future and McBride knows first-hand though its work identifying, securing, and managing over \$11 billion in grants for agencies large and small how crucial it is to be proactive in applying for these grants so localities aren't left behind.

While not a panacea, EVs offer many solutions to some of our most-pressing environmental issues, especially related to oil consumption and resulting air pollution. Like all technological innovations throughout modern history, it will require a combination of individual acceptance and governmental incentivization to reach peak utilization and effectiveness throughout society. The transition will not be perfectly smooth, but the future of EV adoption is well underway.

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*This concludes our 4-part series where McBride consultants examined the promise, pitfalls, and adoption benefits and challenges surrounding electric powered vehicles. If you have questions about our work or how we can help you with your transformation initiatives, please reach out to us at: [info@mcbrideconsulting.net](mailto:info@mcbrideconsulting.net).*

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