

Final Report
USS NORTH CAROLINA Economic Impact Assessment

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SUMMARY

The UNC Center for Competitive Economies performed an assessment of the economic impact of the USS NORTH CAROLINA to the economy of New Hanover County and the Wilmington community. We examined the battleship's annual economic contribution for each year in the period from 2000-2010 and cumulatively for the entire period. We found that the USS NORTH CAROLINA accounted for significant economic benefits to the region during the period studied. The primary quantified impacts identified in our research include:

Employment:

- During 2010 the USS NORTH CAROLINA contributed **303 jobs** to the New Hanover county economy, including 46 employees at the ship itself and another 257 jobs created in the region by ship visitation
- For the 2000-2010 period, the USS NORTH CAROLINA accounted for **3,173 job/years** of employment

Income:

- During 2010 the USS NORTH CAROLINA contributed **\$7.9 Million in income** received by citizens of the New Hanover county economy
- For the 2000-2010 period, the USS NORTH CAROLINA accounted for **\$83.5 Million in local income**

Economic Growth

- USS NORTH CAROLINA grew the New Hanover county economy by **\$23.4 Million during 2010** and by a total of **\$245 Million for the 2000-2010** period

Real Estate Value Contribution

- The prominent - and decidedly favorably perceived - presence of the NORTH CAROLINA on the Wilmington waterfront benefits real estate values on nearby properties
- Research suggests that the ship contributes a "heritage view value" premium with contributed value varying by each properties' utilization or capture of that value

- For the **273 parcels** that have some view of the NORTH CAROLINA, the ship is estimated to add a **total of \$5.7 Million** to their aggregate tax value

Our research concluded that the USS NORTH CAROLINA makes a significant and remarkably consistent contribution to the economy of its community. Moreover, the significance of the ship's contribution to the regional economy was magnified by the "counter-cyclical" nature of its impact. The NORTH CAROLINA actually increased its economic contribution during period of regional and national economic recession, thus providing important stability to the region.

In addition, we found that those economic contributions include – but also extend beyond – the NORTH CAROLINA'S prominent role in regional tourism. The NORTH CAROLINA was also found to play a prominent role in defining the Wilmington "brand" to external audiences and to serve as an enduring and iconic symbol of community identity for the citizenry of a rapidly changing city. The ongoing evolution of the USS NORTH CAROLINA has the potential to increase this role and the economic value it brings to its community.

INTRODUCTION

The UNC Center for Competitive Economics (C³E) is an institutional research center of the University of North Carolina at Chapel Hill. The Center is based at the Kenan Institute for the Study of Private Enterprise and is administratively within the Kenan Flagler Business School. The Center performs public service and client-sponsored economic research on local, state, national and international economic issues, with a primary focus on analysis of economic development challenges and opportunities for the citizens of the State of North Carolina. It also provides assistance to the Kenan-Flagler Business School and the University in their economic and community engagement activities.

In late 2011, the Center responded to a request for assistance from Captain Terry A. Bragg, Executive Director of the Battleship USS NORTH CAROLINA, a memorial ship and heritage attraction located in Wilmington, North Carolina. Captain Bragg asked that the Center's design and perform an assessment of the contributions made by the NORTH CAROLINA to the economy of the Wilmington area. After several consultations with the Captain and the staff of the NORTH CAROLINA, the Center's Director, Brent Lane, designed a research plan to conduct the assessment. The Center was contractually engaged by the Friends of the USS North Carolina and the assessment began in March 2012.

SCOPE OF WORK

The goal of the assessment was to capture both the quantitative and qualitative economic value of the NORTH CAROLINA to the Wilmington and New Hanover County area. Preliminary evaluations had indicated that the USS NORTH CAROLINA's economic contributions included – but also extend beyond - its prominent role in regional tourism. Its highly visible central location on the waterfront of the city suggested that its presence was likely to also have a discernible effect on real estate values in the immediate area of the ship. Its long-term (since 1960) and prominent profile in the area was also expected to endow the NORTH CAROLINA with an iconic role in shaping the Wilmington "brand" to both external and internal audiences.

In order to capture the additional effects the Center's methodology expanded upon conventional tourism attraction economic impact assessment to include active community-level informant research supplementing conventional statistical and demographic data collection. This methodological philosophy was adopted to ensure that the outcomes of the assessment were not only comprehensive,

but also provided the management of the NORTH CAROLINA with relevant and utilitarian information for the design and implementation of administrative plans.

Assessment Tasks

1. Comparables Assessment: The Battleship NORTH CAROLINA, as a tourism site, can be defined within the category of a “museum ship” or a ship that has been “preserved and converted into a museum open to the public, for educational or memorial purposes”. While there are now several hundred museum ships around the world, the NORTH CAROLINA was among the first and has been among the most prominent examples. This is exemplified by the fact that in 1966 the NORTH CAROLINA hosted the meeting that led to the establishment of the Historic Naval Ships Association. Today that association includes almost 200 ships representing twelve nations.

The Center investigated examples of US-based museum ships to identify those with comparable characteristics and circumstances to the NORTH CAROLINA, especially those that have conducted economic impact assessments. Such prior assessments were expected to provide useful economic “benchmarking” information. The comparables assessment was conducted primarily through internet-based inventories and data collection. Physical site visits were conducted to subsequently selected comparable ships to perform key informant interviews.

2. Inventory of Regional Tourism Data: Center researchers reviewed available tourism information from the Battleship NORTH CAROLINA, as well as local, regional and State agencies to identify data useful to the project’s quantitative impact analysis. Particular attention was directed at correlations in Battleship NORTH CAROLINA visitor data to other regional tourism patterns to recognize and describe any unique heritage value-added role in amplifying tourism benefits.

3. Aggregated Economic Impact Analysis: The Center combined the findings of prior tasks with a compilation of the NORTH CAROLINA’s audited budgetary data from 2000-2011 to construct an econometric model to estimate the ship’s annual and aggregate regional economic effects. This analysis utilized financial audit reports to collect data on operational expenses associated with the Battleship Commission’s operation of the historic site. In addition to the dollars spent directly by the Battleship Commission, this analysis also considered the dollars spent by tourists who visited the Battleship historic

site, considering spending that was above and beyond the admission price charged for entrance into the historic site.

Examples of non-admission tourist spending include items such as lodging, food, and general merchandise purchases. This spending was estimated using data on annual average visitation and average per-trip visitor spending. As the split between overnight and day-time visitation was unknown, this report considered three scenarios representing alternative ratios of overnight and day-time visitation. Data on operational and tourist related spending were translated into inputs for an input-output (I/O) economic model, developed using the IMPLAN 3.0 software package. This model was then used estimate the total direct, indirect, and induced economic impacts of operational and tourist related spending associated with the battleship for the period from the year 2000 to 2010.

4. BNC Real Estate Contribution Modeling: The Battleship NORTH CAROLINA occupies a prominent physical location in the geography of the Wilmington area, and provides an iconic visual image incorporated into the region's self-identify and external branding. This role suggests the NORTH CAROLINA could make intangible economic contributions to real estate and other market values in Wilmington. To capture those contributions, the Center developed a hedonic valuation model to estimate the NORTH CAROLINA's effect on proximal real estate market values.

Hedonic valuation is most often used to value amenities that affect the price of residential and commercial properties. It can be used to estimate economic benefits associated with amenities, such as aesthetic views or proximity to recreational sites. Center researchers sought to discern and estimate any such effect by the Battleship NORTH CAROLINA model by defining potential forms of value conveyance through key informant interviews of local business and community leaders to collect contingent valuation effects that might capture intangible and qualitative economic contributions. This information was then used in a subsequent examination of relevant real estate properties' valuations.

PROJECT TEAM

The initial Center research team on this project included Mr. Brent Lane, Center Director as Principal Investigator, and Dr. Jason Jolley, Center Senior Research Director, as Co- Principal Investigator. Additional team members included Research Associate graduate students with task-appropriate

expertise from the UNC Kenan-Flagler School of Business and the Department of City and Regional and Planning.

FINDINGS

Table 1 below reports operational expense data collected from Financial Statement Audit Reports published by the Office of the State Auditor. The reports indicate that operational expenses associated with the battleship have increased by more than 42 percent over the past decade, from around \$2.1 million in the year 2000 to nearly \$2.97 million in 2010. This was equal to an average annual increase of 3.6 percent. Note that the greatest proportional increase in spending was in the Materials and Supplies category. While spending in this category grew by around 123 percent, or 8.4 percent per year, the gross value of these expenditures remained relatively small, equal to only around \$33,000 in the year 2000 and \$73,000 in 2010.

The largest single expense across all years was Personnel Services. Spending in this category was equal to \$897,000 in the year 2000, increasing to \$1,384,000 in 2010. This is equal to an increase of 54 percent, or 4.4 percent per year. Another significant spending category was Other Services. This category included a wide variety of expense items ranging from advertising and printing, to equipment and postage. In the year 2000 this category accounted for roughly \$768,000 in spending, increasing to \$938,000 in 2010. This equaled around 22 percent growth, or around two percent per year. While the audit reports, as well as Table 1, also include depreciation as an allowable expense for accounting purposes, the accounting value of depreciation was excluded from the IMPLAN analysis discussed below.

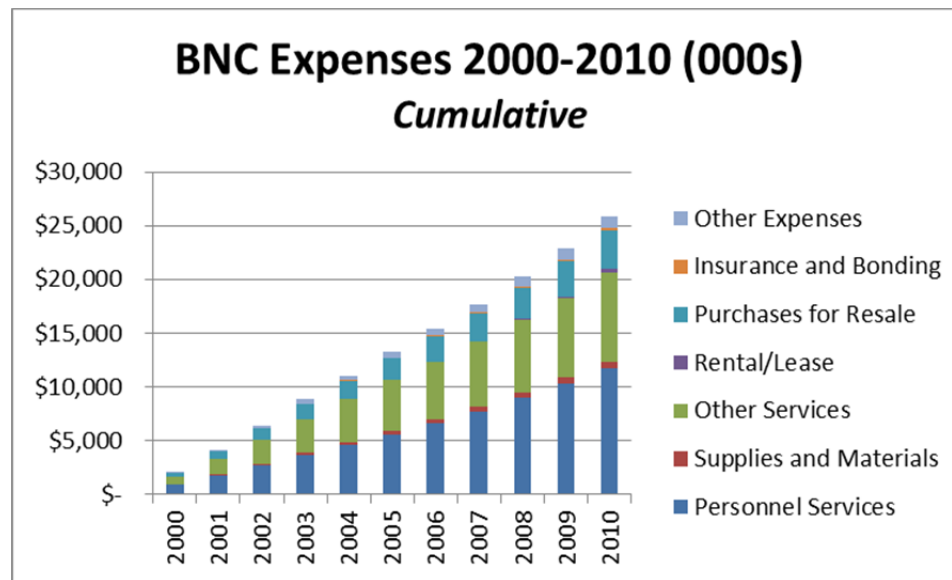
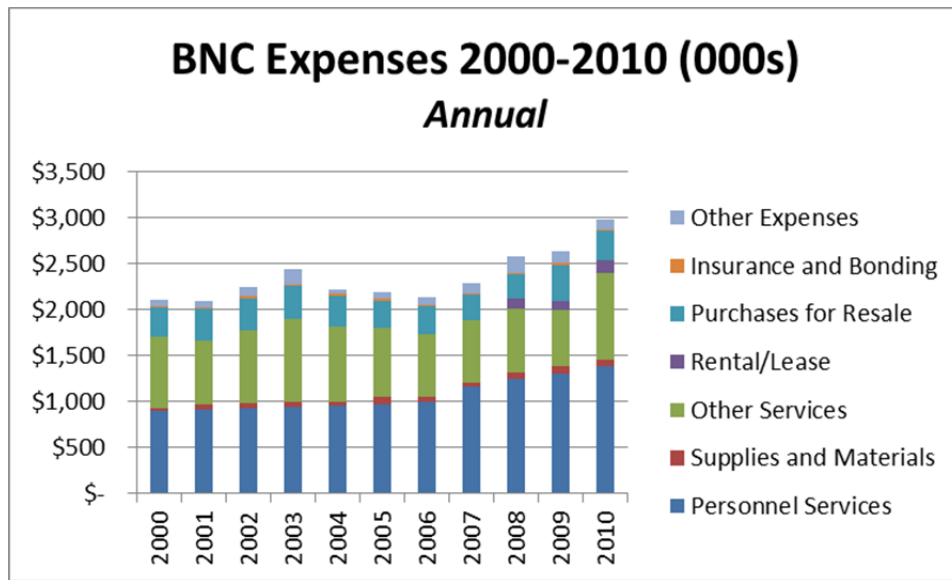
Table 1: U.S.S. North Carolina, Operational Expenses by Category, Thousands of Dollars, 2000-2010

Expense Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Personnel Services	\$ 897	\$ 921	\$ 933	\$ 945	\$ 956	\$ 964	\$ 990	\$ 1,163	\$ 1,250	\$ 1,301	\$ 1,384
Supplies and Materials	\$ 33	\$ 44	\$ 50	\$ 57	\$ 44	\$ 96	\$ 55	\$ 49	\$ 69	\$ 89	\$ 73
Other Services	\$ 768	\$ 699	\$ 789	\$ 892	\$ 819	\$ 738	\$ 684	\$ 668	\$ 692	\$ 599	\$ 938
Rental/Lease	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 101	\$ 107	\$ 143
Purchases for Resale	\$ 320	\$ 346	\$ 352	\$ 358	\$ 331	\$ 299	\$ 302	\$ 281	\$ 269	\$ 389	\$ 313
Insurance and Bonding	\$ 18	\$ 17	\$ 17	\$ 16	\$ 18	\$ 18	\$ 18	\$ 19	\$ 19	\$ 19	\$ 19
Other Expenses	\$ 64	\$ 64	\$ 103	\$ 166	\$ 54	\$ 70	\$ 80	\$ 101	\$ 172	\$ 126	\$ 108
Total, All Categories	\$ 2,100	\$ 2,090	\$ 2,244	\$ 2,434	\$ 2,223	\$ 2,184	\$ 2,130	\$ 2,281	\$ 2,572	\$ 2,631	\$ 2,979
Depreciation	\$ 182	\$ 132	\$ 118	\$ 105	\$ 127	\$ 128	\$ 124	\$ 120	\$ 115	\$ 108	\$ 110
Total, w/ Depreciation	\$ 2,282	\$ 2,222	\$ 2,362	\$ 2,540	\$ 2,350	\$ 2,312	\$ 2,254	\$ 2,401	\$ 2,687	\$ 2,739	\$ 3,089

Note:

(a) Figures for the year 2000 were collapsed into categories similar to those used in later audit reports.

Sources: C3E, 2012; NC State Auditor, Financial Statement Audit Reports of U.S.S. North Carolina Battleship Commission, 2000 through 2010.



Economic Impact of Operations

For the purposes of developing an input/output model to estimate the economic impact of operations spending, the expense categories discussed above were matched to IMPLAN industry sectors, as defined by the Minnesota IMPLAN Group (MIG), for use with the IMPLAN 3.0 software package. Table 2 illustrates which expense categories were matched with which IMPLAN sectors. The corresponding North American Industry Classification System (NAICS) codes are also listed to provide a clearer understanding of the type of expenditures being modeled. Expenditure data for each expense category listed in Table 1 were then fed through the IMPLAN software using the associated IMPLAN sector reported in Table 2.

Additional parameters used for development of the IMPLAN input/output model included the following. The study area used for the model was New Hanover County. The model was built using Type SAM multipliers and econometrically derived Regional Purchase Coefficients (RPCs). Although this analysis evaluates spending over a ten year period, the model used 2009 industry trade flow data throughout. All output data reported in monetary terms were estimated using constant 2010 dollars.

Table 2: Alignment of Expense Categories with IMPLAN Industry Sectors

<u>Expense Category</u>	<u>IMPLAN Sector</u>	<u>NAICS Sector(s)</u>
Personnel Services	368	5412
Supplies and Materials	313	33994
Other Services	389	5619
Rental/Lease	360	531
Purchases for Resale	319	42
Insurance and Bonding	358	5242
Other Expenses	388	-
Depreciation	n.a.	n.a.

Source: MIG, 2012; C3E, 2012.

Tables 3 below report the outputs generated by the first of the IMPLAN economic models. These outputs represent and aggregation of the direct, indirect, and induced economic effects of ongoing operational spending associated with the battleship historic site. Over the ten year period from 2000 to 2010, spending associated with the battleship historic site supported an estimated average of 43 jobs, \$1.2 million in labor income, \$2.0 million in value added, and \$3.3 million in industry output annually.¹ Although battleship operational spending fluctuated somewhat over the time period, the effect on the

¹ All dollar values reported in constant 2010 dollars.

total impact values is relatively minor, resulting in a relatively stable net impact over time. For greater detail regarding the annual impact values and the impact values for each round of spending, please refer to the tables provided in Attachment A. Also, please note that employment impact estimates cannot be summed over time. These estimates are reported in job-years which are equivalent one full time job, held for one year. However, that job may, or may not, have been in existence prior to the expenditure being modeled, and may remain in existence well after the economic effect has worn off. Thus, the estimated 43 jobs generated by battleship operations spending may, in fact, represent new jobs, or they may represent the same cohort of jobs that are maintained over time.

Table 3: Economic Impact Summary, Operational Spending, 2000 Through 2010

Impact Type (a)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	44	41	43	49	42	44	37	39	44	39	46
Labor Income (\$,000)	1,265	1,201	1,224	1,364	1,206	1,265	1,085	1,145	1,251	1,156	1,313
Value Added (\$,000)	2,067	1,950	2,001	2,238	1,971	2,067	1,746	1,823	2,059	1,899	2,214
Industry Output (\$,000)	3,368	3,171	3,270	3,684	3,205	3,368	2,839	2,964	3,346	3,063	3,579

Notes:

(a) Figures reported here reflect total impact estimates. For detailed disaggregation of these figures by direct, indirect, and induced impacts, please refer to Attachment 1.

Source: MIG, 2012; C3E, 2012.

Economic Impact of Tourist Spending

To roughly estimate spending associated with tourist visitation generated by the battleship historic site, average per visit spending patterns were applied to the total visitation numbers supplied by the Battleship Commission. According to this data, an average of roughly 200,000 visitors were admitted to the historic site annually between the year 2000 and 2010. Unfortunately, available data do not distinguish between those visitors who ventured to the battleship site for the day versus those who stayed overnight. This distinction is important because visitors who spend the night typically spend more at local establishments on items such as lodging, food, and souvenirs. As a result, certain assumptions needed to be made regarding the ratio of day-time visitors to overnight visitors. In this case, three scenarios were tested.

Scenario 1 assumed that 25 percent of visitor spending is derived from day-time visitors, while 75 percent is generated by overnight visitors. Scenario 2 assumed a 50-50 distribution, while Scenario 3 is a simple reversal of Scenario 1.

Tables 4 and 5 report visitor spending estimates by spending category based on the three scenarios described above. The day-time and overnight visitor spending patterns utilized here and reported in Table 4 represent average per capita expenditures, accounting for average length of stay. Because overnight visitors tend to spend more on average than day-time only visitors, the scenarios that assume a higher proportion of overnight visitation have higher total spending estimates. Specifically, Scenario 1 represents the high-end of the spending estimates with an average of \$22,100 per year. Scenario 3 represents the low-end of the spending estimates with only \$12,400 in tourist spending annually. Scenario 2 is in the middle with roughly \$17,300 in average annual spending.

Table 4: Average Per Capita Tourist Spending, Day-Time and Overnight Visitation (a)

Expense Category	Day Visitors	Overnight Visitors
Accommodation	n.a.	\$60
Food	\$15	\$35
Retail	\$10	\$20
Transportation	\$8	\$15
Entertainment	\$5	\$5
Total, All Categories	\$38	\$135

Note:

(a) Day visitor and overnight visitor spending patterns represent average per capita expenditures, accounting for average length of stay.

Sources: C3E, 2012.

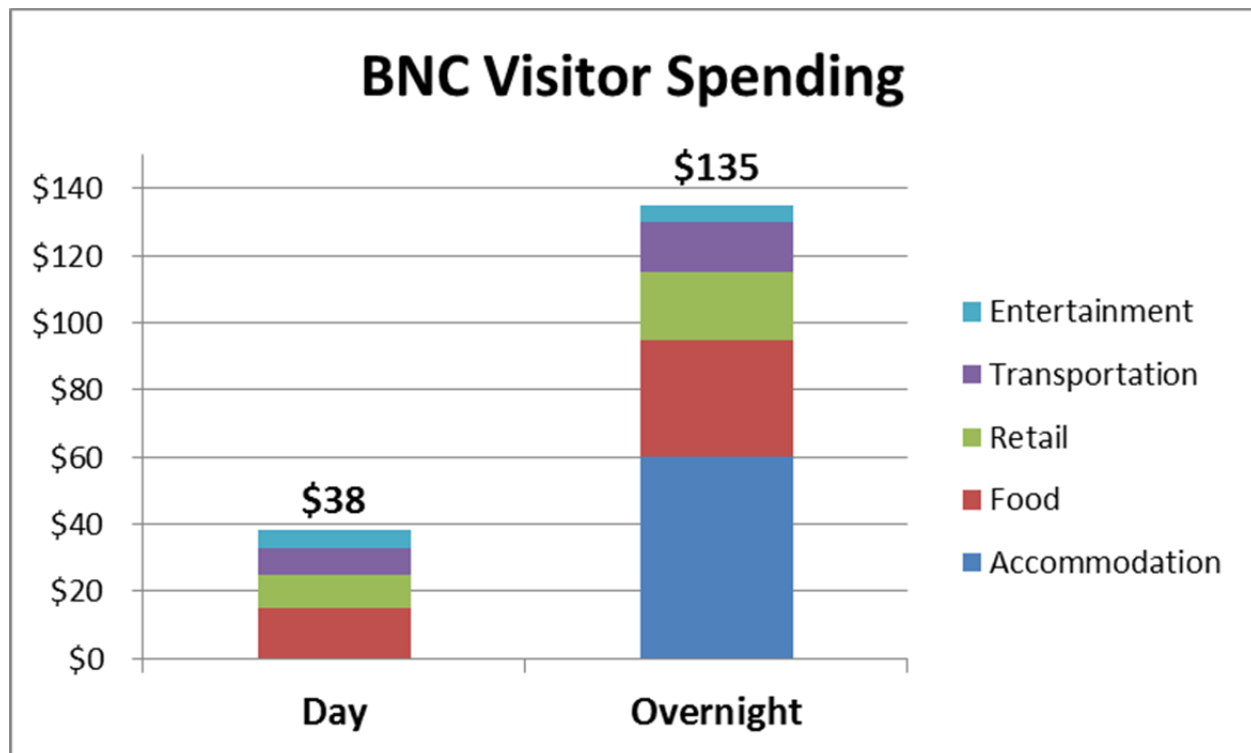


Table 5: U.S.S. North Carolina, Estimated Visitor Spending by Category, 2000-2010

Annual Visitation	2000 (a)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	221,164	217,151	213,211	188,899	185,713	184,730	185,754	193,864	191,206	206,965	208,994
Scenario 1 (\$,000) (b)(c)											
Expense Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Accommodation	\$9,952	\$9,772	\$9,594	\$8,500	\$8,357	\$8,313	\$8,359	\$8,724	\$8,604	\$9,313	\$9,405
Food	\$6,635	\$6,515	\$6,396	\$5,667	\$5,571	\$5,542	\$5,573	\$5,816	\$5,736	\$6,209	\$6,270
Retail	\$3,870	\$3,800	\$3,731	\$3,306	\$3,250	\$3,233	\$3,251	\$3,393	\$3,346	\$3,622	\$3,657
Transportation	\$2,930	\$2,877	\$2,825	\$2,503	\$2,461	\$2,448	\$2,461	\$2,569	\$2,533	\$2,742	\$2,769
Entertainment	\$1,106	\$1,086	\$1,066	\$944	\$929	\$924	\$929	\$969	\$956	\$1,035	\$1,045
Total, All Categories	\$24,494	\$24,049	\$23,613	\$20,921	\$20,568	\$20,459	\$20,572	\$21,470	\$21,176	\$22,921	\$23,146
Scenario 2 (\$,000) (b)(d)											
Expense Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Accommodation	\$6,635	\$6,515	\$6,396	\$5,667	\$5,571	\$5,542	\$5,573	\$5,816	\$5,736	\$6,209	\$6,270
Food	\$5,529	\$5,429	\$5,330	\$4,722	\$4,643	\$4,618	\$4,644	\$4,847	\$4,780	\$5,174	\$5,225
Retail	\$3,317	\$3,257	\$3,198	\$2,833	\$2,786	\$2,771	\$2,786	\$2,908	\$2,868	\$3,104	\$3,135
Transportation	\$2,543	\$2,497	\$2,452	\$2,172	\$2,136	\$2,124	\$2,136	\$2,229	\$2,199	\$2,380	\$2,403
Entertainment	\$1,106	\$1,086	\$1,066	\$944	\$929	\$924	\$929	\$969	\$956	\$1,035	\$1,045
Total, All Categories	\$19,131	\$18,784	\$18,443	\$16,340	\$16,064	\$15,979	\$16,068	\$16,769	\$16,539	\$17,902	\$18,078
Scenario 3 (\$,000) (b)(e)											
Expense Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Accommodation	\$3,317	\$3,257	\$3,198	\$2,833	\$2,786	\$2,771	\$2,786	\$2,908	\$2,868	\$3,104	\$3,135
Food	\$4,423	\$4,343	\$4,264	\$3,778	\$3,714	\$3,695	\$3,715	\$3,877	\$3,824	\$4,139	\$4,180
Retail	\$2,765	\$2,714	\$2,665	\$2,361	\$2,321	\$2,309	\$2,322	\$2,423	\$2,390	\$2,587	\$2,612
Transportation	\$2,156	\$2,117	\$2,079	\$1,842	\$1,811	\$1,801	\$1,811	\$1,890	\$1,864	\$2,018	\$2,038
Entertainment	\$1,106	\$1,086	\$1,066	\$944	\$929	\$924	\$929	\$969	\$956	\$1,035	\$1,045
Total, All Categories	\$13,767	\$13,518	\$13,272	\$11,759	\$11,561	\$11,499	\$11,563	\$12,068	\$11,903	\$12,884	\$13,010

Note:

- (a) The annual visitation figure for the year 2000 was imputed based on historic trends.
- (b) Scenario 1 assumes 25 percent of all the visitor spending associated with the U.S.S. North Carolina is derived from day visitors, while 75 percent is derived from overnight visitors.
- (c) Scenario 2 assumes 50 percent of all the visitor spending associated with the U.S.S. North Carolina is derived from day visitors, while 50 percent is derived from overnight visitors.
- (d) Scenario 3 assumes 75 percent of all the visitor spending associated with the U.S.S. North Carolina is derived from day visitors, while 25 percent is derived from overnight visitors.

For the purposes of developing an input/output model to estimate the economic impact of visitor related spending, the spending patterns discussed above were matched to IMPLAN industry sectors, as was done previously for the operational expense categories. Table 6 reports the IMPLAN and NAICS industry codes used to input the tourist spending data into the input/output model. Table 7 reports the associated impact estimates. As might be expected based on the distribution of the input data, the scenario with the most estimated visitor spending also had the largest estimated economic impact.

Scenario 1 had an average annual impact of almost 320 jobs, \$8.2 million in labor income, \$13.9 million in value added, and \$25.2 million in industry output. Scenario 2, by comparison, had a total impact of nearly 250 jobs, \$6.3 million in labor income, \$10.6 million in value added, and \$19.0 million in industry output. Scenario 3, as anticipated, had the lowest total economic impact with an estimated 170 jobs, \$4.3 million in labor income, \$7.3 million in value added, and \$12.9 million in industry output.

Table 6: U.S.S. North Carolina, Estimated Visitor Spending by Category, Overnight and Day Visitor Spending

<u>Expense Category</u>	<u>IMPLAN Sector</u>	<u>NAICS Sector(s)</u>
Accommodation	411	721111-2
Food	413	722
Retail	329	452
Transportation	326	447
Entertainment	406	712
Total, All Categories		

Sources: C3E, 2012; NC State Auditor, Financial Statement Audit Reports of U.S.S. North Carolina Battleship Commission, 2000 through 2010.

Table 7: Economic Impact Summary, Visitor Related Spending, 2000 Through 2010

<u>Impact Type</u>	<u>Visitor Spending Impacts - Scenario 1</u>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	354	347	341	302	297	295	297	310	306	331	334
Labor Income (\$,000)	\$9,080	\$8,915	\$8,753	\$7,755	\$7,937	\$7,584	\$7,626	\$7,959	\$7,850	\$8,497	\$8,580
Value Added (\$,000)	\$15,360	\$15,082	\$14,807	\$13,119	\$13,428	\$12,831	\$12,902	\$13,464	\$13,279	\$14,374	\$14,515
Industry Output (\$,000)	\$27,728	\$27,226	\$26,730	\$23,682	\$24,442	\$23,162	\$23,290	\$24,306	\$23,972	\$25,948	\$26,203
<u>Impact Type</u>	<u>Visitor Spending Impacts - Scenario 2</u>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	272	267	262	232	228	227	229	239	235	255	257
Labor Income (\$,000)	\$6,946	\$6,820	\$6,696	\$5,932	\$5,833	\$5,802	\$5,834	\$6,088	\$6,005	\$6,500	\$6,564
Value Added (\$,000)	\$11,720	\$11,508	\$11,298	\$10,009	\$9,841	\$9,789	\$9,844	\$10,273	\$10,132	\$10,967	\$11,075
Industry Output (\$,000)	\$21,012	\$20,632	\$20,255	\$17,945	\$17,644	\$17,550	\$17,648	\$18,418	\$18,165	\$19,663	\$19,856
<u>Impact Type</u>	<u>Visitor Spending Impacts - Scenario 3</u>										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	191	187	184	163	160	159	160	167	165	176	180
Labor Income (\$,000)	\$4,811	\$4,724	\$4,638	\$4,109	\$4,041	\$4,019	\$4,041	\$4,217	\$4,160	\$4,398	\$4,547
Value Added (\$,000)	\$8,079	\$7,932	\$7,788	\$6,899	\$6,784	\$6,749	\$6,785	\$7,081	\$6,984	\$7,382	\$7,634
Industry Output (\$,000)	\$14,294	\$14,035	\$13,780	\$12,208	\$12,004	\$11,941	\$12,006	\$12,529	\$12,358	\$13,149	\$13,508

Notes:

(a) Figures reported here reflect total impact estimates. For detailed disaggregation of these figures by direct, indirect, and induced impacts, please refer to Attachments 2 through 4.

Source: MIG, 2012; C3E, 2012.

Table 8: Cumulative Economic Impact Summary, Operational and Visitor Spending, 2000 Through 2010

Impact Type	Cumulative Impacts of Operational and Visitor Spending - Scenario 1										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	398	389	384	351	339	340	334	349	349	370	380
Labor Income (\$,000)	10,345	10,117	9,977	9,119	9,143	8,850	8,712	9,104	9,100	9,652	9,893
Value Added (\$,000)	17,427	17,033	16,808	15,357	15,399	14,898	14,648	15,288	15,338	16,273	16,730
Industry Output (\$,000)	31,096	30,397	30,000	27,366	27,647	26,529	26,129	27,270	27,318	29,011	29,782

Impact Type	Cumulative Impacts of Operational and Visitor Spending - Scenario 2										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	316	309	305	281	270	272	266	277	279	294	303
Labor Income (\$,000)	8,211	8,022	7,920	7,296	7,038	7,067	6,919	7,233	7,255	7,655	7,877
Value Added (\$,000)	13,787	13,458	13,298	12,247	11,812	11,856	11,590	12,096	12,191	12,866	13,289
Industry Output (\$,000)	24,379	23,802	23,525	21,628	20,849	20,918	20,488	21,382	21,511	22,726	23,435

Impact Type	Cumulative Impacts of Operational and Visitor Spending - Scenario 3										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Employment	235	229	227	212	202	204	197	206	208	215	226
Labor Income (\$,000)	6,077	5,926	5,862	5,473	5,246	5,285	5,126	5,362	5,410	5,553	5,860
Value Added (\$,000)	10,146	9,883	9,789	9,137	8,755	8,816	8,531	8,905	9,043	9,281	9,849
Industry Output (\$,000)	17,662	17,206	17,050	15,892	15,209	15,309	14,845	15,493	15,704	16,212	17,087

Notes:

(a) Figures reported here reflect total impact estimates. For detailed disaggregation of these figures by direct, indirect, and induced impacts, please refer to Attachments 1 through 4.

Source: MIG, 2012; C3E, 2012.

Real Estate Value Contribution

- The prominent - and decidedly favorably perceived - presence of the NORTH CAROLINA on the Wilmington waterfront benefits real estate values on nearby properties
- Research suggests that the ship contributes a “heritage view value” premium with contributed value varying by each properties’ utilization or capture of that value
- For the **273 parcels** that have some view of the NORTH CAROLINA, the ship is estimated to add a **total of \$5.7 Million** to their aggregate tax value

BNC Real Estate Contribution Modeling: The Battleship NORTH CAROLINA occupies a prominent physical location in the geography of the Wilmington area, and provides an iconic visual image incorporated into the region’s self-identify and external branding. This role suggests the NORTH CAROLINA could make intangible economic contributions to real estate and other market values in Wilmington. To capture those contributions, the Center developed a hedonic valuation model to estimate the NORTH CAROLINA’s effect on proximal real estate market values.

Hedonic valuation is most often used to value amenities that affect the price of residential and commercial properties. It can be used to estimate economic benefits associated with amenities, such as aesthetic views or proximity to recreational sites. Center researchers sought to discern and estimate any such effect by the Battleship NORTH CAROLINA model by defining potential forms of value conveyance through key informant interviews of local business and community leaders to collect contingent valuation effects that might capture intangible and qualitative economic contributions. This information was then used in a subsequent examination of relevant real estate properties’ valuations.

Summary of Economic Impacts

In order to provide a more comprehensive perspective of the total economic value of the U.S.S. North Carolina Battleship historic site as a attraction and tourist draw to New Hanover County, Table 8 reports the combined economic impact of the battleship operations, as well as the three tourist spending scenarios for the period from the year 2000 to 2010. Subsequent investigation with input from USS North Carolina personnel identified tourism spending Scenario 1 to be the estimate most consistent with the available visitor research information. According to these figures, the likely employment impact of the battleship site was an estimated 360 jobs over the ten year period. Likewise, the total labor income impact was \$9.5 million. The value added impact of operational and tourist spending was estimated to be \$15.9 million. In terms of total industry output, the presence of the battleship historic site likely generated \$28.4 million in direct, indirect and induced industry activity.

Based on that determination, as described in Table 8, the economic impacts of the USS NORTH CAROLINA are described as:

Employment:

- During 2010 the USS NORTH CAROLINA contributed 303 jobs to the New Hanover county economy, including 46 employees at the ship itself and another 257 jobs created in the region by ship visitation
- For the 2000-2010 period, the USS NORTH CAROLINA accounted for 3,173 job/years of employment

Income:

- During 2010 the USS NORTH CAROLINA contributed \$7.9 Million in income received by citizens of the New Hanover county economy
- For the 2000-2010 period, the USS NORTH CAROLINA accounted for \$83.5 Million in local income

Economic Growth

- USS NORTH CAROLINA grew the New Hanover county economy by \$23.4 Million during 2010 and by a total of \$245 Million for the 2000-2010 period

Real Estate Value Contribution

- The prominent - and decidedly favorably perceived - presence of the NORTH CAROLINA on the Wilmington waterfront benefits real estate values on nearby properties

- Research suggests that the ship contributes a “heritage view value” premium with contributed value varying by each properties’ utilization or capture of that value

For the 273 parcels that have some view of the NORTH CAROLINA, the ship is estimated

Research suggests heritage “view value” ranges from modest % to multiples: “Eiffel Tower effect”

- 273 parcels (tax value \$185 MM) have BNC view
- BNC view varies by properties’ utilization
- BNC value is real though masked by river view
- BNC est’d modest 3% effect of \$5.7 MM

1 Increase BNC View Value

Expand the view

- Increase the extent and distance of view by removing obstructions
- Integrate ship view into events and activities

Enhance view

- Increase visibility and aesthetic appeal of ship and area (flagging, landscaping, painting)

Lengthen the view

- Increase period of time ship is visible by lighting at night
- Nostalgia for “Sound and Light” show
-

1 **USS North Carolina**

Economic Impact

