REST

Rest area Expansion for Safe Transportation

Project Description

FY 2026 Better Utilizing Investments to Leverage Development (BUILD)

GRANT APPLICATION

FEBRUARY 2026

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

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Application + Supplemental Materials: https://connect.ncdot.gov/resources/BUILD2026-I77Surry/Pages/default.aspx

Project Description

Rest area Expansion for Safe Transportation (**REST** or "the Project") will reconstruct and modernize the I-77 North Welcome Center (Welcome Center) in Surry County, North Carolina (NC) to expand truck, bus, and recreational vehicle (RV) parking and implement technology solutions to monitor and communicate hazards for both weather and traffic. These improvements will improve regional mobility, resiliency, and economic competitiveness; enhance the user experience of both freight truck drivers and traveling families; and significantly improve safety outcomes along one of NC's most heavily traveled interstate corridors. The Project will:

- Add 30 freight truck parking spaces to **increase capacity** by 300 percent and alleviate severe truck parking shortages in the region.
- **Consolidate old, outdated buildings** that have exceeded their useful life in a new, modern building to create lifecycle cost savings and improve access to amenities for both freight truck drivers and families with children.
- Implement a **Truck Parking Information Management System (TPIMS)** that detects available truck parking spaces using radar or lidar technology and transmits this data in real-time to a mini-Dynamic Message Sign (DMS) embedded on a static sign prior to the Welcome Center exit, a first for North Carolina.
- Complete a **TPIMS Implementation Study** to evaluate REST's TPIMS performance as a pilot case study for future implementation of similar systems at rest areas and welcome centers around NC.
- Install 11 Closed Circuit Television **(CCTV) traffic cameras** and 8 miles of single-mode **fiber** to connect the region to the State's **Traffic Information Management System (TIMS);** this will greatly improve crash response time and quickly alert freight truck drivers and other travelers of dangerous weather conditions ahead.

11 **Traffic Cameras** **8** **Miles of Fiber**

to connect the region to NC's **Traffic Information Management System**

300% **Increase in Freight Truck Parking**

+ **TPIMS** *to alert truck drivers of available parking*

Improved Traffic Incident Management

saves 2,300 vehicle hours per crash

approximately

700,000 hours

over 20 years

Reduction of

1,050 crashes **3.7M freight truck VMT**

over 20 years

Freight truck drivers save

29,000

hours annually searching for parking

$5.3M **Net operations and maintenance cost savings**

Benefit-Cost Ratio 2.4

Project Location

REST will construct modernized transportation facilities at the Welcome Center and between mile marker (mm) 105 and 98 in Surry County, NC. I-77 is a key commercial and tourism corridor that connects the southeast to major midwestern markets. Approximately 39,000 vehicles cross into NC from Virginia on I-77 daily; 32 percent of those vehicles are freight trucks.

The Welcome Center is the third most visited in the state, serving a total of 469,782 vehicles in 2025, including 126,083 freight trucks (see **Supplemental Materials**). Constructed in 1978 and last renovated in 1997, the NC Department of Commerce (NCDOC) operates the facility and provides travel counselors to promote tourism throughout the state. Through a partnership with Business Enterprises Program, legally blind vendors operate the vending machines to support NC's visually impaired population. The Welcome Center provides restrooms and vending machines and can accommodate 75 cars, 8 buses/RVs, and no more than 10 freight trucks.

The Project corridor is part of NC's Priority Highway Freight Network and is one of NC's Strategic Transportation Corridors. The Project is located entirely within a rural area..

NC Birth and Marriage Rates

Higher than national average

CDC National Center for Health Statistics

17.9%

Surry County Residents **Below Poverty Line**

ACS 2018-2022, Table C17002

98%

of investments occur in **Area of Persistent Poverty Census Tract 9308.03**

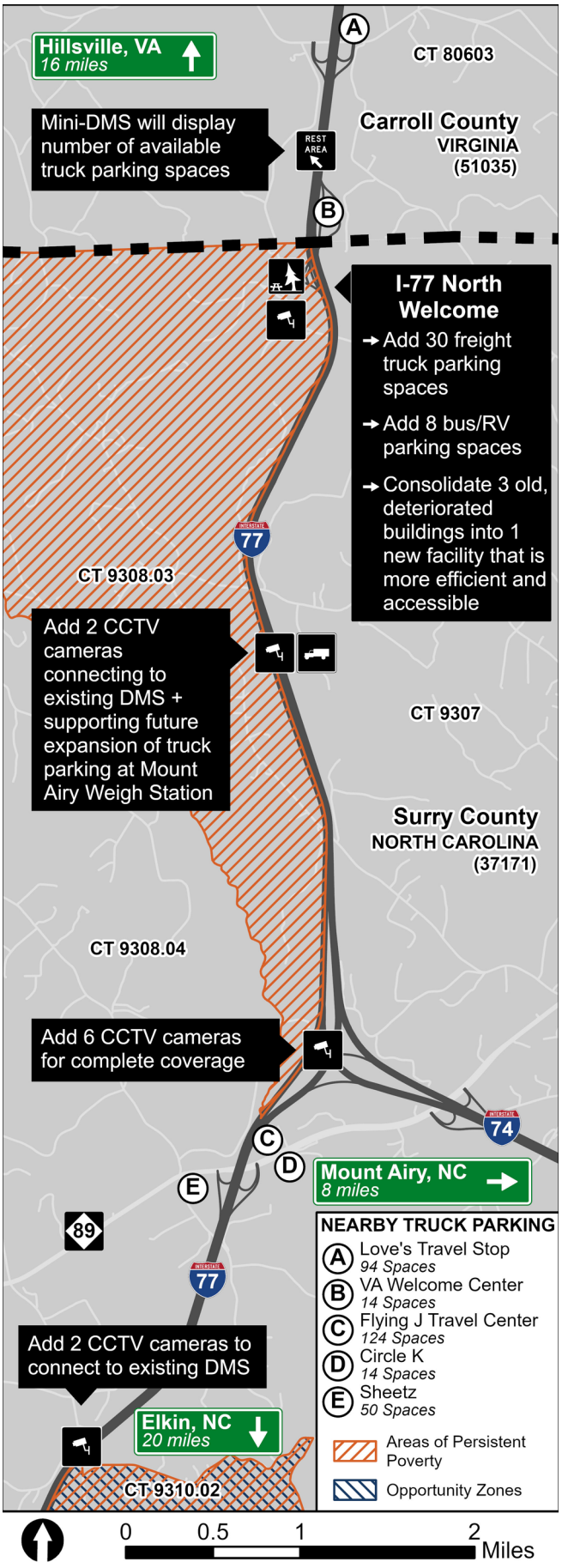
Median Household Income

$55,656 **Surry County, NC**

approximately

23% **below** *the statewide average*

ACS 2024 5-year estimate, Table B19013



↗ *Rendering of REST's proposed Welcome Center Improvements*

Transportation Challenges

Federal Hours of service (HOS) regulations (49 CFR 395) specify the maximum amount of time freight truck drivers are permitted to drive and be on duty as well as the number and length of rest periods to combat fatigue. Both property- and passenger-carrying drivers are required to take one 30-minute break within their first eight hours of driving and may drive a maximum of 10 or 11 hours after 10 consecutive hours off-duty. According to NCDOT's Truck Parking Study, these required breaks ranked number one and two, respectively, as the top reasons that freight truck drivers require parking.

A recent Federal Highway Administration (FHWA) assessment found that parking has been the number one issue among freight truck drivers three of the last four years, and the American Transportation Research Institute's (ATRI) annual Top Industry Issues Survey (see **Supplemental Materials**) has consistently identified the lack of available truck parking as a top 10 critical issue for drivers and industry stakeholders alike. According to ATRI data, NC provides only 0.09 rest area truck spaces per 100 million miles of truck Vehicle Miles Traveled (VMT), ranking among the lowest states in the country. In fact, 41 percent of NC freight truck drivers who must stop for federally mandated HOS breaks can often only find parking on highway and exit ramp shoulders, which is illegal under NC law.

Freight truck parking along the Project corridor is particularly scarce, with only 313 freight truck parking spaces within 10 miles of the Welcome Center serving over 12,000 truck trips daily (see **Project Location Map** and **BCA Technical Memo**). NCDOC visitor data (see **Supplemental Materials**) show that in 2025, an average of 350 trucks entered the Welcome Center daily. The truck parking shortage is most severe during nighttime hours. The Appalachian Regional Commission's (ARC) 2024 Regional Truck Study found that peak truck parking in the vicinity of the Welcome Center area occurs at 8:00 pm, with 47 percent of freight trucks parked for 7 hours or longer, and NCDOT's Truck Parking study (*ibid*) further found that private truck stops and rest areas reach capacity at night in this portion of I-77. This truck parking shortage creates significant safety and economic challenges.

Why does the Welcome Center need to be redesigned and reconstructed?

NCDOT is unable to expand truck parking within the current site layout due to topography constraints and the configuration of the existing facilities which have all reached or exceeded their useful life. REST will optimize the site's configuration to maximize parking availability and improve the user experience for both freight truck drivers and traveling families.

Driver Fatigue

Driver fatigue is a leading factor in freight truck crashes. It impairs alertness, slows reaction time, and reduces lane keeping ability. Federal Motor Carrier Safety Administration (FMCSA) analysis shows that 13 percent of freight truck drivers were considered to have been fatigued at the time of a crash, and driver factors like performance, recognition, and decision-making were the critical factor in 87.2 percent of truck crashes. Fatigue-related crashes where the driver is at fault occur more frequently during nighttime hours according to Bunn et al.

REST will increase the amount of parking available to help freight truck drivers meet required HOS rest periods and improve access to critical rest stop amenities like bathrooms and food vending that are essential to their well-being, alertness, and lane keeping ability.

Illegal Shoulder Parking

When freight truck drivers approach their HOS limits and are unable to locate parking, they are forced to park illegally on highway and exit ramp shoulders or face penalties, fines, and even an immediate out of service order. Freight truck parking on shoulders and exit ramps creates safety and operational challenges:

↗ *Drivers reaching their HOS limits are forced to park on shoulders and exit ramps in the Project corridor, creating unsafe conditions and increasing maintenance costs as shown on this 2026 photo from a road adjacent to I-77 in Surry County.*

Fixed Object Hazards: Trucks parked on shoulders create unexpected obstacles for other drivers. The risk is particularly acute at night when visibility is limited, and along narrow exit ramps, which are already high-conflict and complex decision-making zones with limited sight distance. According to FMCSA's Report to Congress on the Large Truck Crash Causation Study, crashes involving parked trucks increase the risk of death and serious injury due to the speed differential between moving traffic and the parked truck. Expectation errors (drivers not anticipating a stopped vehicle) are a recurring factor in these types of crashes. Demonstrating this challenge, NCDOT's Truck Parking study (*ibid*) found that 32 percent of all truck-related crashes in NC occurred on highway ramps within two miles of a truck parking facility. The lack of truck parking spaces coupled with the lack of information about available truck parking nearby forces drivers to park large vehicles unsafely on highway and exit ramp shoulders.

Increased Risks for Truck Drivers: While parked, drivers are exposed to passing traffic without any barriers or buffers, increasing their risk of being struck while exiting the cab or performing vehicle inspections.

Emergency Response: Highway shoulders are safety recovery zones for disabled vehicles, emergency stops, and law enforcement and first responders. A parked truck eliminates space for emergency maneuvers, prevents disabled vehicles from leaving travel lanes, and prevents authorities from safely accessing crashes when traffic is queued behind the crash.

Increased Repair and Maintenance Costs: Highway shoulders are not designed to hold the weight of heavy vehicles for an extended period, which leads to pavement damage, deterioration, and rutting that requires repetitive repair and increases operations and maintenance costs.

REST will reduce illegal freight truck parking along I-77's highway and exit ramp shoulders by offering expanded parking facilities, thereby reducing crash risk (see **Safety**), supporting emergency response, and decreasing pavement repair and maintenance costs (see **State of Good Repair**).

Loss of Productivity

Freight assets are the backbone of the NC's economic vitality, and its transportation system is critical to the movement of hundreds of millions tons of freight each year. The Statewide Multimodal Freight Plan (*ibid*) found that trucking accounted for the largest share of overall tonnage, representing nearly 83 percent of total inbound, outbound, internal, and through flows. The lack of adequate truck parking along the Project corridor creates schedule and fiscal challenges that negatively impact freight drivers and reduces NC's economic competitiveness. Prevalent compensation models pay drivers on a per-mile or per-load basis, neither of which reimburse drivers for non-revenue miles accrued while searching for parking. This has a tangible negative impact on drivers; ATRI research shows that the average driver spends 56 minutes per day looking for parking, costing approximately $4,600 in lost compensation, while NCDOT's Truck Parking Study found that over 40 percent of drivers spend more than one hour searching for parking. The Project corridor's truck parking shortage can lead to delayed product deliveries, impaired driver wellness, and decreased productivity stemming from drivers ending revenue trips early, which in turn affects the ability of shippers in the state to attract competitive service.

REST will reduce the average amount of time freight truck drivers spend looking for parking, creating fiscal and schedule benefits for both shippers and drivers to ensure NC's freight competitiveness.

Scope of Work

NCDOT completed a feasibility study for the reconstruction of the Welcome Center in 2023. During the preparation of this grant application, NCDOT completed additional conceptual design and analysis for the Project's stormwater improvements (see **Environmental Sustainability**) and ITS components (see **Innovation**). NCDOT is requesting BUILD funding to complete the following activities:

- **Design and Construction:** NCDOT will deliver REST as an Express Design Build (EDB) to accelerate project delivery, and will complete 100 percent plans, specifications, and estimates (PS&E) as well as construction activities for the following improvements:
  - Welcome Center building and grounds, including grading and clearing, stormwater controls, retaining walls, utilities, picnic areas, and landscaping.
  - Eight additional bus and RV parking spaces and 30 additional freight truck parking spaces along with upgraded vehicle parking areas and on- and off-ramps.
  - TPIMS, 8 miles of fiber and 11 new CCTV traffic cameras at the Welcome Center, Mt. Airy Weigh Station, I -74 interchange, and mm 98 (connecting to northbound DMS) to expand regional coverage of the State's TIMS.
- **Environmental Review and Public Engagement:** Tasks include both in-person and virtual engagement (see **Partnership and Collaboration**), completion of a Categorical Exclusion (CE) Checklist, and construction permitting (see **Project Readiness**).
- **TPIMS Implementation Study:** During deployment of the TPMIS, NCDOT will evaluate safety and operational benefits alongside the accuracy and reliability of space-level parking detection and freeway-facing vacancy messaging to determine its viability for implementation at other rest areas across the state.

BUILD FY 2026
GRANT APPLICATION
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