

An Economic Analysis
of the
Wanchese Seafood Industrial Park

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Executive Summary

The focus of this study was to evaluate the Wanchese Seafood Industrial Park in a twofold manner. First, we undertook face-to-face interviews to better-understand the business environment of each employer. These interviews also were used to help determine the size, scope, and focus of each of the operations. Second, our objective was to determine the economic impact of the Park. We evaluated the impact of the Park on Dare County, on its economic region (NC Northeast’s Partnership), and on the State of North Carolina.

Most of the managers who were interviewed had high praise for the Park and the support that the administration provides day-to-day. There was a noticeable cooperative attitude between most of the tenants. In fact, several of the employers were attracted to the Park as a result of the One-Stop Shop approach to business. Here, the thought is to provide at one location all the services that a boat owner needs – from storage to maintenance and repair.

The managers that were interviewed certainly had the day-to-day concerns about their operations, as would an employer located anywhere within the United States. However, several expressed concerns that are unique to the Park. These included the following: (1) A concern about the number of slips in the park available for use by the boatbuilding industry. (2) A concern about security issues. (3) A concern about the depth of the water in the channels (Oregon Inlet and the channel inside the sound) for access and safety. (4) A concern about parking. (5) A concern about the availability and quality of the labor force.

Impacts were calculated for three distinct regions. The first region was Dare County, the local jurisdiction that houses the Park. The second set of calculations was computed for North Carolina’s Northeast Partnership, the readily recognized agency that promotes economic development, travel, and tourism for sixteen northeastern North Carolina Counties. Finally, impacts were calculated for the State of North Carolina.

Two types of impacts were generated. The first is called the ECONOMIC ACTIVITY IMPACT. Here, we measure the impact upon the respective region from the current levels of employment/production taking place at the Park. The second impact is the CONSTRUCTION IMPACT. Here, we look at the replacement efforts necessary for the current infrastructure to see how new construction would affect both the Park and the respective economy.

	Dare County		Region		North Carolina	
	Economic	Construction	Economic	Construction	Economic	Construction
Output Impact	\$65,637,789	\$22,617,586	\$68,032,500	\$23,467,753	\$76,733,949	\$28,581,093
Total Value Added Impact	\$32,469,721	\$10,345,916	\$33,000,548	\$9,840,980	\$36,390,625	\$13,883,031
Employment Impact (persons)	584.0	335.3	618.4	369.1	704.6	372.4

The impact analysis is based upon the production of “multipliers”. Multipliers measure the response of the economy to a change in demand or production. Multiplier analysis generally focuses on the effects of exogenous changes on:

- output of the sectors in the economy;
- income earned by households because of the new outputs, and;
- employment (in physical terms) that is expected to be generated because of the new outputs.

Economic Multipliers	Dare County		Region		North Carolina	
	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2
Output Impact	1.089	1.254	1.115	1.323	1.293	1.689
Total Value Added Impact	1.077	1.310	1.096	1.372	1.327	1.895
Employment Impact (persons)	1.155	1.497	1.146	1.586	1.237	1.807

Construction Multipliers	Dare County		Region		North Carolina	
	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2
Output Impact	1.163	1.383	1.184	1.435	1.295	1.748
Total Value Added Impact	1.259	1.603	1.288	1.699	1.405	2.030
Employment Impact (persons)	1.149	1.350	1.157	1.387	1.205	1.565

Type 2 multipliers are the most comprehensive and take into account the expenditures resulting from increased incomes of households as well as inter-institutional transfers resulting from the economic activity. Type 2 multipliers assume that as final demand changes, incomes increase along with inter-institutional transfers. As these people and institutions increase expenditures, this leads to increase demand from local industries.

The interpretation is straightforward. If output at the park increases by one dollar, output in Dare county will increase by 1.254 dollars; by 1.323 dollars in the region; or, by 1.689 dollars in the State. Simultaneously, the Total Value Added Impact will be 1.310 dollars in Dare County; 1.372 dollars in the region; or 1.895 dollars in the State. When we translate the increase to jobs, we find that for each new job in the Park employment in Dare county will increase by 1.497 (Full Time Equivalent) persons; by 1.586 FTE in the region; and by 1.807 FTE in the State.

Overview

The Wanchese Seafood Industrial Park is centrally located on the US east coast on the south end of historic Roanoke Island in Dare County, North Carolina. The Park primarily supports businesses in the seafood and marine-related industries.

The location enables the Park's tenants to ship their products overnight to major markets up and down the coast (and to other countries through the international airport in Norfolk, Va.). The watermen and seafood dealers draw their daily catches from the mix of cold and warm water finfish and shellfish on the Atlantic Seaboard. The marina, which is new to the Park in the last three years, provides the foundation for the One Stop Shop focus for private boating. The marine trade-related tenants are in the center of the region's boatbuilding and boat maintenance markets. The yachts and sport fishing vessels built in Wanchese by these tenants are destined for ports all over the world. Finally, the charter fishing fleet that offers excursions both within the Sound and out to the ocean, will soon expand dramatically, as permits have been approved for 32 additional slips.

The focus of this study was to evaluate the Wanchese Seafood Industrial Park in a twofold manner. First, we undertook face-to-face interviews to better-understand the business environment of each employer. These interviews also were used to help determine the size, scope, and focus of each of the operations. Second, our objective was to determine the economic impact of the Park. We evaluated the impact of the Park on Dare County, on its economic region (NC Northeast's Partnership¹), and on the State of North Carolina.

Interview Process

At the beginning of this study an interview process was undertaken. These nonscientific interviews – which included the majority of the business within the Park -- had several objectives. First, they documented the business profile for each of the employers – from the type of business to the type of customer. Second, we looked at the outside contractors for each of the businesses. This was undertaken to identify the interrelationships with other businesses in the Park. Third, the interviews addressed issues related to employees – including skills, compensation, and hiring practices. Finally, we generally discussed the Park's strengths and weaknesses.

The interview process was mostly done face-to-face over a two and one-half day period. However, a few of the interviews took place via the telephone. Importantly, the interview process laid the groundwork for the impact study. The companies that

¹ The NC Northeast's Partnership counties include Beaufort, Bertie, Camden, Chowan, Currituck, Dare, Gates, Halifax, Hertford, Hyde, Martin, Northampton, Pasquotank, Perquimans, Tyrrell, and Washington.

generously provided time for interviews included: Bayliss Boatworks; O'Neal's Sea Harvest; Sculley Boat Builders; Davis Boatworks; NC Division of Marine Fisheries; Joe's Marine Repair; Angler's Aluminum; Broad Creek Marina; Harbor Welding; Outer Banks Marine Maintenance; Griffin Marine Supply; Hathaway Marine; Johnson Boatworks; Convergent Broadcasting; Gregory Poole Power Systems; Watkins Sewing; Wanchese Trawl Supply; Croswait Yachts, Ltd.; Wanchese Machine; Bay Country Supply; Van Brunt's Upholstery; and, Bob's Bait and Tackle.

One should realize that the tenants in the Park change from time-to-time. For example, one employer that was interviewed has since moved operations out of the Park. The plans are to replace this tenant (which was largely a subcontractor to the boatbuilding industry) with another boat builder. Additionally, subsequent to the interviews a fire destroyed one of the buildings in the Park. This fire had a direct impact upon the value of the Park's output and upon the value of the Park's total capital investment. Still, the focus of the Park remains unchanged. Plus, the information developed in this study will shed some insight upon the impact of the redevelopment of the destroyed buildings and businesses.

Businesses in the Park

From records provided for this study and from the interview process, it was determined that the Park had an employment total of 390 full-time equivalent (FTE) persons in early 2005. These businesses were of varying sizes. They ranged from one-person operations to one company that had approximately 100 employees. Some of the businesses employed part-time workers, although the total was small and somewhat seasonal in nature. The skill set for the workers in the Park ranged from highly skilled and educated individuals to workers whose duties required little more than hard work and sweat. The total also included one business with its main operations and employment contiguous to the Park; however, this company also has resources and activity within the Park that are complementary to its main facility.

The investigators for this study determined that the employment at the Park generally fell into six areas. However, one should note that many of the businesses in the Park focus their resources in more than one of the areas listed below.

(1) BOATBUILDING AND RELATED COMPANIES

Several producers of multi-million dollar sport fishing yachts provide the foundation for boatbuilding industry at the Park. While the number produced varies by company, most of these companies complete from 2 to 5 boats per year. Generally, these boats are on back-order for individuals (worldwide) who want and can afford custom boats. Smaller sport fishing boats, which are sold through dealers, also are produced within the Park.

The related companies include firms that operate as subcontractors to the boatbuilders. These include firms that specialize in several industries essential to boat building and boat refurbishing: carpentry and cabinetmakers; upholsterers and weather covers; engine installation, repair, and sales; and, welding and machine shops for specialty parts and for repair. Many of the final aspects of the manufacturing process take place in the water. Hence, it is imperative for these manufacturers to have readily available water access.

(2) MARINAS AND RELATED

This industry has its foundation in activity centered on the operation of docking and/or storage facilities for pleasure craft owners. Related activities include retailing fuel, marine supplies, and food; and repairing and maintaining the boats. In fact, several of the managers stated that they moved to the Park to take direct advantage of the Marina-related storage and activity. Plus, one firm, while not related to the marina, is a global supplier for trawlers.

(3) CHARTER FISHING

This industry comprises individuals engaged in fishing trips (to the Ocean and/or to the Albemarle Sound) and in providing scenic sightseeing cruises. The trips, either for fishing or for sightseeing, involve the same-day return to place of origin. The tenants at the Park include 16 charter boats that can carry up to six passengers for 175 to 225 trips per year. Carrying many more passengers, there is a headboat in the Park that makes 100 to 125 trips per year. Support services at the Park include a “reservation-ticketing center” and a store that sells supplies to the passengers. It should be noted that this component of the Park should soon expand to 48 boats, as permits have been approved for 32 additional slips.

(4) FISH PACKING

This industry comprises establishments primarily engaged in the merchant wholesale distribution of fish and seafood.

(5) BROADCASTING

This industry comprises one establishment engaged in radio broadcasting. The establishment’s studios and facilities for its four stations are used for a variety of programs, including entertainment, news, and talk shows. Importantly, the firm has programming that is pertinent to the operations of the Park, as these programs are aimed at the fishermen and vacationers in Dare County.

(6) REGULATION AND ADMINISTRATION

This industry comprises federal and state government establishments primarily engaged in the administration, regulation, and enforcement of water resource programs that have a direct impact upon the Park, its tenants, and its customers. This area also comprises the government establishment that administers the Park and helps promote its services.

Interview Synopsis

Most of the managers who were interviewed had high praise for the Park and the support that the administration provides day-to-day. There was a noticeable cooperative attitude between most of the tenants. In fact, several of the employers were attracted to the Park as a result of the One-Stop Shop approach to business. Here, the thought is to provide at one location all the services that a boat owner needs – from storage to maintenance and repair. Further, if one business cannot take full care of one boater's needs, the first priority will be an attempt to pass the remaining need to another business in the park.

The managers that were interviewed certainly had the day-to-day concerns about their operations, as would an employer located anywhere within the United States. However, several expressed concerns that are unique to the Park. These included the following:

(1) A concern about the inadequate number of slips in the park available for use by the boatbuilding industry. While no one viewed the problem as severe, many saw this issue as a possible impediment to future growth.

(2) A concern about security issues. This concern weighed more on the businesses that stored boats outdoors without any type of fencing. Also, many see the problem as growing, due to the increase in traffic that revolves around the marina and charter fishing operations.

(3) A concern about the shallow depth of the water in the channels (Oregon Inlet and the channel inside the sound) for access and safety. In particular, the big trawlers currently have trouble navigating into the Park, if they can get in at all.

(4) A concern about the lack of vehicle parking. People drive cars to the park to take advantage of the marina and charter services. So when these groups are active, parking at the Park becomes scarce. This problem will most likely be aggravated when additional charter boats locate in the Park's new slips.

(5) A concern about the availability and quality of the labor force. This concern was expressed by most of the managers that were interviewed, and needs some expansion.

The access to an adequate workforce is essential for any employer. A few of the managers that were interviewed did not express a concern about attracting and keeping employees for their respective business. They realized that finding a good employee was difficult wherever you lived and that you often needed to pay a premium to retain them. On the other hand, most of the employers expressed difficulty in finding and retaining a skilled employee that will meet their particular business standards – regardless of whether they paid a premium.

Particular concerns included:

- Problems associated with finding and keeping skilled employees
- Problem related to the higher wages and higher rents in the county. Prospective employees cannot easily find affordable housing in Dare County.
- Concerns about deficiencies in local skilled talent. Some would immediately hire more workers if the skilled workers were available. Many expressed hope that the local labor force can be better educated to fit into the local manufacturing (via high school or the local community college).
- One single-person employer was once a 4-5 person operation, but they needed to ensure quality. Plus, the aggravation associated with the paperwork motivated him to work alone.
- There exists a problem with the seasonal nature of the some of the business. The employee number is set for the peak during normal times. They often do not have enough employees for the peak times, as they want to ensure that the people are adequately employed throughout the year.
- Even when they run ads, they rarely get qualified applicants; or the high cost of housing relative to the wage structure produces a huge barrier to relocating quality talent.
- (State government) Problems finding employees - state restrictions on salaries coupled with the (high) cost of living in the county add to the problem.
- Many of the businesses include the owner in the employee list and often use family when demand increases.
- Lower end of the starting wage is from \$8 - \$10 per hour. People state at the low level with no skills and/or no experience. The average pay is in the \$15 - \$25 per hour range. A highly trained or skilled person would demand more.
- Working with the community college to set up classes/programs to help train people for the boating industry.
- Legality issues with the (potential) employee pool

The Impact Model

To identify the interrelationships in the regional economy that holds the Wanchese Seafood Industrial Park, IMPLAN (Impact Analysis for Planning) software and databases were used.

Impacts were calculated for three distinct regions. The first region was Dare County, the local jurisdiction that houses the Park. The second set of calculations was computed for North Carolina's Northeast Partnership, the readily recognized agency that promotes economic development, travel, and tourism for sixteen northeastern North Carolina Counties. Finally, impacts were calculated for the State of North Carolina.

Additionally, two types of impacts were generated. The first is called the ECONOMIC ACTIVITY IMPACT. Here, we measure the impact upon the respective region from the current levels of employment/production taking place at the Park. The second impact is the CONSTRUCTION IMPACT. Here, we look at the replacement efforts necessary for the current infrastructure to see how new construction would affect both the Park and the respective economy.

IMPLAN employs a regional social accounting system and can be used to generate a set of balanced economic/social accounts and multipliers. The model uses regional purchase coefficients generated by econometric equations that predict local purchases based on a region's characteristics. IMPLAN produces three measures that are important for the Park's impact (either for the Economic Activity Impact or for the Construction Impact):

- Output from the model includes descriptive measures of the economy including total industry output, employment, and value-added for over 500 industries. Total industry output is defined as the value of production by industry per year.
- Total value added is defined as all income to worker paid by employers; self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses.
- Employment represents total wage and salary employees, as well as self-employed jobs in a region, for both full-time and part-time workers. The totals are measured in FTEs, or full time equivalent persons.

In a simple sense, the IMPLAN analysis is based upon the production of “multipliers”. Multipliers measure the response of the economy to a change in demand or production. Multiplier analysis generally focuses on the effects of exogenous² (final demand) changes on:

- output of the sectors in the economy;
- income earned by households because of the new outputs, and;
- employment (in physical terms) that is expected to be generated because of the new outputs.

The interpretation of the multiplier is straightforward. If the multiplier is 1.50, it means that for every dollar of increase, there is an additional 50 cent increase in economic activity because of the interrelationships to other industries. If the multiplier is 2.00, it means that for every dollar generated by the industry in question, there is an additional dollar impact felt throughout the economy.

² An exogenous change is one that comes from outside the model. For example, if a new boatbuilder came to the Park, the multiplier would help describe this new tenant's potential impact upon overall output.

The notion of multipliers rests upon the difference between the initial effect of an exogenous change (final demand) and the total effects of a change. The total effects of the Park include the sum of three separate effects:

- Direct effects measure the response for a given industry given a change in final demand for that same industry.
- Indirect effects represent the response by all local industries (such as the boat manufacturer's suppliers) from the change in final demand.
- Induced effects represent the response by all local industries caused by increased (decreased) expenditures of new household income and inter-institutional transfers generated (lost) from the direct and indirect effects of the change in final demand for a specific industry.

An example using one of the Park's employers should help to better explain the interrelationships.

Suppose a new \$1,000,000 boat is produced in the Park.

Direct Effect on Dare County Output:	\$1,000,000
Indirect Effect on Dare County Output:	\$ 89,254
Induced Effect on Dare County Output:	<u>\$ 165,016</u>
Total Effect on Dare County Output:	\$1,254,270

Computation and Use of Multipliers

When total sales of a particular industry sector are expected to change, increase or decrease, three types of impacts economy wide are measured: Direct, Indirect and Induced effects.

Direct effects are the immediate effects associated with the change in the final demand for a particular industry.

The indirect effects are the secondary effects or production changes in backward-linked industries caused when inputs needs change due to the impact of directly affected industry.

The induced effects represent the response by all local industries caused by increased expenditures of new household income and inter-institutional transfers generated from the direct and indirect effects of the change in final demand for a specific industry.

From the direct, indirect, and induced effects, Type 1 and Type 2 multipliers are built for total industry output, employment, income, and value added. Type 1 and Type 2 multipliers are calculated as follows:

$$\text{Type 1} = (\text{Direct Effects} + \text{Indirect Effects}) / \text{Direct Effects}$$

$$\text{Type 2} = (\text{Direct Effects} + \text{Indirect Effects} + \text{Induced Effects}) / \text{Direct Effects}$$

Type 2 multipliers (called SAM multipliers in IMPLAN, where SAM is the Social Accounting Matrix) take into account the expenditures resulting from increased incomes of households as well as inter-institutional transfers resulting from the economic activity. Therefore, Type 2 multipliers assume that as final demand changes, incomes increase along with inter-institutional transfers. As these people and institutions increase expenditures, this leads to increase demand from local industries.

Output Impact and Output Multipliers

For the Park, the Type 1 output multiplier is 1.089 for Dare County. In other words, for each dollar of output produced by the companies in the Park, 0.89 dollars is generated by other industries that supply the business in the Park. If the Type 2 output multiplier for the cotton sector is 1.254; then 0.254 dollar of indirect and induced output is generated in other local industries. The induced output is estimated as Type 2 minus Type 1 (1.254 - 1.089) = 0.165 dollars for each dollar of output produced by the firms in the Park.

If the expected final demand change is \$100 million, the total effects from this final demand change for the output is calculated as:

Final Demand Change x Type 2 Output Multiplier

$$\$100 \times 1.254 = \$125.4 \text{ million}$$

A change in \$100 thousand of final demand for boats will generate an estimated \$125.4 thousand of total industry output.

Total Value Added (TVA) Output and TVA Multipliers

The IMPLAN Type 2 value added multiplier for the Park is 1.310. This means that 0.310 dollars of indirect and induced value added are generated in local industries. Value

added includes employee compensation, proprietary income, other proprietor income, and indirect business taxes.

Again, if the expected final demand change is \$100 thousand, the total effects from this final demand change for value added is calculated as:

Final Demand Change x Type 2 Value-Added Multiplier

\$100 thousand x 1.310 = \$131.0 thousand in value added

When using output and value added multipliers and the estimated total effects (direct, indirect and induced) for a study region are desired, information needed is the change in final demand.

Employment Multipliers

Employment multipliers are used when final demand changes are not available. However, data exists on changes in sector employment level. Assume the expected change in employment for cotton is 100 jobs and the total effects in number of jobs created for the study area is as follows:

Change in Employment x Type 2 Employment Multiplier

100 jobs x 1.497 = 149.7 jobs

The increase of 100 jobs for the Park will generate a total of nearly 150 jobs for the Dare County.

Inputs for the Impact Studies

The economic impacts of the Wanchese Seafood Industrial Park were in large part based upon three factors. The first are the industry interrelationships that are defined within IMPLAN. The second is information derived from the face-to-face interviews. Finally, we incorporate wage and employment data from the NC Employment Security Commission.

The IMPLAN interrelationships explicitly define the relationship from one industry to another industry. For example, for each boat that is built, where are the ripple effects felt? While these factors were developed using a national scale, it is a readily accepted practice to extend these relationships to a local area.

The face-to-face interviews helped us to determine the local employment and the activity of each employer. The information from the interview is supplemented by the data from the NC Employment Security Commission and from records kept in the Park administrative office.

Thus, our foundation data for model input is³:

Employees: 390

Average Annual Wage: \$25,498

Industries: Boatbuilding and Related; Marinas and Related; Broadcasting; Fish Packing and Related; Charter Fishing and Related; and, Regulation and Administration.

Building Size: 198,000 square feet

Building (Estimated) Replacement costs: \$16,350,000

Economic Activity Impacts (See Appendix Table 1 to Appendix Table 8)

Dare County Economic Impacts (Appendix Table 1 and Appendix Table 3)

We know that the Park employs 390 persons. The relationships in the model suggest that the Park's annual output is valued at 52.331 million dollars. The value added impact (which includes employee compensation, proprietary income, other proprietor income, and indirect business taxes) is estimated to be 24.787 million dollars. When one addresses the relationship of the Park's business to other business in Dare County, we found that the total impact upon output in Dare County is 65.638 million dollars. The Total Value Added Impact increases to 32.470 million dollars. The employment at the Park is 390. However, the model suggests that the economic activity at the Park creates an additional 194 jobs in the county.

Regional Economic Impacts (Appendix Table 1 and Appendix Table 4)

The regional impacts assume that businesses in the Park (and their employees) have interactions with businesses in counties other than Dare. For example, one firm might use subcontractors from Dare County, while another firm uses a subcontractor from Currituck. The effect of the contractor from Currituck (and the other 15 counties in the

³ Our agreement during the interview process was not to disclose information obtained from any individual. As such, we will not present the information in a manner that would go against this commitment.

NC Northeast Partnership) would not be fully captured unless the economic boundaries of the study are expanded.

By expanding the region of influence to the regional partnership boundaries, we found that the output impact increased by 2.3954 million dollars to 68.032 million dollars. The total value added impact expanded by 531 thousand dollars to 33.001 million dollars. Jobs increased by an additional 34.4 FTE jobs to 618 persons.

Statewide Economic Impacts (Appendix Table 1 and Appendix Table 5)

Similarly, as not all the economic effects of the park are confined to Dare County, we know that the economic effects of the Park are not fully incorporated into the region. Thus, we look at the statewide impacts.

Here, we find that the Park directly and indirectly generates an economic impact of 76.734 million dollars and a total value added impact of 36.391 million dollars. The statewide output impact is 8.701 million dollars higher than the regional impact and 11.096 million dollars above the impact found in Dare County. The total value added impact is 5.113 million dollars higher than the regional TVA impact and 5.964 million dollars higher than the Dare impact. The additional impact upon jobs in the state is small; only 3.3 new jobs are created by the Park in the 84 North Carolina counties lying outside the State's northeast region.

Construction Impacts

The Construction impacts at the Park look at the replacement value of the infrastructure on site. While it is unrealistic to assume that the Park will be systematically replaced with new structures, the impacts provide us a way to assess the impact of new construction at the Park – and to see how that new construction will ripple through the economy.

Dare County Construction Impacts (Appendix Table 1 and Appendix Table 6)

From records and interviews, we estimated that the current value of the Park's buildings is 16.350 million dollars. To rebuild the Park, IMPLAN estimates that it would take 248.4 FTE employees and generate a direct total value added impact of 6.455 million dollars. When one includes the indirect and induced effect of new construction, we see that the total output impact would be 22.618 million dollars. The total value added impact would be 10.346 million dollars and the total number of persons impacted would be 335.3 FTE.

Regional Construction Impacts (Appendix Table 1 and Appendix Table 7)

As one finds with the economic impacts, the regional construction impacts assume that businesses in the Park (and their employees) have interactions with businesses in counties other than Dare. The Output impact for the region increases to 23.467 million dollars. On the other hand, the TVA impact falls by approximately 504 thousand dollars to 9.841 million dollars. While one would intuitively expect this total to increase, the collective impacts for the sixteen counties is smaller, due to the varying attributes of the of the individual counties. The employment impact, however, continues to increase. The model estimates that it would take 369.1 employees to rebuild the Park.

Statewide Construction Impacts (Appendix Table 1 and Appendix Table 8)

The largest construction impacts would be found if the impact were applied to all the counties in North Carolina. Here, the output impact from construction would total 28.581 million dollars. The TVA impact would measure 13.883 million dollars, or 3.537 million dollars higher than the total found in Dare County. The impact upon employment would be 372.4 FTE employees.

Appendix Table 1: Summary of Economic and Construction Impacts

Economic and Construction Impacts						
	Dare County		Region		North Carolina	
	Economic	Construction	Economic	Construction	Economic	Construction
Output Impact	\$65,637,789	\$22,617,586	\$68,032,500	\$23,467,753	\$76,733,949	\$28,581,093
Total Value Added Impact	\$32,469,721	\$10,345,916	\$33,000,548	\$9,840,980	\$36,390,625	\$13,883,031
Other Property Type Income Impact	\$10,261,362	-\$10,539	\$10,298,168	\$174,311	\$6,485,220	\$754,426
Labor Income Impact	\$20,951,050	\$9,792,117	\$21,371,753	\$9,107,393	\$27,828,236	\$12,273,910
Indirect Business Taxes Impact	\$1,257,309	\$564,338	\$1,330,627	\$559,276	\$2,077,169	\$854,695
Employment Impact (persons)	584.0	335.3	618.4	369.1	704.6	372.4
Change from Dare						
	Region		North Carolina			
	Economic	Construction	Economic	Construction	Economic	Construction
Output Impact	\$2,394,711	\$850,167	\$11,096,160	\$5,963,507		
Total Value Added Impact	\$530,827	-\$504,936	\$3,920,904	\$3,537,115		
Other Property Type Income Impact	\$36,806	\$184,850	-\$3,776,142	\$764,965		
Labor Income Impact	\$420,703	-\$684,724	\$6,877,186	\$2,481,793		
Indirect Business Taxes Impact	\$73,318	-\$5,062	\$819,860	\$290,357		
Employment Impact (persons)	34.4	33.8	120.6	37.1		
Change from Region						
	North Carolina					
	Economic	Construction	Economic	Construction	Economic	Construction
Output Impact	\$8,701,449	\$5,113,340				
Total Value Added Impact	\$3,390,077	\$4,042,051				
Other Property Type Income Impact	-\$3,812,948	\$580,115				
Labor Income Impact	\$6,456,483	\$3,166,517				
Indirect Business Taxes Impact	\$746,542	\$295,419				
Employment Impact (persons)	86.2	3.3				

Appendix Table 2: Summary of Economic and Construction Multipliers

Economic Multipliers	Dare County		Region		North Carolina	
	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2
Output Impact	1.089	1.254	1.115	1.323	1.293	1.689
Total Value Added Impact	1.077	1.310	1.096	1.372	1.327	1.895
Other Property Type Income Impact	1.086	1.333	1.110	1.401	2.374	4.834
Labor Income Impact	1.056	1.252	1.072	1.308	1.215	1.589
Indirect Business Taxes Impact	1.901	3.582	1.882	3.736	2.934	5.952
Employment Impact	1.155	1.497	1.146	1.586	1.237	1.807
Construction Multipliers	Dare County		Region		North Carolina	
	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2
Output Impact	1.163	1.383	1.184	1.435	1.295	1.748
Total Value Added Impact	1.259	1.603	1.288	1.699	1.405	2.030
Other Property Type Income Impact	0.664	0.008	0.593	-0.153	0.466	-0.559
Labor Income Impact	1.143	1.287	1.152	1.334	1.223	1.523
Indirect Business Taxes Impact	2.290	4.616	2.498	5.097	2.977	6.597
Employment Impact (persons)	1.149	1.350	1.157	1.387	1.205	1.565

Appendix Table 3: Economic Impacts for Dare County

	Direct	Indirect	Induced	Total	Multipliers	
					Type 1	Type 2
Output Impact	\$52,331,470	\$4,670,804	\$8,635,515	\$65,637,789	1.089	1.254
Total Value Added Impact	\$24,787,314	\$1,919,485	\$5,762,922	\$32,469,721	1.077	1.310
Other Property Type Income Impact	\$7,696,488	\$663,498	\$1,901,376	\$10,261,362	1.086	1.333
Labor Income Impact	\$16,739,785	\$939,664	\$3,271,601	\$20,951,050	1.056	1.252
Indirect Business Taxes Impact	\$351,041	\$316,323	\$589,945	\$1,257,309	1.901	3.582
Employment Impact (persons)	390.0	60.4	133.6	584.0	1.155	1.497

Appendix Table 4: Economic Impacts for the Region

	Direct	Indirect	Induced	Total	Multipliers	
					Type 1	Type 2
Output Impact	\$51,438,494	\$5,920,702	\$10,673,304	\$68,032,500	1.115	1.323
Total Value Added Impact	\$24,053,767	\$2,303,584	\$6,643,197	\$33,000,548	1.096	1.372
Other Property Type Income Impact	\$7,352,742	\$805,714	\$2,139,712	\$10,298,168	1.110	1.401
Labor Income Impact	\$16,344,883	\$1,183,876	\$3,842,994	\$21,371,753	1.072	1.308
Indirect Business Taxes Impact	\$356,142	\$313,994	\$660,491	\$1,330,627	1.882	3.736
Employment Impact (persons)	390.0	56.8	171.6	618.4	1.146	1.586

Appendix Table 5: Economic Impacts for North Carolina

	Direct	Indirect	Induced	Total	Multipliers	
					Type 1	Type 2
Output Impact	\$45,440,400	\$13,316,667	\$17,976,882	\$76,733,949	1.293	1.689
Total Value Added Impact	\$19,198,581	\$6,274,728	\$10,917,316	\$36,390,625	1.327	1.895
Other Property Type Income Impact	\$1,341,604	\$1,843,202	\$3,300,414	\$6,485,220	2.374	4.834
Labor Income Impact	\$17,507,999	\$3,756,725	\$6,563,512	\$27,828,236	1.215	1.589
Indirect Business Taxes Impact	\$348,978	\$674,801	\$1,053,390	\$2,077,169	2.934	5.952
Employment Impact (persons)	390.0	92.6	222.0	704.6	1.237	1.807

Appendix Table 6: Construction Impacts for Dare County

	Direct	Indirect	Induced	Total	Multipliers	
					Type 1	Type 2
Output Impact	\$16,350,000	\$2,662,508	\$3,605,078	\$22,617,586	1.163	1.383
Total Value Added Impact	\$6,455,093	\$1,670,438	\$2,220,385	\$10,345,916	1.259	1.603
Other Property Type Income Impact	-\$1,273,368	\$428,352	\$834,477	-\$10,539	0.664	0.008
Labor Income Impact	\$7,606,196	\$1,084,387	\$1,101,534	\$9,792,117	1.143	1.287
Indirect Business Taxes Impact	\$122,265	\$157,699	\$284,374	\$564,338	2.290	4.616
Employment Impact (persons)	248.4	37.0	49.9	335.3	1.149	1.350

Appendix Table 7: Construction Impacts for the Region

	Direct	Indirect	Induced	Total	Multipliers	
					Type 1	Type 2
Output Impact	\$16,350,000	\$3,000,550	\$4,117,203	\$23,467,753	1.184	1.435
Total Value Added Impact	\$5,792,852	\$1,670,751	\$2,377,377	\$9,840,980	1.288	1.699
Other Property Type Income Impact	-\$1,142,730	\$465,487	\$851,554	\$174,311	0.593	-0.153
Labor Income Impact	\$6,825,860	\$1,040,867	\$1,240,666	\$9,107,393	1.152	1.334
Indirect Business Taxes Impact	\$109,722	\$164,397	\$285,157	\$559,276	2.498	5.097
Employment Impact (persons)	266.1	41.9	61.1	369.1	1.157	1.387

Appendix Table 8: Construction Impacts for North Carolina

	Direct	Indirect	Induced	Total	Multipliers	
					Type 1	Type 2
Output Impact	\$16,350,000	\$4,816,366	\$7,414,727	\$28,581,093	1.295	1.748
Total Value Added Impact	\$6,840,344	\$2,770,983	\$4,271,704	\$13,883,031	1.405	2.030
Other Property Type Income Impact	-\$1,349,365	\$721,174	\$1,382,617	\$754,426	0.466	-0.559
Labor Income Impact	\$8,060,147	\$1,793,668	\$2,420,095	\$12,273,910	1.223	1.523
Indirect Business Taxes Impact	\$129,562	\$256,141	\$468,992	\$854,695	2.977	6.597
Employment Impact (persons)	238.0	48.9	85.5	372.4	1.205	1.565

Miley, Gallo & Associates, LLC
Company Overview

The roots of Miley, Gallo & Associates, LLC can be traced to 1993 when Harry W. Miley, Jr. Ph. D. founded Miley & Associates, Inc. After several years of successful client collaborations, Lucy L. Gallo, CPA and Dr. Harry Miley decided to leverage the depth of their experience in the accounting, finance and economic aspects of real estate transactions to form Miley, Gallo & Associates, LLC. The Company is an economic and financial consulting firm providing a range of analytical services to public and private sector clients. Miley, Gallo & Associates conducts fiscal and economic impact analyses of proposed new developments and has extensive experience in assisting clients with their economic development and community revitalization projects.

Harry W. Miley, Jr. Ph. D. – Partner, Columbia, South Carolina

From 1991 to 1999, Dr. Miley served as Chairman of the South Carolina Board of Economic Advisors (BEA). The BEA is responsible for estimating the State's revenues for the Governor and the General Assembly to use in formulating the State's annual budget. Dr. Miley was originally appointed as Chairman by Governor Carroll Campbell and continued to serve as Chairman for Governor David Beasley.

Prior to founding Miley & Associates, Inc., Dr. Miley was President of The Fontaine Company, Inc. in Columbia, South Carolina from 1989 to 1993. The Fontaine Company specializes in planning large-scale economic development projects. While President of Fontaine, Dr. Miley directed the Company's consulting and development projects.

Before joining Fontaine, Dr. Miley was the Senior Executive Assistant for Economic Development to the Governor of South Carolina. From 1987 to 1989, Dr. Miley served as principal advisor to Governor Carroll Campbell on the state's policies for economic development, employment and training, work force and adult illiteracy, technical education and transportation issues. Dr. Miley also served as the Governor's liaison to the legislature on economic development issues and as liaison to all state, regional and local agencies involved in community revitalization and economic development.

Prior to joining the Governor's Office, Dr. Miley was on the faculty of the Moore School of Business at the University of South Carolina and Associate Director of the Division of Research at the School. Before joining the faculty at the College, he served as Senior Economist with the Division of Research and Statistical Services in the South Carolina Budget and Control Board for six years.

Lucy L. Gallo, CPA – Partner, Research Triangle Park, North Carolina

Lucy L. Gallo, CPA is a founding partner of Miley, Gallo & Associates and specializes in the strategic business aspects of economic development, economic impact analyses and fiscal impact analyses. For over 15 years, Ms Gallo served as executive vice president of one of North Carolina's largest independent certified public accounting and consulting firms. In her role as the firm's audit partner and through her management consulting practice, Ms Gallo developed extensive experience in financial analysis, forecasting, budgeting, and financial modeling. During her tenure in public accounting, she served many clients in the real estate industry as well local government. The unique combination of these experiences provides Ms Gallo with the know-how necessary to comprehensively assess and measure the financial impacts of proposed development on local governments. She believes that meaningful economic and fiscal impact analyses can successfully bridge the gap between traditional planning and economic reality to forge a cooperative, comprehensive community planning process.

Ms Gallo graduated Phi Beta Kappa from the University of South Carolina in 1980. She is a member of the American Institute of Certified Public Accountants, the North Carolina Association of Certified Public Accountants, the Institute of Management Accountants and maintains her registration as a certified public accountant in the State of Georgia. In 2001, Ms Gallo earned her certification from the University of North Carolina's Organizational Development program, which advanced her strategic planning practice niche. She is an instructor in advanced accounting and auditing topics for various programs, including those sponsored by the NCACPA and Duke University's continuing education program and is a frequent instructor at the Small Business Center of Durham Technical Community College.

Ms Gallo is also a member of the Durham Chamber of Commerce Local Government Committee, the Government Finance Officers Association, the American Planning Association, the North Carolina Economic Development Association, the Georgia Economic Development Association, and the Association for Corporate Growth. She previously served as Chairperson of the Business Volunteer Council and is currently a member of the Durham Academy Finance Committee, Carolina Women in Business and Women in Mathematics.

James W. Kleckley – Project Consultant, Greenville, North Carolina

Jim Kleckley, who obtained his Ph.D. at The University of South Carolina, is a regional economist who has been participating in local area economic analyses since the mid - 1970s. He is the author or coauthor of articles and monographs addressing issues and topics on the health of state and substate economies.

Dr. Kleckley currently serves as Associate Director, Office of Institutional Planning, Research, and Effectiveness at East Carolina University. The overall duties of his position are in direct support of the University's strategic planning process – from interaction with faculty and staff to direct responsibilities for the university budget projections. Additionally, he teaches an MBA course each semester in the Department of Finance, College of Business Administration. Finally, as a private economist, he assists business and government in the use and evaluation of economic information – from the development of economic impact and development feasibility studies to lectures and training programs that help others better-understand the strategic uses of economic information.

Since the early 1980s Dr. Kleckley has been directly involved in the development and maintenance of state and local forecasting programs: as an assistant in the creation of the forecasting program at The University of South Carolina; as the associate director of the forecasting program at the University of Florida; as the director of the forecasting program at Oklahoma State University; and as the chief forecaster and editor of the Carolina OUTLOOK publications.

Dr. Kleckley has served as an analyst for the South Carolina Employment Security Commission; the Director of Research for the Municipal Association of South Carolina; and as a faculty member at The University of South Carolina, the University of Florida, Oklahoma State University, the Tianjin College of Finance and Economics (Tianjin, Peoples Republic of China), and East Carolina University. Dr. Kleckley has served as one of the program coordinators and trainers for the Labor Market Information Institute (a national professional training program funded by the US Department of Labor) and was one of approximately forty national economic forecasters that regularly participated in the National Association of Business Economists Macroeconomic Forecasting Panel. The bulk of his recent consulting projects have focused on the Carolinas; however, his work has taken him from Portland, Maine to Portland, Oregon.