



CLEANER NC

**Creating a Legacy of Equity and Access to a
Network of EV Resources in North Carolina**

Community Program Application

September 2024

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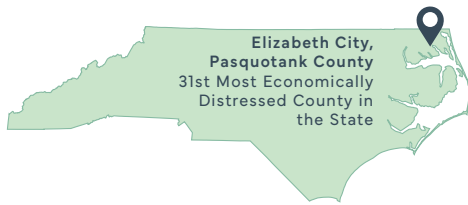
Project Snapshot

The North Carolina Department of Transportation (NCDOT) is partnering with Elizabeth City State University (ECSU), a Historically Black College and University (HBCU) to deliver Creating a Legacy of Equity + Access to a Network of EV Resources in NC (CLEANER NC, or "the Project"). CLEANER NC will deploy two new Electric Vehicle (EV) charging stations, with a total of four Level 2 ports and four Direct Current Fast Charging (DCFC) ports, to serve a rural, disadvantaged community (DAC), reduce Greenhouse Gas (GHG) emissions, and create a more equitable transportation system.

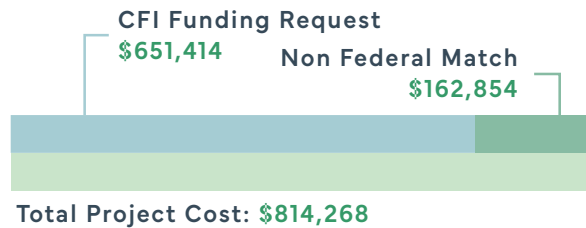
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Project Location



Project Budget



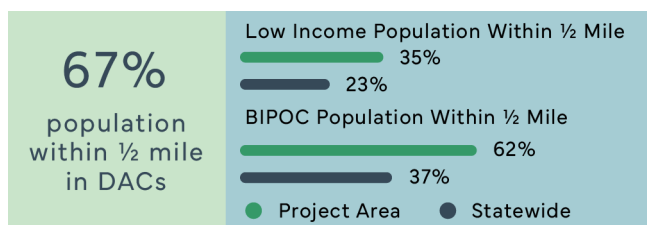
Statutory Selection Criteria

Rural Area

The project serves Census Tract 9603, a DAC with an **85% Low + Moderate Income (LMI) population.**

1.6x higher ratio of Multi-Family to Single-Family homes than the state average.

Justice40



Merit Criteria Benefits



Safety: Implements proven countermeasures from the National Roadway Safety Strategy (NRSS) including lighting, crosswalk enhancements, and speed management to provide holistic and comprehensive safety benefits for all users.



Climate Change, Resiliency + Sustainability: Reduces transportation-related GHG emissions by 516.3 short tons over 10 years and supports improved resilience and environmental outcomes for disadvantaged and underserved populations.



Equity, Community Engagement + Justice40: Creates meaningful impacts and reduces transportation-related disparities by increasing affordable transportation options, improving mobility, and addressing unique rural challenges in the deployment of new EV charging stations and workforce development programs.



Workforce Development, Job Quality + Wealth Creation: Expands North Carolina's clean transportation workforce by generating four new jobs and piloting an expansion of NCDOT's HBCU internship program while building awareness of job opportunities in the clean transportation sector.



CFI Vision: Equitably expands the deployment of public EV charging infrastructure by adding four Level 2 and four DCFC ports in close proximity to a variety of community destinations and amenities to address the CFI program's multipurpose workplace and destination charging focus area.

Project Readiness + Risk

NCDOT will apply its experience delivering Federal discretionary grants and implementing the State's EV Infrastructure Deployment Plan to reduce risk and deliver new EV charging stations alongside educational and community engagement activities by the **end of calendar year 2027.**

Project Narrative

Project Description

CLEANER NC is a pilot program to expand North Carolina's EV charging network at HBCUs across the State. The Project builds upon NCDOT's current partnerships with North Carolina HBCUs, led by the [Office of HBCU Outreach](#) to deliver two new EV charging stations at Elizabeth City State University (ECSU), with a total of four Level 2 ports and four direct current fast charging (DCFC) ports. CLEANER NC will identify solutions to the unique challenges faced by HBCUs when implementing new EV charging stations, such as aging infrastructure, limited budgets, and socioeconomic factors. In doing so, CLEANER NC will equitably accelerate the electrification of North Carolina's transportation system and strengthen the partnership between NCDOT and HBCUs across the State.

The Project's investments in EV charging infrastructure will be paired with targeted educational and community engagement activities at ECSU to enhance the inclusivity and diversity of North Carolina's clean transportation workforce. CLEANER NC requests funding to pilot an expansion of NCDOT's HBCU [Internship Program](#) to support the implementation of [North Carolina's Plan for EV Infrastructure Deployment](#). Up to four interns from ECSU will be placed at state agencies with a clean transportation component for 10 weeks and participate in a host of professional development activities. In addition, NCDOT's Office of Civil Rights (OCR) will partner with local community-based organizations in northeastern North Carolina to perform robust outreach and recruitment into job training programs across the State, with the goal of engaging groups that are underrepresented in infrastructure jobs while building trust with communities that have not historically been involved in the clean transportation sector. These community engagement activities will include career days and career engagements for K-12 students, "pop-up" engagements and informational booths at community events, and Disadvantaged Business Enterprise (DBE) outreach

to introduce all learners to EV career pathways (see **Workforce Development, Job Quality, and Wealth Creation** for more information).

North Carolinians are adopting EVs faster than expected. The State met its goals for Zero Emission Vehicle (ZEV) registration in [NC Executive Order \(EO\) 80](#) two years early, and current [active ZEV registrations](#) in North Carolina exceeded 100,000 in July 2024. In 2022, [NC EO 246](#) set a new goal to reduce statewide GHG emissions to at least 50 percent below 2005 levels and increase the total number of registered ZEVs to 1.25 million ZEVs by 2030. To meet this goal, North Carolina needs to equitably and rapidly increase access to EV charging infrastructure. Nowhere is this more true than rural northeastern NC. While US 17, a designated Alternative Fuel Corridor (AFC), runs through Pasquotank County, there are currently only five public EV charging stations in operation serving its approximately 41,000 residents and only eight charging stations within 20 miles of ECSU according to [PlugShare data](#). By partnering with ECSU, NCDOT will expand access to EV charging in a region that has seen less investment than other parts of the State, lay the groundwork to accelerate the deployment of EV charging stations at North Carolina HBCUs, and contribute to the development of a skilled and diverse workforce to support North Carolina's burgeoning clean transportation sector.

The Project is aligned with NCDOT's EV deployment plan and leverages the deep economic and social ties between ECSU and the surrounding community to install new community-based EV charging stations. CLEANER NC will implement convenient, reliable, affordable and equitable EV charging infrastructure, with a focus on serving disadvantaged, rural, and low- and moderate-income (LMI) neighborhoods with high ratio of multiunit dwellings to single family homes (see **Project Location and Statutory Selection Priorities** for more information) and mitigating safety risks, in alignment with NRSS (see **Safety and Equity, Community Engagement, and Justice 40** for more information).

Design Framework

CLEANER NC's EV charging stations will meet all applicable requirements of 23 CFR 680. ECSU has identified preliminary EV charging station locations that will be confirmed during design (see **Project Location** for more information). All charging stations will be sited to:

- » Accommodate new electrical service equipment (including power meter, transformer, and switch gear), and minimize grid upgrades necessary to construct or upgrade each charging station to meet the planned power requirements.
- » Integrate the charging needs of ECSU's vehicle fleets and active mobility options that provide alternatives to individual vehicle ownership based on the unique mobility needs of Elizabeth City residents and ECSU students and faculty (see **Additional Project Narrative** for more information).
- » Maximize users' ability to safely access nearby on- and off-campus essential services, amenities, parks and recreational facilities, and campus resources (including classrooms, libraries, computer labs, student support services, eateries, bookstores, gyms, auditoriums, and community gathering spaces) without a vehicle.
- » Minimize and mitigate safety risks for pedestrians and other vulnerable road users by incorporating proven countermeasures into each charging station's design, including lighting, pavement design, speed restrictions, sidewalk access, crosswalks, traffic control measures, and signage to reduce conflicts between motorized and non-motorized road users (see **Safety** for more information).
- » Avoid impacting Waters of the US (WOUS), flood prone areas, threatened and endangered species, and adverse effects on historic properties (see **Climate Change, Resilience, and Sustainability** for more information).

The new EV charging stations will be incorporated into ECSU's electrical distribution system and no major utility upgrades are anticipated. Advanced hardware and software technologies will be employed where feasible to balance the load when multiple ports are operating simultaneously, ensuring that demand does not exceed supply. This will allow all ports to operate simultaneously and prioritize charging at the highest power level possible without exceeding the available supply.

CLEANER NC will be compliant with the Americans with Disabilities Act (ADA) of 1990 (42 USC 12101 et seq.) by aligning with the [US Access Board's Design Recommendations for Accessible EV Charging Stations](#) to ensure accessibility, ease of independent use, and safety for disabled drivers and vehicle occupants, including those using wheelchairs or other assistive equipment. Additionally, the Project will comply with all applicable accessibility standards outlined in 49 CFR part 37 and 28 CFR parts 35 and 36.

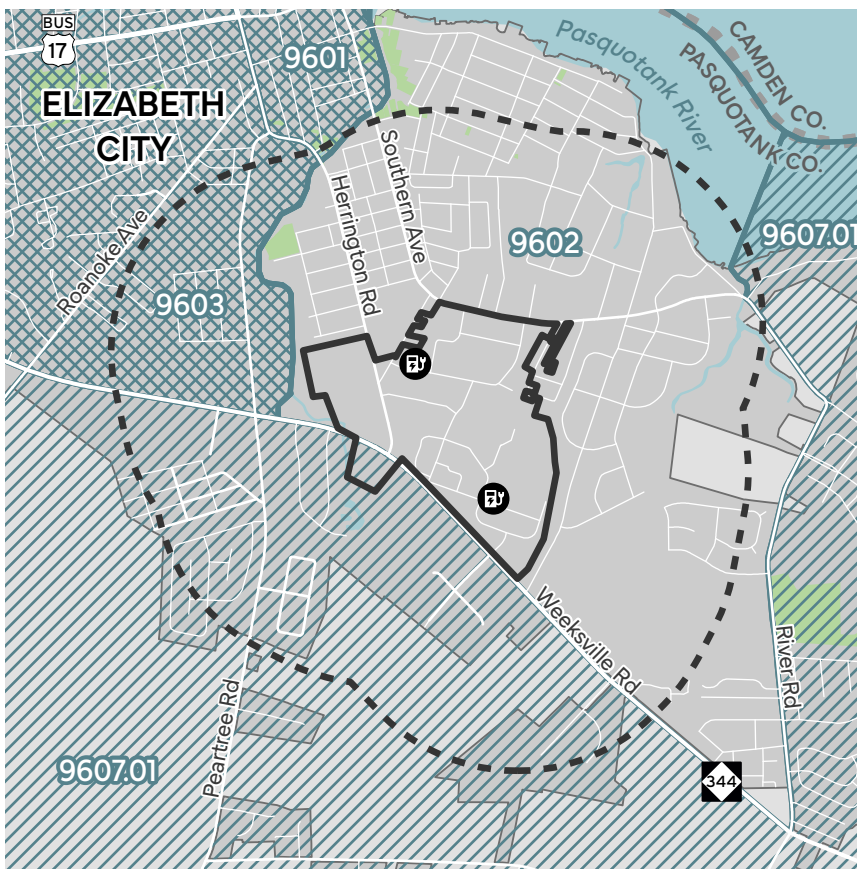
Lastly, the Project will incorporate innovative payment approaches, such as contactless technology and mobile wallets, alongside traditional payment methods, in accordance with the applicable requirements of 23 CFR Part 680. In doing so, CLEANER NC will be responsive to the needs of ECSU students, faculty and visitors as well as nearby residents and regional travelers. NCDOT and ECSU will identify ways to make payment systems accessible to diverse populations, including the unbanked and underbanked, and all chargers will meet National Electric Vehicle Infrastructure (NEVI) interoperability and cybersecurity standards. Chargers will not require a membership and all payment methods will be accessible to people with disabilities in accordance with the applicable requirements of ADA; the user interface and payment systems on each charger will comply with Section 508 of the Rehabilitation Act. Payment methods that leverage smartphone technology, widely accessible across socioeconomic groups, and allow users to pay for services in multiple ways to allow a broad spectrum of users to participate in convenient and affordable EV charging.

Project Location

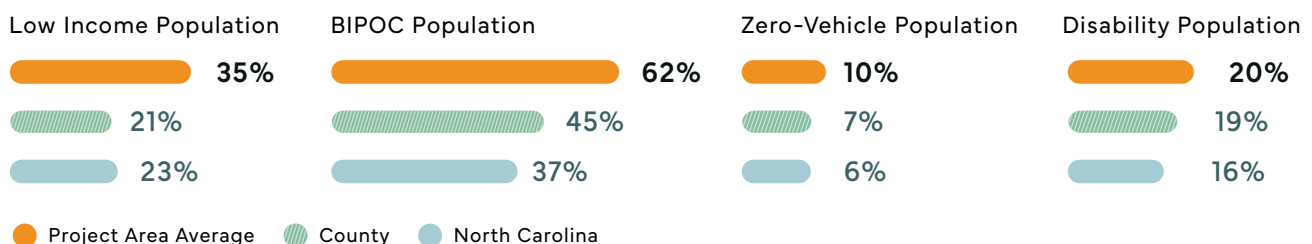
CLEANER NC will deploy a total of two charging stations with four Level 2 and four DCFC ports in publicly accessible surface parking facilities at ECSU's Welcome Center and in its main academic area. ECSU, which does not currently have any EV charging stations, is located in Elizabeth City, which is the county seat of rural Pasquotank County, the 31st most economically distressed county in North Carolina according to the North Carolina Department of Commerce (NCDOC). The Project will also serve the needs of nearby economic centers that do not have EV charging stations, notably Elizabeth City Regional Airport and the US Coast Guard Air Station Elizabeth City, both

located approximately two miles southeast of ECSU's campus on NC 244/Weeksville Rd.

CLEANER NC will provide community-based infrastructure serving three rural Climate and Economic Justice Screening Tool (CEJST)-defined DACs within 1/2 mile of the campus. Additionally, Elizabeth City is disadvantaged for Climate and Disaster Risk Burden (79 percent) and Health Vulnerability (72 percent) according to the Equitable Transportation Community (ETC) Explorer, and the population for both People with Low-Incomes and Black, Indigenous, and People of Color (BIPOC) far exceeds the statewide average according to NCDOT's Transportation Disadvantage Index Tool (see **Equity, Community Engagement, and Justice40** for more information).



PROJECT DEMOGRAPHICS



Statutory Selection Priorities

The Project has been designed to maximize responsiveness to the CFI Program’s Statutory Selection Priorities by expanding EV charging access in a rural area to serve LMI neighborhoods, and communities with a high ratio of multiunit dwellings to single family homes:

Expanding access in rural areas: According to the [Environmental and Energy Study Institute](#), one of the primary barriers to EV adoption in rural areas of the US is the lack of EV charging infrastructure and associated range anxiety. A [2024 Pew Research Center Report](#) found that while 60% of urban residents live less than a mile from the nearest public EV charger, this number drops to just 17 percent for rural Americans.

CLEANER NC will invest in rural EV infrastructure to support multipurpose use and address a primary barrier to EV adoption in rural areas. The Project aligns with USDOT’s Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative to address the unique needs and challenges of rural communities. The Project will help rural residents and businesses realize the economic, environmental, and health benefits of EV adoption. The Project will close gaps in rural North Carolina’s EV charging network and expand access to charging solutions that serve a range of needs, including longer duration (Level 2) neighborhood and workplace EV charging alongside shorter duration charging (DCFC) for travelers.

Expanding access for LMI neighborhoods: LMI neighborhoods (12 USC 1430(j)(13)) face a myriad of economic challenges, including generational poverty, lack of jobs that pay a living wage, and difficulty securing affordable housing ([Community Development Outlook Survey](#)).

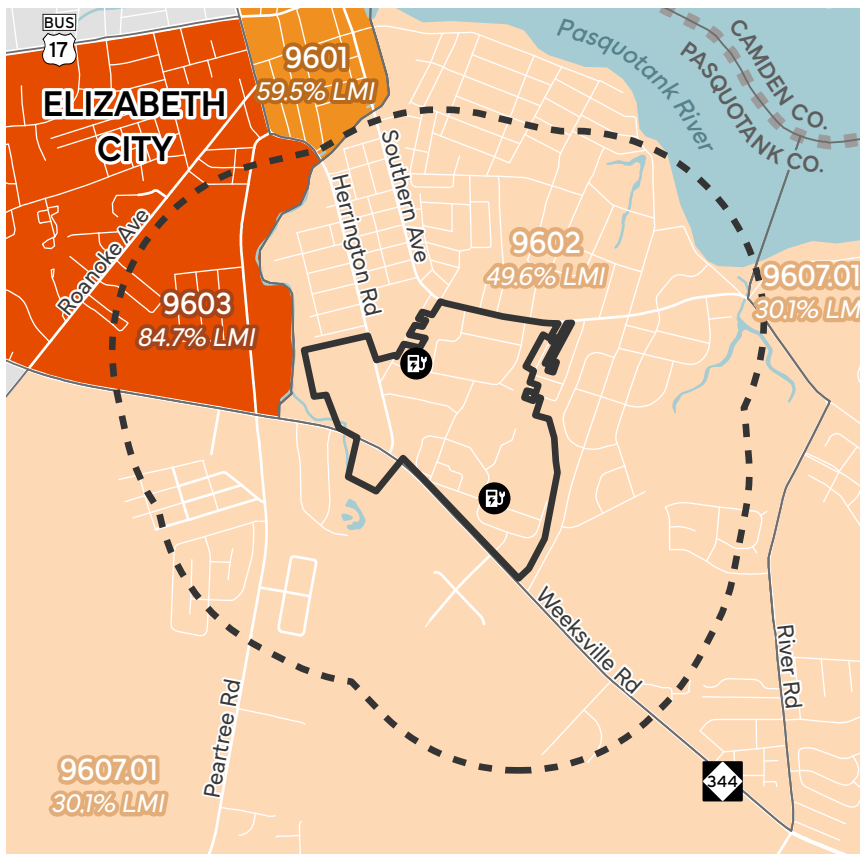
Census Tract	LMI Population	Total Population	LMI % of Total Pop.
9601	880	1,480	59.5%
9602	1,735	3,500	49.6%
9603	2,190	2,585	84.7%
9607.01	1,875	6,240	30.1%
Total	6,680	13,805	48.4%

These economic challenges reduce households’ ability to access health care, education, and employment opportunities; transportation costs often contribute to these financial struggles. In Elizabeth City, the [average transportation costs](#) as a percent of income is 24 percent, which exceeds the 15 percent recommended by the Center for Neighborhood Technology (see **Supplemental Materials**).

CLEANER NC improves access to EV charging for LMI neighborhoods by installing two new EV charging stations with a total of four Level 2 ports and four DCFC ports that serve 6,680 LMI persons in census tracts within a half mile of ECSU, representing 48.4 percent of the total population. The majority of residents in census tracts 9601 and 9603 qualify as LMI.

Expanding Access for Multiunit Dwellings: Residents of multiunit dwellings face several barriers to EV adoption, including shared or limited parking, metering and billing challenges, and needed coordination between homeowner associations, property managers, residents, and regulating agencies. An [August 2024 Berkley Law Report](#) found that while 80 percent of EV charging occurs in drivers’ homes, less than five percent of charging occurs in multiunit dwellings.

CLEANER NC addresses these barriers by improving access to EV charging stations for residents of multiunit dwellings in Elizabeth City. Seventy-five percent of census tracts within ½ mile of ECSU have a higher ratio of multiunit dwellings to single family homes than the statewide average of 0.34, while 50 percent of these census tracts have a ratio of one or more, meaning there are more multiunit dwellings than single family homes. Overall, there are 1,976 multiunit dwellings in census tracts within ½ mile of ECSU compared to 3,624 single family homes, resulting in a ratio of 0.6 which is 1.6 times higher than the North Carolina average. This ratio grows to 0.7 when the 502 occupied dormitories at ECSU are included in the analysis (see **Supplemental Materials** for more information).



HOUSING RATIO MAP

LEGEND

- Preliminary Charging Station Location
- County Boundary
- 1/2 Mile Buffer
- ECSU Campus
- Ratio of Multiunit Dwellings to Single Family Homes:**
 - Greater than 1.0
 - 0.5 to 1.0
 - Less than 0.5

1 inch = 0.5 mile



Census Tract	# of Single Family Homes	# of Dormitory Units	# of Multiunit Dwellings	Housing Ratio
9601	369		358	1.0
9602	1,162	502	792	1.1
9603	349		767	2.2
9607.01	1,744		59	<0.1
Total	3624	502	1976	0.7

2022 ACS 5-Year Estimates, table S2504 used to calculate housing ratio

Additional Considerations

Coordination of Federal Investments: NCDOT included a portion of the US 17 corridor in Pasquotank County as a potential cluster for Phase 1 of North Carolina’s NEVI Program. However, CLEANER NC is located more than one mile from this AFC, making it ineligible for NEVI funds prior to full build out of the State’s AFCs to NEVI requirements. The Project will expand community access to EV charging in a manner that complements NEVI formula funding by meeting the goals of Phase II of the State’s NEVI program and freeing up formula funding for other rural and disadvantaged parts of the State.




Geographic Diversity: CLEANER NC will expand EV charging access in rural northeastern North Carolina.

Current and anticipated market demands: Between 2022 and 2023, [ZEV registrations](#) in North Carolina increased 60 percent. CLEANER NC will help meet this demand by installing eight new EV charging ports within two miles of an AFC, including four DCFC ports to minimize charging time in proximity to this important arterial.

Project Readiness: NCDOT will apply its experience delivering Federal discretionary grants to avoid delays in project delivery, and anticipates completing construction prior to the obligation deadline for fiscal year 2024 funding.

Additional Project Narrative Information

CLEANER NC expands community access to EV charging infrastructure in a rural area, with an emphasis on serving disadvantaged and underserved communities where the private sector may not invest absent Federal funding. The Project addresses community charging needs and creates benefits related to three of FHWA’s focus areas:

<p>Neighborhood and Multifamily Charging</p> 	<p>CLEANER NC provides convenient, affordable access to both Level 2 and DCFC charging infrastructure in public parking facilities that are easily accessible to ECSU students and faculty as well as the surrounding community. There are 5,600 housing units, including 1,976 multiunit dwellings, and 502 dormitories in census tracts within ½ mile of ECSU. To maximize use of the proposed charging stations and ensure availability to a broad user base, NCDOT and ECSU will collaborate to develop policies that appropriately manage parking to serve both the needs of ECSU and the surrounding community.</p>
<p>Multimodal Hubs and Shared-Use Fleets and Services</p> 	<p>CLEANER NC will support the development of multimodal hubs by deploying four Level 2 charging ports at ECSU to create new, context-appropriate opportunities for charging multiple active mobility and shared mobility modes and support alternatives to conventional vehicle ownership, including e-bikes and e-scooters. Additionally, the deployment of four DCFC ports at ECSU will expand charging options for electric rental vehicles and ride-shares to reduce charging time in proximity to the US 17 AFC. This will help transform existing, vehicle-dominated parking lots into more multimodal facilities for students, faculty, and the community at-large. The Project will support students who lack access to a car to use more affordable active mobility options, such as e-bikes or e-scooters, by including amenities like racks, where feasible and appropriate.</p>
<p>Multipurpose Workplace and Destination Charging</p> 	<p>CLEANER NC’s proposed charging stations are located in destinations where vehicles are likely to be parked for an extended period of time. Students spend several hours each day on campus attending classes, studying, and accessing various student services and amenities, while faculty and staff usually park for the entire workday. Similarly, visitors and nearby residents could use the proposed charging stations while accessing on- or off-campus destinations, which include retail centers, K-12 schools, social and government services, major employers, health care facilities, and nearby parks (see CFI Program Vision for more information).</p>

ECSU

Founded in 1891, ECSU has approximately 2,160 students and has several academic programs related to the clean transportation sector. ECSU is an integral part of the economic and social fabric of northeastern NC. As one of the few higher education institutions in the region, ECSU provides accessible, affordable education to students that otherwise has limited options for post-secondary education. ECSU generates \$1.08 cents in revenue across the State for every dollar spent and has an annual [economic impact of \\$158.1 million](#).



Budget Information

NCDOT is requesting **\$651,414** in CFI Community Program funds to deliver CLEANER NC. With the receipt of CFI funds, NCDOT will equitably expand community-based EV charging in Elizabeth City, while supporting high-quality workforce development programs and reducing GHG emissions that contribute to climate change. A non-Federal match of **\$162,854** is committed to the Project by ECSU. A letter of financial commitment from ECSU has been included with the application. NCDOT anticipates executing one or more contracts to provide the goods and services outlined in the detailed cost estimate.

The total estimated project cost is **\$814,268** which supports all costs associated with deploying two EV charging stations, including costs associated with the development phase (consisting primarily of design and environmental review), equipment, construction, operations and maintenance, and educational and community engagement activities. The Project budget includes a 25 percent contingency for the development phase and construction to account for volatility in materials, construction and labor costs, to ensure the Project can support improvements needed to fulfill the goals and approach outlined in the application.

CLEANER NC Sources and Uses of Funds					
	CFI Program Funds	Non-Federal Funds	Other Federal Funds	Total	% of Total
Development Phase	\$29,040	\$7,260	\$-	\$36,300	4.5%
Equipment	\$333,837	\$83,459	\$-	\$417,296	51.3%
Construction	\$126,414	\$31,604	\$-	\$158,018	19.4%
Operations + Maintenance	\$9,600	\$2,400	\$-	\$12,000	1.5%
Contingency (25%)	\$124,723	\$31,181	\$-	\$155,904	19.2%
Educational and Community Engagement Activities (4.3%)	\$27,800	\$6,950	\$-	\$34,750	4.3%
Total	\$651,414 (80%)	\$162,854 (20%)	\$- (0%)	\$814,268	100%

Project Cost Background

NCDOT developed costs for all phases of CLEANER NC based on actual cost data from NCDOT's Facilities Management Unit related to the Transportation Building Complex renovation, data from the North Carolina Department of Environmental Quality (NCDEQ) for EV charging stations delivered with Volkswagen settlement funds, preliminary data from North Carolina's NEVI rollout, and the Alternative Fuels Data Center.

The Educational and Community Engagement Activities budget for the Project is \$34,750, which equates to approximately 4.3 percent of total Project costs. This will fund a pilot expansion of NCDOT's Office of HBCU Outreach Internship

Program to support the implementation of North Carolina's Plan for EV Infrastructure Deployment. Up to four interns from ECSU will be placed at State agencies with a clean transportation component; these interns will receive \$7,500 for a 10-week program. The remainder of the Educational and Community Engagement budget will fund robust community engagement in northeastern North Carolina to engage K-12 students, adults, DBEs, and others while building trust with communities that have not been historically involved in the clean transportation sector. An engagement plan detailing specific activities will be developed prior to grant obligation.

CLEANER NC Detailed Cost Assumptions		
	Level 2	DCFC
Equipment Costs		
EV Equipment Cost (per port; DCFC = 50kW)	\$10,000	\$87,500
Bollards (per charger)	\$224	\$224
Information Technology (per port; includes software, payment system, WiFi)	\$6,600	\$6,600
Development Phase (applies to entire project unless otherwise specified)		
NEPA + Permitting	\$5,500	\$5,500
Design (electrical, accessibility, siting) + Survey	\$13,200	\$13,200
Project Management	\$4,400	\$4,400
Security (per charging station)	\$6,600	\$6,600
Construction Phase Costs (per charging station unless otherwise specified)		
Site Improvements	\$17,600	\$17,600
Electrical/Minor Distribution System Improvements	\$8,800	\$8,800
Warranty (per charger)	\$4,978	\$6,303
One-Time Installation Cost	\$30,000	\$40,000
Initial Station Activation + Configuration (per charger)	\$664	\$664
Operations + Maintenance		
Operations/Maintenance for 5 years (per charger)	\$2,200	\$4,000

Pre- and Post-NEPA Activities

A total of **\$50,981.25** is allocated for activities that do not require NEPA approval. Pre-NEPA activities include 65 percent of the NEPA and permitting costs, 35 percent of the Design and Survey costs, 25 percent of the project management costs, 100 percent of the educational and community engagement costs, and a proportional share of the contingency costs. All other costs will occur after NEPA approval. NCDOT is requesting **\$40,785.00** to complete these activities.

Project costs support the installation of two Level 2 and two DCFC EV chargers at publicly accessible parking facilities on ECSU's campus. The budget includes a 25 percent contingency for development phase and construction to account for volatility in materials, construction, and labor costs, as well as to account for uncertainty in charging station locations and to ensure the Project can support improvements needed to fulfill the goals outlined in the application.

CLEANER NC Pre- and Post-NEPA Funding Request (2024\$)				
	Pre-NEPA Activities		Post-NEPA Activities	
	Total Cost	CFI Request	Total Cost	CFI Request
Development Phase	\$9,295	\$7,436	\$27,005	\$21,604
Equipment	\$-	\$-	\$417,296	\$333,837
Construction	\$-	\$-	\$158,018	\$126,414
Operations + Maintenance	\$-	\$-	\$12,000	\$9,600
Contingency	\$6,936	\$5,549	\$148,967	\$119,174
Educational/Engagement	\$34,750	\$27,800	\$-	\$-
Total	\$50,981	\$40,785	\$763,296	\$610,629



Safety

CLEANER NC will follow the USDOT's National Roadway Safety Strategy's (NRSS) Safe Systems Approach to provide holistic and comprehensive safety benefits for all users, supporting USDOT's goal of eliminating roadway fatalities and serious injuries. The Project's new EV charging stations will be thoughtfully designed to reduce conflicts between vehicles and vulnerable road users, reduce the frequency and severity of crashes in proximity to the charging stations, and provide multiple layers of interventions to protect the safety of all users. CLEANER NC will incorporate the following siting and design elements to mitigate safety risks:

General Siting: CLEANER NC will thoughtfully site new EV chargers in the identified charging station locations to maximize the ability of users to safely access nearby on- and off-campus services, amenities, and resources (including classrooms, student support services, dormitories, gyms, auditoriums, and community gathering spaces) without a vehicle. Each charging station's design will be compliant with the applicable requirements of the ADA and USDOT accessibility standards to mitigate safety risks for differently-abled users. Lastly, the Project's EV charging stations will be designed in accordance with Crime Prevention Through Environmental Design (CPTED) principles to ensure a safe user environment that considers site location elements such as proximity to building entrances, location within parking lot, relationship to site traffic, ingress and egress of the site, and pedestrian visibility.

CLEANER NC will mitigate safety risks in Elizabeth City, a community that is committed to addressing traffic safety concerns. In 2022, Elizabeth City adopted an updated Neighborhood Traffic Calming Policy, modifying the 2007 policy to include advantages and disadvantages of different traffic calming tactics. The commitment that Elizabeth City has made to safety is evident in their shift from #42 in NCDOT's crash ranking for cities with populations of 10,000 or more in 2022 to #52 in 2023.

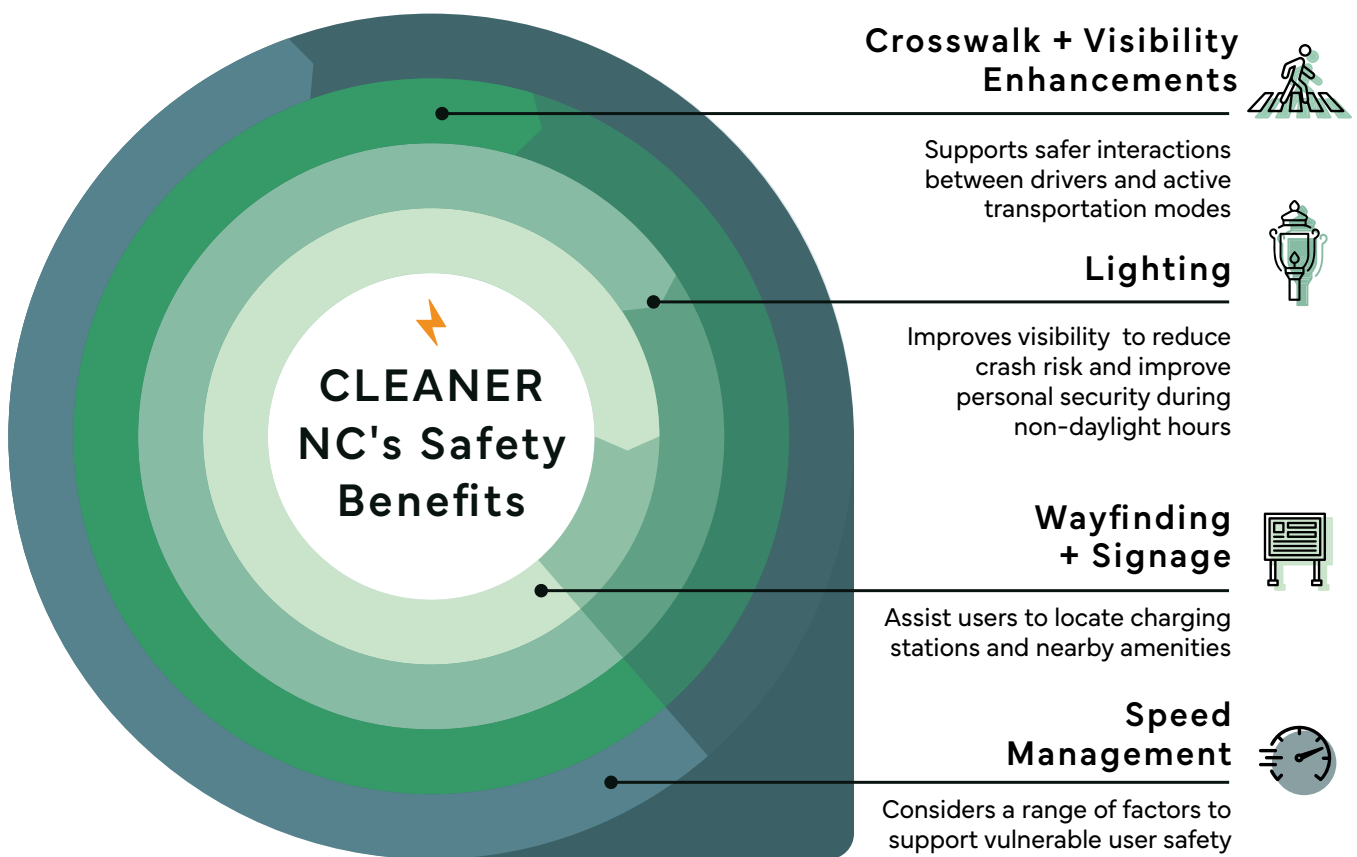
Design Elements: The design plans for each CLEANER NC charging station will integrate proven safety countermeasures from the NRSS where appropriate and feasible depending on the site's context and crash history, including sidewalk, pavement, crosswalk, lighting, signage, and other design elements to help mitigate human mistakes, encourage safer behaviors, and protect vulnerable users. These design interventions will include:

- » **Crosswalk and Visibility Enhancements:** The Project will implement new high visibility crosswalk treatments to provide safe connectivity for active transportation modes between the new chargers and the surrounding multimodal network. These enhancements will support safer interactions between drivers and active transportation modes by increasing the visibility of EV users accessing nearby destinations on foot and micromobility users accessing the Level 2 chargers. High-visibility crosswalk patterns and materials like thermoplastic tape may be used to further improve visibility around the EV charging stations for all modes during both daytime and nighttime use.
- » **Lighting:** According to [USDOT's Pedestrian Safety Dashboard](#), 81 percent of North Carolina pedestrian fatalities in 2022 occurred during dark conditions. CLEANER NC will address this risk by installing lighting where appropriate to improve visibility at each charging station to reduce crash risk for users during non-daylight hours, improve visibility, and improve personal security for all users.

» **Wayfinding and Signage:** CLEANER NC will install wayfinding and signage where appropriate near stations in compliance with the Manual on Uniform Control Devices for Streets and Highways (MUCTD) and applicable requirements of 23 CFR Part 750. This new signage will alert drivers to the potential presence of vulnerable users accessing the EV charging stations, assist with wayfinding on-campus, and provide information that will assist EV charging station users to safely charge their vehicle or electric micromobility device.

» **Speed Management:** During design, CLEANER NC will carefully consider a range of factors including pedestrian and bicyclist traffic, crash history, land use context, roadway geometry, and observed speeds to identify appropriate speed restrictions that will support the safety of vulnerable road users.

Lastly, CLEANER NC incorporates important safety considerations during operations. The operation of EV charging stations carries certain safety-related risks for users, including the risks of shock, burns, electrocutions, and fire hazards. The Project will provide safety benefits for all users and avoid negative safety impacts by procuring EV chargers that meet the safety standards outlined in 23 CFR Part 680, as well as the safety requirements of NEVI.





Climate Change

Reducing GHG emissions is a primary goal of CLEANER NC, and addressing the disproportionate negative impacts of climate change and minimizing adverse environmental impacts for disadvantaged communities in Elizabeth City is an essential component of the Project. Climate change, resilience, and environmental justice are among the key considerations of CLEANER NC’s project delivery plan, and the Project incorporates evidence-based climate resilience measures to mitigate flood risk and maximize the lifespan of this Federal investment.

Reducing GHG Emissions

CLEANER NC is projected to significantly reduce GHG emissions over its lifecycle. According to [NCDEQ’s 2024 Update to the North Carolina’s GHG inventory](#), North Carolina’s transportation sector is responsible for the largest share of GHG emissions in the State, accounting for 36 percent of GHG emissions in 2020. Ninety percent of these emissions are generated by on-road gasoline and diesel fuel vehicles.

The Project will accelerate the adoption of ZEVs in rural, northeastern North Carolina by expanding access to EV charging, thereby reducing range anxiety for EV users, supporting electrified active transportation modes like e-bikes, and increasing the convenience of lower-carbon forms of travel. CLEANER NC’s addition of four Level 2 ports and four DCFC ports will support the

decarbonization of North Carolina’s transportation sector in alignment with local, State and Federal decarbonization goals, including NC EOs 80 and 246, Session Laws 2007-397 and 2021-165, as well as NCDOT’s [Clean Transportation Plan](#) and [Electric Vehicle Infrastructure Deployment Plan](#).

CLEANER NC is estimated to reduce GHG emissions in NC by 51.6 short tons annually and 516.3 short tons over the 10-year useful life of the proposed charging stations, according to the Alternative Fuel Life-Cycle Environmental and Economic Transportation (AFLEET) Emissions Tool (see **Supplemental Materials** for more information). Moreover, the electricity supplying CLEANER NC’s new EV charging stations will be powered by increasingly lower-emission sources; [NC DEQ projects](#) a 81 percent reduction in GHG emissions for electricity generation relative to 2020.

Annual Air Quality and GHG Emissions Improvements (AFLEET)							
AFV Fueling Infrastructure	GHGs (short tons)	CO (lb)	NOx (lb)	PM ₁₀ (lb)	PM _{2.5} (lb)	VOC (lb)	SOx (lb)
Level 2	9.1	94.2	2.3	0.2	0.2	9.2	0.0
DCFC	42.5	439.5	10.6	1.1	1.0	43.0	0.2
Annual Total	51.6	533.7	12.9	1.3	1.2	52.3	0.2
10-year lifecycle total	516.3	5,336.7	129.1	13.3	11.7	522.7	2.3

Evidence-Based Climate Resilience Measures

In addition to mitigating climate change through GHG emission reductions, the Project incorporates evidence-based climate resilience measures to mitigate risk and maximize the lifespan of this Federal investment. ECSU faces increasingly frequent and severe weather events, including thunderstorms, tornadoes, hurricanes and

nor’easters, as a result of climate change, which can often cause flooding and property damage. To mitigate these risks and minimize the vulnerability of the proposed charging stations, CLEANER NC incorporates evidence-based climate resilience measures informed by research from the [North Carolina Clean Energy Center](#), as follows:

- » Meeting or exceeding the Federal Flood Risk Mitigation Standard and requirements of EO 13690
- » Locating new chargers outside of areas prone to flooding and inundation and above the Design Flood Elevation, informed by North Carolina's [Resilience Analysis Framework for Transportation \(RAFT\) tools](#)
- » Incorporating features like watertight covers on exposed outlets or plugs to further enhance the resilience of each charger during severe weather events
- » Incorporating permeable pavers and stormwater control measures to minimize stormwater runoff and associated erosion and flooding
- » Hardening and undergrounding CLEANER NC's distribution lines
- » Incorporating energy storage and backup power systems

Moreover, as site context and budget allow, the Project will explore the incorporation of climate-adaptive materials appropriate to the coastal environment of ECSU to bolster the Project's ability to withstand increasingly severe and frequent severe weather events caused by climate change. Lastly, the Project's proposed charging stations are located within two miles of a North Carolina [coastal evacuation route](#) (US 17) to support the needs of coastal EV users during hurricanes and emergency weather events whose frequency and intensity is increasing due to climate change.

Avoiding Adverse Environmental Impacts

By reducing GHG emissions and incorporating evidence-based climate resilience measures, CLEANER NC will avoid adverse impacts to air quality, water quality, and endangered species and reduce environmental burdens in disadvantaged coastal communities that are disproportionately impacted by climate change. CLEANER NC will avoid adverse environmental impacts as follows:

- » **Air Quality:** By expanding access to EV charging solutions that reduce of air pollution, CLEANER NC will benefit nearby DACs. The Project will reduce nitrogen oxide (NOx) particulate matter (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), and sulfur oxides (SOx) from the operation of conventional fuel vehicles by decreasing fossil fuel combustion and brake dust from friction braking.
- » **Water Quality:** By supporting a transition away from use of conventional fuel vehicles, CLEANER NC will protect water quality in DACs by supporting clean transportation alternatives that eliminate non-point source surface water pollution from leaks and accidental fossil fuel spillage. By locating each charging station in an existing parking lot, CLEANER NC will add minimal if any impervious surface and is not anticipated to result in additional runoff or degradation of water quality. CLEANER NC will adhere to all erosion and sediment control permit requirements.
- » **Wetlands and Endangered Species:** The Project's location and anticipated site and utility improvements will be designed to completely avoid impacts to streams, wetlands, or endangered species habitat to preserve these critical ecosystem elements.

Climate change and air pollution results in disproportionate negative impacts to the three disadvantaged census tracts within ½ mile of ECSU, including heat-related illnesses and death, damage to or failure of critical infrastructure during extreme weather events, and respiratory and cardiovascular conditions from air pollutants. By directing the environmental benefits of EV adoption and the associated GHG and air pollution reductions to disadvantaged, underserved, and overburdened communities in a rural community, CLEANER NC will create more equitable outcomes and lessen the economic, social, and infrastructure impacts of air pollution.



Equity, Community Engagement + Justice40

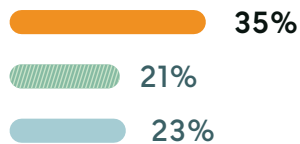
CLEANER NC removes transportation-related disparities for all populations served by the proposed charging stations at ECSU by expanding access to convenient, reliable, affordable, and safe EV charging infrastructure while significantly benefiting disadvantaged communities and LMI neighborhoods. One hundred percent of CLEANER NC’s requested CFI program funds will benefit disadvantaged communities through the deployment of four Level 2 and four DCFC ports in a rural area with three DACs (Census Tracts 9607.01, 9601, and 9603) and multiple LMI neighborhoods within 1/2 mile of the ECSU campus (see **Project Location** for more information).

Elizabeth City faces multiple disparities and burdens as a result of underinvestment in transportation. Data from USDOT’s ETC demonstrates that census tracts within 1/2 mile of ECSU exceed the 50th percentile for four of the five indicators, and exceeds the disadvantaged threshold for Climate and Disaster Risk, Social Vulnerability, and Health Vulnerability. Furthermore, there are concentrations of zero-vehicle, low-income, disabled, and BIPOC populations within 1/2 mile of the Project according to [NCDOT’s Transportation Disadvantage Index \(TDI\) tool](#).

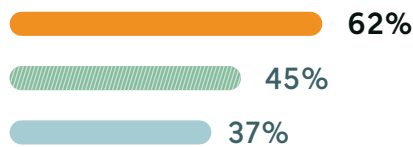
By equitably expanding the deployment of public EV charging infrastructure serving disadvantaged communities (DACs) and LMI neighborhoods, CLEANER NC will address transportation related disparities and create a more equitable transportation system by improving traffic safety (see **Safety** for more information), mitigating climate change and creating environmental benefits (see **Climate Change, Resilience, and Sustainability** for more information), and increasing workforce development opportunities (see **Workforce Development, Job Quality, and Wealth Creation** for more information) while also improving mobility, increasing affordable transportation options, and addressing unique rural challenges.

PROJECT DEMOGRAPHICS

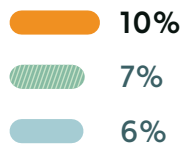
Low Income Population



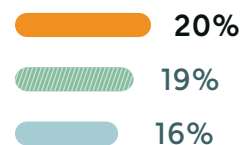
BIPOC Population



Zero-Vehicle Population



Disability Population



CUMULATIVE BURDENS

Climate + Disaster Risk Burden



Environmental Burden



Health Vulnerability



Social Vulnerability



Transportation Insecurity



ETC Disadvantage Component Scores within 1/2 mile of ECSU

● Project Area Average ● County ● North Carolina
Data from NCDOT’s TDI Tool within 1/2 mile of ECSU

Meaningful Public Engagement

CLEANER NC incorporates robust community involvement to guide project development and promote participation in the State's clean transportation workforce development programs. During CLEANER NC's development phase activities, NCDOT will work closely with ECSU and other community partners to solicit public and stakeholder input on community charging needs, and the related features of the deployed EV charging stations, while building awareness and support of NCDOT OCR's workforce development activities and relevant courses of study at ECSU and HBCUs across the State.

Through the partnership between NCDOT and ECSU, CLEANER NC will perform robust community outreach, with "pop-up" engagements and informational booths at community events, to solicit input on the Project's development phase activities and help build a pipeline of workers to pursue hi-tech and well-paying careers in the clean transportation sector. Engagement activities including "pop-up" engagements and informational booths at community events, as well as career days and career engagement, to target both K-12 students and adults in groups underrepresented in the clean transportation sector, and work to build trust with communities in northeastern North Carolina that have not been historically involved in the State's clean transportation sector. Community engagement activities will align with the best practices outlined [NCDOT's Statewide Public Involvement Plan](#) to ensure that the targeted communities are meaningfully engaged throughout the Project. By continuously engaging the public in a meaningful and inclusive way, CLEANER NC will ensure the Project equitably serves all communities and provides benefits to those with the greatest transportation needs and challenges.

Increasing Affordable Transportation Options

According to USDOT, transportation remains one of the highest annual consumer expenditures, totaling an average of [\\$12,295 annually in 2023](#). Lower income households generally pay [a larger portion](#) of their budget on transportation. Rural areas face additional cost burdens due to limited alternatives to single occupancy vehicle travel.

CLEANER NC will increase affordable transportation options by supporting the adoption of EVs and active mobility options that are cheaper to operate and maintain than conventional vehicles. While EVs often have a higher average purchase price than similar conventional fuel vehicles, they have substantially lower maintenance and fuel costs. Electricity prices are lower and more stable than gasoline, making EVs cheaper and more financially predictable to operate and maintain than similarly sized conventional vehicles. A [2020 Consumer Reports study](#) found that EVs have a lower total cost of ownership, while a [2024 study by the Union of Concerned Scientists](#) found that EV drivers in North Carolina are paying the equivalent of \$0.89 per gallon in January 2024, resulting in annual savings of up to \$790. Moreover, the upfront costs of EVs are projected to continue decreasing, [reaching parity with the purchase price](#) of conventional vehicles during the development and operational phases of the Project.

By deploying new EV charging stations that serve DACs and LMI neighborhoods in northeastern North Carolina, CLEANER NC will improve quality of life by equitably expanding community-based EV charging solutions that will help reduce transportation cost burdens, while also implementing high-quality workforce development programs that will create a pipeline of workers to pursue hi-tech and well-paying careers in the clean transportation sector. The Project also improves safety, connects North Carolinians to well-paying jobs, and fights climate change by supporting the transition to clean transportation (see **Safety, Workforce Development, Job Quality, and Wealth Creation**, and **Climate Change, Resilience, and Sustainability** for more information, respectively).

Improving Multimodal Mobility

CLEANER NC will support the mobility needs of ECSU students, faculty, staff, and visitors as well as the traveling public in northeastern North Carolina. By adding new Level 2 and DCFC chargers on ECSU's campus, CLEANER NC will make travel safer and more affordable, efficient and convenient for all users while supporting the mobility needs of DAC and LMI neighborhoods. The preliminary locations of each CLEANER NC charging station have been identified maximize EV user's ability to safely access nearby essential services, amenities, parks and recreational facilities, and on-campus resources on foot while their vehicle charges while meeting ECSU's unique parking needs and utility requirements CLEANER NC will enable all users to reach their destination more:

- » **Safely:** CLEANER NC will incorporate proven safety countermeasures from the NRSS, including high visibility crosswalks, lighting, and speed management into each charging station's site design, where appropriate and feasible depending each the site's context and crash history, to help users reach their desired destination safely (see **Safety** for more information).
- » **Affordably:** By expanding access to publicly available EV charging infrastructure for DACs and LMI neighborhoods in northeastern NC, CLEANER NC will help offset the transportation cost burden faced by DACs and LMI neighborhoods in rural northeastern North Carolina (see **Increasing Affordable Transportation Options** for more information).
- » **Efficiently:** CLEANER NC's charging stations are located in high-volume areas frequented by ECSU students and faculty and are in close proximity to Elizabeth City's residential areas and multifamily housing developments. By expanding access to community-based EV charging infrastructure, including four DCFC ports within two miles of an AFC, CLEANER NC will improve the efficiency and ease of travel for both local residents and regional travelers by reducing downtime and filling gaps in regional EV charging access.

Addressing Unique Rural Challenges

Rural communities face unique challenges in related to mobility and economic development, including traffic safety, isolation, and transportation cost burdens. Projects like CLEANER NC support increased rural EV adoption by creating more convenient and accessible EV charging infrastructure that address the following challenges, consistent with the principals and guidance of the ROUTES initiative:

Mobility: CLEANER NC enhances rural mobility by expanding access to EV charging stations that support convenient, affordable, reliable, equitable, accessible, and safe alternatives to conventional vehicle ownership. The Project supports the needs of ECSU faculty, staff, students, and visitors as well as local residents who rent, live in multiunit dwellings, and others who do not have access to EV charging at home. The Project's location and design elements will maximize users' ability to safely access nearby on- and off-campus essential services, amenities, parks, and campus resources without a vehicle.

Economic Development: CLEANER NC will address [employment and public investment challenges](#) faced in rural northeastern North Carolina by deploying new EV charging stations alongside a pilot internship program that supports the development of a highly skilled and knowledgeable workforce to support the State's growing clean transportation sector (see **Workforce Development, Job Quality, and Wealth Creation** for more information).

"CLEANER NC will expand access to convenient and affordable EV charging infrastructure in a rural, disadvantaged community to better serve the transportation needs of ECSU students, faculty, visitors, and the surrounding community"



*- Ryan Strickland
ECSU Assistant Vice Chancellor of
Design and Construction*

Isolation: According to the [University of Minnesota Rural Health Research Center](#), improvements in transportation, technology, collaboration, education, and awareness are primary strategies to support isolated individuals in rural areas. CLEANER NC supports these strategies by improving mobility alongside workforce development programs to connect HBCU students with internships that prepare them for careers in clean transportation, with robust community engagement to build awareness of available training and education programs and the benefits of EV adoption.

Transportation Cost Burden: According to the [American Council for an Energy-Efficient Economy](#), Rural households in the US are highly burdened by both total transportation costs and transportation energy costs. CLEANER NC addresses this challenge by expanding access to EV charging infrastructure to support the adoption of electric transportation options that are cheaper to operate and maintain than conventional vehicles, thereby reducing transportation cost burdens in rural northeastern North Carolina (see **Increasing Affordable Transportation Options** for more information).

Traffic Safety: CLEANER NC integrates proven safety countermeasures from the NRSS to mitigate safety risks for EV users and promote safer multimodal connectivity between the proposed charging stations and nearby destinations and amenities (see **Safety** for more information).

Rural residents have fewer alternatives to conventional vehicle travel than their urban counterparts, leading to increased levels of air pollution and poorer health outcomes. CLEANER NC aligns with [NC EO 246](#) by investing Federal dollars in EV charging alongside educational and community engagement activities to reduce GHG emissions and air pollution, promote resiliency, invest in historically underserved communities, increase affordability for LMI households, advance health equity, and create jobs and economic growth through a clean North Carolina economy.

Integrated Land Use, Economic Development, and Transportation Planning

CLEANER NC supports integrated land use, economic development, and transportation planning to improve the movement of people and goods and facilitate greater public and private investments and strategies in land use productivity. ECSU is a pillar of northeastern North Carolina's economy; in 2023 it was the [fourth largest](#) employer in Pasquotank County, and spending by students and visitors is a primary driver of the local and regional economy.

The Project strategically boosts land use productivity by deploying two new EV charging stations on the ECSU campus, a central location in Elizabeth City, to create more convenient and efficient opportunities for EV charging. This will also serve the needs of nearby economic and employment centers that do not have EV charging stations, notably Elizabeth City Regional Airport and the US Coast Guard Air Station Elizabeth City, both located approximately two miles southeast of ECSU's campus on NC 244/Weeksville Rd. The Project will support the charging needs for these nearby land uses while improving public access to community and educational facilities, essential services, and other amenities (see **CFI Program Vision** for more information) while making ECSU more attractive to potential students, faculty, and staff.

CLEANER NC will draw people to ECSU's campus for EV charging and support the currently unmet charging needs of ECSU students, faculty, staff and visitors. The Project will also support training and workforce development programs that help grow the next generation of clean transportation workers and deepen existing workforce development relationships between HBCUs and NCDOT. Surrounding communities will reap the benefits of associated private investment and economic development associated with improved access to EV charging.



Workforce Development, Job Quality + Wealth Creation

CLEANER NC builds on the momentum NCDOT’s ongoing partnerships with HBCUs, community colleges, and other institutions of higher learning across the state to support the growth and development of the State’s clean transportation sector. The Project will pair the deployment of four Level 2 ports and four DCFC ports at ECSU with a pilot internship program for ECSU students to support the implementation of North Carolina’s EV Deployment Plan alongside community engagement activities targeting DBEs and other underrepresented groups to create a more diverse and inclusive clean transportation sector in North Carolina.

CLEANER NC includes several workforce development benefits that will help increase job quality and create wealth in North Carolina, with a focus on women, people of color, and other populations that are underrepresented in infrastructure jobs. The Project builds on the strengths of NCDOT’s current HBCU partnerships to create new jobs and invest in high quality workforce development programs that create new opportunities for HBCU students and others across the State to access well-paying jobs and promote inclusive economic development by supporting DBEs, Minority Business Enterprises (MBEs), and Women’s Business Enterprises (WBEs), and 8(a) firms.

Job Creation

Data from NCDOC’s [2019 Clean Energy and Clean Transportation Assessment](#) found that 2018 median annual wages in clean economy jobs meet or exceed the State median of \$35,750 for all occupations, with annual incomes ranging from approximately \$30,000 for occupations

like construction laborers to over \$100,000 for occupations in engineering and management. Several top ranked occupations in these sectors, based on wages, projected growth rate, and projected job openings, have median annual wages that well exceed North Carolina’s 2020 individual median income as shown in the below table.

CLEANER NC will create good-paying jobs to support the State’s clean transportation sector. According to Argonne National Laboratory’s [JOBS Model](#) (see **Supplemental Materials**) the Project’s capital investment in EV charging station development, construction, and operation will create three new jobs and induce one additional job in a rural disadvantaged area that is likely to exceed the State’s median income. Additionally, the Project will fund a pilot expansion of NCDOT’s Office of HBCU Outreach internship program. Each intern will receive \$7,500 for a 10-week program, thereby further contributing to the creation of good-paying jobs and the development of a skilled workforce in North Carolina.

North Carolina Annual Wages for Clean Economy Occupations		
Occupation	2017-2026 Growth Rate	2018 Median Wage
Construction Managers	11.8%	\$97,290
Cost Estimators	10.0%	\$59,750
Electrical Engineers	11.2%	\$91,680
Electrical Power-Line Installers + Repairers	14.5%	\$59,690
First-Line Supervisors of Construction Trades + Extraction Workers	12.4%	\$59,040
First-Line Supervisors of Mechanics, Installers + Repairers	8.9%	\$63,620
General + Operational Managers	10.6%	\$108,750

Source: NCDOC, *Clean Energy & Clean Transportation in NC: A Workforce Assessment* (2019)

Workforce Development Programming

CLEANER NC's job creation benefits are driven by the high-quality workforce development programming and supportive services that will be implemented by NCDOT's OCR and Office of HBCU Outreach, with focus on equity and reaching a diverse group of students and adult learners. These programs will help underrepresented populations, including minorities and DBEs, build the required skills and capabilities for careers in the clean transportation sector.

CLEANER NC will fund a pilot expansion of [NCDOT's Office of Historically Black Colleges and Universities Outreach Internship Program](#) to support the implementation of [North Carolina's Plan for EV Infrastructure Deployment](#). Up to four interns from ECSU will be placed at state agencies with a clean transportation component for 10 weeks, including NCDOT's Office of Strategic Initiatives & Program Support, Division of Aviation, Department of Environmental Quality, North Carolina Utilities Commission, or the NC Department of Administration. The internships will include professional development workshops on resume building, business writing and networking, and interns will have the opportunity to work closely with leaders in each agency to form important career connections.

CLEANER NC will also provide ECSU students with the opportunity to observe, learn about, and participate in activities during its development and construction phases. The Project will generate coursework that can be incorporated into relevant academic and training programs at ECSU and other HBCUs in the State. Specific programming may include lessons in procurement, contracting, siting, design, environmental review, installation, and operations and maintenance (where appropriate and under the supervision of certified professionals).

CLEANER NC will pair these elements with NCDOT OCR's robust workforce development program to create a more diverse, competent, retained, and well-paid clean transportation workforce.

NCDOT's innovative workforce development programs have been nationally recognized for their innovation and commitment to equity. NCDOT will partner with local community-based organizations in northeastern North Carolina to perform robust outreach and recruitment into job training programs across the State. The Project will also leverage [North Carolina's Clean Energy NC Talent Hub](#), a free service to connect job seekers and employers to help develop and connect the clean economy workforce to promote the training and hiring of women, minorities, and other underrepresented groups in the clean transportation sector.

Entry + Retention of Underrepresented Populations

Increasing the participation of underrepresented populations in North Carolina's clean transportation sector is one of the Project's primary goals. To promote more diversity in clean transportation sector jobs, CLEANER NC includes a series of community engagement activities led by NCDOT, whose mission is to serve the State's disadvantaged and underserved communities. CLEANER NC's educational and community engagement activities will provide information and resources to help minorities and other disadvantaged individuals enter the clean transportation workforce and train for skilled positions.

"CLEANER NC will build on NCDOT's strong legacy of partnering with HBCUs to connect HBCU students with emerging trends in transportation, including careers in the clean energy sector, and demonstrates NCDOT's commitment to increase workforce diversity and establish a clean energy talent pipeline that prepare graduates for fulfilling, well-paying careers in North Carolina's clean energy economy."



*- Ebony Pittman
NCDOT Deputy Secretary for
Business Administration*

The following activities will provide outreach, recruitment, career awareness, and exposure to students in support of the Project that will enable them to make a difference in their community:

Career Days: Trade show with booths to showcase technology and equipment and provide information on future clean transportation sector career paths for middle and high school students.

Career Engagement: NCDOT OCR will lead outreach, information sessions, and career fairs for anyone 18 years or older to promote educational and training opportunities in the clean transportation sector.

These activities will benefit underrepresented populations while also addressing one of North Carolina’s most common and pressing challenges to develop a pipeline of future workers in clean transportation. NCDOT will coordinate with the [Northeastern Workforce Development Board](#) to augment outreach efforts to youth and adult learners to facilitate access to good paying jobs and work-based learning opportunities. In doing so, the Project will educate the public about career opportunities, wages paid, required technical skills, and correct common misconceptions recommended in NCDOT’s 2019 [Clean Energy & Clean Transportation: A Workforce Assessment](#), which identified an “interest gap” created by the larger percentage of workers headed for retirement and the limited number of younger workers ready to fill these vacancies.



2023 NC QuickPass HBCU Intern and Fellow Tour

Promoting Local Inclusive Economic Development + Entrepreneurship

The Project will implement measures to promote local inclusive economic development and entrepreneurship through the utilization of DBEs, MBEs, WBEs, Small Business Enterprises (SBEs), and Small Professional Service Firms (SPSFs). NCDOT routinely contracts DBEs for transportation projects and conducts quarterly DBE outreach to highlight future projects and to encourage participation. NCDOT OCR’s Business Opportunity and Workforce Development (BOWD) Unit provides supportive services to certified DBE firms through training, education, one-on-one technical assistance, and other services.

NCDOT OCR will lead efforts to collaborate with a diverse group of community partners to recruit DBE, MBE, WBE, and employer partners to which HBCU students and graduates can be matched for OJT as well as part- and full-time jobs. NCDOT has a proven track record for this type of collaboration; [during the 2024 fiscal year NCDOT awarded nearly \\$65.4 million to small business enterprises](#) through contracts under \$1 million, generating a 35 percent increase over the previous record of about \$48.4 million in 2023 and double the target of \$28 million.

CLEANER NC will continue this focus on inclusive economic development and entrepreneurship by developing partnerships with local DBE firms as part of its workforce development program while also maximizing the participation of DBEs in the delivery of the Project’s EV charging stations. The alternative contract delivery methods NCDOT is considering using to implement the Project will promote DBE utilization by allowing NCDOT to score respondents on their DBE participation plan and work to maximize participation from design through construction. The proposed alternative contract delivery method is a means to help NCDOT achieve the three-year aspirational DBE goal of 13 percent.



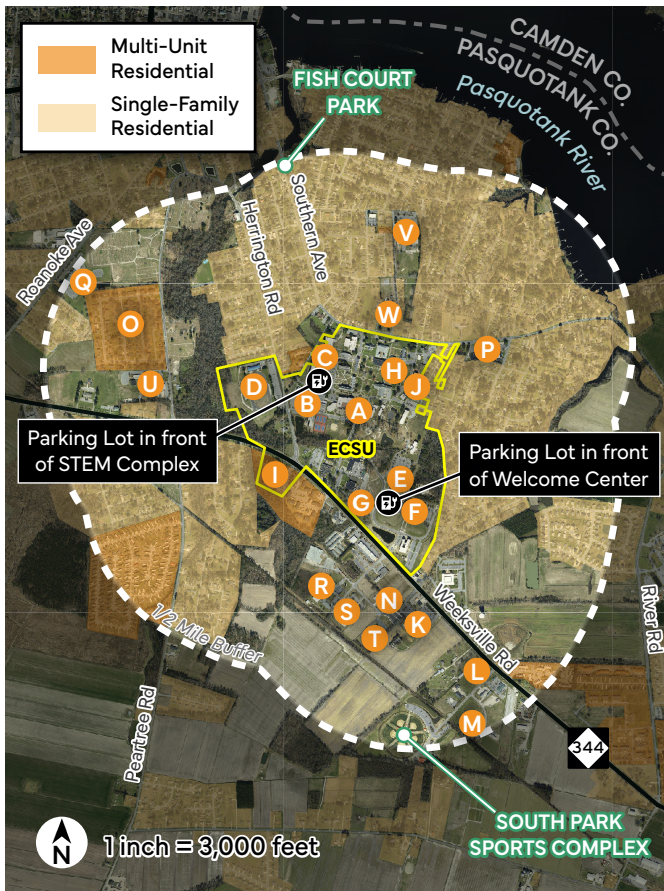
CFI Program Vision

CLEANER NC will equitably expand access to public EV charging infrastructure by deploying two charging stations with four Level 2 and four DCFC ports in publicly accessible surface parking facilities at ECSU's Welcome Center and in its main academic area. ECSU is located in Elizabeth City, which is the county seat of rural Pasquotank County. CLEANER NC will serve both workplace charging needs for faculty, staff, and students as well as fill gaps in access within the broader region. The Project's proposed charging stations are located in rural northeastern North Carolina and serve DACs and LMI neighborhoods with low-income and minority populations that exceed both the county and statewide averages (see **Equity, Community Engagement, and Justice40** for more information).

The Project's EV charging stations are located in close proximity to Elizabeth City's residential neighborhoods and downtown core and are easily accessible to a multitude of frequented locations in the community as shown in the following map:

While CLEANER NC addresses all three CFI focus areas (see **Additional Project Narrative Information** for more information), the Project best aligns with the Multipurpose Workplace and Destination Charging focus area. CLEANER NC's proposed charging stations are located in destinations where vehicles are likely to be parked for an extended

period of time, which supports lower-power and lower cost charging at the Project's four Level 2 ports. Students spend several hours each day on campus attending classes, studying, and accessing various student services and amenities, while faculty and staff usually park for the entire workday. Similarly, visitors and nearby residents could use the proposed charging stations while accessing on- or off-campus destinations, which include retail centers, K-12 schools, social and government services, major employers, health care facilities, and nearby parks.



CFI PROGRAM VISION MAP

MAP INDEX

ON-CAMPUS DESTINATIONS

- | | |
|--------------------------|----------------------------------|
| A Student Center | F Birnum Fine Arts Center |
| B Wellness Center | G Office of Admissions |
| C STEM Complex | H Bias Hall |
| D Roebuck Stadium | I Viking Village |
| E Welcome Center | J Viking Towers |

RETAIL CENTERS

- K** Weeksville Crossing Shopping Center
- L** Dollar Tree

GOVERNMENT, SOCIAL + HEALTHCARE SERVICES

- M** Food Bank of the Albemarle
- N** Inter-County Public Transportation Authority (ICPTA)
- O** Deby Courts Public Housing
- P** Edgewood Center:
 - Pasquotank County Public Defender's Office
 - Albemarle Alliance for Children and Families
 - Pasquotank County Board of Elections
 - Albemarle Area United Way
- Q** Pasquotank County Health & Social Services Center:
 - Pasquotank County Health Department
 - Pasquotank County Department of Social Services
 - Albemarle Regional Health Services

MAJOR EMPLOYERS

- R** Hoffer Flow Controls
- S** Hockmeyer Equipment Corporation
- T** Johnstone Supply

K-12 SCHOOLS

- U** Pasquotank Elementary
- V** JC Sawyer Elementary
- W** HL Trigg Community School

Project Readiness + Environmental Risk

The Project is technically feasible with low levels of environmental project risk. NCDOT will serve as both the CFI 2024 Applicant and Recipient. As such, NCDOT will be responsible for administering the grant if selected for award and will provide project management and oversight of project delivery. NCDOT will exercise its extensive experience completing Federal discretionary grant projects and executing the State's EV Infrastructure Deployment Plan to successfully deliver CLEANER NC and reduce and mitigate Project risks. Should the Project be approved for CFI grant funding, NCDOT is ready for obligation as soon as the necessary documentation is executed.

Project Delivery

If awarded, NCDOT will finalize agreement with ECSU in coordination with the development and execution of the grant agreement with FHWA. These agreements will contain provisions for each step of the project delivery process and will stipulate that ECSU maintain and operate the new EV charging stations in accordance with the applicable provisions of 23 CFR 680 for a period of no less than 5 years from the initial date of operation.

NCDOT will manage the project and seek a contract with one or more private entities to complete development phase activities and/or install the Project's EV charging stations through a full and open competition consistent with the standards of 2 CFR 200.319, 200.320, 23 CFR 635, and 23 CFR 636. NCDOT will collaborate closely with ECSU and Elizabeth City Electric to complete CLEANER NC's development phase and construction activities. Broader coalitions of economic development agencies, non-profits, and educational agencies will be formalized to implement the Project's educational programming and community engagement activities.

23 Part 680 Compliance

NCDOT has a thorough understanding of NEVI program requirements for deploying the Project's two charging stations. All the Project's EV charging stations will have a minimum of four ports, meet NEVI power level requirements, and be ENERGYSTAR certified. All EV charging stations will provide a contactless payment method that accepts major credit and debit cards and allow

users to make payments through either an automated toll-free phone number or a short message/messaging system. Payment methods will be accessible to persons with disabilities, will not require a membership, will provide clear pricing, will not affect the power flow to vehicles, and will provide access to Limited English Proficiency (LEP) populations. Additionally, there will be public transparency in how the price is determined and set. Lastly, the Project will meet all applicable interoperability, customer data privacy, cybersecurity and charging network connectivity found in the final rule, and all signage installed as part of the Project will comply with the Manual on Uniform Traffic Control Devices (MUTCD) and 23 CFR part 750. Charging data will be submitted to FHWA quarterly in accordance with 23 CFR 680.112, and any data related to maintenance and repair cost or participation in any State or local business opportunity certification programs will be submitted annually.

Equity + Accessibility Requirements

NCDOT has intentionally partnered with ECSU to direct CLEANER NC's benefits to disadvantaged and underserved communities. NCDOT will continue to work closely with ECSU and contracted private entity(ies) selected to deliver the project to design each EV charging station with due consideration to the mobility and safety needs of all users. Further discussions of how CLEANER NC meets the CFI program's equity and accessibility requirements can be found in the **Project Overview**; **Safety**; and **Equity, Community Engagement, and Justice40** sections.

Project Schedule

NCDOT anticipates obligating funds well in advance of the obligation deadlines for both fiscal year 2024 and 2025 funds, as shown in the project schedule. Upon obligation of funds, NCDOT will work collaboratively with ECSU, and any contracted private entities to complete development phase

activities (including engineering and design work, environmental review, and financial analysis), and the procurement and installation of four Level 2 and four DCFC ports at two publicly accessible charging stations on ECSU's campus.

PROJECT SCHEDULE																
Milestone	2024				2025				2026				2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CFI Milestones			●		●		●				●					
Community Engagement																
Siting + Design																
Environmental Review																
Procurement + Contracting																
HBCU Internship																
Construction/ Equipment Installation																
CFI Roundtable																
Data Submittal																

Submit Application

Grant Agreement Executed

FY 2024 Obligation Deadline (September 30, 2027)

Assume Award



ECSU Campus (photo courtesy of Elizabeth City-Pasquotank County Tourism Development Authority)

Required Approvals

No legislative approvals are required to complete the Project, and all EV charging stations will be installed in fully constructed public parking lots on ECSU's campus where no right-of-way (ROW) acquisition will be required. NCDOT will ensure the Project is added to the State Transportation Improvement Program (STIP) upon notification of award.

State + Local Approvals

No legislative approvals are required to complete the Project, and all EV charging stations will be installed in existing parking lots on ECSU's campus where no ROW acquisition will be required. NCDOT anticipates obtaining a local building and/or electrical permits and utility approvals to install the proposed EV charging stations.

NEPA + Permitting Requirements

NCDOT anticipates processing the Project as a Category 1 Categorical Exclusion (CE), pursuant to the 2017 Programmatic Agreement between the FHWA, North Carolina Division, and NCDOT Regarding the Processing of Actions Classified as a CE for Federal-aid Highway Projects (amended 2019), which authorizes NCDOT to approve the documents without additional FHWA coordination or approval. The Project's EV charging stations and associated utility improvements will be located and designed so as not to impact streams or wetlands, nor will the Project impact threatened and endangered species. Furthermore, the Project will avoid siting charging stations in flood-prone and frequently inundated areas, in accordance with the Federal Flood Risk Mitigation Standard (FFRMS) as updated by EO 13690. Lastly, NCDOT anticipates the Project will be exempted from Section 106 requirements for any potential effects to the National Register-listed Elizabeth City State Teachers College Historic District and associated buildings because it is expected to have minimal or no effects to historic properties by meeting the requirements outlined in 36 CFR 800.14(c).

Environmental conditions at will be further evaluated during project development, and NCDOT will coordinate with appropriate regulatory agencies to avoid, minimize, or mitigate impact and obtain any required local electrical permits prior to the beginning construction. These may include, but are not limited to building and/or electrical permits and, utility approvals.

Public Engagement

Throughout the development and construction phases of the Project, NCDOT and ECSU will perform robust public outreach to publicize the availability of new EV charging stations and solicit input on their design while generating interest in NCDOT's workforce development programs, with particular attention to K-12 and non-traditional students. Feedback gathered from these events will inform the implementation of additional educational activities, job placement, and support services that are responsive to community needs.


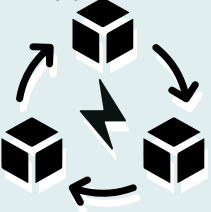


During Project implementation, NCDOT will convene a CFI roundtable consisting of representatives from NCDOT, ECSU, and other HBCU's across the state to promote sharing of lessons learned from CLEANER NC, best practices, and opportunities to expand access to EV charging solutions on HBCU campuses.

Disadvantaged Business Enterprise Participation

NCDOT will seek to maximize DBE participation when implementing CLEANER NC. NCDOT routinely contracts DBEs for transportation projects and conducts quarterly DBE outreach to highlight future projects and to encourage participation. For Federal Fiscal years 2022-2024, NCDOT has set a DBE goal of 13 percent, where 10.8 percent is anticipated to be through race conscious measures and 2.2 percent is expected to be through race neutral measures. NCDOT is considering using alternative contract delivery methods to construct the Project and promote DBE utilization by allowing NCDOT to score respondents on their DBE participation plan and work to maximize participation from design through construction.

Assessment of Project Risk + Mitigation Strategies

NCDOT has identified the following potential risks and corresponding mitigation strategies to implement the project on schedule and within budget. NCDOT, who will administer the project, will leverage its extensive experience completing other Federal discretionary grant projects to reduce and mitigate risk.

Risk	Explanation	Mitigation
<p>Site Conditions</p> 	<ul style="list-style-type: none"> » Site conditions could require minor electrical upgrades or enhanced wireless coverage for data transmission » Unforeseen utility relocation costs could increase overall costs 	<ul style="list-style-type: none"> » Development phase activities will verify the feasibility of the preliminary charging station locations and identify cost effective design features
<p>Supply Chain</p> 	<ul style="list-style-type: none"> » Material shortages and inflation are causing volatility in materials, construction, and labor costs » Economic conditions could result in delays procuring the Project's EV chargers and completing any needed electrical upgrades 	<ul style="list-style-type: none"> » The Project budget includes a 25 percent contingency to account for uncertainty in construction and labor costs. » The Project can use state-term contracts that include pre-negotiated prices for EV charging stations and other project components » The Project's EV charging stations will be procured at beginning of project to avoid schedule delays resulting from materials shortages
<p>Qualified Technicians of EV Infrastructure</p> 	<ul style="list-style-type: none"> » Labor shortages could contribute to further delays of equipment installation » NEVI has specific licensing and certification requirements for EV technicians and engineers 	<ul style="list-style-type: none"> » NCDOT will provide educational resources and job training to expand the labor pool of qualified workers
<p>Safety Risks and Considerations</p> 	<ul style="list-style-type: none"> » The deployment and operation of EV charging stations can carry safety-related risks such as shock, burns, electrocutions, fire hazards, and conflicts between travel modes 	<ul style="list-style-type: none"> » The Project will provide safety benefits for all users and avoid negative safety impacts by procuring EV charging stations that meet the safety standards of 23 CFR 680 and by ensuring the siting and design elements of each EV charging station is aligned with the NRSS



N.C. Department of Transportation

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