

The condition of North Carolina’s rail infrastructure has a direct impact on the state’s economy, with more than 15.5 million tons of goods originating in, and more than 61.1 million tons of goods terminating in the state in 2004. Currently, only 30 percent of the state’s short lines can accommodate the new, heavier rail cars being used, and it is estimated that freight rail investment needs over the next 25 years will total \$545 million.

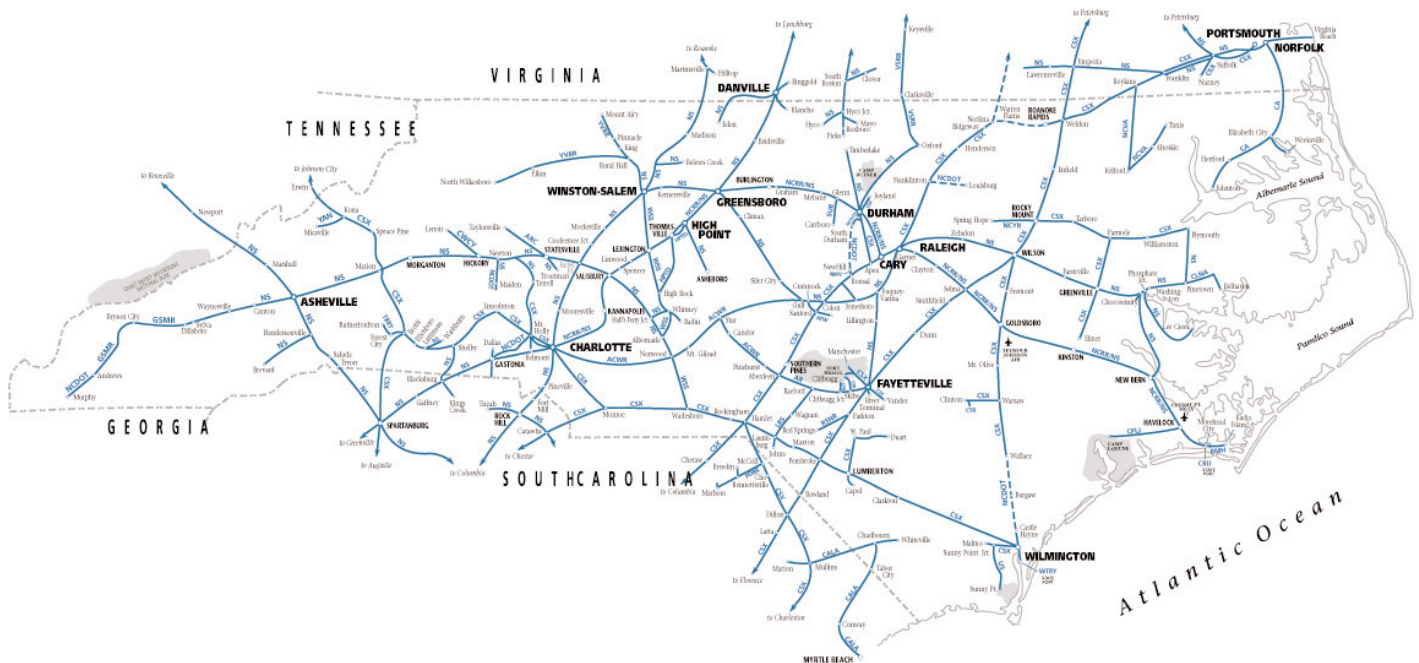
In addition to the state’s freight rail needs, passenger rail modernization needs currently top \$3.5 billion over the next twenty-five years—83 percent of the total passenger rail investment needed. In 2005, there were more than 520,000 Amtrak passenger boardings in the state. Despite being named one of five future high-speed rail corridors in 1992, many of the state’s fastest growing areas have no passenger rail service—thus making rail travel less competitive than the automobile, and therefore a less viable alternative transportation mode. **As a result, the state’s rail infrastructure has been given a Grade of B-.**

BACKGROUND

In 2004, North Carolina ranked nineteenth in the nation for total rail miles, with approximately 3,200 passenger and freight miles. There are two Class I freight, thirteen local and eight switching and terminal railroads in the state, as well as 4,121 public and 3,145 private at-grade crossings. There are also three regional transit systems, Charlotte Area Transit System (CATS), Piedmont Authority for Regional Transportation (PART) and Triangle Transit Authority (TTA) with proposed passenger rail transit programs.

Representing the “spine” of state rail traffic, North Carolina owns the North Carolina Railroad Company (NCCR), a 317-mile rail corridor linking Charlotte, Greensboro, Raleigh and the state’s seaport at Morehead City. More than 100 industries and several major military installations are served by the NCCR.

Norfolk Southern operates trains along the entire NCCR corridor under a lease agreement, and the segment between Charlotte and Greensboro is a key part of Norfolk Southern’s mainline between Atlanta and northeastern United States.



CSX Transportation (CSXT) also shares operation on a portion of the NCRR corridor between Raleigh and Cary. Norfolk Southern and CSXT are responsible for the maintenance and operation of their rail lines, and these private corporations must provide investment to improve their facilities, such as the replacement of ties and rail.

Amtrak operates interstate and intrastate passenger trains, including the *Piedmont* between Charlotte and Raleigh, and the Washington-Charlotte segment of the *Carolinian*, both under contract with the state of North Carolina. Each train provides a single daily roundtrip, with the *Piedmont* serving the cities of Raleigh, Cary, Durham, Burlington, Greensboro, High Point, Salisbury, Kannapolis and Charlotte, and the *Carolinian*, which

serves the cities of Rocky Mount, Wilson and Selma in addition to those served by the *Piedmont*.

Amtrak also operates four long-distance trains with stops in North Carolina: the *Crescent*, providing daily service to Gastonia, Charlotte, Salisbury, High Point and Greensboro; the *Palmetto*, making passenger stops in Fayetteville, Selma, Wilson and Rocky Mount; the *Silver Meteor*, operating daily between New York and Miami, with stops in Rocky Mount and Fayetteville; and the *Silver Star*, providing daily service to Hamlet, Southern Pines, Cary, Raleigh and Rocky Mount. In fiscal year 2005, Amtrak served sixteen North Carolina municipalities with approximately 520,698 boardings.

CONDITIONS

Enhancements

The ability to increase railroad capacity, through track and signal improvements, is critical to the efficient movement of passengers and goods. In order to facilitate such improvements, an agreement was executed between NCRR, the North Carolina Department of Transportation (NCDOT), Norfolk Southern and CSXT. The North Carolina Railroad Improvement Project (NCRRIIP) has since allowed for \$30 million in rail improvements to be made between Raleigh and Charlotte, including such projects as:

- A \$4.3 million sidings upgrade and lengthening in McLeansville, Mebane and West Durham to increase siding speed and capacity;
- A \$5 million interlockings upgrade at East Durham and downtown Greensboro to provide for higher speeds and improved capacity;
- A \$5 million curve superelevation (banking) increase and realignment, including modifications on some bridge decks and culverts, to accommodate higher speeds; and
- Installation of a \$12.1 million Centralized Traffic Control system between Cary and Greensboro to allow passenger trains to operate at up to 79-miles-per-hour (previous

maximum authorized passenger train speed was 59-miles-per-hour), and to reduce delays associated with meeting and passing trains.

Since 2001, these upgrades—which reduced rail traffic congestion by allowing longer freight trains to move safely on longer sidings, permitting faster passenger trains to pass—have reduced travel time for passenger trains between Raleigh and Charlotte by 30 minutes. The NCRRIIP funding used in these projects came from a variety of federal and state sources, including an earmarked portion of the Federal National Highway System funds for the traffic control signal system. Federal Congestion Mitigation Air Quality funds were also used for those projects in metropolitan counties that did not meet federal standards for air quality.

To date, the state has also received more than \$2.8 million in Section 1010 funding (provided under the Intermodal Surface Transportation Efficiency Act), more than \$1.9 million in Section 1103(c) funding (provided under the Transportation Efficiency Act for the 21st Century) and \$8 million in Next Generation High Speed Rail (NXTG) program funding from the Federal Railroad Administration for safety improvement projects at railroad crossings along the Raleigh to Charlotte corridor. NCDOT has aggressively pursued this work in an effort to eliminate highway/rail at-grade crossing hazards along

the Southeast High Speed Rail corridor, enabling pursuit of higher speeds for passenger trains between Raleigh and Charlotte—thus providing a safer, more efficient and environmentally sensitive form of travel.

In addition to the NCRRIP projects, the North Carolina Railroad Company has invested in improvement projects along its corridor, including:

- A \$5.5 million bridge replacement at NC 54 in Research Triangle Park (near Durham) to a double-track structure that can accommodate regional transit needs, increase rail capacity, improve vehicular traffic flow and eliminate substandard clearances;
- An \$8.5 million bridge replacement in Kinston that will keep the rail route open into eastern North Carolina and the state seaport at Morehead City by permitting the use of heavier and larger freight cars;
- A \$2.7 million installation of new crossies between Raleigh and Selma; and
- \$19 million in construction of new passing sidings at Auburn, Powhatan and Selma and restoration of the Selma rail yard.

The state has also undertaken an initiative to rebuild and improve many of its historic train stations. This has included such projects as: a new platform to allow the *Silver Star* to stop in Cary (\$300,000); a \$32.6 million renovation and reopening of the Southern Railway Station in downtown Greensboro for passenger rail and local and intercity bus service; passenger station restoration and rehabilitation at High Point (\$6.8 million), Marion (\$1.6 million), Morganton (\$1 million), Old Fort (\$1.4 million), Rocky Mount (\$9.3 million), Salisbury (\$4 million), Selma (\$3.6 million), Southern Pines (\$800,000), and Wilson (\$2.5 million); a \$11.7 million relocation and restoration of the former Hamlet Seaboard Station; and a \$2.7 million new station in downtown Kannapolis.

Future Passenger Rail Needs

The ability to reduce travel times and increase reliability of passenger trains is essential to making passenger rail travel

competitive with the automobile; and therefore a more viable alternative transportation mode. However, operation of passenger trains on private freight rail corridors must not be at the expense of existing or future freight capacity needs because the ability of freight rail to transport goods in a safe and efficient manner has a direct impact on the state's economy.

In 1992, United States Department of Transportation designated the Washington, D.C.-Raleigh-Charlotte (Southeast High Speed Rail Corridor) as one of five future high-speed rail corridors, and more importantly, as the most economically viable high-speed rail corridor in the country. The corridor has since been extended to Atlanta and Macon, Georgia, Columbia, South Carolina and Jacksonville, Florida.

NCDOT and the Virginia Department of Rail and Public Transportation have partnered to complete the Tier I Environmental Impact Statement (EIS) for the Southeast High Speed Rail Corridor (SEHSR) from Washington, DC to Charlotte, NC. This document covered a project length of approximately 450 miles and resulted in a Record of Decision setting the project purpose and need, the modal approach, and the preferred corridor. The two states are currently working on a Tier II EIS for the Richmond, VA to Raleigh, NC portion of the corridor. This document is anticipated to be finalized by the end of 2008 and will identify the preferred track alignment and associated roadway work for this 170-mile portion of the SEHSR corridor.

The current planning for high-speed rail anticipates eight (8) daily round trips between Charlotte and Raleigh, with four (4) of these trips continuing on to New York. Feasibility work has also begun for the portion of the corridor south of Charlotte to Atlanta and beyond. The Georgia Department of Transportation is managing that work.

Numerous NCRRIP projects have also been proposed to increase speed and capacity, decrease delays and improve overall safety, including:

- Addition of a second, 9-mile, mainline track from High Point to Greensboro to improve capacity and ease delays caused by meeting or passing trains on the mainline (\$20 million);

- Installation of bi-directional train signals from Raleigh to Cary to allow for a 79-mile-per-hour maximum speed and to increase track capacity (\$7 million);
- Construction of a 10,400-foot passing siding in East Durham (\$6.5 million);
- Installation of crash beams and sensors on various railroad bridges between Greensboro and Durham to protect these structures, with substandard clearances, from being struck by trucks (\$1 million);
- Replacements of turnouts in Kannapolis and Salisbury to accommodate faster speeds (\$3 million);
- Realignment and increased superelevation of curves from Greensboro to Charlotte to allow for a 79-mile-per-hour maximum speed (\$1.5 million);
- Construction of a 10,000-foot passing siding in Haw River (\$12 million); and
- Construction of a second main track to improve railroad capacity and passenger train reliability between Thomasville and Lexington (\$12 million).

It is estimated that over the next 25 years passenger rail needs, both capital costs (e.g., acquisition of train sets) and operating costs (e.g., recurring costs such as labor and utility bills), will total \$3.5 billion. This need is focused primarily—83 percent of the total investment needed—on modernization projects such as, track upgrades in the Raleigh to Charlotte corridor to accommodate higher speed service and increased frequency (from two to three round trips per day), and a potential station in Winston-Salem. The remaining 17 percent of needed investment would go to expansion of the existing system through projects such as, creation of passenger rail service between Salisbury and Asheville (providing two daily round trips) and between Wilmington and Raleigh (providing one daily round trip).

Future Freight Rail Needs

Also impacting the future of rail is the freight industry’s transition to 286,000-pound capacity cars—in lieu of the older cars with a 263,000-pound capacity—to more efficiently transport commodities. Unfortunately, many light density

branch lines cannot handle these larger cars, as they have light weight rail in sections, shallow or poor ballast and/or deferred tie maintenance—thus decreasing their capacity and operating speed. Currently, only 30 percent of the state’s short lines can accommodate the new, heavier rail cars.

Rail-freight shipments using intermodal containers have also increased within the past decade, in an effort to improve efficiency through double-stacking containers on flatcars. The ability of the rail lines in North Carolina to handle these double stack containers will become critical should the new international port at Southport be constructed.

Projects in Fayetteville and Greenville will identify and implement track improvements on freight railroads to improve and streamline operations of the rail network to minimize the blocking of highway/railroad at-grade crossings in those cities. Fayetteville has \$8 million earmarked in federal funds to date for these improvements and Greenville is estimated at about \$5 million, but no committed funding yet beyond preliminary engineering.

A Pembroke Northern Bypass Project Planning Study will evaluate the possibility of a railroad track connection between the CSXT north–south “A” Line and the CSXT east-west Wilmington Subdivision in Pembroke, NC in order to permit a direct east to north rail route. This connection would allow freight trains to operate from Wilmington to Fayetteville and points north. Key locations directly served by this connection include the North Carolina State Port facilities at Wilmington and the US military facilities located at Fort Bragg, near Fayetteville. The connection will have the ability to provide enhanced rail service between Fort Bragg and the NC State Port.

While this connection is not the sole solution for improving rail service between Wilmington and Fayetteville, it is an integral component to an overall program of needs that have been identified for these corridors. This study has received a \$350,000 earmark for the planning and design of this connection.

It is estimated that freight rail investment needs over the next 25 years will total \$545 million. This need is also focused primarily—93 percent of the total investment needed—on modernization projects such as, track and terminal improvements to both Class I railroads and upgrades to short line railroads.

POLICY OPTIONS

One in every four of the state's top 200 manufacturer's import and/or export materials via freight rail.

Acknowledging the vital role rail access plays for many prospective industries, NCDOT began the Rail Industrial Access Program in 1994 to assist companies with construction of railroad tracks needed to transport their freight and materials. State funds are invested in the construction and refurbishment of tracks by new or expanding industries to encourage economic development. State participation is contingent upon private and local sources providing matching funds. Local governments, community development agencies, railroad companies and industries are eligible for funds to improve rail access. Since the program's inception, NCDOT has awarded \$7.3 million in RIAP funds for 67 different projects.

Significant upgrades to short line railroads are also needed to encourage economic development in rural and small urban areas. Increased RIAP funding is a component to sustain North Carolina's economic prosperity. In addition, the Short Line Infrastructure Assistance Grant Program, also administered by NCDOT, was created to help finance track and bridge rehabilitation projects for short line railroads as part of a statewide effort to upgrade the transportation infrastructure required to attract and retain industry. In fiscal year 2006, NCDOT awarded \$1.5 million in grants under this program.

In 2003, the state General Assembly began allocating funds annually to NCDOT for rail infrastructure maintenance in the amount of \$2.1 million. These funds are intended to help maintain completed rail capital projects, including "Sealed Corridor," inactive rail corridors, NCRRIP, facilities maintenance and passenger stations. The General Assembly also began allocating funds annually to rail capital and safety in 2003, in the amount of \$2.8 million. Those funds are intended to support NCDOT Rail Division's capital and safety

programs, including major track and signal upgrades and capacity expansion, initiatives to grade separate highway and rail traffic on major highway corridors, expansion of rail maintenance facilities and the purchase and renovation of rolling stock as necessary.

Safety is also a primary concern for the rail industry. Not only do train-vehicle collisions pose a threat to public health and safety, they reduce the capacity and reliability of train operations. In 2005, North Carolina had 66 crashes, resulting in 6 deaths and 33 injuries.

Rail-highway incidents not only result in death and injury, but also may cause destruction of property, fires and explosions, and train derailments that can result in hazardous material spills. Since 1993, NCDOT has eliminated approximately 114 public at-grade crossings statewide. The state also conducted a study, *Private Crossing Safety Initiative*, which evaluated 46 private crossings between Raleigh and Charlotte and identified \$2.5 million in investment needs. However, project implementation will need to be completely funded through grants from the Federal Railroad Administration's NXTG and Section 1103(c) programs because NCDOT is not authorized to use state funds on private roads or access.

In addition, since 2005 the state has planned a total of \$20.7 million—\$10.1 million in fiscal year 2005 and \$10.6 million in 2006—for installation of crossing warning devices statewide. In 2005, 74 crossing warning device projects were constructed, 75 crossing warning device projects were authorized for construction and 132 crossing warning device projects were authorized for engineering. In 2006, 86 projects were planned statewide. In 2007, NCDOT proposes to program approximately 100 crossings for safety improvements. Despite these efforts, as the number of freight and passenger trains increases, and highway traffic grows, the need for crossing consolidation and elimination projects will become more critical.

RECOMMENDATIONS

- Increase funding for rail infrastructure maintenance and capital and safety improvements;
- Increase federal funds to address safety at private crossings statewide; and
- Support national legislation to increase funding for rail capacity, multi-modal stations and freight inter-modal traffic.

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