

I am not an economist nor claim to be one. However one can interpret data from other studies and get an idea of what the economic impact might be on a community from an new shopping center, a new golf course or an in this case a lighthouse that the public has never been able to climb. There is data from studies (like estimates of traffic impact generated by new construction from ITE manuals – note I am not a traffic engineer either but have done the traffic studies for my community) that indicate potential impacts. But I stand by analysis that had Washington finished the restoration (they needed \$1.6M), it would have generated a very conservative estimate of \$10M each year for perpetuity for NC.

That said, I have researched a lot of data from studies and reports on tourism data on NC Parks, National Parks and Lighthouse data. I have included them below. My analytical and mathematical skills are solid, my credibility important and thus I strive to present a conservative estimate. While I have advanced degrees/studies in Education, Electrical and Computer Engineering, Statistics and Physical Chemistry & 3 other disciplines at the graduate level, I emphasize that am not certified as an economist. I actively trade in the stock market since retirement from NCSU in 2007 as Director of IT. I currently serve on the following Boards: President of Dix306; VP of North Carolina League of Conservation Voters, Trees Across Raleigh, Chair of the Wade CAC (former chair of the RCAC (all of Raleigh's CACs)), and Board of the OBLHS.

I have been consistently conservative when selecting from a range of data in projecting the economic benefits of opening Bodie Island Lighthouse. (See references below.)

Examples:

A 2006 study of average \$dollars spent by a tourist/day at the Outer Banks (\$61); tourism data and spending/day per tourist: \$109/tourist/day (from 2005/Wake County); the Dix Park study for Raleigh 2007: \$119/tourist/day. In this analysis one could have used the average \$96, the mean \$109, the max \$119, however I used the most conservative value of \$61/day/tourist.

In estimating the real impact of those dollars in the local economies where money spent stays local, however portions get re-spent time and again in salaries and goods thus 'churns' within the community:

From Data on Economics of Tourism paper: NC's Return on the Investment in Land Conservation ... a report by the 'Trust for Public Land', 2011. For each \$1 invested you get \$2.66 return.

Impact on the local economy based on the *average national economic multiplier effect* results in a 1.58 multiplier effect for the local area.

From the economic study in preserving Dix Park (Raleigh, NC), the multiplier effect based on \$119/tourist/day in 2007 was \$3.19. The local multiplier impact was I used the more conservative 1.58 multiplier effect from the studies above for projection.

Personally I believe that with the large number of lighthouse lovers (many have dreamed of the experience) the number of tourists visiting Bodie Lighthouse when it opens for climbing could easily double the number of tourists that visit the Hatteras Lighthouse. I think in terms of what would be the increase in tourism were one to open several special rooms in the White House or the Biltmore House never before viewed by the public. The professionals testified a decade ago that tourism would die during the

year that Hatteras would be moved and that folks would not come in the future to visit if it were not at the edge of the sea. Of course during the year of the move, tourism exploded from folks that wanted to be a part of the historic moment and tourism still thrives. So now we have a Lighthouse, second largest in NC, where families could have the opportunity to be the first in 6 generations to climb the lighthouse, experience a 20 mile view void of development and see the original 1st Order Fresnel lens in place. No I didn't use a 200% increase in tourism ;-), but I did use an increase of 20% in tourism days based on the current Hatteras visitation numbers.

That said ... here we go with my economic analysis:

Economic Summary ...

This data is based on Tourism Stats for the Outer Banks in 2005/2006 and data for the Hatteras Lighthouse

If Bodie Lighthouse restoration is not completed, the \$3M already spent could enhance the exposure for damage from the weather/elements and there would be no economic benefit for the National Parks, NC's National Seashore or NC.

*First income from climbing (~\$1M/year) based on climbing revenue from the Hatteras Lighthouse in 2009. This estimate I believe to be very conservative since:

- ⇒ Bodie Lighthouse has never been open for climbing (134 years)* so this is special
- ⇒ 75% of visitors to the OB visit lighthouses (report)
- ⇒ NC's second tallest lighthouse (fact)
- ⇒ 20 minute round trip to Bodie from Manteo vs. the roundtrip to Hatteras Lighthouse of ~2 hours ** (fact)
- ⇒ With lodging available and proximity to Manteo and major highways routes, Bodie Lighthouse becomes one of the most accessible
- ⇒ The Life-Saving-Station & US Coast Guard Station were moved onto the site in 2010 *added attractions

Thus Bodie Lighthouse should see a much larger visitation than the current Hatteras numbers BUT I am basing our economic estimates on **EQUAL** visitation.

Hatteras Lighthouse (2009 was a poor economic year)

Facts: From April through October, 2009: 133,457 climbed Hatteras Lighthouse

From April through October, 2009: 446,890 visited the Hatteras Visitor Center

- ⇒ An average of 635 climbers/per day; @ \$7/climber □ \$4445/day or □ \$934,199/season
- ⇒ An average of 2128 Visitors/day to the visitor center

Based on Hatteras facts ... we can estimate* that in the early years of Bodie opening:

- ⇒ From April through October, 2011: 133,457 visitors will climb Hatteras Lighthouse
- ⇒ From April through October, 2011: 446,890 visitors to the Bodie Island Visitor Center

- ⇒ An average of 635 climbers/per day; @ \$7/climber □ \$4445/day or □ \$934,199/season
(What would you pay to climb Bodie the first year it was opened?)
- ⇒ An average of 2128 Visitors/day to the Bodie visitor center

Based on tourism data and spending/day per tourist: \$61/visitor/day (2005/6 Outer Banks survey)

We believe it to be conservative to assume tourist cost (spending/day) to the OBX in 2011 is >= to 2005/6 cost of \$61/visitor/day

Here is where one gets into the 'prediction' part of the analysis ...

If one estimates that Bodie will generate a 20% increase in lighthouse tourism at Bodie (I think it could easily be much, much higher) since it has never been open to the public (Hatteras and Currituck lighthouse climbers and visitors data is public record), that could mean an increase in the Bodie Island area by 89,378 visitor-days (20% of the 446,890 visitors will be 'new'). The increase in visitor-days means folks that have chosen to come to the area (for a week or a day, with or without families or friends, some specifically to climb for the first time) to experience Bodie Island Lighthouse as a new tourists' opportunity.

So an increase of 89,378 visitor-days (20% of the 446,890 visitors expected to visit Bodie Lighthouse) at \$61/visitor/day □ \$5,452,058 to the area.

Taking the ~\$5.5M yearly revenue into the local economy with a 1.58 multiplier effect for the area (32% of this money spent stays local and 'churns' into other businesses and based on the average national economic multiplier effect would generate over \$8.7M of real income into the local economy). (Data on Economics of Tourism from paper: NC's Return on the Investment in Land Conservation ... a report by the 'Trust for Public Land' generates a 2.66 multiplier for each \$1 invested – see below).

This translates into jobs for the local economy and \$8.7M would add 500 seasonal jobs (7 months) paying \$15/hr (or equivalent to \$30,000/year). Plus the ~\$1,000,000 generated from climbing Bodie Lighthouse which brings us up to ~\$10M. That would not be a bad investment for our congressional leaders who claim to be focused on job creation ... a onetime investment that would generate 500 seasonal jobs each year and plow millions into the local economy as well as provide a unique & wonderful experience for all tourists during their visit.

The OBLHS was founded in 1994 and in 2000, Bodie Lighthouse was transferred under the National Parks system and thus accessible had it been restored. One can only estimate the lost jobs and tourist dollars (and the love of lighthouse enthusiast) during these past 11 years. Of course we might anticipate another 11 years of our government focused on re-election and not job creation - but another 11 years of IN-Action does translate to over \$110M lost of tourist dollars and ~5000 seasonal jobs for our economy. Spending \$2.964M today would generate \$100M over the next decade and thousands of jobs over the next decade.

Regards, Bill

... Bodie Lighthouse -- "Tourism" & "Visitors" economics ...

Data on Economics of Tourism from paper: NC's Return on the Investment in Land Conservation ... a report by the 'Trust for Public Land'

P14 ... Studying 14 State Parks: 3.4M tourists; Overall economic impact - \$125M sales, \$46M local income, >2000 jobs

For each \$1 invested □ \$2.66 return (Bodie would be a bigger attraction than a State Park)

Blue Ridge Park Way (most visited unit of the Nat. Park Service □ 20M visitors; >\$2B/yr in local economies

Primary draw: VIEW (apples/oranges, Bodie will not generate the same number of visitors as BRP)

<http://www.nature.nps.gov/stats/viewReport.cfm?selectedReport=SystemYTDByState.cfm>

National Park Service Visitor Summary Report

Total Recreation Visits for December, 2010

Park	DEC 2009	DEC 2010	DIFF	YTD 2009
YTD 2010	DIFF			
North Carolina				
Blue Ridge PKWY	312,783	203,065	-109,718	9,880,516
9,000,613	-879,903			
Cape Hatteras NS	61,543	59,020	-2,523	2,282,543
2,193,292	-89,251			
Cape Lookout NS	24,815	19,693	-5,122	601,954
530,181	-71,773			
Carl Sandburg Home NHS	2,899	2,395	-504	83,550
86,740	3,190			
Fort Raleigh NHS	10,297	7,656	-2,641	338,212
305,711	-32,501			
Great Smoky Mountains NP	230,899	150,705	-80,194	
4,176,232	4,163,957	-12,276		
Guilford Courthouse NMP	15,212	15,534	322	290,368
-4,924				285,444
Moore's Creek NB	2,206	2,605	399	68,864
Wright Brothers NMEM	9,189	7,985	-1,204	51,326
476,200	-91			-17,538
North Carolina Total	669,843	468,658	-201,185	18,198,530
17,093,464	-1,105,066			
2006 data Cape Hatteras NS	126,388	102,121	-24,267	2,260,628
135,623				2,125,005

Cape Hatteras NS
Report Date: December 2010

	This Month	Same Month Last Year	% Change	This Year YTD	Last Year YTD	% Change YTD
Bodie Island Visitors	56,371	58,966	- 4.4	2,068,926	2,162,301	- 4.3
Aircraft Visitors	428	280	52.7	6,858	6,320	8.5
Ferry Visitors	1,899	2,052	- 7.5	112,170	108,885	3.0
Registered Hunters	307	229	34.1	811	544	49.1
Recreation O/N Stays (Boats)	16	16	0.0	4,528	4,492	0.8
Recreation Visits	59,020	61,543	- 4.1	2,193,292	2,282,542	- 3.9
Miscellaneous Information						
Whattlebone Junction Info Center	1,229	2,443	- 49.7	65,843	60,856	8.2
Bodie Island VC	1,514	3,352	- 54.8	158,678	241,134	- 34.2
Hatteras Island VC	6,675	9,302	- 28.2	407,220	425,074	- 4.2
Ocracoke Island VC	575	728	- 21.0	68,862	67,431	2.1
Total VC Visitors	9,993	15,825	- 36.9	700,603	794,495	- 11.8
Cape Hatteras Lighthouse	0	0	0	126,520	133,457	- 5.2
Overnight Stays						
Total Tents Campers	0	0	0	52,964	55,317	- 4.3
Total RV Campers	0	0	0	25,992	25,721	1.1
Group Campers	0	0	0	907	866	4.7
Non-recreation O/N Boaters	0	20	- 100.0	288	368	- 21.7

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Cape Hatteras NS
Report Date: December 2006

	This Month	Same Month Last Year	% Change	This Year YTD	Last Year YTD	% Change YTD
Bodie Island Visitors	98,517	122,811	- 19.8	1,975,050	2,107,534	- 6.3
Aircraft Visitors	650	500	30.0	9,688	9,313	4.0
Ferry Visitors	2,652	2,710	- 2.1	134,109	138,165	- 2.9
Registered Hunters	278	327	- 15.0	1,007	992	1.5
Recreation O/N Stays (Boats)	24	40	- 40.0	5,148	4,624	11.3
Recreation Visits	102,121	126,388	- 19.2	2,125,002	2,260,627	- 6.0
Miscellaneous Information						
Whattlebone Junction Info Center	2,970	3,049	- 2.6	57,693	63,653	- 9.4
Bodie Island VC	4,573	2,841	61.0	163,487	154,537	5.8
Hatteras Island VC	1,937	6,779	- 71.4	287,601	385,073	- 25.3
Ocracoke Island VC	878	913	- 3.8	68,227	74,680	- 8.6
Total VC Visitors	10,358	13,582	- 23.7	577,008	677,943	- 14.9
Cape Hatteras Lighthouse	0	0	0	130,051	132,502	- 1.8
Overnight Stays						
Total Tents Campers	0	0	0	52,916	52,096	1.6
Total RV Campers	0	0	0	24,683	24,702	- 0.1
Group Campers	0	0	0	1,025	842	21.7
Non-recreation O/N Boaters	0	16	- 100.0	188	184	2.2

Cape Hatteras NS
Report Date: December 2009

	This Month	Same Month Last Year	% Change	This Year YTD	Last Year YTD	% Change YTD
Bodie Island Visitors	58,966	65,529	- 10.0	2,162,301	1,935,225	11.7
Aircraft Visitors	280	288	- 2.6	6,320	6,433	- 1.7
Ferry Visitors	2,052	2,419	- 15.2	108,885	199,468	- 45.4
Registered Hunters	229	173	32.4	544	683	- 20.4
Recreation O/N Stays (Boats)	16	32	- 50.0	4,492	4,584	- 2.0
Recreation Visits	61,543	68,441	- 10.1	2,282,542	2,146,392	6.3
Miscellaneous Information						
Whattlebone Junction Info Center	2,443	2,923	- 16.4	60,856	54,322	12.0
Bodie Island VC	3,352	2,281	47.0	241,134	215,013	12.1
Hatteras Island VC	9,302	9,311	- 0.1	425,074	399,131	6.5
Ocracoke Island VC	728	997	- 27.0	67,431	74,749	- 9.8
Total VC Visitors	15,825	15,512	2.0	794,495	743,215	6.9
Cape Hatteras Lighthouse	0	0	0	133,457	116,307	14.7
Overnight Stays						
Total Tents Campers	0	0	0	55,317	45,082	22.7
Total RV Campers	0	0	0	25,721	20,115	27.9
Group Campers	0	0	0	866	1,289	- 32.8
Non-recreation O/N Boaters	20	0	0	368	204	80.4

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Summary ...

After Beaches, the second most motivating reason to visit the OuterBanks was Interesting historic sites & landmarks
 Most visitors are from out-of-state ... 85% of the visitors came from key market areas outside of NC
 74.7% of visitors visit lighthouses while at the beach
 57.1% visit national parks

This is complex but in summer folks bring lots of kids (which don't spend) but in off season, spending goes up to \$84/day
 \$61 per person per night. But if you remove children, adults >16 spend \$82/day/adult
 Lodging accounts for 52% of their trip, meals for 19% □ attractions only 3%

OuterBanks Survey on Tourism 2005/6

http://www.outerbanks.org/pdf/2005_2006_Year_Long_Visitor_Profile.pdf

Motivations for Visiting the Outer Banks
 Visited for... Overall Summer Fall Winter Spring
 Beautiful beaches 40.7% 49.0% 34.0% 22.1% 30.9%
 Interesting historic sites & landmarks 14.2% 8.1% 19.3% 22.1% 24.5%
 Scenic areas or scenic drives 11.5% 8.4% 13.3% 24.7% 12.8%

A clean and safe environment 9.8% 10.5% 9.1% 7.8% 9.6%
 Good accommodations 10.2% 9.2% 11.0% 15.6% 8.5%
 Wildlife viewing and bird-watching 1.9% 1.5% 1.4% 1.3% 7.4%
 Family attractions 3.5% 4.4% 2.8% 1.3% 3.2%
 Good restaurants 2.3% 2.3% 2.8% 1.3% 1.1%

A final trip specific is the money that visitors spent while visiting the Outer Banks.
 Overall, the “average” visitor spent a total of \$2,193 during their trip, with an average of \$61 per person per night. But if you remove children, adults >16 spend \$82/day/adult

Where are visitors coming from and which markets are generating the highest levels of visitation to the Outer Banks?
? Overall, Washington, DC, Norfolk-Portsmouth-Newport News, VA, and Philadelphia, PA generated the highest percentage of visitors.

**Additional Locations
 Visited by Spring Visitors**

Town %
 Kitty Hawk 63%
 Nags Head 51%
 Kill Devil Island 48%
 Hatteras Island 62%
 Hatteras Village 43%
 Manteo or Roanoke Island 53%
 Duck 45%

Activities during Trip

Activities Overall Summer Fall Winter Spring

Enjoy scenic beauty 89.3% 89.3% 88.7% 85.9% 94.7%
 Visit the ocean or beaches 94.8% 96.6% 92.9% 92.3% 92.6%
 Take scenic drives along the coast 75.5% 73.3% 75.8% 79.5% 86.3%
 Eat at restaurants unique to the area 84.1% 84.3% 82.8% 89.7% 84.2%
 Visit historic sites 79.6% 69.4% 78.6% 84.6% 84.2%
 Visit lighthouses & other coastal relics 74.7% 73.1% 76.0% 78.2% 76.8%

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Wake County had 10.25 million visitors to Wake County in 2005

Thus a 1% increase (102,500) in visitors would generate \$390 million/10 years to Raleigh (Brent Lane)

or \$380/visitor (data from Brent Lane) {390M/10yr/102,500}

Raleigh data (current year) 58% day trip / 42% overnight

2005 Visitor Spending Figures: \$1.22 billion in Wake County, up 7.7% over '04

Average spent \$119 per visitor □ Raleigh data {1.22B/10.25M}

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<http://stlouis.missouri.org/citygov/parks/forestpark/fpmasterplan.html>

Forest Park, established in 1876, is one of the largest urban parks in the United States. At **1,293 acres** it is approximately 500 acres larger than Central Park in New York. In 1904, the Louisiana Purchase Exposition, the greatest of the world's fairs, drew more than 19 million visitors from around the world to Forest Park.

Originally two miles outside the city limits, Forest Park today sits in the heart of St. Louis. It is the home to the region's major cultural institutions—the Zoo, Art Museum, History Museum, Science Center and the Muny Opera. Forest Park also serves as a sports center for golf, tennis, baseball, bicycling, boating, fishing, handball, ice skating, roller blading, jogging, cricket, rugby and more.

Attracting 12 million visitors per year, Forest Park is more than a scenic backdrop to an historic and expanding cityscape. It is an active participant and catalyst in the St. Louis community. Monuments, historic buildings, wildlife, waterways and landscapes combine to form a unique cultural institution that is vitally important to the entire St. Louis region. The park is recognized as an important gathering place where people of all ages, races and economic backgrounds can gather and mix in a positive way.

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Raleigh/Wake County Visitor Information

Except as noted source Greater Raleigh Convention & Visitor Bureau

Bureau's sources listed below

2005 Visitor Volume: 10.25 million visitors (up 27.2% since 2000 and up 16.7% since 2002); 10% arrive by airport

2005 Visitor Breakdown: 60% leisure (+6.7%)/40% business (-2.8%)

(6.14 million leisure/4.10 million business)

58% day trip/42% overnight

(5.90 million day trip/4.35 million overnight)

2005 Overnight Visitors: 60% leisure/40% business

(2.63 million leisure/1.72 million business)

2005 Visitor Spending Figures: \$1.22 billion in Wake County, up 7.7% over '04

Average spent \$119 per visitor

2005 Online Visitor Profile: 2.56 Average Party Size

3.32 Average Nights Stayed (skews a bit high)

The lowest hotel occupancy months are in January, February, June, July, August and December.

Reasons for Visiting (online survey)

30% Visiting Family and Friends

26% General Leisure Trip or Getaway

25% Business, Meeting, Convention or Conference

19% Visited a Specific Attraction or Event

Reasons for Visiting (NC phone survey)

24% Visiting Family and Friends

15% Shopping

13% Culture

12% Close By/Convenient

8% Sports

Activities for Residents When Entertaining Visiting Family/Friends

49% Restaurants

36% Shopping

25% Universities

20% Museums

20% Outdoor Recreation

14% Sports Events

11% Theatre/Concert

Sources:

DK Shifflet & Associates Ltd

GRCVB Online Visitor Survey

GRCVB Phone Survey of NC Residents

GRCVB Online Visitor Spending Survey

Travel Industry Association of America

HVS International

Business Visitors-

A daytripper spends \$90 per day.

Food & Beverage \$34

Tours/Siteseeing 5

Admission to Museums, Theaters, Etc. 2

Recreation 2

Sporting Events 1

Retail Stores 25

Local Transportation (bus, taxi, limo) 3

Auto Rental (within event city) 7

Gasoline, Tolls, Parking (within event city) 5

Other* 6

Total \$90

An overnight visitor spends \$231 per day.

Hotel Lodging \$114

Hotel Food & Beverage 33

Other Food & Beverage 29

Tours/Siteseeing 5

Admission to Museums, Theaters, Etc. 2

Recreation 2

Sporting Events 1

Retail Stores 25

Local Transportation (bus, taxi, limo) 3

Auto Rental (within event city) 7

Gasoline, Tolls, Parking (within event city) 5

Other* 6

Total \$231

Source: Destination Marketing Association International/GRCVB

New Raleigh Convention Center

Total Events Total Attendance

1st Year 258 226,400

2nd Year 282 279,400

3rd Year 305 324,850

4th Year 329 355,625

5th Year 342 375,850

Downtown Redevelopment Dan Douglas, City of Raleigh

Economic Impact Including Convention Center - only measurement is new construction \$1.8 billion (\$600 million public sector). Visitor impact other than Convention Center was not measured. Job creation was not measured. In 18 months, leases of vacant property increased by 52%, \$1 million.

Current downtown visitors to museums and Performing Arts Center - 3 million

Current downtown visitors to special events, concerts & Artsplosure – 1 million

Chris Larson, Downtown Alliance

Tax benefit on \$1.2 billion new private sector construction

Raleigh \$5 million a year

Wake \$ 7 million