

NCDOT Rail Division

# The Rail Report



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919-707-4700

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## The Piedmont and Northern Railway Proves to be a NCDOT Rail Corridor Preservation Program Success Story

In 1991, the abandoned Piedmont and Northern Railway (P&N) corridor became the third line purchased by the State under NCDOT's Rail Corridor Preservation Program. This rail line, located in Gaston County, held great promise for future economic growth in the region due to its strategic connections to both Norfolk Southern and CSX Transportation, and its proximity to the Charlotte-Mecklenburg region just 20 miles to the east.

The 13-mile Piedmont and Northern rail line was returned to service in 2010, serving the communities of Mount Holly, Belmont, Ranlo, Lowell and Gastonia. In its early years the P&N had two customers and moved about 12 carloads a month. In 2015, the contract to operate the railroad was awarded to Progressive Rail Incorporated who has aggressively marketed the railroad and worked with the NCDOT Rail Division to transform a former Weyerhaeuser warehouse into a supply chain hub.

Progressive Rail's marketing efforts have paid off. The current customer base has grown to five companies that transport more than 600 carloads a year. Another half-dozen customers are expected to be added this year. With new customers



*P&N Transload Facility at Saxony Drive*

onboard, carloads on the P&N are anticipated to reach around 1,600 carloads a year.

This is the type of story that we like to share at the Rail Division, one where the State's commitment to preserving corridors and investing in revitalizing rail lines makes a difference by bringing more jobs to the community and growing the local economy. We thank Progressive Rail for their hard work and dedication to the Piedmont and Northern Railway and for their role in this success story.

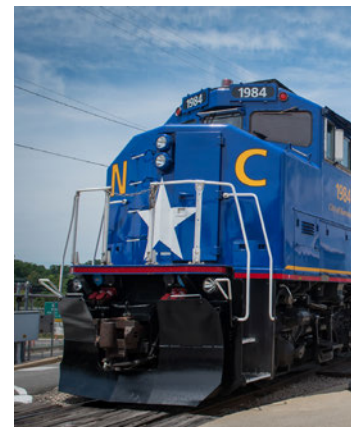
## NCDOT Rail Division Moves Full Steam Ahead with Newly Awarded Grants

*Will help improve safety and reduce emissions*

A recently awarded grant will help the N.C. Department of Transportation's Rail Division continue its efforts to improve safety along the *Piedmont* service corridor.

The Federal Railroad Administration awarded the division a \$584,080 grant under the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program to help purchase and install Positive Train Control hardware on its locomotives. Positive Train Control technology and equipment reduces collisions between trains and automatically enforces speed limits. The division installed the technology on locomotives currently in its fleet ahead of the Dec. 31, 2018 federally mandated deadline. The grant money will be used to outfit locomotives that will be required for expanding the *Piedmont* passenger service, including an upcoming fourth round-trip between Charlotte and Raleigh beginning in the next few years.

A second grant will help reduce emissions from the division's locomotives. The division received a \$484,500 Diesel Emissions Reduction grant from the N.C. Department of Environmental Quality to implement a specialized air pollution reduction system known as a Blended After-Treatment System (BATS) onto one of its locomotives. The division expects to have its full fleet of locomotives equipped with the BATS systems within the next 2-3 years, at which time it will have one of the cleanest locomotive fleets in the nation.



*Positive Train Control technology was installed on all Piedmont fleet equipment before the Dec. 31, 2018 FTA deadline*

# The Rail Division Focuses on Safety at all Levels

## Trespasser Research

One of the biggest safety challenges that NCDOT and the railroads encounter are people on the tracks. Railroads are privately managed transportation corridors for trains. Not only can you be arrested or fined for trespassing on the tracks, but you are also putting your life at risk. Many people don't know that it takes a train traveling 55 miles per hour more than one mile to stop – that's over 18 football fields.

"People are walking on the tracks, they have earbuds in, they are looking at their phones. Everybody thinks they'll hear a train when it's coming or feel it, but that's not always the case," explained Chris Vaughan, Research Associate at the Institute for Transportation Research and Education. (ITRE)

In 2017 there were 38 trespassing incidents, 18 of which were fatal.\* Since 1975 North Carolina has averaged 18 trespass deaths per year.

We are working to better understand trespasser behavior and identify countermeasures to significantly reduce the incidents of trespassing deaths and injuries. With support from the department's Research and Development unit, the Rail Division is using new technology and research methods to help keep people off railroad tracks.

NCDOT has utilized static infrared cameras along the *Piedmont* route in Charlotte, Salisbury, Greensboro, Elon, Mebane and Durham, and on *Piedmont* trains, to determine the extent and primary locations of railroad trespassing.

Researchers from ITRE at NC State University studied the camera recordings at these locations to count the number of trespassers throughout 2018 and to learn human behaviors of trespassers. The static camera research will continue this year, and six additional sites will be added in Charlotte, Shelby, Gastonia, Lumberton, Fayetteville and Rocky Mount. This information will help the department tailor safety efforts or make safety improvement

*\*per NCDOT and FRA data*

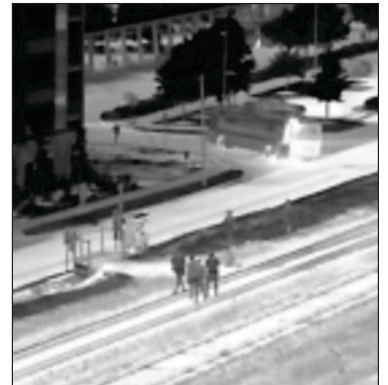
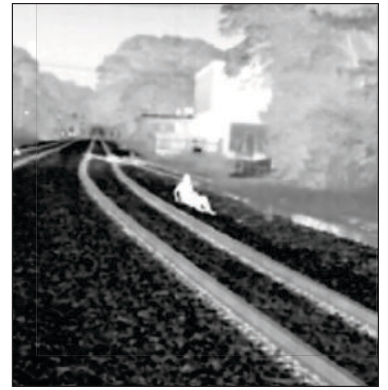


*Infrared Camera*

recommendations in locations where trespassing is a significant hazard.

Throughout 2018, ITRE researchers tested thermal camera technology with cameras mounted on the front and rear of trains. Aberdeen, Carolina and Western Railway has been instrumental in providing equipment and track time for thermal camera testing on their rail network. This year the cameras will be mounted on the *Piedmont* trains that travel daily between Raleigh and Charlotte.

The dynamic thermal camera research project, the first of its kind in the nation, will enable researchers to get a more accurate count of trespassers and gather information about their behaviors near moving trains. Both research projects have gained the attention of Federal Railroad Administration officials and researchers from USDOT-Volpe Research Center.



*Images of trespassers recorded by infrared cameras.*

To learn more about railroad safety, [visit](#)



Click on the image below to view the video.





## Training for new Volunteer Train Hosts Held at Capital Yard

More than 20 people from November's train host training session have been riding the *Piedmont* and *Carolinian* trains in order to complete the final requisite to becoming official North Carolina Volunteer Train Hosts.

Persons interested in joining the association must first apply to the program and pass an initial screening and phone interview. Next, hosts must complete a one-day training session and two qualifying training trips with an experienced host. Once accepted into the program, hosts must commit to making at least one trip every 60 days. Training sessions for host applicants are held twice a year.

These volunteers serve as North Carolina's goodwill ambassadors and ride the *Piedmont* and *Carolinian* trains to assist passengers, promote passenger services and answer questions about the trains, the routes, ground transportation and area attractions at their travel destinations. Many also serve as station hosts at events and activities across the state.

**This group of more than 100 dedicated individuals volunteered 12,382 hours in 2018.**

**If you are interested in becoming a train host, contact the Rail Division at 919-707-4700.**



Thank you to Andrew Futrell for sharing this photo of the Piedmont dashing through the snow.

### February Railroad Trivia Question:

Last month's Q&A described the two dominant mainline track gauges used in North Carolina during the 19th century. There was a third track gauge used throughout North Carolina by logging railroads and two common carrier railroads in the late 19th century and the first half of the 20th century. What was that track gauge?

*Answer on page 5*

## Ridership & Revenue on NC By Train Service – Oct. 2018 vs. 2017

	RIDERSHIP			REVENUE		
	2018	2017	% +/-	2018	2017	% +/-
<i>Piedmont</i>	20,480	14,903	37%	\$498,751	\$334,991	49%
<i>Carolinian</i>	22,735	24,483	-7%	\$1,426,083	\$1,401,906	2%

**1,235**

Hours Volunteered by N.C. Train Hosts in October supporting NC By Train onboard and at events

**October 2018 service modifications affected 19 *Piedmont* and 1 *Carolinian* train.**

**Service Cancellations due to hurricane.** On Oct. 11, Trains 76, 77 and 78 were cancelled and Train 79 operated between Charlotte and Raleigh only due to Hurricane Michael. On Oct. 12, Trains 74 and 75 were also cancelled due to Hurricane Michael. On Oct. 13, Trains 73 and 74 were cancelled due to ongoing NS signal issues related to damage from Hurricane Michael.

**NS Track Work Projects:** From Oct. 29-31, Trains 75 and 76 were cancelled and Trains 74 and 77 operated between Charlotte and Burlington with bus service provided for missed stops due to NS track work.

Average gasoline prices remained low in Oct. 2018 but were 21¢ per gallon higher than in Oct. 2017.



# Charlotte Gateway Station – Phase I



*Pouring concrete for columns for bridge over Trade Street.*

NCDOT Rail Division is managing the first phase of a construction project that will move Charlotte's station into the actively developing Uptown area. The project is constructing railroad bridges, retaining walls, signals, and tracks as well as the boarding platform for the new station.

Work is continuing on the first three of five railroad bridges, the retaining walls and grading that will support the tracks to carry passenger trains to the new station. The Phase 1 construction contract is being administered by the Rail Division's Design and Construction Branch and the contractor is Crowder Construction, Inc.



*Retaining wall construction between 6th and 7th streets*



*Construction of rebar cage for bridge foundation for the new 6th Street bridge that will carry the new station tracks*



## NCDOT, the Laurinburg and Southern Railroad and Yadkin Valley Railroad Make Crossing Safety Improvements in Scotland and Surry Counties

The NCDOT Rail Division partnered with the Laurinburg and Southern Railroad and Scotland County Maintenance to improve the crossing on US 15/401/501 near Laurinburg. The crossing on this four-lane divided highway had no flangeway material and the asphalt was deteriorating and rough. The crossing surface was replaced with a concrete tub surface, providing a much smoother ride for motorists and a low maintenance surface for the railroad.



US 15/401/501 before improvements



US 15/401/501 after improvements

Surry County maintenance, along with the Yadkin Valley Railroad and the NCDOT Rail Division improved the crossing surface on SR 1815, West Dodson Mill Road. This two lane road crossing consisted of asphalt with rail for the flangeway material. It was replaced with asphalt and rubber rail seal flangeway material offering an improved ride for drivers.



West Dodson Mill Road before improvements



West Dodson Mill Road after improvements

**February Railroad Trivia Answer:** The 3'0" or "narrow" track gauge was used by many NC logging railroads because it was less expensive to build, particularly in remote mountainous areas, and easier to remove and relocate once logging operations were completed in an area. North Carolina also had two common carrier railroads that used 3 foot gauge for an extended period of time. They were the Eastern Tennessee and Western North Carolina RR (ET&WNC), better known as "Tweetsie," and the Lawndale Railroad.

The ET&WNC ran from Johnson City, TN to the iron mines in Cranberry, NC and eventually all the way to Boone when the Linville River Railroad was acquired by the mining company that owned the ET&WNC. The 3 foot gauge section of the ET&WNC was abandoned in 1950 due to repeated track washouts and truck competition. The 11-mile standard gauge section of the ET&WNC between Johnson City and Elizabethton, TN continues to operate today under the Genesee & Wyoming corporate banner.

The Lawndale RR operated 11.5 miles of 3 foot gauge track between Shelby and Lawndale, NC from 1899 to 1943. It handled mixed freight and primarily served two large textile mills on the route. It was abandoned in 1943 due to truck competition and its worn out condition. Most of its rail and equipment were scrapped for the WWII effort. Several other NC railroads started out as 3 foot gauge railroads but were converted to 4 foot 8 1/2 inches or 5 foot gauges a few years into their existence.