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North Carolina Department of Transportation

2009 Rail Plan

Executive Summary



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North Carolina Department of Transportation 2009 Rail Plan Executive Summary

North Carolina's population is projected to grow over 50 percent between 2000 and 2030 (from 8 million to 12 million) and the population density is expected to increase from 165 persons per square mile to 248 persons per square mile.¹ This rapid growth puts tremendous demands on all aspects of North Carolina's infrastructure, especially the transportation system. A growing population not only adds automobiles to roadways, but the increase in businesses, retail outlets, grocery stores, gas stations and other services needed to support this population generates additional demands for freight movement. No single mode of transportation will sufficiently serve the growing demand for the movement of goods and passengers in North Carolina. What is needed is a coordinated multimodal network, one where rail plays a crucial role.



Since 1977, the North Carolina General Assembly has both encouraged and empowered the N.C. Department of Transportation to adopt and implement a state rail plan consistent with existing state and federal legislation. The North Carolina Rail Plan looks at the demographic and economic drivers behind the demand for rail transportation, the status of the current rail system, and the capital investment needs required to maintain a strong rail network. The rail plan links to other ongoing statewide transportation plans and initiatives and establishes the public benefits of additional rail investment. It also provides a strategic vision and implementation steps for future development of the rail system, with a targeted goal of the year 2035.

¹ Retrieved February 17, 2009 from N.C. Office of State Budget and Management, <http://www.osbm.state.nc.us>.

The Demand for Rail in North Carolina

Passenger Rail Service Demands/Drivers

North Carolina's population was 9.1 million in 2007, making it the 10th largest state in the country. By 2030, the state is forecast to have over 12.2 million residents, with the fastest growth among those over the age of 65². Passenger rail is expected to steadily gain importance as an option to mitigate congestion on roadways and increase the mobility of older North Carolinians. Furthermore, the fluctuating gas prices and fuel shortages experienced after devastating hurricanes, motivated people to turn to transit (light rail and bus) for commuting and passenger trains for intercity trips.

- ❖ Since opening in November 2007, Charlotte's LYNX Light Rail Line is exceeding initial ridership expectations by 80 percent.³
- ❖ Ridership on North Carolina's Amtrak intercity passenger trains was up by 30.4 percent on the *Piedmont* and 15.3 percent on the *Carolinian* respectively for federal fiscal year 2008. Nationwide the total number of passengers on Amtrak trains increased by 11.1 percent during the same period.



Passenger rail demand is expected to increase substantially in the future provided network expansions and service improvements (e.g., shorter travel times and higher frequencies) are able to make passenger rail a more attractive alternative to planes and automobiles for more trips. According to the U.S. Census American FactFinder 2007 data, only one percent of North Carolina residents age 16 and older traveled to work using public transportation, compared to 4.9 percent nationwide⁴.



Freight Rail Service Demands/Drivers

North Carolina's central location linking the Mid-Atlantic to the Southeast, will translate to higher freight volumes on the state's railways. Its location and transportation assets give it competitive advantages, but they need to offer the capacity to serve the state and the country. Furthermore, between 2000 and 2030, the state's total income is expected to increase by about \$190 billion. The people and businesses that drove the increase will also drive additional congestion on the roadways and fuel the demand for additional consumer goods, both of which create additional demand for freight rail services. Key trends and initiatives affecting rail demand in the state moving forward include:

- ❖ **Manufacturing** – Manufacturing, which contributes nearly 20 percent of the state's gross domestic product (GDP), remains crucial. Food, beverages, tobacco and chemicals are the largest manufacturing sectors by production value, representing nearly 10 percent of the gross state product (GSP)⁵. Efficient and reliable rail transportation is imperative to the competitiveness of North Carolina manufacturers– both to reach customers and to keep costs down.
- ❖ **Agriculture** – The state is a top five producer of hogs, broilers and tobacco. North Carolina is the ninth largest agricultural exporter in the United States⁶. Rail services play a key role in transporting the state's agricultural products and are crucial for bringing corn into the North Carolina from the Midwest to feed the state's livestock.

² Ibid.

³ Retrieved March 10, 2009 from <http://www.charmeck.org/Departments/CATS>.

⁴ Retrieved March 10, 2009 from <http://www.factfinder.census.gov>.

⁵ Retrieved February 17, 2009, from <http://www.census.gov>.

⁶ Retrieved February 17, 2009 from <http://www.agcensus.usda.gov>.

- ❖ **Energy** – Energy consumption has been growing with North Carolina’s population, and coal, a significant user of rail, accounts for about one-third of the energy consumed in the state. Today, North Carolina ranks 12th in the nation for coal consumption. It does not have the resources to supply any of its own coal needs, thus it relies on shipments of coal transported by rail from nearby states. Robust supplies and clean coal technologies will encourage the continued use of coal in future years.
- ❖ **Construction** – North Carolina’s construction industry is one of the largest in the country.⁷ It depends on rail working in conjunction with trucks to keep up with construction material demand in a timely manner.

Looking into the future, there are several initiatives underway that will affect rail demand in North Carolina, including:

- ❖ **North Carolina International Terminal (Brunswick County)** – With its international port development

⁷ Retrieved March 10, 2009 from <http://www.factfinder.census.gov>.

plans, the state will have an important national role in accommodating the long-term forecast growth of intermodal container traffic. The prospects for future rail intermodal business are very robust, with national tonnage volumes rising 213 percent by 2035 and Panama Canal expansion moving more imports to the east coast ports.

- ❖ **North Carolina Global TransPark** – North Carolina is now committed to providing a rail linkage to Global TransPark which will round out the industrial park’s intermodal capabilities. The establishing of a rail connection will also enhance Global TransPark’s and North Carolina’s competitiveness as a center for manufacturing as well as for distribution.

- ❖ **Military Base Realignment and Closure (BRAC)** – In particular, Fort Bragg’s role as a power projection platform for the U.S. Armed Forces underlines the importance of rail as a means for moving a deployable force.

North Carolina’s Rail Transportation System

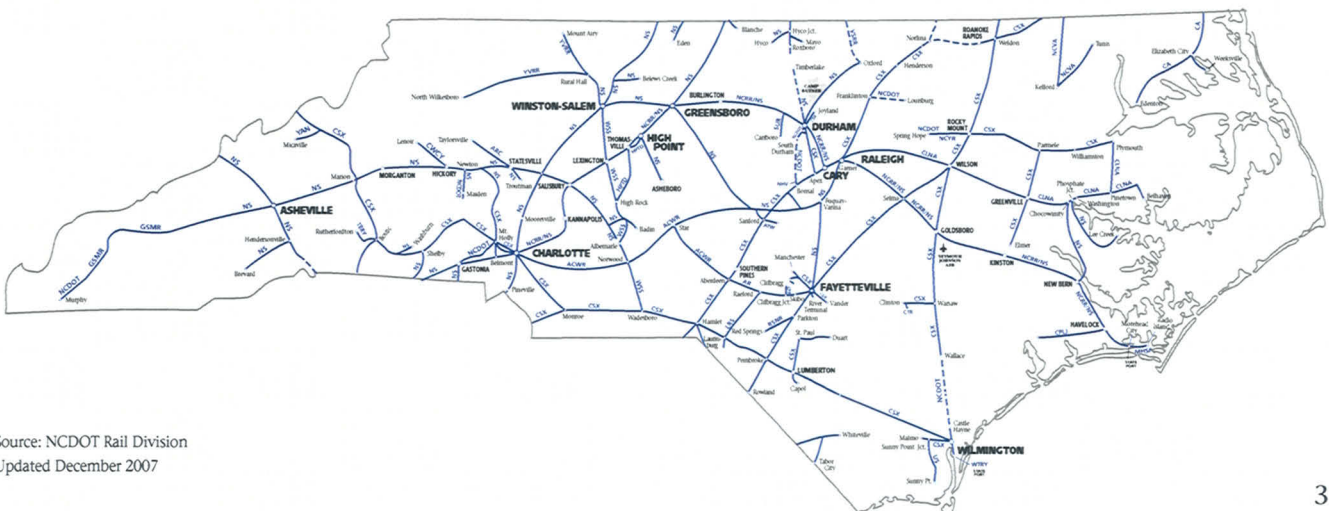
Freight Rail Service

With over 3,300 miles of rail lines throughout North Carolina, all but about 491 miles are owned by the state’s freight railroads. Track control is maintained by the freight railroads. There are a total of 22 active freight railroad companies operating in North Carolina today; two active Class I railroads, 12 active shortline railroads, and eight active shortline railroads that specialize in switching and terminal services. In addition, there are two freight companies, the Red Springs & Northern Railroad and the Virginia and Southern Railroad that own track in North Carolina but are not currently operating in the state.

The state of North Carolina owns the North Carolina Railroad Company (NCR) a private company, which leases its 317 mile corridor and trackage to the Norfolk and Southern Railway Company.

One of the state’s shortlines is the Great Smoky Mountains Railroad which provides freight and tourist passenger services in the mountains west of Asheville. Some of the state’s freight rail lines are also used for intercity passenger service. North Carolina’s rail network serves 86 of North Carolina’s 100 counties. The rail network provides services to the ports, power plants, mines, military installations, agriculture, forestry, plastic, furniture and other vital industries such as coal, food products and chemicals (Figure 1).

Figure 1 - The North Carolina Railroad System



Source: NCDOT Rail Division
Updated December 2007

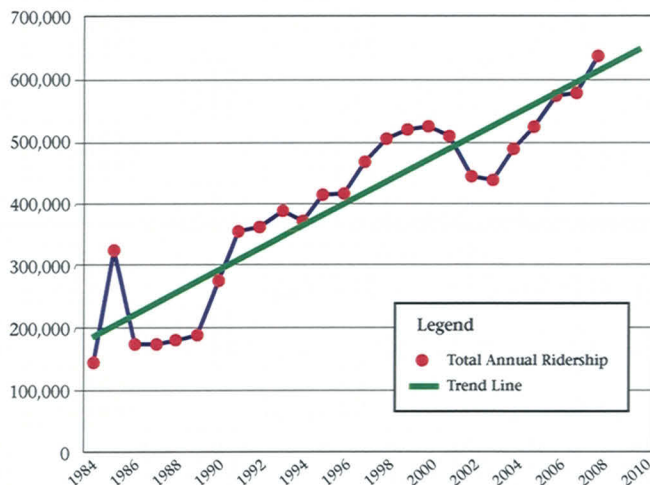
In 2006, North Carolina's freight railroads moved more than 118 million tons of freight, an almost one percent increase from 117 million tons reported in 2004. Over 51 percent of these goods movements were shipped to locations within the state signaling North Carolina's large consumer base. Additionally, the considerable share of goods moving through the state (34.7 percent of total freight tons by rail) is a clear indicator of the strategic role North Carolina's infrastructure plays in connecting major economic hubs in the Northeastern, Mid-Atlantic, and Southern parts of the United States.

Passenger Rail Service

Passenger rail service in North Carolina falls under five categories: traditional intercity passenger service, tourist service, light rail service, proposed heavy rail commuter service and high speed rail service.

Intercity passenger service is provided by a partnership between NCDOT and Amtrak. Currently, six daily passenger trains are operated by Amtrak through North Carolina serving 16 cities. Four of the routes including the *Crescent*, *Palmetto*, *Silver Meteor* and *Silver Star* are interstate trains that make several stops within the state. The *Piedmont*, which runs between Raleigh and Charlotte, and the *Carolinian*, which runs Charlotte to Raleigh and into the Northeast, are both subsidized by state funds. Intercity passenger ridership has been on the rise in the state, increasing at an overall trend of six percent annually since 1984 (Figure 2). Furthermore, as noted earlier, ridership on the *Piedmont* and *Carolinian* trains soared upward of 30.4 percent and 15.3 percent respectively during federal fiscal year 2008. This compares with an 11.1 percent increase during the same period nationally. To meet growing ridership demands, the department announced plans in 2008 to add two additional mid-days trains between Raleigh and Charlotte in 2009.

Figure 2 - North Carolina Intercity Rail Passengers 1984 – 2008



Source: Amtrak Ridership Reports

Seasonal, tourist service is provided by the privately owned Great Smoky Mountains Railroad. The service spans over 53 miles of track between Dillsboro and Andrews in southwestern North Carolina.

The 9.5-mile long LYNX Light Rail Service in Charlotte was developed by the city in cooperation with NCDOT and the Federal Transit Administration (FTA) in 2007. Ridership exceeded first year projections of 9100 trips per day and reached approximately 16,500 daily trips shortly after service was implemented⁸.

There are currently plans for five major intercity passenger service additions: the near-term implementation of a third frequency and planned fourth and fifth frequencies for the *Piedmont* between Raleigh and Charlotte, the Western North Carolina Passenger Rail Service between Salisbury and Asheville, the Southeastern North Carolina Service between Raleigh and Wilmington through both Goldsboro and Fayetteville and the Southeast High Speed Rail Service between Raleigh and Washington D.C. Anticipated needs through 2050 include service from Raleigh to Greenville and Morehead City, Charlotte to Wilmington and potential expansion of high speed service as an alternate route between Charlotte and Raleigh (Figure 3).

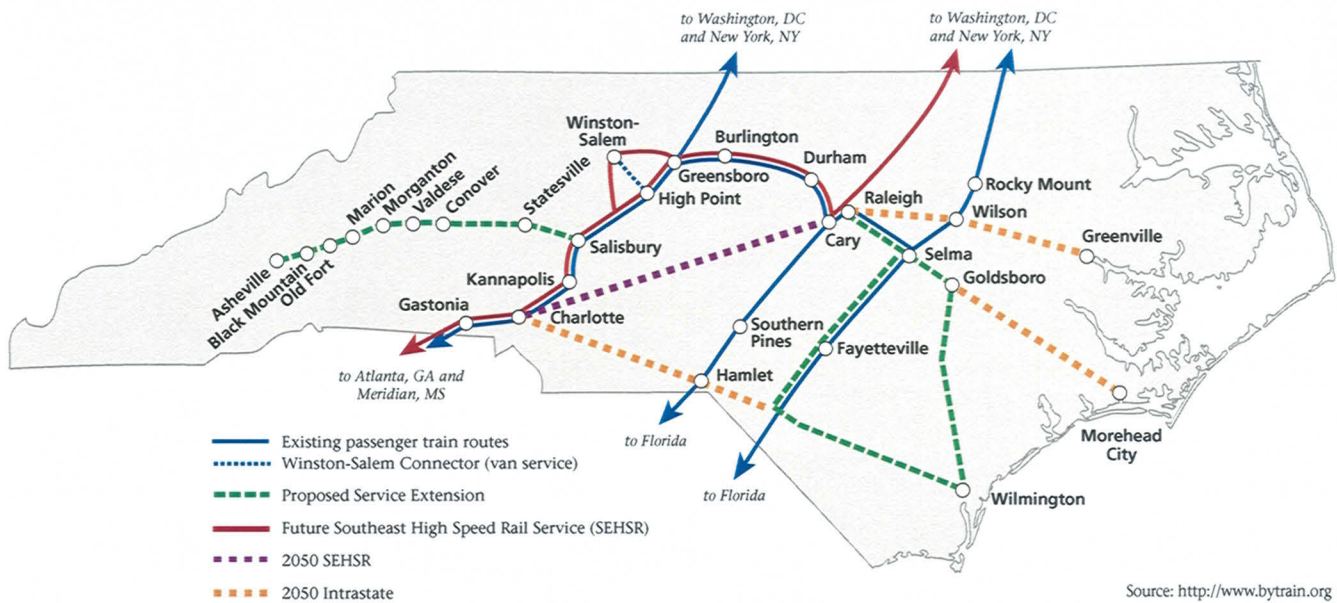
NCRRC recently completed a study examining the feasibility and cost of operating commuter rail service on 140 miles of its track, sharing the railroad with freight operator Norfolk Southern and Amtrak intercity passenger service. The study concluded the service could be built in segments if justified by ridership needs and the support of the communities it would serve.

In addition, there are existing public agency plans to develop new and/or expanded light rail or heavy rail commuter service in the Raleigh-Durham area by Triangle Transit (TT), in the Charlotte area by Charlotte Area Transit System (CATS), in the Triad area including Winston-Salem, Greensboro, and High Point and Burlington by Piedmont Authority for Regional Transportation (PART).

High speed service is planned for the Charlotte to Washington DC route known as the federally designated Southeast High Speed Rail (SEHSR) Corridor. A Tier I Environmental Impact Statement and Record of Decision has been completed on this route and a required Tier II Environmental Impact Statement, Record of Decision and 30 percent engineering is expected in 2011. Figure 3 depicts the chosen route in North Carolina.

⁸ Retrieved March 10, 2009, from <http://www.charmeck.org/Departments/CATS>.

Figure 3 – Existing, Planned and Anticipated Intercity and High Speed Service for 2050



NCDOT’s Role in Rail Transportation Planning and Development

Unlike other transportation systems, North Carolina’s rail network is almost entirely owned and maintained by private interests. NCDOT provides public support to railroads only when deemed in the best interest of the state. This support has been largely shaped by existing federal and state regulations. NCDOT’s Rail Division is responsible for:

- ❖ Maintaining a safe, adequate and efficient rail network and preserving rail corridors for future use to support North Carolina’s economic vitality and long-term growth.
- ❖ Working with communities to improve and plan for intercity passenger service expansion in the state.



- ❖ Contracting with Amtrak for operation of the *Piedmont* and *Carolinian* services. The state operates no trains and all freight is handled by Norfolk Southern, CSX Transportation and the shortline railroads.

- ❖ Supporting the needs of state-owned NCR’s 317 miles long corridor between Charlotte and the Port of Morehead City that carries both freight and passenger rail service.
- ❖ Administering federal and state programs targeted at revitalizing the railroad industry and working with industrial development initiatives.
- ❖ Administering a rail-highway at-grade crossing hazard elimination program, through agreements with municipalities, performing safety inspections of rail facilities and equipment and investigating railroad accidents.
- ❖ Working with freight railroad companies and NCR to design and build cost-effective rail capacity projects.
- ❖ Developing a rail plan that provides the necessary information in a policy framework whereby strategic action can be taken to achieve the best rail system for North Carolina’s future and allow the state to be considered for related federal funding.

These responsibilities translate into various programs and initiatives. Examples of such programs and initiatives are described in Table 1.



Table 1 – Rail Division Programs and Initiatives

Program	Description	Outcome
Crossing Hazard Elimination Program	Program aimed at reducing crashes at rail-highway crossings. Projects include: crossing inventory and data management, crossing signals and signs, crossing closures and traffic separations/evaluation studies. Through special grants, the Sealed Corridor and Private Crossing Safety Initiative projects have been implemented on the SEHSR Corridor.	Thirty-three percent less rail-highway crossing collisions over the past five years compared to the prior five-year period.
Railroad Safety Enforcement Program	Joint effort with the FRA to inspect North Carolina's 3,300 miles of railroad tracks in addition to thousands of cars and locomotives that pass through the state on a regular basis along with numerous grade crossing and train control signal systems.	
Corridor Preservation	Program authorizes NCDOT to purchase railroads and preserve rail corridors for future rail and interim compatible uses.	NCDOT holds title to more than 100 miles of rail right-of-way that are preserved for future use.
State Safety Oversight Program for Fixed Guideway Rail Systems	Joint effort with Federal Transportation Administration (FTA) to oversee safety and standards of key transit agencies in the state including CATS, TT and PART for existing and proposed services.	Program established in 2007.
Track Improvements	Program aimed at investing state, federal and surface transportation funds throughout North Carolina to improve existing track, install new signals and build stretches of new track to improve the state's rail infrastructure through increased speed and capacity.	Reduced passenger train travel time between Raleigh and Charlotte by more than 34 minutes and projects are under development to streamline rail operations in Elkin, Greenville, Fayetteville and Pembroke.
Station Improvements	Program aimed at restoring historic stations or building new stations to provide better transportation and economic growth for their community.	Fifteen stations renovated and two new stations constructed since 1995. Large multi-modal stations are planned for the cities of Charlotte and Raleigh.
Rail Industrial Access Program	Provides incentive to businesses to locate or expand their facilities in North Carolina. This funding helps to ensure companies have the railroad spur tracks needed to transport freight.	More than \$7.2 million invested since 1994 to help attract and retain businesses in North Carolina and support shortline railroad's economic vitality. A summary of jobs created and rail cars added to the system as a result of this program can be found at http://www.bytrain.org/industrial/summary.html .
Shortline Infrastructure Assistance Program	Provides funds to shortline railroads to rehabilitate and modernize track and bridge infrastructure.	More than \$6.9 million awarded since 2004 to help support shortline railroad infrastructure needs. This leveraged more than \$13.8 million in investments.
Passenger Rail Service	NCDOT providing ongoing support for operation and expansion of passenger rail services.	<p>Initiation of and funding for the <i>Piedmont/Carolinian</i> train service and operational support.</p> <p>Partnerships with communities to make intercity passenger rail stations a cornerstone for revitalization of city centers.</p> <p>Expanding <i>Piedmont</i> frequency between Charlotte and Raleigh (<i>Piedmont</i> third frequency).</p> <p>Passenger rail service expansion plans to Western and Southeastern North Carolina.</p> <p>Progress toward required environmental documents and preliminary designs in support of the Southeast High Speed Rail Service between Charlotte and Washington D.C.</p>

Source: NCDOT Rail Division, <http://www.bytrain.org>

Status of North Carolina's Rail System

The anticipated surge in economic activity and population in North Carolina have increased the demand for a more robust, reliable, efficient and integrated system that serves the needs of citizens and the interests of freight and goods movement industries today and in the future. However, given the scarcity of resources both at the federal and state levels and funding policies that continue to give priority to supporting highway needs, investments in rail infrastructure maintenance, operation and capacity have not kept pace with the rapidly growing demand for rail mobility.



Funding for Rail Transportation Needs

Of the \$3.9 billion budgeted by the state for transportation improvements in fiscal year 2007 – 2008, \$27.6 million or 0.7 percent of total transportation funds was dedicated to support a variety of rail improvement needs including safety, operations and access projects (Table 2). An additional \$16.3 million (recurring formula and discretionary funds) was made available through federal appropriations. Preliminary estimates show state funding for rail projects dropping more than 8.7 percent the following year, totaling \$26.0 million in fiscal year 2008-2009.

Rail funding and investment strategies, if maintained at existing levels, will be unable to support North Carolina's rail system improvement needs. Preliminary findings from NCDOT, NCRR, Class I and shortline rail operators and the State's Ports Authority show rail improvement needs exceeding \$5.9 billion. These needs are vital for the mobility, safety and economic competitiveness of rail users and include \$488 million in rail safety projects, \$439 million for CSX, NS and NCRR improvement needs, \$205 million for shortline railroad-related projects and \$4.8 billion for passenger rail projects including \$2.88 billion⁹ for SESHR, \$194.5 million for Western North Carolina's Passenger Rail Service and \$324.4 million for the state's Southeastern Passenger Rail Service.

⁹ For more information, refer to <http://www.sehsr.org>.

Public Outreach

A public outreach effort conducted with key stakeholders from over 33 public agencies and private entities including: NCDOT, the North Carolina Department of Commerce, the North Carolina Ports Authority, U.S. Department of Defense, rural and metropolitan planning organizations, transit agencies, Amtrak, NCRR, Class I and shortline railroad operators and railroad advisory and advocacy groups, to name a few, hailed the Rail Division's leading role in working with Class I and shortline rail operators and supporting and encouraging new passenger rail service. However, findings from the public outreach activities also reinforced the growing concerns among stakeholders over the ability of railroads to support the state's growing demand for moving people and goods. The key issues facing rail transportation in North Carolina, as identified during the public outreach process, are discussed in further detail in Table 3.



Table 2 – Rail Funding by Program

Program	Fiscal Year 2007-2008
State Resources	
Administration	\$679,535
Operations and Facilities	\$7,445,000
Rail Industrial Access	\$1,750,000
Engineering and Safety	\$1,750,000
Environmental and Planning	\$750,000
Travel Time Improvements	\$1,200,000
Maintenance of Rail Infrastructure	\$2,100,000
Rail Capacity and Safety	\$2,856,153
Grants to Shortlines (non-recurring)	\$1,000,000
Streamline Freight Operations (non-recurring)	\$3,850,000
Highway Trust Fund – Economic Alternative for Highway Construction	\$5,000,000
Federal Resources	
Fed-Aid Section 130 Rail/Highway Protective Devices	\$3,000,000
Fed-Aid Section 130 Rail/Highway Crossing Hazard Elimination	\$3,000,000
Fed-Aid Optional Rail/Hazard	\$6,000,000
Discretionary funds for private crossing safety projects on designated high speed corridors (non-recurring)	\$2,173,000
Crossing safety for designated high speed rail corridors (non-recurring)	\$1,000,000
Sealed Corridor (non-recurring)	\$1,173,000
Total State and Federal Budget for Rail Transportation	\$43,978,688

Source: NCDOT Rail Division



Table 3 – Key Issues Facing Rail Transportation in North Carolina

Issue	Description
Infrastructure Condition	Significant needs statewide for line and structure maintenance, including bridge rehabilitation, at grade-crossing rehabilitation or closure, track and tie replacement, resurfacing and repairs to signs and signals. More significant investments are needed to modernize track to accommodate heavier rail cars and new technologies; some shortlines are concerned about their ability to accommodate the industry standard 286,000 pound rail car.
Capacity	Common and passing sidings and double tracking are needed systemwide to improve capacity, reduce congestion, improve system performance and reliability and stimulate industrial development by expanding rail service. NCRR tracks should continue to be shared by both freight operators and passenger trains. Rural areas in North Carolina are underserved both in terms of freight and passenger services. Intercity passenger rail service currently does not reach Western and Southeastern North Carolina. Intercity rail service should be expanded to Asheville and Wilmington in the near future.
Accessibility and connectivity	Direct-rail service via shortlines is diminishing as the rail industry consolidates to high-volume facilities and mainline corridors. Access to key hubs including seaports (the ports of Wilmington and Morehead City) military facilities (Fort Bragg, Camp Lejeune, etc.) is currently limited. Other key freight/intermodal hubs and distribution centers are currently underserved by rail. Future increases in passenger trains will require more effort to connect with local ground transportation and airports.
Economic Development and Land Use Planning	Transportation investments at the state level are not consistent with local and regional economic development and land use plans. In addition, the state transportation plan does not fully reflect private sector, city and county development needs nor does it encourage smart growth including urban infill and freight villages.
Corridor Preservation	Available land within railroad right-of-ways should be protected for future capacity expansion. Right-of-way encroachment on existing active or inactive rail corridors should not be encouraged. All abandoned and inactive rail lines should be preserved for future use.
Communication and Coordination	Communication among NCDOT, the ports authority, military facilities, metropolitan and rural planning organizations and economic development agencies is limited and should be improved. Coordination between freight rail operators, local transit agencies and passenger rail advocacy and interest groups is also minimal.
Policy and Funding	Railroads are not viewed as a means to improve the mobility, reliability and efficiency of the transportation system in North Carolina. The benefits from investing in passenger and freight rail services continue to be viewed skeptically by decision-makers. Investment policies continue to heavily favor highways at the expense of all other modes. Funding for rail is predominantly geared toward safety, maintenance and operation needs. Investments for capacity expansion and to facilitate viable modal shifts are needed.
Safety	While great strides have been made in the area of rail/highway at-grade crossing safety, it is important to maintain levels of funding to meet the growing rail and highway traffic. Crossing hazard elimination efforts will continue to be directed towards the statewide priority list for unsignalized crossings, but additional funding resources need to be directed towards signal rehabilitation and modernization, including enhanced devices proven on the Sealed Corridor, crossing closures and grade separations that have positive safety and mobility benefits.

Source: Stakeholder comments from public outreach efforts 2008.

North Carolina's Rail Vision for the Future



North Carolina is recognized as a national leader in working with railroads and public and private partners to expand the rail system through public policy and public and private investments, while adhering to statewide transportation goals. However, North Carolina is at a crossroad and the decision of how to expand passenger and freight rail services will greatly influence the state's ability to continue to successfully compete for business nationally and globally as well as attract a qualified workforce, improve the quality of life of residents and promote environmental stewardship. This can only be achieved through the development of a rail system that is fully integrated with the national and statewide transportation system. It must connect both the state's urban and rural communities and provide safe, secure and reliable transport of people and goods. It must also be environmentally friendly and cost effective and continue to support the state's expanding mobility and economic needs.

Implementation of North Carolina's Long-Term Rail Transportation Vision

Ensuring railroads are an integral part of North Carolina's multimodal transportation system will require a series of recommendations and supporting strategies aimed at maximizing existing funding and planning opportunities for rail transportation and adopting new and innovative financing models. The success of these strategies also depends on the level of support for rail improvement needs from key policymakers and transportation planners. Ongoing communications between NCDOT, decision makers and key public and private transportation, economic development and environmental partners is a must to encourage investments that are consistent with national, regional, local and private industry growth plans. Specifically, NCDOT should continue to monitor CSX's National Gateway and NS's Crescent Corridor plans and work closely on key national and multi-state initiatives including the I-95 Corridor Coalition Southeast Rail Operations Study, Passenger Rail Working Group on Developing a Passenger Rail Vision for the Future, National Surface Transportation Policy and Revenue Commission, and the American Association of State Highway and Transportation Officials' (AASHTO) Standing Committee on Rail and States for Passenger Rail. A set of key recommendations and strategies are described in Table 4. These are organized around goal areas consistent with the department's policies and are aimed to help support North Carolina's 2035 Rail Plan Vision. Table 4 also identifies the agencies responsible for implementing the proposed recommendations and strategies as well as their potential outcome.

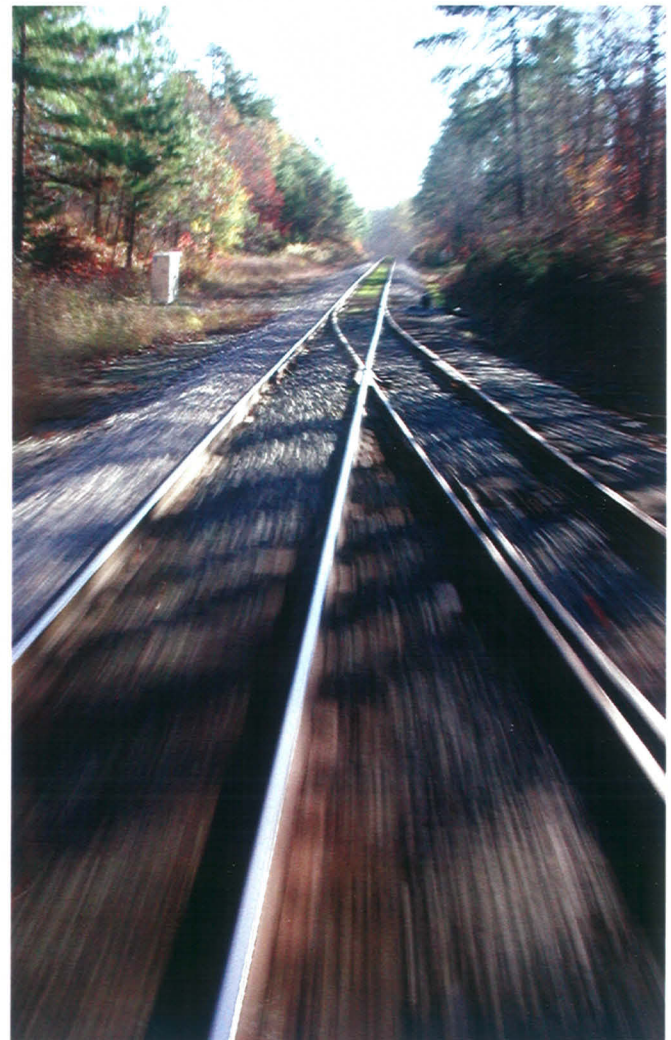


Table 4 – NCDOT Rail Plan Recommendations and Strategies

Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility
Safety & Security	Continue to identify and support rail-highway crossings, signal and track improvements.	Continue to plan for grade separation for future facilities where feasible.	Reduced numbers of at-grade crossings accidents.	NCDOT Rail Division.
		Continue to conduct rail-highway crossing studies to identify potential crossing closures and implement recommendations.	Reduced numbers of rail-highway accidents.	NCDOT Rail Division.
		Continue to conduct crossing and track signal improvements, including signal rehabilitation and modernization and enhanced devices such as those proven on the Sealed Corridor.	Reduced number of rail-highway and rail-rail accident.	NCDOT Rail Division.
		Expand the Sealed Corridor program to high density freight and passenger rail routes statewide, using Federal Highway Administration optional funding	Increased efficacy of active crossing protection from 52 percent to 95 percent.	NCDOT Board of Transportation.
	Develop a series of action items to address rail safety during emergencies.	Develop a list of temporary rail-highway grade crossing closures and alternative routes in the event of natural and manmade disasters.	Reduced numbers of rail-highway accidents.	NCDOT Rail Division.
		Identify alternative methods for mobility in the event of loss of electricity at signalized rail-highway crossings.	Reduced numbers of rail-highway accidents.	NCDOT Division of Highways in collaboration with the NCDOT Rail Division and permitting agencies and railroads.
	Develop security measures for railroads.	Identify and implement rail security measures with guidance from existing Federal Legislation (H.R. 2095), FRA, FTA, the Department of Homeland Security, the State Emergency Response Team, Amtrak, local law enforcement agencies and railroads.	Improved security of North Carolina's rail system to deter or respond to attacks on rail facilities or domestic targets, while ensuring mobility for all users.	NCDOT Board of Transportation with support from the NCDOT Rail Division.
	Conduct public campaigns to educate the public on the safety precautions to be considered at crossings.	Extend outreach effort to law enforcement agencies, community organizations, shippers and railroads.	Reduced numbers of rail-highway and rail-rail accidents.	Operation Lifesaver and railroads statewide with support from NCDOT Rail Division.

Source: NCDOT Rail Division and Cambridge Systematics, Inc.

Table 4 – NCDOT Rail Plan Recommendations and Strategies continued

Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility
Maintenance and Preservation	Continue to support maintenance and preservation of the rail system.	Continue to provide financial assistance to shortline railroads to maintain and preserve tracks.	Support shortline railroad effort to improve infrastructure.	North Carolina Legislature, NCDOT Board of Transportation, and Rail Division
			Achieve 286,000 pound rail car weight standard carrying capacity.	
			Retain jobs in small urban and rural areas and provide a foundation for economic development.	
		Develop a strategy to address the issue of aging rail bridges throughout the state. Continue to identify and support rail bridge replacement and improvement needs.	Reduced probability of bridge failure or collapse.	NCDOT Rail Division
	Promote use of intelligent transportation and other system management strategies and technologies such as positive train control.	A modernized rail system for better and more efficient service.	NCDOT Rail Division	
	Continue to ensure long-term preservation of existing passenger and freight rail corridors and rights-of-way for future use.	Continue to develop rail corridor maintenance and management plans, including identifying and funding needs for signage, vegetation control and track maintenance	Rail infrastructure is maintained for future use.	NCDOT Rail Division
			Allow compatible interim utilization of rail corridor right-of-way (within statutory limits) until such time that it is returned to active rail use.	Manage state-owned railroad corridors and return them to active service as soon as feasible.
Acquire rail corridors scheduled for abandonment that have potential to be reactivated.			Opportunities for future passenger or freight rail service. Opportunities for other public use of corridors (trails, etc.).	
Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility
Quality of Life	Develop a state vision for rail with compatible national and regional components.	Review and implement best national and state practices on integrating state transportation plans with land use decisions.	Support urban infill, transit-oriented development and freight villages.	NCDOT Transportation Planning Branch assisted by modal divisions, MPO, RPO, Departments of Commerce and Environmental and Natural Resources, Legislature and Governor's Office
			Enhanced coordination between the various modes of transportation to achieve cost-effective transportation solutions.	
		Integrate rail investment strategies with land use decisions.	Rail infrastructure investments that are supported by land use planning and meet the needs of the developing area.	NCDOT Rail Division

Table 4 – NCDOT Rail Plan Recommendations and Strategies continued

Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility
Environmental Stewardship	Identify the environmental benefits, including smaller environmental footprint, and lower energy use of rail when compared to highways.	Use the environmental and safety benefits of rail as explicit factors in the project assessment methodology.	Increased understanding of and support for rail among policymakers and the public.	NCDOT Rail Division
Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility
Mobility and Economic Competitiveness	Provide for smooth and efficient transport of both people and freight on and between rail corridors (freight, high speed, intercity and commuter rail services), highway corridors and freight and passenger hubs (stations, seaports and airports).	Encourage multimodal corridor planning.	Reduced congestion along and best use plans for key rail/highway corridors including I-40/I-85, I-95/I-85 N, I-73/74, NS/NCRR and CSX.	NCDOT Planning Branch, with input from the NCDOT Modal Divisions, Airports, North Carolina State Ports Authority, NCRR, railroads and local planning agencies (MPOs, RPOs and cities)
			On-time performance of 80 percent or higher for all passenger rail trains, while maintaining fluid freight movements for current and future traffic levels.	
			Improved air quality, reduced greenhouse gas emissions and reduced dependence on gas.	
			Partnership with other states, multi-state organizations and state planning organizations to address interstate transportation issues and needs.	
		Develop a detailed implementation strategy for the SEHSR which include design, construction, and financial plans	Enhanced mobility of passengers within North Carolina and between Raleigh and Washington D.C.	NCDOT Rail Division in coordination with the Virginia Department of Rail and Public Transportation (VDRPT)
			Travel experience that will satisfy customers and maximize ridership.	
			Large growth areas of the state with access to key East Coast destinations.*	
		Develop a strategic plan for intercity passenger service in the state.	Criteria for determining when to implement new intercity service, funding strategies, and roles and responsibilities of NCDOT, local planning, transit agencies and cities.	NCDOT Rail Division and Board of Transportation with input from local planning and transit agencies and cities
			Travel experience that will satisfy customers and maximize ridership.	
		Develop a port access plan for cargo movement to and from ports.	A preferred location for an inland port or ports and the required intermodal facilities to support freight mobility across the state.	NCDOT Rail Division in cooperation with the North Carolina State Ports Authority, Department of Commerce, planning organizations (MPOs, RPOs, etc.), and freight rail operators
			Efficient movement of cargo to and from ports and connectivity to key hubs including the North Carolina International Terminal.	
			Plan for industrial parks (freight villages) and distribution centers in the vicinity of port and/or inland port.	

Source: NCDOT Rail Division and Cambridge Systematics, Inc.

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Table 4 – NCDOT Rail Plan Recommendations and Strategies continued

Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility	
Mobility and Economic Competitiveness	Provide for smooth and efficient transport of both people and freight on and between rail corridors (freight, high speed, intercity and commuter rail services), highway corridors and freight and passenger hubs (stations, seaports and airports).	Develop a commuter strategy including designating light density rail line for future use where feasible.	Service and appropriate frequency to major metropolitan areas.	NCDOT Rail and Public Transportation Divisions, and Transportation Planning Branch with input from transit agencies, MPO, RPOs and cities	
			Transit-oriented development.		
			Travel experience that will satisfy customers and maximize ridership.		
			Bedroom communities and major employment centers connected with commuter rail service.		
		Continue to support existing commuter rail systems.	Service and appropriate frequency to major metropolitan areas.		NCDOT Rail Division
			Travel experience that will satisfy customers and maximize ridership.		
			Transit-oriented development.		
		Continue to support shortline capacity improvement needs including double stack intermodal, construction of sidings and double tracking.	Development and economic growth of rural and small urban areas. Reduced pressure on heavily congested corridors.		NCDOT Rail Division
			Increased efficient use of freight rail service.		
			Increased rail use by industries in the state.		
Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility	
Financial Sustainability	Develop an initial screening process for identifying and evaluating rail needs.	Continue to convene public meetings to review and discuss proposed improvements.	Strong initial public and political support for proposed key rail projects.	NCDOT Rail Division	
		Conduct cost-benefit analyses between modes and between project alternatives within the same mode.	Projects measured, compared and funded based on benefits including mobility, return on investment, quality of life and environmental benefits of investing in rail compared to other modes.	NCDOT Rail Division and Transportation Planning Branch	
	Intensify the effort to capture federal dollars to match state funds.	Work with the federal government to establish dedicated funding sources and program authority. Maximize funding from existing federal programs (Railroad Rehabilitation and Improvement Financing Program, Capital Grants for Rail Line Relocation Program which provides Transportation Infrastructure Finance, and Innovation Act (TIFIA) and State Infrastructure Bank (SIB).	Increased funding for rail projects and reduced increase in vehicle miles traveled. Ability to program multi-year program of projects.	NCDOT Board of Transportation with support from the North Carolina Governor's Office	

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Table 4 – NCDOT Rail Plan Recommendations and Strategies continued

Goal Area	Recommendation	Strategy/Action Plan	Outcome	Responsibility
Financial Sustainability	Review current state transportation funding allocation policies. Identify new and innovative ways for communities to more readily afford investing in rail projects.	Work with North Carolina's Legislature and the 21st Century Transportation Committee ¹¹ to identify new sources for funding intermodal projects.	Increased funding for rail projects.	North Carolina Legislature, the 21st Century Transportation Committee with support from NCDOT.
		Re-evaluate the percentage allocation of state transportation funds to rail projects.		
	Identify new and innovative ways for communities to more readily afford investing in rail projects.	Provide incentives to rail projects that reduce delay or improve connectivity between modes, promote environmental stewardship, encourage desirable land use and promote economic growth.	Promote transit-oriented developments and freight villages and increase funding for rail needs.	North Carolina Legislature
		Consider alternatives to gas tax.	Additional funding for transportation projects including rail.	North Carolina Legislature

Source: NCDOT Rail Division and Cambridge Systematics, Inc.

¹¹Retrieved March 10, 2009, from <http://www.ncleg.net/documentsites/committees/21stCenturyTransportation/Homepage/11>.