

Studied Rail Infrastructure Improvements in the Port of Morehead City Area

Prepared by:



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I. INTRODUCTION

This report will summarize rail infrastructure improvements in the Port of Morehead City area which have been studied, recommended, deemed feasible, or rejected in various transportation and economic development plans, reports and studies. These documents were identified and obtained through requests from the North Carolina Department of Transportation (NCDOT), North Carolina State Ports Authority (NCSPA), and the Highway 70 Corridor Commission. All documents which were reviewed in preparing this report and their discussed rail infrastructure improvements will next be presented in chronological order.

II. STUDIED RAIL INFRASTRUCTURE IMPROVEMENTS

Radio Island Traffic Assessment (September 2006)

Prepared by Kimly-Horn and Associates, Inc. and Moffatt & Nichol for the NCSPA

This report presents recommendations for transportation improvements required to accommodate projected 2012 traffic conditions generated by the expansion of the Port and approximately 752 residential units planned on Radio Island. Five access improvement alternatives on Radio Island are examined to determine which access alternative would be the most beneficial and safe for the development of Radio Island. For each alternative, rail infrastructure changes include (pages 11-14):

- *Alternative A* – Relocate the rail away from the Morgan Creek Landing condominiums and reduce the number of railroad crossings
- *Alternative B* – Right-in/right-out access will create an additional railroad crossing
- *Alternative C* – One railroad crossing will be eliminated as the result of the realignment of Morgan St
- *Alternative D* – Relocate the rail
- *Alternative E* - Relocate the rail away from the Morgan Creek Landing condominiums and reduce the number of railroad crossings

Figures 1-5 display the location of existing and proposed railroad track for each alternative.

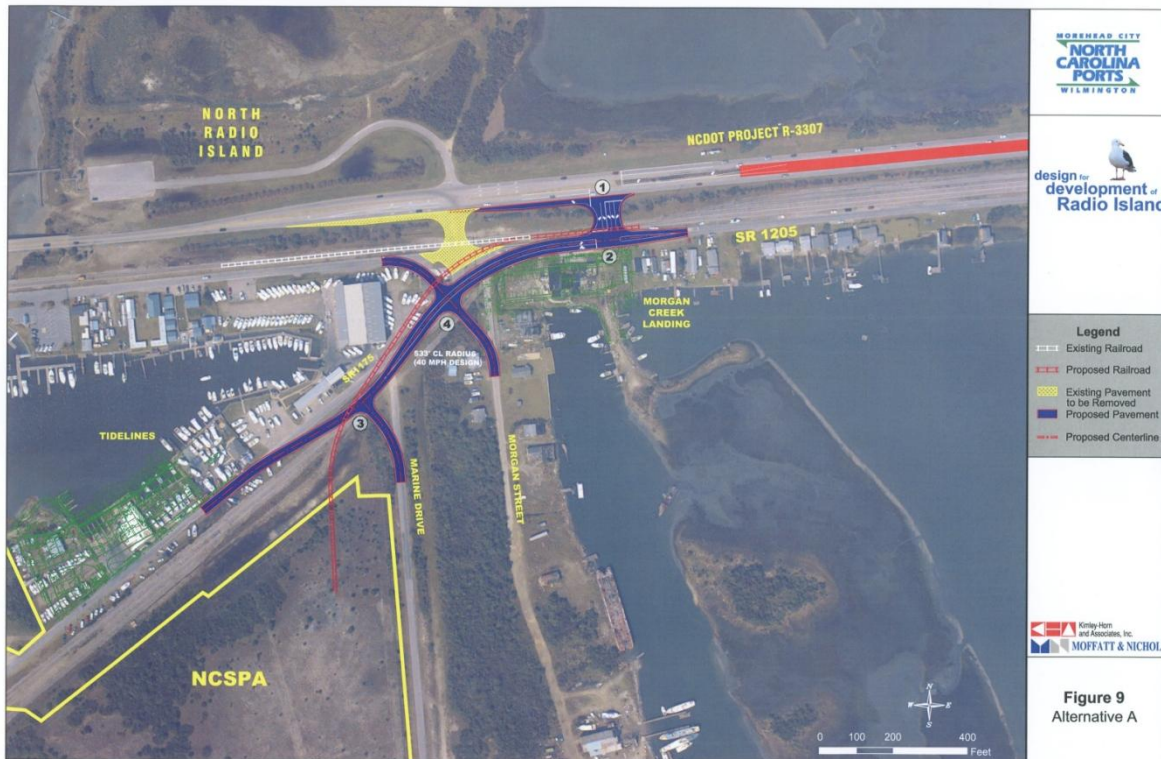


Figure 1. Alternative A.

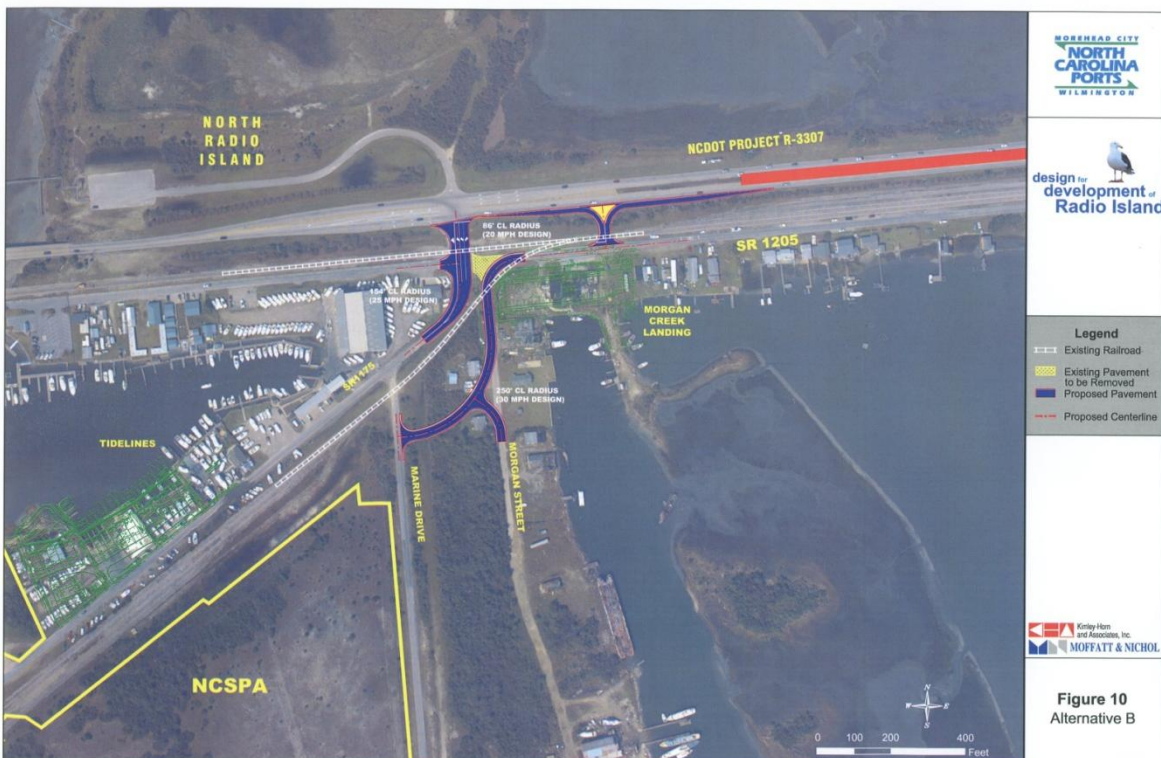


Figure 2. Alternative B.



Figure 3. Alternative C.



Figure 4. Alternative D.

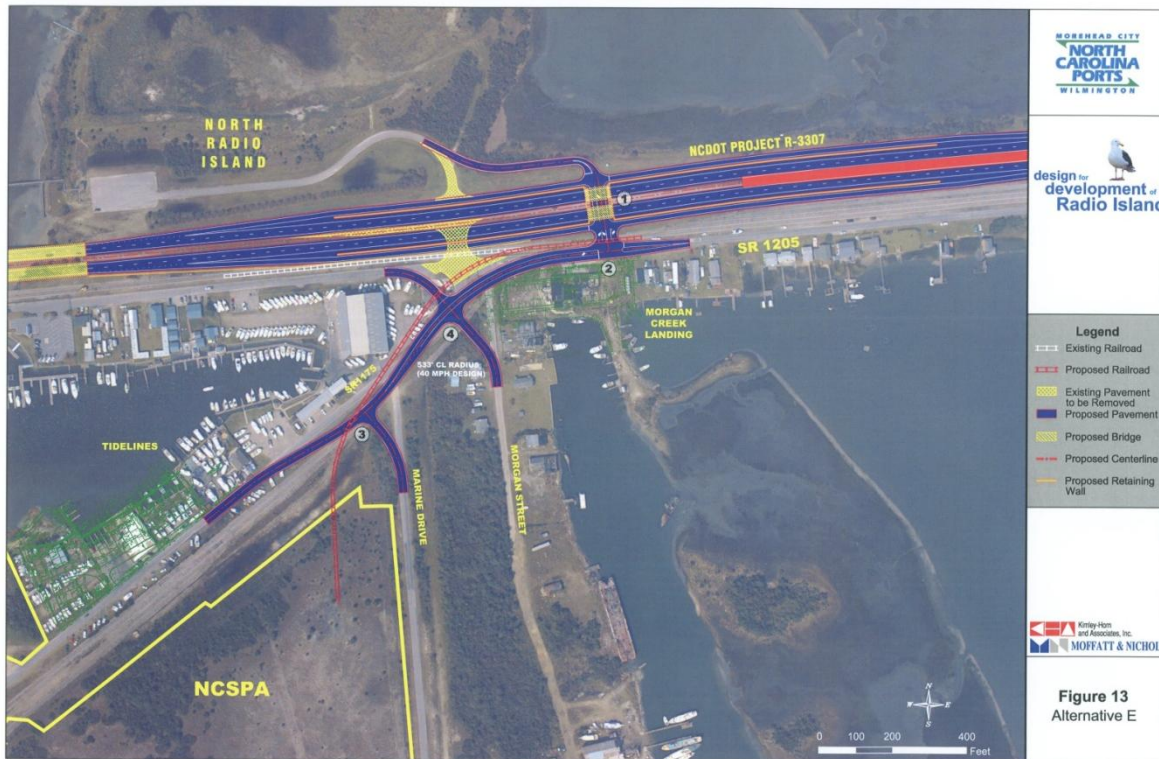


Figure 5. Alternative E.

The report recommends Alternatives A and E as the best short-term and long-term solutions. According to the report, “Alternative A will separate most of the future residential traffic from multiple railroad crossings and is anticipated to operate acceptably up to seven years after build-out of the proposed port facility. Alternative A also provides the best maintenance of traffic options for the construction of Alternative E. Alternative E is the selected alternative for the long-term because it maintains excellent access to both Radio Island and Pivers Island without interrupting traffic on US 70 and minimizes environmental and right-of-way impacts” (page 23).

Track Relocation Feasibility Study Havelock to Morehead City (March 2007)

Prepared by Wilbur Smith Associates and Earth Tech for the North Carolina Railroad Company

This study examines the feasibility of eight corridors for relocating the railroad track between Havelock and Morehead City through evaluating the corridors based on engineering principles, environmental impacts, community concerns, and economic development potential. Figure 6, Table 1, and Table 2 display the location, environmental impacts and estimated costs for each of the corridors and the best relocation corridor (corridor 3/5) ultimately determined by the study, respectively. The study also considers improvements to the existing rail alignment such as depressing the existing tracks through Morehead City in a “tunnel” section, elevating the existing track on structure through Morehead City, moving the tracks along Bridges St through Morehead City, and constructing an off-site rail yard to facilitate the building and breaking down of trains.

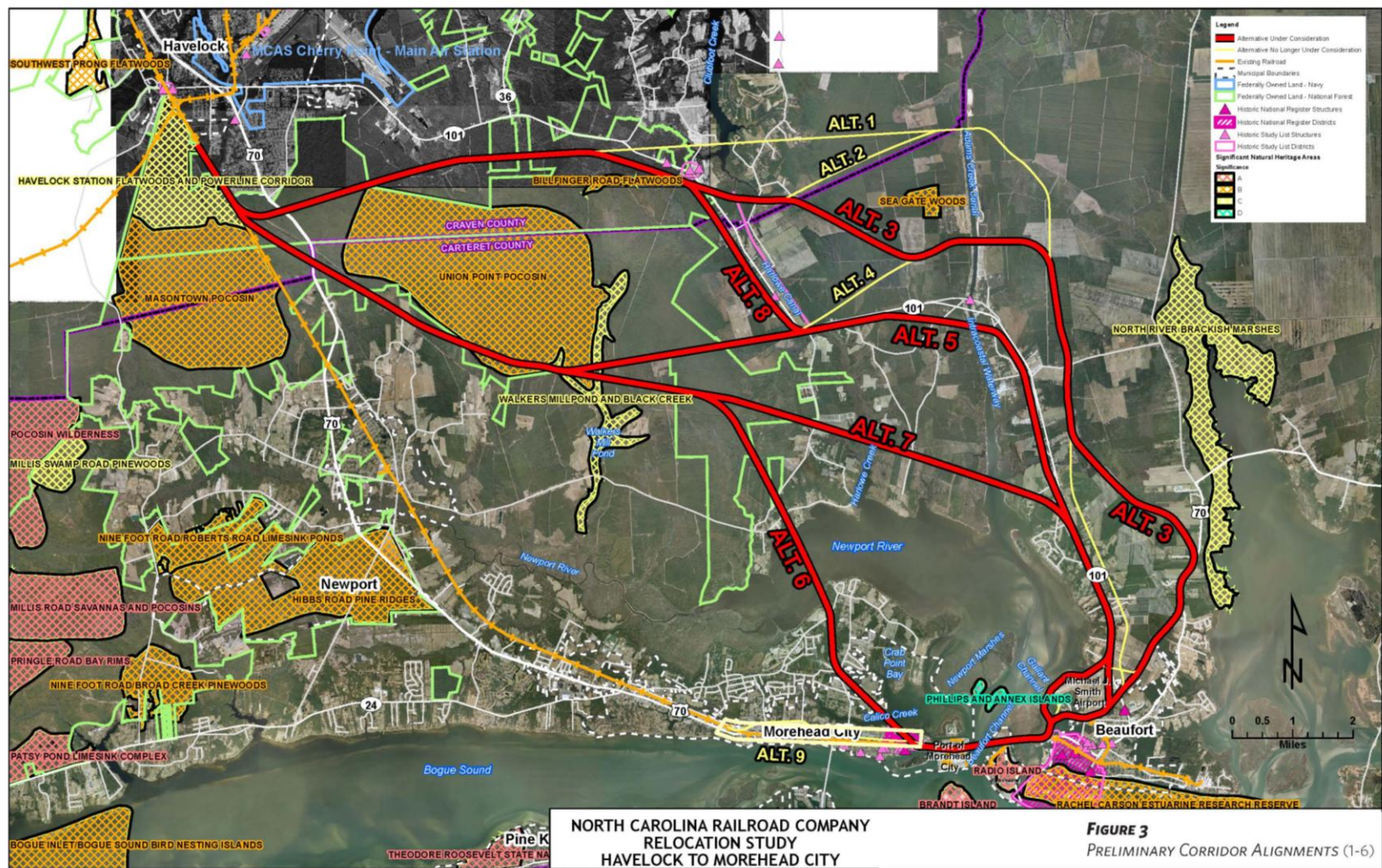


Figure 6. Corridor Alignment Alternatives.

Table 1. Environmental Impacts by Alternative.

[illegible]

Table 2. Preliminary Estimated Costs by Alternative.

[illegible]

The study concludes that a combination of alternative corridors 3 and 5 (Figure 7) appear to offer the best relocation route since this route would have few impacts on the natural environment, improve operations at the Morehead City Port Terminal and Radio Island, eliminate traffic congestion in the Morehead City central business district, and provide new economic development opportunities.

After considering all factors and given the current rail traffic levels and the development plans of the Port Authority, the study concludes that a rail relocation alternative is not economically feasible at the time. Therefore, the study recommends that the North Carolina Railroad Company (NCRR) maintain rail service on the existing alignment and consider improvements to include 1) crossing closure and consolidation, 2) relocation of the US 70 eastbound crossover further to the west, and 3) development of an offsite rail yard for building and breaking down trains to and from the Port Terminal and Radio Island. However, if the Port Authority experiences significantly higher rail business growth than predicted, then the relocation alternative 3/5 should be investigated further. This alternative should be explored as a joint corridor that accommodates both rail and vehicular traffic, such as could be the case with a planned North Carteret County US 70 Bypass.

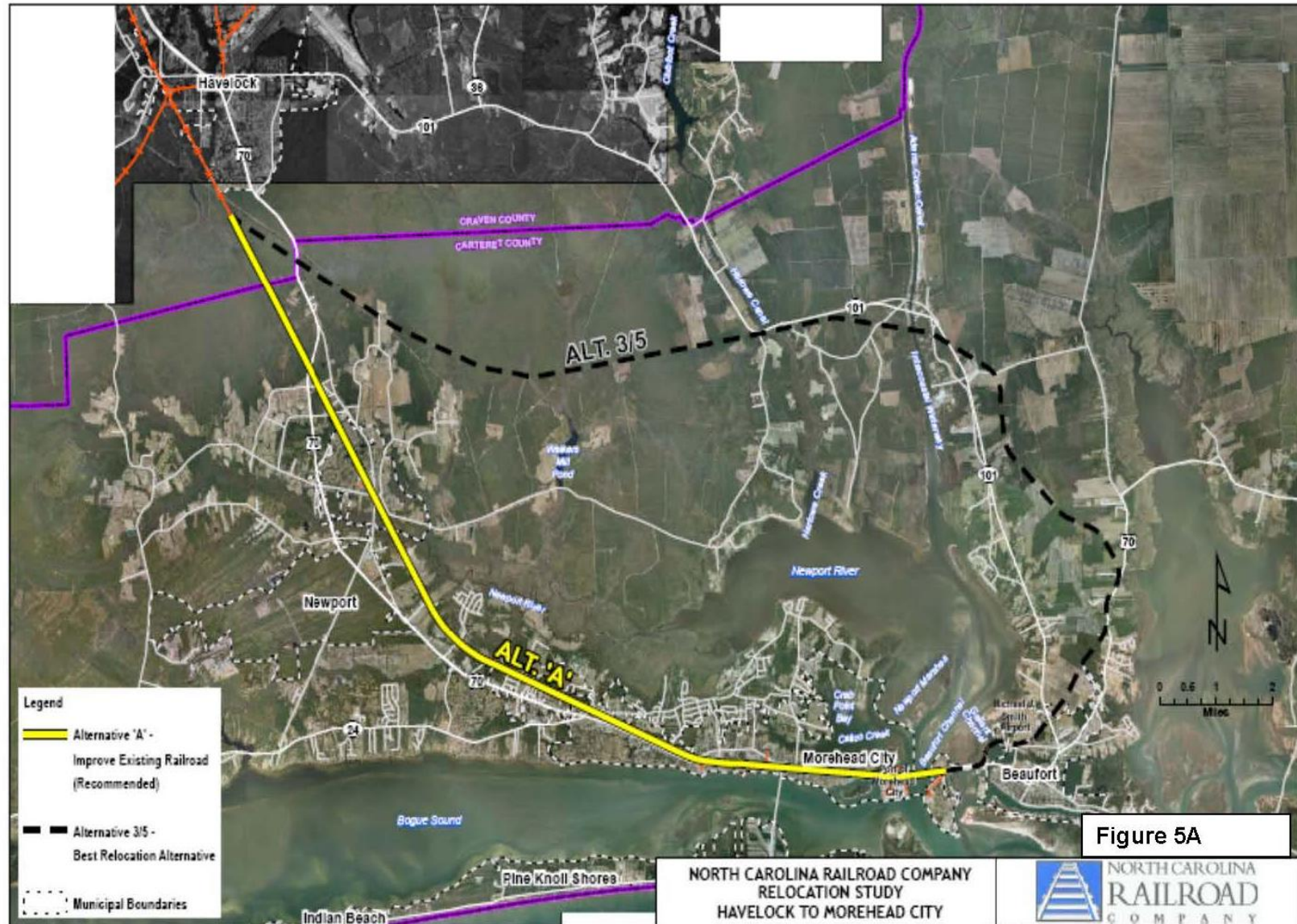


Figure 7. Best Relocation Alternative.

Statewide Logistics Plan for North Carolina (May 2008)

Prepared by G.F. List and R.S. Foyle from North Carolina State University, H. Canipe and J. Cameron from TransTech Management, Inc., and E. Stromberg from Hatch, Mott, MacDonald LLC for the North Carolina Office of State Budget and Management

This plan identifies transportation infrastructure improvements which would support key industries important to North Carolina's long-term economic growth. In order to improve rail access to the Port, the plan suggests 1) replacing and upgrading the West lead track to a heavier rail, and 2) relocating the railroad track (page 132). In order to accommodate heavy truck and rail traffic generated by the development of Radio Island, the plan recommends replacing the Newport River bascule bridge with enough clearance to allow ships to pass freely under it (page 133). The plan does not discuss the feasibility of these recommendations.

Feasibility Study R-4431: New Route (Northern Carteret Bypass) From the Havelock Bypass (TIP# R-1015) to Beaufort (July 2009)

Prepared by NCDOT

This study does not include any discussion about rail infrastructure.

Regional Growth Management Plan (October 2009)

Prepared by Marstel-Day, LLC in partnership with Kimley Horn and Associates, Inc., Impact Communications, Inc., Health Planning Source, Inc., the Operations Research/Education Lab at NC State University, and Management Information Services, Inc for the North Carolina Eastern Region's Military Growth Task Force

This plan discusses regional growth issues in the counties surrounding Marine Corps Base Camp Lejeune, Marine Corps Air Station Cherry Point, and Marine Corps Air Station New River and provides suggestions for how these issues may be addressed. As a result of port expansion onto Radio Island, the plan identifies the replacement of the Newport River bascule bridge as a need (page 97). The plan recommends partnering with NCSPA and freight railroads to develop dual rail carrier access to Morehead City (page 107). The plan also discusses the interest from NCSPA and other community and military leaders in conducting a comprehensive rail planning study which would include a strategy between military, port, and rail growth (page 108). The plan does not discuss the feasibility of these recommendations.

NCSPA Port Business Case Project (February 2011)

Prepared by Moffatt & Nichols for NCSPA

This report reviews the future freight market, competing port infrastructure expansion and shipping industry operations, and how to improve the competitiveness of North Carolina's ports in maintaining and attracting business. Regarding rail connections to the Morehead City Port and Radio Island, the report identifies the following as infrastructure issues and needs (page 8):

- Improved rail connections at competitive rates to hinterlands essential
- Nearby intermodal facility to allow make-up of unit trains essential
- Unit trains through Morehead City will impact the City due to the location in the center of road and number of at-grade crossings
- Completion of Highway 70 improvements means rail infrastructure will be located on the “right” side and gain from improved roadway connectivity
- Significant Class 1 railroad, NCRR and NCDOT investment required

A more detailed discussion of these issues and needs can be found on pages 154-157. The report concludes that the “The MHC rail access through the middle of Morehead City will remain an issue as there is no way to realistically construct a rail bypass. The only alternative is the development of a truck shuttle via the Gallants Channel bridge and Northern Carteret Bypass to the east side of the Intra-Coastal waterway, which can then serve potential distribution centers in the hinterlands and the loading of containers/trailers onto railcars. However, the development of the Northern Carteret Bypass is not currently funded and any rail connection would require investment by NCRR or NS to provide adequate rail service to MHC” (page 157).

Seven Portals Study: An Investigation of How Economic Development Can be Encouraged in North Carolina Through Infrastructure Investment – Master Report (December 2011)

Prepared by G. F. List from North Carolina State University, L. R. Goode, and D. Hauser from Piedmont Triad Regional Partnership for the Governor’s Logistics Task Force and NCDOT

This report discusses ways in which North Carolina’s transportation infrastructure investments can help with economic development and the creation of jobs. In general, the report states that improved rail access and landside access improvements (e.g., refurbishment of the bascule bridge to Radio Island) would be needed to stimulate future growth at the Morehead City Port (page 73). In order to address the issue of lack of competitive rail rates at the Port, the report suggests that perhaps a multi-carrier service can be established in the future and that this “may be in North Carolina’s best interest to pursue” (page 105). Although a valuable idea, the report recognizes that this may be very challenging and that this shared use idea has not been very popular. The report also states that upgrading the Port to handle container vessels could also create competitive rates between the railroads. Other rail infrastructure recommendations include (page 106):

- Getting the railroad out of New Bern
- Running short trains in order to help mitigate the impact of significantly more traffic
- More extensive use of a shortline operator which would provide a better (lower) cost structure and make short trains and shorter lengths of haul feasible
- Dropping the railroad below grade in Morehead City (maybe use electric locomotives and eliminate the diesel fumes and noise)
- Use the yard west of Morehead City as the servicing yard for the Port

Seven Portals Study: An Investigation of Economic Development in North Carolina Through Logistics Villages – Eastern Region Report (December 2011)

Prepared by S. J. Appold, D. A. Rodriguez, and J. D. Kasarda from UNC-Chapel Hill for the Governor's Logistics Task Force and NCDOT

This report makes a preliminary site assessment of five possible locations, one being the Morehead City Port, for “logistics villages” or areas within which all activities relating to transport, logistics and distribution of goods, both for national and international transit are carried out by various operators. Although each location is evaluated, the report does not recommend one specific location above the others.

The report states that the “Morehead City Port and Radio Island are accessible by truck and rail but significantly scaling up traffic will likely create congestion problems unless a bypass around the developed area is created” (page 149). To deal with issues caused by increased truck and rail traffic and the existing rail track location through Morehead City, the report states that “constructing a number of bridge crossing might reduce the burden sufficiently to allow the use of trains to transport containers” (page 150). The report identifies the Gallants Channel Bridge, the Northern Carteret Bypass and the Havelock Bypass as an alternative route. The report states that “a rail connection might be more palatable to local residents, tourists, military users than heavy truck traffic along the region’s main access route. The northern bypass route would require a local truck haul and likely significant additional investment in rail infrastructure” (page 150).

The report also identifies a viable rail connection with competitive rates to allow access to intermodal operations as the most important investment need to gain market share for containerized products. However, the report recognizes that “it is likely that railroads will not be highly motivated to provide that service on favorable terms since NS and CSX are both providing hinterland service at the Virginia ports, Charleston, and Savannah” (page 150).

North Carolina Maritime Strategy Final Report (June 2012)

Prepared by AECOM and URS for NCDOT

This report examines North Carolina’s maritime assets and the needs to ensure that the state remains competitive in the future. The report identifies rail infrastructure improvements and the development of port terminal infrastructure on Radio Island as required for the Port to support grain exports, bulk grain, wood products, containers, roll on/roll off and oversize cargo, and military cargo. Improvements specific to each of these items can be found on pages 116-171. A summary of improvements for each item is listed below:

- *Bulk Grain* - “For the Radio Island site, rail access would be accomplished through upgrade of the existing track onto the parcel proposed for grain use and connection to the on- [sic]. Although

the proposed Havelock to Morehead City Rail Relocation project would enhance access to the Port of Morehead City, the majority of the grain market is within trucking distances.” (page 123)

- *Wood Products* – To support rail traffic generated from wood products, upgrading rail access onto Radio Island and improving rail access through Morehead City via the Morehead City to Havelock Rail Relocation Project would be needed.
- *Container Market* - Because a new container facility and intermodal container service would increase train traffic through Morehead City, Radio Island rail improvements would include the completion of the Havelock to Morehead City Rail Relocation Project. “The ability to have support trackage for switching of rail cars is essential to an efficient operation. In addition, the ability to not trap motive power while serving the terminal is equally important.” (page 153)
- *Roll on/roll off and oversize cargo* – In order to support the transport of this material, the construction of the Havelock to Morehead City Rail Relocation Project is proposed.
- *Military Cargo* - The Military Growth Task Force has identified the Morehead City Rail Relocation as a high priority project to improve rail access to the Port of Morehead City.

Table 3. Required Rail Network and Local Rail Access Infrastructure Investment to Support Various Market Facilities on Radio Island.

	Required Infrastructure Investment (in Millions, 2011)	
	Rail Network	Local Rail Access
Grain Market*	\$0	\$12
Wood Products*	\$204	\$14
Container Market	\$204	\$5
Roll on/Roll off & Oversize Cargo	\$204	\$14
*Investment required to realize the projected 2040 volume		

After evaluating the needs associated with each individual market, the report discusses two options for the Port if the Port were to support multiple markets in the future. As a result of supporting multiple markets, certain project costs and associated investment impacts related to construction and operations of the aggregated market scenarios would be shared. The first option proposes to develop Radio Island to meet forecasted 2040 needs for Roll on/roll off and oversize cargo, grain, and wood pellets cargo, and to support the growth of the port’s existing commodities. A rail loop on Radio Island would service both the grain and wood pellet operation and storage buildings. The second option would use most of Radio Island for a container terminal. Existing chemical facilities on Radio Island would have enough land for their anticipated growth. A steel pellet operation could also be accommodated. A master plan for each option is presented in Figure 113 (page 242) and Figure 115 (page 246), respectively.

Final Report of the Governor’s Logistics Task Force (June 2012)

This report provides a range of governance policy recommendations. The report recommends that dual service rail to the state’s port facilities be studied further before undertaking this action.

North Carolina Statewide Transportation Plan (August 2012)

Prepared by Atkins for NCDOT

This plan identifies investment needs for the next 30 years for freight rail and ports to meet investment goals of mobility, safety and health. However, the plan's description of which freight rail lines or ports where these investments will be allocated or for what specific improvements is very general. The plan also states that the Ports "will require significant improvements if they are to remain competitive with the ports of neighboring states after opening of the expanded Panama Canal" (page 19).

North Carolina State Ports Authority Strategic Plan (November 2012, Draft)

This plan sets priorities for building and improving NCSPA performance over the next 10 years. The plan identifies the lack of competitive rail rates as a threat to NCSPA because this lack limits the Port's growth prospect. The Plan discusses specific actions NCSPA will take to achieve a number of objectives. In terms of rail infrastructure, NCSPA will undertake the following actions to enhance facilities and access infrastructure and enable competitively advantaged access to global markets (pages 20-21):

- Work with the state to require competitive rail at both ports as a requirement to obtain state funding for railroad projects (to gain dual rail access at each marine terminal)
- Develop funding plan to improve rail access to Radio Island
- Install track on terminals where needed to improve efficiencies, storage, and access
- Work with railroads to install passing sidings and other operational needs for increased bulk business

Infrastructure Improvement Assessment (Interim Update SB-402, March 2014)

The NCDOT Rail Division is currently conducting an infrastructure and rail access study for the Port of Morehead City, along with the Global TransPark (GTP) & Wallace to Castle Hayne rail line. A final report of this study is due to the General Assembly by January 1, 2015 and will investigate the feasibility, financial viability and return-on-investment of port infrastructure improvements, according to the interim update. The final report will also:

- Assess rail infrastructure improvements or service scenarios that improve access and throughput to the Morehead City Terminal, address the relative benefits and costs of each rail project, as well as the impacts of freight movements for the highway system and connecting rail corridors
- Evaluate alternate routes to improve rail capacity and access to the Morehead City Terminal and Radio Island site
- Analyze rail operation practices to seek benefits to the rail/road conflicts
- Consider upgrades to the existing track alignment and the construction of an off-site rail yard to build and break down trains

- Investigate conceptual alternatives for improving rail/traffic interactions in Morehead City proper
- Address previous evaluations of access to the Morehead City port from the east via Radio Island

U.S. 70 Corridor Economic Assessment (March 2014)

Prepared by Cambridge Systematics, Inc. with Sanford Holshouser Economic Development for the U.S. 70 Corridor Commission and NCDOT

This report examines the economic impacts and opportunities which could occur as a result from investing in a fully controlled access facility connecting Raleigh to the Port of Morehead City. Although the Port of Morehead City is discussed in this report, there is no discussion of rail infrastructure.

North Carolina Comprehensive State Rail Plan (In Process)

NCDOT and AECOM are currently in the process of creating a rail plan which will establish a vision for the future of freight and passenger rail service in North Carolina, identify improvements over the next twenty years, and provide an overview of potential funding opportunities, costs, and economic benefits associated with an enhanced rail system. NCDOT and AECOM are currently soliciting potential infrastructure projects to be considered for inclusion in the plan.

Feasibility Study-1002A: Widening of the Causeway Bridge on US 70 from Morehead City to Beaufort (In Process)

NCDOT is currently studying the feasibility of widening US 70 from 4th St in Morehead City across the Causeway Bridge (Newport River) to Radio Island and conducting intersection/interchange improvements on US 70 on Radio Island. The area where intersection/interchange improvements will occur on Radio Island is the same area which was studied in the previously discussed Radio Island Traffic Assessment (September 2006). These improvements may potentially cause minor changes to rail infrastructure in the area. However, because this feasibility study is still in an early stage, potential changes to rail infrastructure have not been extensively studied.

III. CONCLUSION

Based on this review of plans, reports and studies which discuss rail infrastructure in the Port of Morehead City area, no specific project has been overall recommended or endorsed. However, these reviewed documents all indicate that a need for improving rail access to the Port exists.