

**THE PROJECTED ECONOMIC IMPACTS  
OF THE NORTH CAROLINA INTERNATIONAL  
TERMINAL**

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# **THE PROJECTED ECONOMIC IMPACTS OF THE NORTH CAROLINA INTERNATIONAL TERMINAL**

The purpose of this report is to measure the economic impacts of the proposed North Carolina International Terminal. The analysis is based on four scenarios regarding future throughput and operating assumptions. In the first year of operation, 2017, the terminal is expected to handle 916,418 TEU's. In 2020, the container throughput is projected to reach 1,467,747 TEU's. By the year 2025, the throughput of the container terminal is projected to reach 2,536,088 TEU's, and in 2030, the container terminal is projected to reach 3,000,000 TEU's. It is also anticipated that 50% of the containers will be moved via truck, while the balance will be moved via rail using on-terminal. The economic impact of each of these scenarios was evaluated using the Martin Associates economic impact model developed for the North Carolina State Ports Authority in 2006.<sup>1</sup>

## **1. IMPACT METHODOLOGY**

The movement of containers via the new container terminal will contribute to the local and regional economies by generating business revenue to local and national firms providing vessel and cargo handling services. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. The impact of the container terminal operations is not reduced to a single number, but instead, the North Carolina International Terminal will create several impacts. These are the revenue impact, employment impact, personal income impact, and tax impact. These impacts are non-additive. For example, the income impact is a part of the revenue impact, and adding these impacts together would result in double counting.

### **1.1 Business Revenue Impact**

At the outset, activity at the container terminal will generate business revenue for firms which provide handling and vessel services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, and to make Federal, state and local tax payments. The remainder is used to pay stockholders, retire debt, make investments, or held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the local economy are those portions paid out in salaries to local employees, for local purchases by individuals and businesses directly dependent on the seaport, in contributions to state and local taxes, and in lease payments and wharfage, dockage and handling fees.

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<sup>1</sup> The Local and Regional Economic Impact of the North Carolina State Ports Authority, by Martin Associates, 2006, prepared for the North Carolina State Ports Authority.

## 1.2 Employment Impact

The employment impact of the container terminal consists of four levels of job impacts.

- Direct employment impact - jobs directly generated by the movement of the containers via the terminal. Direct jobs generated by the containers include jobs with railroads and trucking companies moving cargo between inland origins and destinations and the marine terminals, longshoremen, steamship agents, freight forwarders, stevedores, etc.
- Induced employment impact - jobs that are created throughout the local economy because individuals directly employed by the activity at the container terminal will spend their wages locally on goods and services such as food, housing and clothing. These jobs are held by residents located throughout the region, since they are estimated based on local and regional purchases.
- Indirect Jobs - jobs that are created locally due to purchases of goods and services by firms, not individuals. These jobs include jobs with local office supply firms, maintenance and repair firms, parts and equipment suppliers, etc.
- Related Jobs - are jobs with shippers and consignees (exporters and importers) using the seaport terminals for shipment and receipt of cargo. The in-state shipper and consignee impacts involve the import and export of waterborne containerized cargo, both international and domestic (that is, coastwise shipments). These North Carolina shippers/consignees also use other ports (i.e., East Coast ports such as Savannah, Charleston, Norfolk, and West Coast ports served via rail), and are not completely dependent upon the use of the International Terminal. The level of employment with these firms is driven by the demand for the firms' products, not because the International Terminal is used. Therefore, the degree of dependence of the related jobs on the International Terminal is less than the other components of the job impact.

These jobs include the direct, induced, and indirect jobs created at each level of production of an export cargo produced in North Carolina, as well as the total jobs associated with an imported product consumed in-state, either as a final consumption good or as an intermediate or primary raw material used by industries within the state. For example, all aspects of the distribution chain associated with an imported container carrying consumer products are included in the related job impacts, from the time the cargo leaves the distribution center to its final sales at a retail outlet in North Carolina. The aspects of the distribution chain from the discharge of the containers from a ship through the container terminal to its initial destination (i.e., regional distribution center within the state) are included in the port-generated direct, induced, and indirect jobs, not the related impacts.

## 1.3 Personal Earnings Impact

The personal earnings impact is the measure of employee wages and salaries (excluding benefits) received by individuals directly employed due to handling the import and export containers. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within the Jacksonville area. The direct earnings are a measure of the local impact since they are received by those directly employed by seaport activity.

#### 1.4 Tax Impact

Federal, state and local tax impacts are tax payments to the state and local governments by firms and by individuals whose jobs are directly dependent upon and supported by (induced jobs) activity at the container terminal.

## 2. KEY IMPACT ASSUMPTIONS

CH2M Hill supplied Martin Associates with the key assumptions regarding throughput, terminal operations, and modal split. As part of the development of the initial 2006 economic impact model for the North Carolina State Ports Authority, 211 interviews were conducted with service providers, including tug operations, pilots, freight forwarders and customhouse brokers, agents, surveyors, chandlers, trucking firms and railroads. Based on the data gathered during the interviews, Martin Associates developed the economic impact model used in this analysis. To model expected employment (steady jobs) by the terminal operation, Martin Associates reviewed the employment levels of terminals operating with a similar structure as anticipated at the North Carolina International Terminal.

Jobs with trucking firms are estimated based on the share of containers that will likely move to and from the terminal via truck, as well as the average truck distance. Job impacts with linehaul rail are based on the average rail linehaul distance to key origin and destination points, as well as the number of crew changes on a typical rail linehaul move. Rail revenue is estimated based on the average rail rates charged per container out of South Atlantic Ports where key Asian services are now calling.

## 3. ECONOMIC IMPACTS OF THE NORTH CAROLINA INTERNATIONAL TERMINAL

The annual economic impacts of the container terminal in 2017, 2020, 2025 and 2030 under the four levels of annual throughput are presented in Exhibit 1.

**Exhibit I**  
**Estimated Economic Impacts of the North Carolina International Terminal**  
**(All Dollar Values in 2007)**

	<b>2017</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
	<b>916,418 TEU's</b>	<b>1,467,747 TEU's</b>	<b>2,536,088 TEU's</b>	<b>3,000,000 TEU's</b>
Jobs				
Direct	2,057	3,211	5,510	6,481
Induced	2,697	4,172	7,130	8,369
Indirect	<u>515</u>	<u>824</u>	<u>1,424</u>	<u>1,684</u>
Total	5,269	8,207	14,064	16,534
Personal Income (\$1,000)				
Direct	\$92,112	\$142,065	\$242,483	\$284,434
Induced	\$242,272	\$373,660	\$637,778	\$748,119
Indirect	<u>\$19,578</u>	<u>\$31,357</u>	<u>\$54,180</u>	<u>\$64,092</u>
Total	\$353,961	\$547,082	\$934,440	\$1,096,646
Revenue (\$1,000)	\$497,336	\$796,559	\$1,376,324	\$1,628,133
Local Purchases (\$1,000)	\$33,285	\$53,311	\$92,113	\$108,966
State and Local taxes (\$1,000)	\$36,989	\$57,170	\$97,649	\$114,599
User Jobs	140,707	225,483	389,652	460,993
User Output (\$1,000)	\$4,884,484	\$7,823,340	\$13,517,278	\$15,990,386
User Income (\$1,000)	\$3,200,802	\$5,126,635	\$8,857,872	\$10,478,500
User State/Local Taxes (\$1,000)	\$334,484	\$535,733	\$925,648	\$1,095,003

As this exhibit shows, the proposed container terminal is projected to generate nearly 5,269 direct induced and indirect jobs annually under a 916,418 TEU throughput scenario. By full build out, it is estimated that 16,534 direct, induced and indirect jobs will be generated under the full build out of 3 million TEU's. Furthermore, at full build out, annual direct, induced and indirect earnings and local consumption expenditures are projected to reach \$1.1 billion annually, and local businesses are projected to receive \$1.6 billion of direct revenue annually at full build out. About \$115 million of state and local tax revenues will also generate annually by the container terminal operations under a 3,000,000 TEU unit throughput.

In addition to the annual direct, induced and indirect impacts generated by the projected throughput of the terminal, impacts with North Carolina exporters and importers and the services supporting the import and export activity (including manufacturing, distribution centers, support services to truck and rail operations, and other retail support activities) were also estimated. With a 916,418 TEU facility, it is estimated that nearly 141,000 jobs in the State of North Carolina will be related to the projected level of container operations at the International Terminal at start-up. These related users will receive \$3.2 billion of direct, induced and indirect personal earnings, and \$346.2 million of state and local taxes will be related to this level of container activity. The total economic

value of the International Terminal to the importers and exporters in North Carolina is estimated at \$4.9 billion, excluding the direct business revenue of \$497.3 million. By the year 2030, at full build out with a 3 million TEU throughput, it is estimated that nearly 461,000 related jobs throughout the state will be associated with the project, receiving an annual personal income of \$10.5 billion and supporting \$1.1 billion of state and local taxes with related users of the terminal. Total economic value with the port users is estimated at nearly \$16 billion annually (excluding the direct business revenue of \$1.6 billion) at full build out (in 2007 dollars).

As part of the 2006 Economic Impact Study, The North Carolina State Port Authority provided Martin Associates with information as to the volume of containerized cargo moving to and from the Regional Partnerships. Using this data base, it was possible to allocate the projected direct, induced, indirect and related economic impacts created by movement of the containerized cargo to the various Regional Partnership areas within the state Exhibit II shows this allocation of impacts generated by the cargo and vessel activity at the proposed International Terminal. This breakdown is presented for each of the four projection years.

Exhibit II  
Distribution of Impacts Generated by Cargo Handled  
at the Proposed International Terminal  
by Regional Partnerships  
2017

REGION	JOBS	OUTPUT \$1,000	INCOME \$1,000	STATE/LOCAL TAXES \$1,000
ADVANTAGE WEST	9,094	\$315,674	\$206,861	\$21,617
CHARLOTTE	31,189	\$1,082,685	\$709,484	\$74,141
EASTERN	11,948	\$414,765	\$271,795	\$28,403
NORTHEAST	11,115	\$385,849	\$252,847	\$26,422
PIEDMONT TRIAD	42,949	\$1,490,935	\$977,010	\$102,098
RESEARCH TRIANGLE	15,359	\$533,171	\$349,387	\$36,511
SOUTHEAST	24,194	\$1,154,284	\$784,460	\$81,976
NA	<u>128</u>	<u>\$4,457</u>	<u>\$2,921</u>	<u>\$305</u>
GRAND TOTAL	145,977	\$5,381,820	\$3,554,764	\$371,473

Distribution of Impacts Generated by Cargo Handled  
at the Proposed International Terminal  
by Regional Partnerships  
2020

REGION	JOBS	OUTPUT \$1,000	INCOME \$1,000	STATE/LOCAL TAXES \$1,000
ADVANTAGE WEST	14,572	\$505,606	\$331,323	\$34,623
CHARLOTTE	49,980	\$1,734,106	\$1,136,360	\$118,750
EASTERN	19,147	\$664,317	\$435,327	\$45,492
NORTHEAST	17,812	\$618,003	\$404,977	\$42,320
PIEDMONT TRIAD	68,826	\$2,387,989	\$1,564,849	\$163,527
RESEARCH TRIANGLE	24,613	\$853,965	\$559,603	\$58,479
SOUTHEAST	38,534	\$1,848,775	\$1,236,599	\$129,225
NA	<u>206</u>	<u>\$7,139</u>	<u>\$4,678</u>	<u>\$489</u>
GRAND TOTAL	233,690	\$8,619,899	\$5,673,717	\$592,903

Distribution of Impacts Generated by Cargo Handled  
at the Proposed International Terminal  
by Regional Partnerships  
2025

REGION	JOBS	OUTPUT \$1,000	INCOME \$1,000	STATE/LOCAL TAXES \$1,000
ADVANTAGE WEST	25,182	\$873,592	\$572,465	\$59,823
CHARLOTTE	86,369	\$2,996,213	\$1,963,419	\$205,177
EASTERN	33,087	\$1,147,816	\$752,164	\$78,601
NORTHEAST	30,780	\$1,067,794	\$699,726	\$73,121
PIEDMONT TRIAD	118,937	\$4,126,001	\$2,703,768	\$282,544
RESEARCH TRIANGLE	42,533	\$1,475,492	\$966,890	\$101,040
SOUTHEAST	66,471	\$3,194,358	\$2,125,797	\$222,146
NA	<u>356</u>	<u>\$12,335</u>	<u>\$8,083</u>	<u>\$845</u>
GRAND TOTAL	403,715	\$14,893,602	\$9,792,312	\$1,023,297

Distribution of Impacts Generated by Cargo Handled  
at the Proposed International Terminal  
by Regional Partnerships  
2030

REGION	JOBS	OUTPUT \$1,000	INCOME \$1,000	STATE/LOCAL TAXES \$1,000
ADVANTAGE WEST	29,793	\$1,033,424	\$677,203	\$70,768
CHARLOTTE	102,183	\$3,544,398	\$2,322,644	\$242,716
EASTERN	39,145	\$1,357,819	\$889,779	\$92,982
NORTHEAST	36,416	\$1,263,157	\$827,747	\$86,500
PIEDMONT TRIAD	140,713	\$4,880,890	\$3,198,447	\$334,238
RESEARCH TRIANGLE	50,320	\$1,745,447	\$1,143,791	\$119,526
SOUTHEAST	78,537	\$3,778,793	\$2,505,973	\$261,874
NA	<u>421</u>	<u>\$14,592</u>	<u>\$9,562</u>	<u>\$999</u>
GRAND TOTAL	477,528	\$17,618,520	\$11,575,146	\$1,209,603

As Exhibit II demonstrates, about 29 percent of the jobs are created in the Piedmont Triad, with another 21 percent in the Charlotte Region.

In addition to the annual impacts due to the operation of the terminal, the project will create a significant impact in the state's construction industry and industries supporting the construction activity at the terminal. A total of \$2.0 billion of local construction expenditures will be made to support the development of the terminal. It is anticipated that these expenditures, for the most part, will be made over a 10-year period, with activity beginning in 2008. Some expenditures (\$154 million in 2020 and \$143 million in 2025) are projected in the out years after the terminal is operating. Using data from the US Bureau of Economic Analysis, Regional Input-Output Modeling System for the State of North Carolina, it is estimated that the \$2.0 billion of construction activity will support 101 million direct, induced and indirect person hours over the life of the construction period, with a payroll of \$1.5 billion and state and local tax revenue of \$156 million over the period. It is to be emphasized that after the completion of the terminals, these construction impacts will cease.