CBAER
Center for Business Analytics and Economic Research
GEORGIA SOUTHERN UNIVERSITY

Tybee Island Tourism Economic Impact Study

Prepared for

City of Tybee Island &

Visit Tybee Island

Prepared by

Center for Business Analytics and Economic Research &
EDA University Center Program
Georgia Southern University

February 23, 2023

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Acknowledgements
Thank you to the dedicated graduate and undergraduate students that regularly worked to collect the in-person survey responses, enter this data, and prepare parts of this report. These students include Lizbeth Avendano, Shirneal Handfield, Taniyah Johnson, Adewale Osifowokan, Amari Royster, and Randall (Scotty) Talarek.

This report was funded by the City of Tybee Island and Visit Tybee Island which is part of Visit Savannah. Additional support for this research project was provided by the EDA University Center at Georgia Southern University.

Executive Summary

This study aims to estimate the economic impact of the tourism economy on Tybee Island, Georgia. The Center for Business Analytics and Economic Research (CBAER) at Georgia Southern University conducted online and in-person surveys to acquire information about the economic behavior of island visitors. The survey process began in July 2021 and was completed in September 2022. This timeframe ensured that all four quarters of the calendar year were included in the analysis. CBAER collected over 4,000 usable responses between the online and in-person collections. These survey results were analyzed by CBAER and combined with information from data sources to estimate the economic impact of visits to Tybee Island. Outlined in the bullet points is the summary of findings for this analysis.

The Typical Tybee Island Visitor

- Traveled to Tybee Island by personal vehicle (84.3%)
- Traveling with other people (95.3%)
- Non-Georgia resident (61.2%)
- Aged 35 to 64 (69%)
- Married/Long-term relationship (77.2%)
- Household income of more than $100,000 (58.4%)

Visitation

- 1.9 million annual visitors; 1.7 million annual tourist visitors (outside a 50-mile radius)
  - 5.6% from Chatham County (excluding Tybee Island)
  - 33.2% from Georgia (excluding Chatham County)
  - 61.2% from out-of-state
- 61.8% had visited the island at least once in the 12 months prior to surveying
- Overall total day trip visits compared to overnight visitors
  - 61% day trips visits[1]
  - 39% overnight visits
- Tybee Island overnighters stayed an average of 4.5 nights.
- Average party size was 4.3 persons.
- Most day visitors stayed on Tybee for 3 to 5 hours.

Tybee Island Accommodations

- 51.0% of Tybee overnight visitors stayed in vacation rentals; 32.8% stayed in hotels/motels/resorts.
- Tybee Island overnighters accounted for a yearly average of 1,188,160 room-nights.
- Average spending on accommodations per night per party per trip is $339.

[1]Combined regional day visitor and Savannah overnight visitors

Spending per person per day (non-accommodations)

- Tybee overnight visitors: $106
- Tybee day visitors: $59
- Savannah overnight visitors: $123 (in Savannah and Tybee combined)

Economic and Tax Collection Impact linked to Tourist Spending

- Total on-island business revenue (output) is $215.16 million, while total off-island business revenue (output) reached $612.38 million.
- Total on-island employment linked to tourist spending reached 1,902, while the off-island total hit 6,174.
- Tax collections for the City of Tybee Island reached $1.3 million in sales tax, $1.8 million in property, and $8.5 million in lodging taxes.

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Introduction

Tourism is one of the leading contributors to the regional economy. Since 2010, the tourism industry has increased employment annually by 3.5 percent in the Savannah area.[2] One factor influencing visitor interest in the area is the availability of unique and vibrant beach communities. One of the most popular local places to visit is Tybee Island, Georgia.

Visitor demand for a coastal vacation has influenced the development of a strong tourism industry on Tybee Island, which has created an interest in estimating the economic impact that this industry has on Tybee Island. In this report, the Center for Business Analytics and Economic Research (CBAER) at Georgia Southern University has estimated the economic and fiscal impact of the tourism industry on this community. This report builds on a similar economic impact analysis completed in 2015 by faculty at Georgia Southern University Armstrong Campus (previously Armstrong State University). CBAER followed a similar methodology to the previous report to ensure consistency between the two documents, allowing stakeholders to monitor changes over time.

CBAER has split the remainder of this report into three major sections. First, the results of a visitor survey are presented. This data was collected using one questionnaire emailed to visitors staying on the island or via one live face-to-face interview. Next, the economic impact analysis is discussed. This section includes the economic impact of Tybee Island visitor spending on Chatham County and the City of Tybee Island. Finally, in the fiscal analysis section, CBAER compared tax collection and spending on services between the City of Tybee Island and other similarly sized local governments without a strong tourism industry. This section highlights the differences between the City of Tybee Island and other similar-sized communities in Georgia.

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[2] "Savannah 2023 Economic Trends," *Savannah Area Chamber,* http://savannah.uberflip.com/savannah-chamber/2023-economic-trends-brochure

Visitor Survey Analysis

CBAER began the analysis by developing a new questionnaire based on national and regional trends in the tourism industry that captures changes in visitor preferences. This updated instrument incorporated several major elements from the questionnaire used in the 2015 study. CBAER also incorporated information from other questionnaires used in similar types of studies. The final questionnaire included questions that focused on visitor expenditures, length of stay, trip origin, type of accommodations used, visitor satisfaction, and demographics. All survey participants were at least 18 years old and not full-time residents of Tybee Island.

Surveys were distributed in person and electronically using emails from July 2021 to September 2022 so that all four quarters of the calendar year were covered. The mixed-use of in-person and emailed data collection helped to maximize participation. Additionally, the use of both data methods allowed the research team to gather demographic and trip characteristic information that better reflects the current mix of visitors. For example, only seven percent of online survey participants were aged 18 to 34, but this age group reached 33 percent of responses for in-person surveys. The use of in-person surveying also allowed the collection of information about day visitors and Savannah overnight visitors. Online surveys were only sent to Tybee overnight visitors because visitor contact emails were provided by local accommodation providers.

Emailed surveys were distributed through the platform Qualtrics using an anonymous link. After the online data was cleaned and unusable responses were removed, there were 3,202 valid responses collected. In-person data was collected across a variety of locations across Tybee Island; the most effective collection areas were the Tybee Island's Pier and Pavilion, Middle Beach, and North Beach. Other locations used by CBAER for data collection included the lighthouse, the Marine Science Center parking lot, South Beach and downtown. In total, CBAER researchers collected data over 15 weekends during the data collection phase of the process. In-person surveying resulted in 1,338 completed surveys. The combined total of online and in-person survey participation was 4,541 individual responses. Due to the partnership with local accommodation providers, total survey participant data overreports the percentage of overnight visitors to Tybee Island. To account for this, CBAER reports in-person data separately when appropriate. In the analysis of survey data, the percentages for each question were calculated based on the total number of responses to each question. Not all questions had the same number of responses due to skipping patterns within the survey instrument and other factors. This was expected by the research team and was accounted for in the analysis.

The remainder of the section focuses on our analysis of the collected survey data. This analysis identifies the visitation and spending patterns of Tybee Island visitors. The research team has also collected and analyzed secondary data that highlights other aspects of the tourism market in this community. CBAER worked closely with the City of Tybee Island and Placer.ai to gather this data. Placer.ai data is a locations analytics company used by the City of Tybee Island to understand visitation patterns. Due to the timing of this analysis, Placer.ai data was available through October 2022. Therefore, the referenced 2022 Placer data covers the months January through October, which corresponds to the end of the primary data collection timeframe.

Survey Participants and Point of Origin

To begin the analysis of the survey data, CBAER focused on the primary residence of Tybee Island visitors or the point of origin for the trip. In the initial phase, the team split participants into one of three geographic groups: Chatham County, Georgia, and Out-of-State. For the remainder of this report, "Chatham County" will refer to all Chatham County residents, excluding Tybee Island residents, and "Inside Georgia," or "Georgia Residents," refers to all state residents, excluding Chatham County residents. Table 1 describes the breakdown of survey participants by geographic region.

Table 1: Survey Participants Geographic Breakdown

Geographic Groups	All Survey Participants	In-Person Survey Participants
Chatham County (excluding Tybee Island)	5.6%	11.7%
Georgia (excluding Chatham County)	33.2%	39.0%
Out-of-State	61.2%	49.3%

The underlining data in Table 1 came from ZIP Codes provided by survey participants. This allowed CBAER to take a closer look at the point of origin of survey participants. Tybee Island attracts visitors from all over the United States and even reaches a selection of international visitors (0.4 percent of survey participants). At least one visitor from nearly every continental U.S. state (except for Wyoming) participated in the survey. Placer reports visits from residents of all U.S. states. Using total survey information, the top ten states that produce the most frequent Tybee visitors are reported in Table 2 and compared to Placer Data. For a full list of states, see Appendix A.

Table 2: Visitor Point of Origin Top 10 States 2021-2022

CBAER Survey Data				Placer Data		
	State	**% of Visitors**			**State**	**% of Visitors**
1	Georgia	38.8		**1**	Georgia	41.6
2	North Carolina	7.3		**2**	North Carolina	6.2
3	South Carolina	7.0		**3**	South Carolina	5.8
4	Tennessee	6.3		**4**	Florida	5.1
5	Ohio	5.2		**5**	Tennessee	4.5
6	Kentucky	2.8		**6**	Ohio	3.9
7	Virginia	2.8		**7**	Kentucky	2.7
8	Indiana	2.8		**8**	Virginia	2.6
9	Florida	2.6		**9**	Alabama	2.3
10	New York	2.5		**10**	Illinois	2.2

The Georgia data in Table 2 includes the combination of Chatham County and Georgia responses presented in Table 1. The states in the top 10 list from the 2015 Tybee Island Study are also very similar to the lists presented in Table 2. Seven of the top ten states are shared between the 2015 and 2023 studies. These are Florida, Georgia, Kentucky, North Carolina, Ohio, South Carolina, and Tennessee. Also included in the 2015 top ten states are Alabama, Illinois, and West Virginia, which were replaced by Indiana, New York, and Virginia in the 2023 study. Alabama and Illinois also match recent Placer data. Despite the slight adjustments, the majority of visitors have come from the same states for nearly the last decade, and the regional draw of Tybee Island has not changed dramatically over this timeframe.

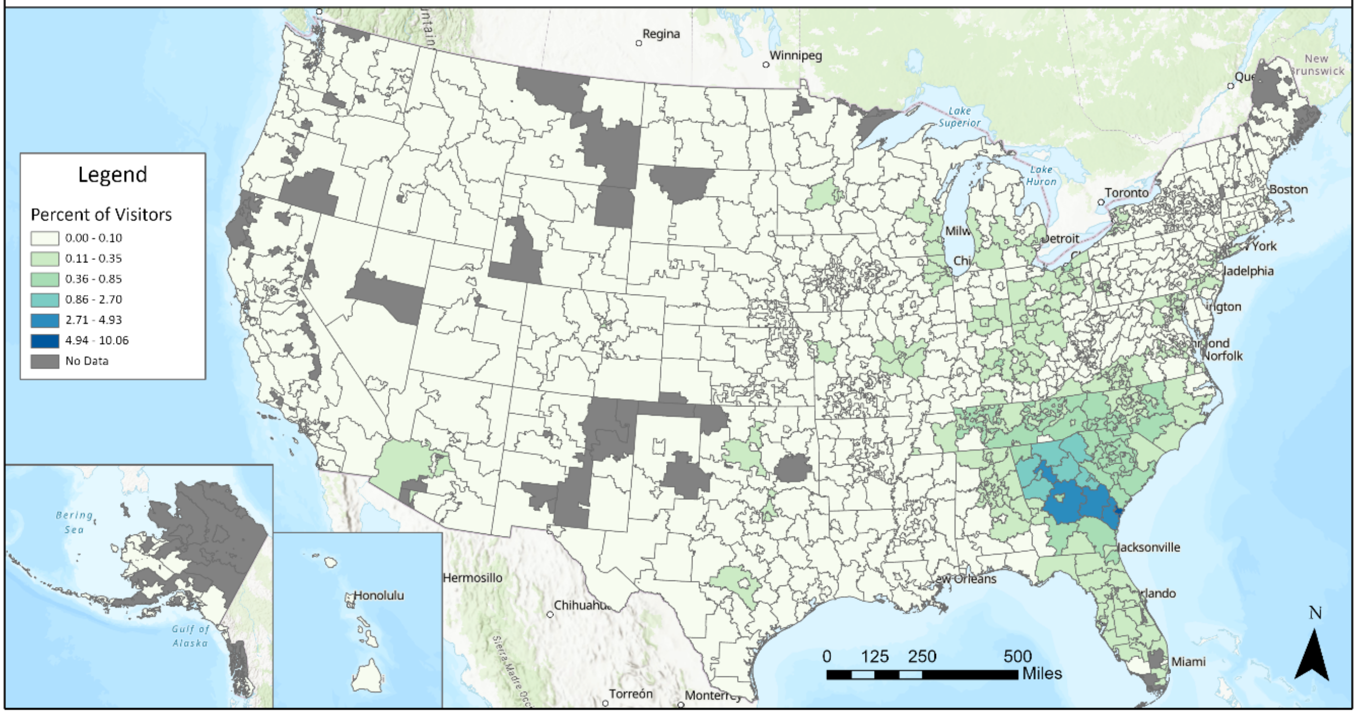
The major difference between the 2015 and 2023 reports is a shift in the percentage of Georgia Visitors. In 2015, 72 percent of visitor came from Georgia while in 2023 only 38.8 percent came from Georgia. One factor that could account for this difference is the amount of data collected. First, in 2023 the results in Table 2 are based on 4,541 individual responses, with the majority of responses coming from overnight visitors to Tybee Island. In comparison, the 2015 report had 1,278 responses total, which were mainly collected through in-person surveying. The increase in the number of responses and differences in collection methods have some impact on the data presented in Table 2.

It is worth noting that the 2023 data collected by CBAER is comparable to the Placer data, which has a larger sample size. Although the order varies, eight of the top 10 states contributing to Tybee Island tourism are the same between both sources of information. The differing states are New York and Indiana in the CBAER data and Alabama and Illinois in the Placer data. These are relatively minor differences and there is generally regional consistency between these two sources.

The following maps show the percentage of Tybee Island visitors' primary residence at the three-digit zip code level for 2022. For example, Savannah zip code 31419 became 314. Visitor count was provided by Placer.ai and covered the months of January through October 2022. In 2022, Placer recorded visitors from every U.S. state. The majority of zip codes across the country account for 0.1 percent or less of Tybee Island visitors. However, the percentage of visitors a zip code produces generally increases the nearer they are located to Tybee Island, particularly in the southeast, with the state of Georgia being the largest producer of visitors.

A closer look at the state of Georgia reveals that zip codes 300, 304, 310, and 313 each produce between 4.94 and 10.06 percent of Tybee Island visitors. The next highest visitor-producing regions are zip codes 301, 302, 305, 306, and 308, as well as 296, located in South Carolina. These locations produce between 2.71 and 4.93 percent of Tybee Island visitors.

Tybee Island Visitors, January - October 2022



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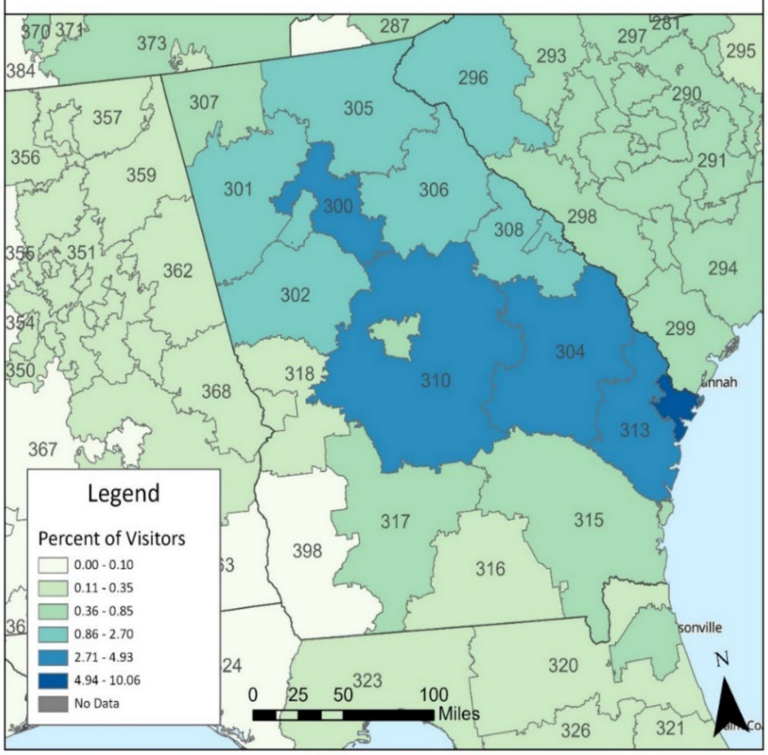
Tybee Island Visitors, January - October 2022



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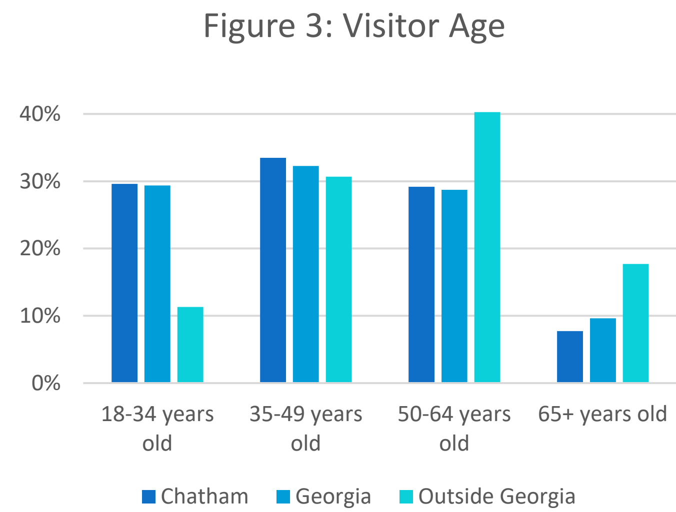
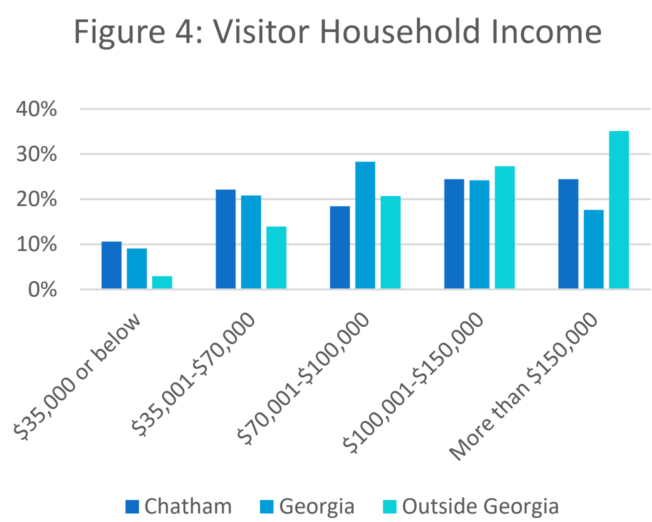
Demographics

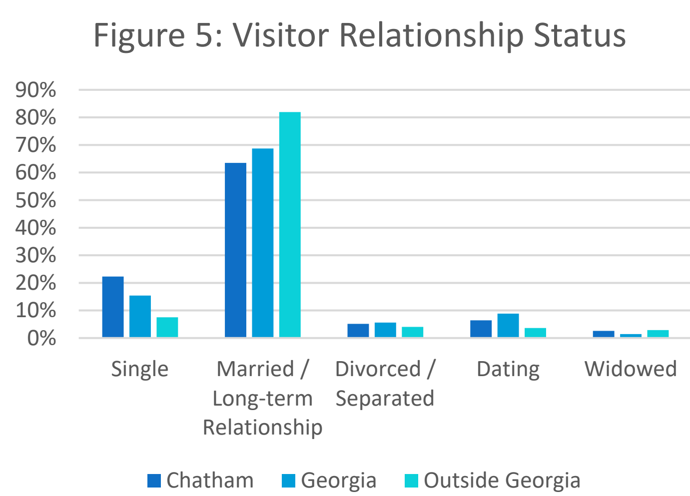
Within Georgia and Chatham County, Tybee Island tends to attract visitors under the age of 65. However, outside of Georgia, Tybee tends to attract fewer 18- to 34-year-olds and more 50- to 64-year-olds. One reason for this could be those in the higher age group usually have a higher amount of disposable income for a vacation to Tybee Island, whereas the younger age group is likely to take a more cost-effective vacation at a location closer to home.





When household income is considered, those from within Chatham County or Georgia make up between 18 and 28 percent of each household income bracket except for the $35,000 or below group of which they make up 11 and nine percent, respectively. However, the percentage of out-of-state visitors for each household income bracket follows a linear progression. The higher the income bracket, the more outside visitors come to Tybee. An older age cohort is linked to a higher income bracket, supporting the idea that those who are older have a higher household income and can afford a trip from outside of Georgia to Tybee Island.

The last demographic feature analyzed is relationship status. The majority of visitors are married or in a long-term relationship, no matter the region. These results are expected, with 85 percent of total visitors being adults aged 35 or older. A large sum of single and dating visitors are in the youngest age group, 44.1 percent and 61.5 percent, respectively.

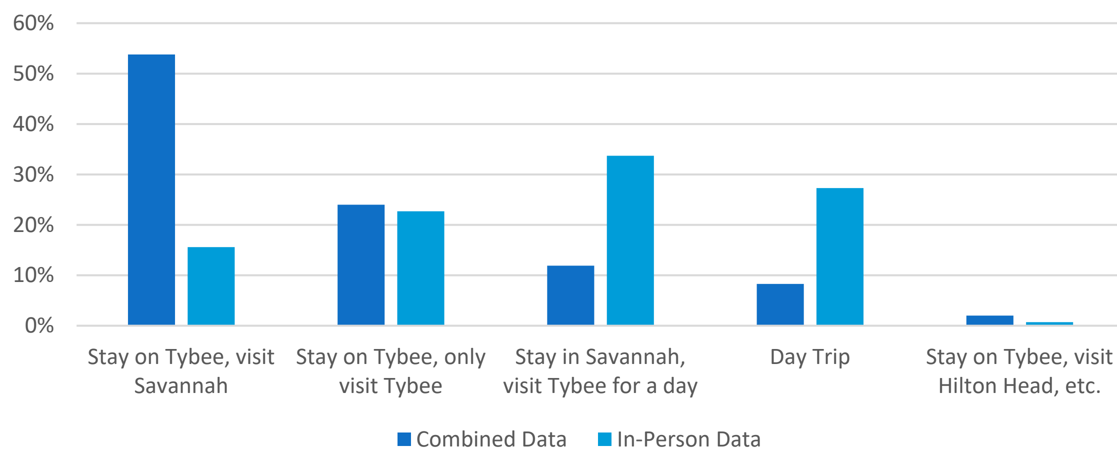


Travel Details

Approximately 98 percent of all Georgians drove to Tybee in their personal vehicles during their visit to the island. Nearly 81 percent of visitors from outside of Georgia also drove personal vehicles to the island, and six percent used a rental vehicle. The second most popular means of travel for those from outside the state was to fly into the Savannah-Hilton Head International Airport and drive from there (11 percent).

When determining the rate at which Tybee Island visitors are overnighting on Tybee, are overnighting in Savannah and visiting for the day, or day visitors who are not staying the night in the area, the in-person survey data is better suited for this purpose. However, figure 6 depicts the results for both the combined and in-person survey data and also breaks down Tybee overnight visitors by those who stayed on Tybee and only visited Tybee, those who stayed on Tybee and visited Savannah, and those who stayed on Tybee and visited Hilton Head and other surrounding areas.

Figure 6: Type of Visit



Approximately 79.8 percent of total survey participants stayed overnight on Tybee Island, with 11.9 percent having stayed in Savannah and visited Tybee for the day, and 8.3 percent having visited Tybee for a day trip without staying overnight in the nearby region. However, this number is skewed due to the partnership with Tybee accommodation providers to provide contacts for the survey. When analyzing the in-person survey participants only, 39.0 percent stayed on Tybee Island, 33.7 percent stayed in Savannah, and 27.3 percent were day visitors.

While the average party size for all survey participants is 4.3, the highest concentration of visitors traveled in a party size of two (35.8 percent). Though overall, 73.6 percent of visitors are traveling with a group size of two to five people.

Approximately 38.1 percent of survey participants visited Tybee Island with children (those under the age of 18). Of this population, the average number of children traveling with the group is 2.3. Almost 70 percent of those traveling with children have no more than two in their party.

Table 3: Average Party Size				
	Chatham County	**Georgia**	**Out-of-State**	**All Visitors**
Total Party Size	3.6	4.3	4.3	4.3
Adults	2.9	3.3	3.5	3.4
Children	0.7	1.0	0.9	0.9

Those from Chatham County are more likely than visitors from Georgia and from outside the state to travel in smaller numbers, one to three people. For example, 43.5 percent of survey respondents from Chatham traveled in a group of two, whereas 37.0 percent of Georgia residents and 35.1 percent of out-of-state residents traveled with this group size. Those outside of Chatham County are more likely to have bigger group sizes starting at four people. Only 12.5 percent of Chatham County survey participants visited Tybee in a group of four, compared to 17.5 percent of Georgia residents and 17.4 percent of out-of-state residents.

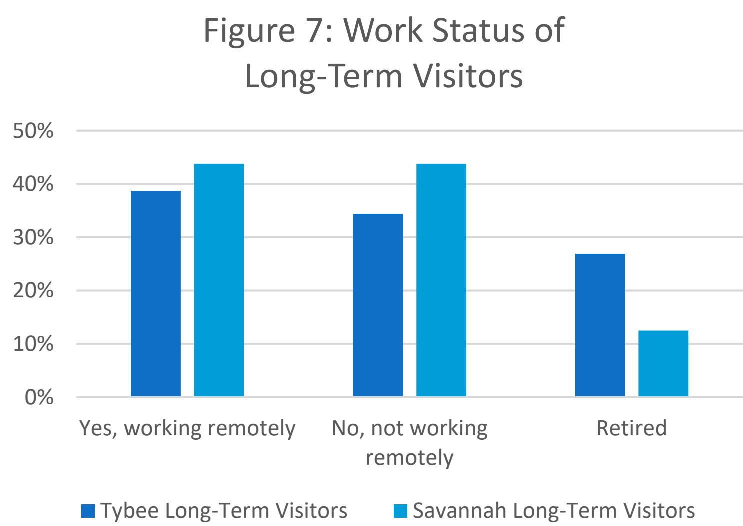
Visit Frequency and Length of Stay

Averaging the visit frequency from 2021 and 2022 Placer data, a visitor is estimated to travel to Tybee Island 3.21 times in a given year. Performing the same calculations with the CBAER survey data, the visit frequency is similar at 3.38 times within a 12-month timespan. The team further analyzed the visit frequency of tourists, defined as those living outside of a 50-mile radius from Tybee Island.[3] Survey data resulted in an annual visit of 2.0 times, and Placer.ai data resulted in an annual visit of 1.03 times for tourists. Due to the higher population sample that Placer.ai has acquired, the 1.03 average annual visits for tourists will be used in the economic impact calculations.

Length of stay was also measured in the survey analysis. When broken up into increments, most Tybee Island overnight visitors stayed on Tybee for 3 to 4 days (30.4 percent). However, 25.1 and 23.9 percent stayed 5 to 6 days and 7 or more days, respectively. Combined, these two categories make up 49 percent of Tybee overnighters. While this part of the analysis represents the mode or most common occurrence, the average number of nights was calculated from participants responses. The average number of nights is 4.5 for Tybee Island overnight visitors.

There were some long-term visitors to the region who stayed more than 14 nights; 186 (5.1 percent) of Tybee Island overnighters and 16 (2.9 percent) of Savannah overnighters. The City of Tybee was curious about these long-term visitors and whether or not their stay was purely for pleasure or if these long-term visitors were working remotely while staying in the region.

[3] "Long-Distance Travel," 20 May 2017, *Bureau of Transportation Statistics*, https://www.bts.gov/bts/archive/publications/highlights_of_the_2001_national_household_travel_survey/section_03



When prompted whether these long-term visitors would do another long-term stay in the future, 84.4 percent of the long-term Tybee visitors expressed that they were “likely” or “very likely” to do another long-term stay on Tybee Island. Approximately 10 percent were unsure. All 16 (100 percent) of the Savannah long-term visitors said that they would likely do another long-term stay in Savannah.

The most common length of stay for Savannah overnighters visiting Tybee Island for the day and other day visitors not staying the night in the nearby region was reported to be 3 to 5 hours by 44.6 percent and 56.0 percent of respondents, respectively.

Accommodations and Room Nights

A comparison of total survey data and in-person survey data is also necessary in determining the rate of stay in different types of accommodations on the island due to the types of accommodation providers that partnered with CBAER to assist in data collection. The aggregated survey responses suggest that vacation rentals are a very popular accommodation choice among Tybee Island overnighters, but the in-person data shows a wider spread of accommodation usage. Table 4 depicts these figures.

Table 4: Tybee Island Overnight Visitors Accommodations

	% Total Participants	% In-Person Participants
Vacation Rental	79.5	51.0
Hotel / Motel / Resort	14.0	32.8
Private Home / Staying with Friends or Family	2.9	6.7
Historic Inn / Bed & Breakfast	2.1	3.8
Campground / RV Park	0.9	5.2
Other	0.6	0.6

Separating out in-person surveys likely provides a better representation of the rate at which visitors are staying in different types of accommodations. Most of the providers who partnered with CBAER offered vacation rentals. While vacation rentals are still the most popular type of accommodation for in-person survey participants, hotels, motels, and resorts are used by almost one-third of visitors.

For Savannah overnight visitors, the most popular area to stay overnight in was the historic district (62.8 percent). Approximately 8.8 percent stayed with friends and family. Other accommodation locations that were inquired about are the suburban area (5.5 percent), the Pooler area (4.0 percent), near the airport area (1.9 percent), the Richmond Hill area (1.7 percent), the Garden City/Port Wentworth area (1.5 percent), and near Interstate 95 (1.3 percent). Approximately 9.5 percent indicated staying in a location other than those listed, and 2.9 percent were unsure of the location of their accommodations.

Survey data also allowed for the calculation of room-nights. Room nights are a statistical metric for the hotel industry which is achieved by multiplying the number of rooms rented by the number of nights stayed.[4] Table 5 provides the average figures for number of rooms, number of nights, and number of room nights for both Tybee Island and Savannah overnighters.

Table 5: Room Nights				
Tybee Island Overnighters				
	Chatham	**Georgia**	**Out-of-State**	**All Regions**
Average # of Rooms	1.8	1.3	1.3	1.3
Average # of nights per person/party	3.8	3.4	5.4	4.5
Average room-night	5.9	4.3	8.7	6.7
Savannah Overnighters				
	Chatham	**Georgia**	**Out-of-State**	**All Regions**
Average # of Rooms	1.6	1.5	1.3	1.4
Average # of Nights per person/party	2.2	2.7	4.5	4.0
Average room-night	3.8	3.9	6.2	5.6
**Due to suspected user error from online survey data, in-person data was used for this analysis.*				

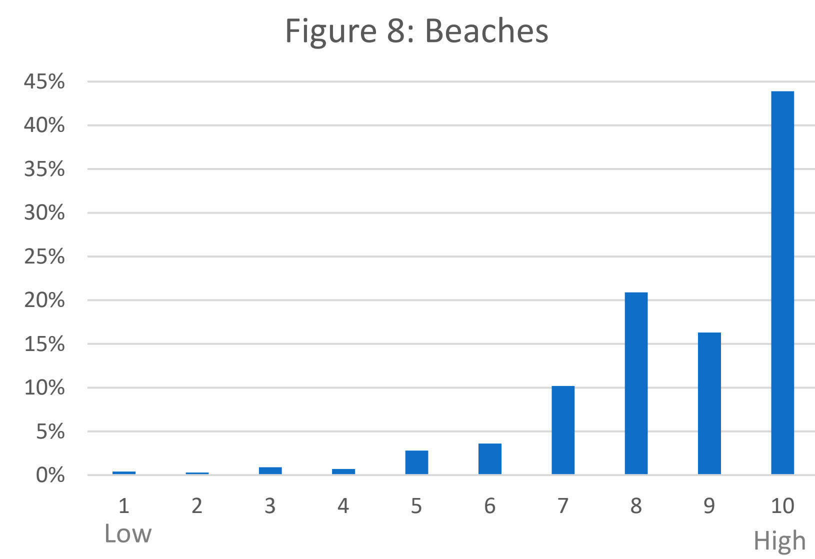
These numbers presented in Table 5, annual visitation[5], average party size[6], and percentages of Tybee Island overnighters and Savannah overnighters[7] were used to estimate the total annual number of room nights in both the City of Tybee Island and the City of Savannah by Tybee Island visitors. These calculations resulted in 1,188,160 million room nights on Tybee Island and 858,131 million room nights in Savannah by those who also visited Tybee, making the total number of room nights for Chatham County 2,046,291. The Savannah room-nights calculated stretches across accommodations provided in all of Savannah, not just the historic district.

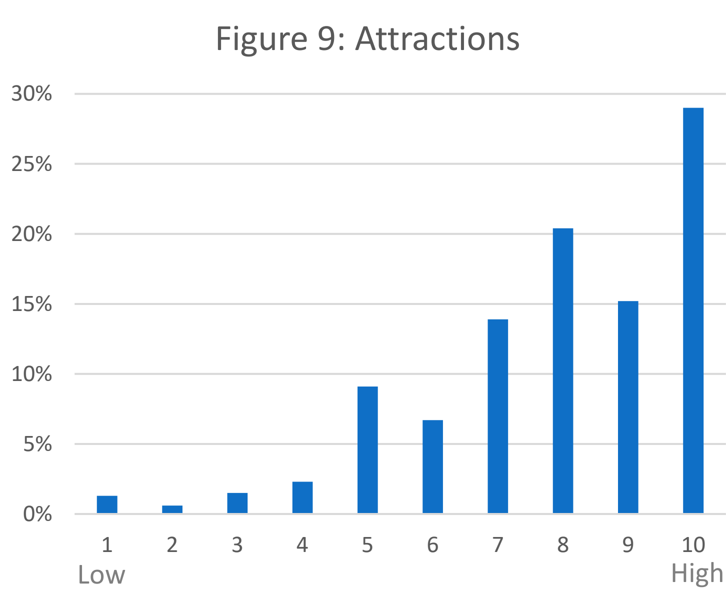
[4] "Room Night," *Hotel Price Reporter*, https://www.hotelpricereporter.com/term/room-night/#:~:text=What%20is%20a%20room%20night,one%20room%20times%20one%20night
[5] Placer.ai estimates an annual average of over 1.9 million visitors to Tybee Island during 2021 and 2022.
[6] Refer to Table 3, total party size, all visitors.
[7] Refer to Figure 6, in-person survey data.

Visitor Satisfaction

Lastly, survey participants were asked to rate various tourism features of Tybee Island. The charts presented in this section depict visitors' ratings of beaches, restaurant options, shopping and retail options, attractions, equipment rentals and public restrooms on a ten-point scale. One is the lowest rating and 10 is the highest rating. Only those who used or participated in the tourism feature were able to rate the feature. Additionally, although explanations of ratings were unsolicited, similar comments repeatedly made by survey participants were noted.

Nearly every survey participant visited the beach, and beachgoers highly rated the beaches. Many survey participants made positive remarks about the overall quality and cleanliness of the beach. Some were disappointed about the rule prohibiting dogs on the beach, but others understood the reason for this being the protection of sea turtle nests.





Attractions outside of the beach were visited less often. Close to 27 percent of survey participants did not go to attractions like the Tybee Island Light Station and Museum, the Marine Science Center, and Fort Pulaski. Several remarks were made by these survey participants about having seen these attractions during a previous trip to the area and not feeling the need to revisit during their current trip. Those who recently visited these attractions gave high ratings.

Close to 90 percent of survey participants either shopped at or observed local retail options. Several visitors expressed that retail items on the island were more expensive and that inventory across multiple stores was very similar. While some indicated it would be nice to have more retail variety, others expressed that the higher volume of tourist shops are expected at a beach town and is part of the experience.

Figure 10: Shopping & Retail Options

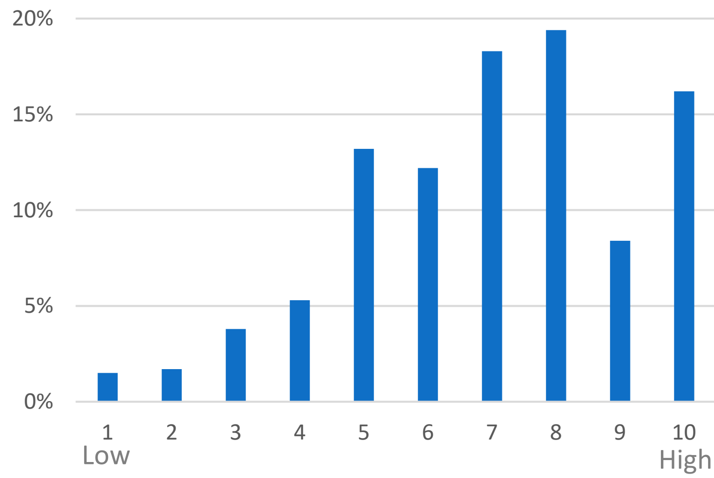
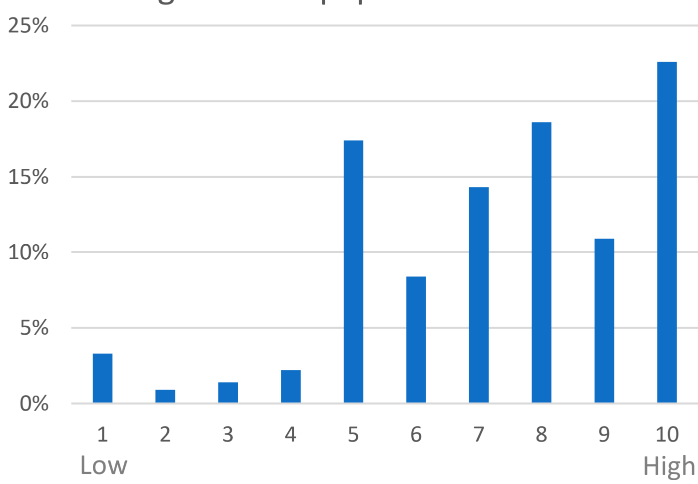


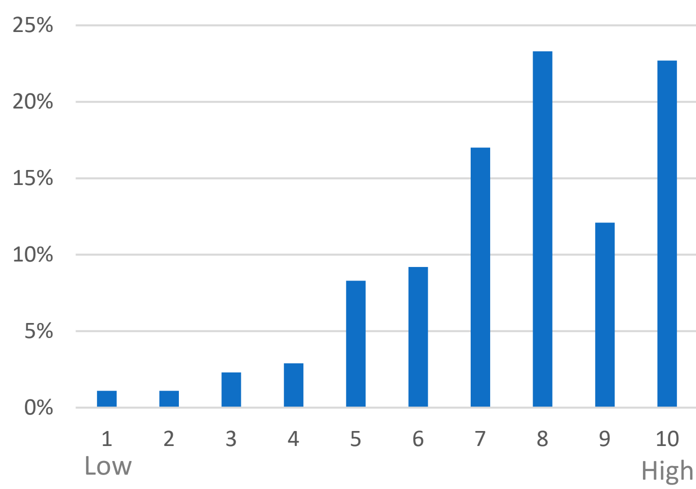
Figure 11: Equipment Rentals

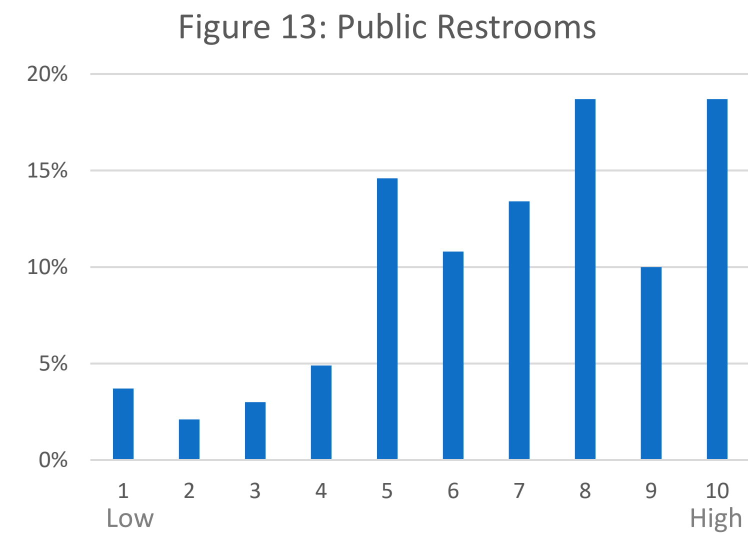


Equipment rentals such as bicycles, paddle boards, jet skis, golf carts, beach chairs and umbrellas were used the least out of the tourism factors being measured for visitor satisfaction. Thirty (30) percent of survey participants did not rent any recreation or other rental equipment.

Comments about restaurant options were also mixed. Some visitors felt that there needed to be more variety in food options while others believed there was sufficient variety. In general, most of those who commented on restaurant options believed that the available food was good, or delicious. The most commonly expressed desire in regard to restaurants was the addition of a grocery store on the island and more restaurants to serve breakfast.

Figure 12: Restaurant Options





A little over 15 percent of survey participants did not use public restrooms. Commonly these participants explained that their accommodations were closely located to their position on the beach or pier, and they did not require the use of or chose not to use the public restrooms. Those who did use the public restrooms made several comments. Anecdotally, those surveyed on Middle Beach or near the pier often had lower ratings of the public restrooms, which would include those on the pier. Their comments included a lack of cleanliness, plumbing issues, and stall doors missing locks. Some expressed a desire for more public restrooms to be available, especially along the beach. A few suggested that the newer bathrooms were in better condition.

To further investigate if specific restrooms received different ratings, the public restroom rating results were compared against the location at which the research team was conducting in-person surveys, operating under the assumption that survey participants were referring the restroom located closest to themselves at the time of surveying. The majority of survey participants at North Beach or near the lighthouse and at Middle Beach or the pier rated the public restrooms in the upper half of the scale, 6 through 10. However, 31 percent of Middle Beach/Pier survey participants rated public restrooms in the lower half of the scale, 1 through 5, whereas only 12 percent of North Beach/Lighthouse survey participants rated public restrooms in the lower half of the scale. These findings suggest that not all public restrooms were equally rated, meaning that Tybee Island has some public restrooms visitors are pleased with and some public restrooms visitors are less pleased with.

Economic Impact Analysis

To build on the information from the questionnaire CBAER next calculated the economic impact of tourists on Tybee Island. This economic impact listed in Table 6 covers Chatham County over the same timeframe as the survey information discussed in the previous section. The research team used spending data from the survey, Placer data to estimate the number of visitors, and the most widely used input/output model, IMPLAN, to estimate the total economic impact listed in Table 6.

Table 6: Total Economic Impact+				
	Output*	**Value Added***	**Labor Income**	**Employment**
Direct	$528.42	$317.76	$229.66	6,172
Indirect	154.51	77.60	47.45	955
Induced	144.61	86.71	46.81	892
Total	827.54	482.06	323.92	8,018
** Dollars in millions* *+ Impact reported in 2022 dollars.*				

Within the IMPLAN model, the four variables used to describe economic impact are output, value added, labor income, and employment. Output measures the total value of industry production, or the sum of sales and net inventory linked to the economic activity being modeled.[8] Value added makes up the largest portion of the output. This is because it is determined by subtracting the intermediate inputs from the output. The value-added variable represents the industry's contribution to GDP. [9] Labor income narrows in on employee compensation (wages, salaries, and benefits) and proprietor income.[10] The final descriptive variable, employment, includes full-time, part-time, and seasonal employment, and it is calculated as an annual average accounting for seasonality.[11] See Appendix B for more information about the IMPLAN model.

The analysis reveals that indirect spending (business-to-business) and induced contributions (consumer-to-business) transactions accounted for 36.1 percent of the related economic output. While direct spending by tourists is the largest contributor to the total economic impact, indirect transactions are the second most crucial factor.

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[8] Candi Clouse, *Output*, IMPLAN, https://support.implan.com/hc/en-us/articles/115009668388-Output

[9] Candi Clouse, *Understanding Value Added (VA)*, IMPLAN, https://support.implan.com/hc/en-us/articles/360017144753-Understanding-Value-Added-VA-

[10] Candi Clouse, *Labor Income*, IMPLAN, https://support.implan.com/hc/en-us/articles/115009668468-Labor-Income

[11] Candi Clouse, *Employment*, IMPLAN, https://support.implan.com/hc/en-us/articles/115009668668-Employment

On-island City of Tybee Island Economic Impact

Next the team split the Chatham County economic impact into two groups. The first is the City of Tybee Island, or on the island group, and the second is the remainder of Chatham County, or the off-island group. The tourism industry in the City of Tybee Island is the largest generator of economic activity for the community. Table 7 illustrates the direct gross regional product is $82.62 million for the on-island group and supports $59.71 million in labor income.

Table 7: On-island City of Tybee Island Total Economic Impact+				
	Output*	**Value Added***	**Labor Income**	**Employment**
Direct	$137.39	$82.62	$59.71	1,464
Indirect	$40.17	$20.17	$12.34	227
Induced	$37.60	$22.54	$12.17	211
Total	$215.16	$125.34	$84.22	1,902

** Dollars in millions*
+ Impact reported in 2022 dollars.

From an economic perspective, the Tybee Island economy is more closely tied to the tourism industry than the City of Savannah. Using location quotient (LQ) scores, the tourism industry on the island has scores of 2.56 compared to Savannah, which is 1.36 in 2021. These scores are a representation of industry concentration when the target area is compared to another area (United States). For this statistic, a score of 1.00 is at parity with the comparison area, with a score above 1.00 representative of greater industry concentration.

Additionally, the economic impact figures in this analysis represents an economic activity that would not have taken place on Tybee Island without the visitors to the area. The monetary variables are the new economic activity that varies based on the number of visitors coming to the island and the number of funds being spent. The employment variable is also linked to visitor spending. However, some of the jobs in this analysis may also be supported by the local population. Following this information, the linked employment is part of the economic contribution that the tourism industry is making to Tybee Island economy. This means that the 1,464 jobs on the island are directly linked to tourism. These direct jobs are mostly in accommodations, retail, food service, attractions, public service, and other sectors that directly support the tourism industry. Once these figures move through the economy, 1,902 jobs are linked to tourism. However, it is important to note that Tybee Island residents do not hold all the jobs in the Tybee tourism industry.

Off-island Tybee Island Visitor Spending Impact on Chatham County

While the economic value of the Tybee Island industry is important to the City, it also benefits other parts of Chatham County. The data presented in Table 8 represents the economic contribution made by visitors to Tybee Island on the rest of Chatham County. From an economic standpoint, not all of the expenditures made by visitors to Tybee Island stay on the island. For example, a visitor might spend their entire trip enjoying the beach on Tybee Island but do some of their grocery shopping and/or entertainment spending in Savannah or other nearby areas. Therefore, Chatham County receives economic benefits linked to the spending made by Tybee Island visitors, which is in addition to the expenditures that stay on the island.

Table 8: Off-island Tybee Tourist Economic Impact in Chatham County+				
	Output*	**Value Added***	**Labor Income***	**Employment**
Direct	$391.03	$235.14	$169.95	4,752
Indirect	$114.34	$57.42	$35.12	736
Induced	$107.01	$64.16	$34.64	687
Total	$612.38	$356.72	$239.70	6,174
** Dollars in millions*				
+ Impact reported in 2022 dollars.				

The monetary variables in this part of the analysis are the result of the spending by visitors to Tybee Island. As this spending moves through the economy, it further supports additional spending in the form of indirect (business-to-business) and induced (consumer-to-business) transactions. Combined, these two categories account for 36 percent of total output and 34 percent of the gross regional product. Also, this spending occurring over the listed timeframe of the analysis is new spending to the area, generating an economic impact. In contrast, employment is supported by both visitor and the local spending. Therefore, the monetary impacts support the total employment of 6,174 jobs in the area.

When the 2023 economic impact is compared to the 2015 report there are some differences. First, the number of tourists that visit Tybee Island has increased significantly. In 2015 there were 1,044,000 annual visitors, while in 2023, this number reached 1,763,400 million tourist visitors specifically. Second, these visitors are staying longer. In the 2015 study, visitors stayed an average of 3.75 days per overnight visitor party. In the 2023 study, the length of stay increased to 4.5 nights per party. When these changes are combined with changes in visitor spending, the differences in the economic impact figures become more apparent. A complete comparative analysis is available in Appendix C.

Tax Collections Linked the Visitor Spending

The spending linked to Tybee Island visitors has also influenced tax collection in the City of Tybee Island. CBAER used the IMPLAN model to estimate how visitor spending has impacted tax collection. The IMPLAN analysis was used to estimate sales and property taxes, and the research team estimated the lodging taxes, all listed in Table 9.

Table 9: Tax Collection+			
	Sales Taxes	**Property Tax**	**Total Lodging Tax**
City of Tybee Island	$1,327,000	$1,838,000	$8,461,000
Chatham County	$2,084,000	$3,555,000	-
+ Impact reported in 2022 dollars.			

The timeframe of this report covered parts of two fiscal years. It covers all of Fiscal Year 2022 (July 1, 2021 – June 30, 2022) and the first quarter of Fiscal Year 2023 (July 1, 2022 – September 30, 2023). In order to provide more context for this part of the analysis, general property tax collection for Tybee Island was amended to $2.01 million in Fiscal Year 2022 and is budgeted to be just under $2.04 million in Fiscal Year 2023. In the case of sales taxes, General Location Option Sales and Use Tax (LOST), Alcoholic Beverage Excise Tax, and Local Alcoholic Beverage Taxes total just under $1.8 million in Fiscal Year 2022 and $1.9 million in Fiscal Year 2023. Finally, projected to be just under $7.1 million in Fiscal Year 2022 and $6.4 million in Fiscal Year2023.[12] This means that tourist spending is an important source of revenue for the City of Tybee. However, if tourism were to decline, tax revenue would also somewhat decline, and the budgetary needs of the City would change. In the fiscal analysis section of this report, the City of Tybee Island spending on public services is compared to the spending of similar-sized communities in Georgia on the same services to highlight how the tourism industry influences local spending.

Tourist Spending and Inputs for IMPLAN

Tourist spending in a region they are visiting brings new dollars to the area. This is because tourists (outside 50-mile radius) do not live in the region they are visiting and are bringing in dollars that would normally be spent in and around their resident location. The estimated economic impact of tourist spending on Tybee Island was calculated using daily per person spending averages as reported by survey participants. [13] When possible, this spending was further compared to other sources, including annual budgets for the City of Tybee Island and JobsEQ by Chmura Economics & Analytics, to ensure the estimated spending and job counts are reflective of local market conditions.

To calculate the direct inputs for the IMPLAN analysis, tourist spending was measured with the total number of Tybee tourists. Across the analyzed timeframe, Placer estimated an annual average of over 1.9 million visitors. Once the 50-mile geographic limitation was added, this number becomes an annual average of 1.7 million tourists. Next, the number of visits had to be calculated. "Visitors" measure the number of unique individuals that enter Tybee Island. "Visits" measures the number of times these unique visitors travel to the island in a given year. Looking at the tourist visitors, the annual average number of visits to Tybee Island by unique visitor is 1.03. This results in a total of over 1.75 million annual visits by tourists.

These figures were also broken down by type of visit (Tybee overnighter, Savannah overnighter, day visitor). Earlier in the report these figures were determined by total survey response. However, for the purpose of the economic impact analysis, these figures had to be calculated for only tourist visitors. Therefore, the figures vary slightly. With the 50-mile parameter, the

[12] "2023 Annual Budget," June 23, 2022, City of Tybee Island, Georgia, https://www.cityoftybee.org/DocumentCenter/View/3562/Final-FY23-Budget
[13] Figures based on in-person survey data.

breakdown of tourists is 44 percent Tybee overnighters, 39 percent Savannah overnighters visiting Tybee for the day, and 17 percent day visitors not staying the night nearby.

Table 10 displays the average daily spending of Tybee Island tourists according to their visit type. CBAER used in-person survey data for this table to better account for the spending mix of all types of visitors. Next, the average daily spending conducted by Savannah overnight tourists was calculated to estimate the funds spent only on Tybee Island. For the purposes of this analysis, these tourists were treated as day trippers to the island whose typical length of stay increases to 6 hours. This means that the estimated average daily spending also covers the timeframe on which this specific group of day trippers visited and spent money on Tybee Island.

Table 10: Tourist (outside 50-mile radius)
Average Daily Spending Per Person on Tybee Island

	Tybee Overnight Visitors	Savannah Overnight Visitors	Day Visitors
Restaurants	$41.17	*$8.39*	$25.50
Groceries	$13.95	$1.06	$2.89
Recreational/Rental Equipment	$6.97	$0.51	$1.75
Tours/Attractions	$5.81	$2.09	$1.44
Entertainment, Nightlife	$16.55	$3.12	$7.11
Shopping	$15.52	$3.23	$12.19
Local Transportation	$0.77	$0.38	$0.41
Parking	$2.34	$1.04	$5.38
Other	$3.38	$0.66	$2.65
TOTAL	**$106.46**	**$20.49**	**$59.31**

For Tybee overnight tourists, the average reported hotel spending was $94.63 per person per day, while the other forms of accommodation were $90.41 per person per day. These figures were converted to per-party spending when calculating input data for the economic impact analysis. This was done to account for daily service level differences between vacation rentals and hotels. Finally, it should also be noted that tourists who reported staying overnight on Tybee Island are not limiting their spending to just the Island. This is why the previously discussed economic impact includes Chatham County and the City of Tybee Island because this leakage is part of the trade flow that is taking place in this area.

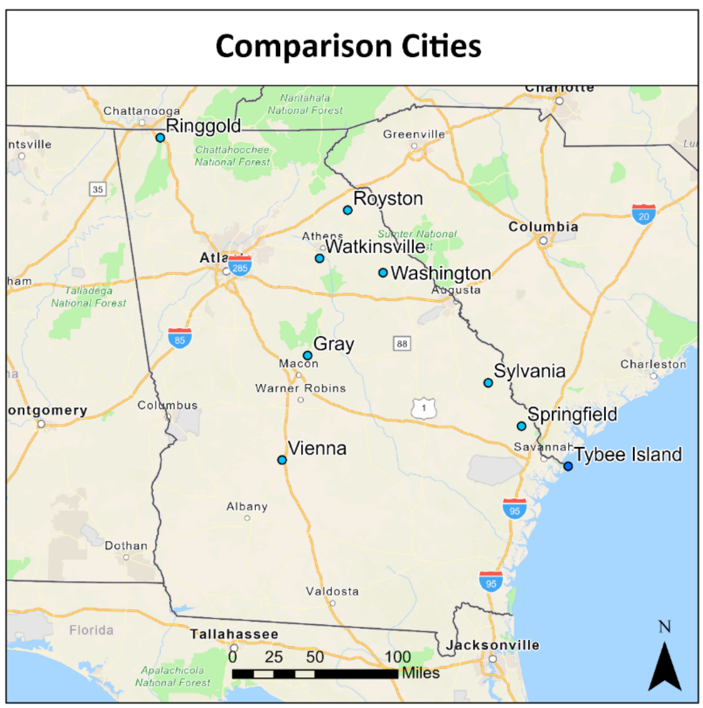
Fiscal Analysis: Comparison of Non-Coastal Cities in Georgia

From a fiscal standpoint, having a strong tourism industry presents opportunities to grow different sources of revenue for local government. These revenue opportunities are an addition to the revenue collected by the increased demand of local government services due to the presence of more people, tourists. In some cases the fees charged and services demanded are reflective of what would be expected in a larger city population than the one of the city with a strong tourism industry. In this section of the report CBAER is seeking to highlight how the City of Tybee Island is different from other communities with a similar population.

Examining variables of cities similar to Tybee Island in terms of economic and demographic data but with a smaller tourism industry can help put into context the fiscal impacts of tourism on the City of Tybee Island. In this fiscal analysis, local government revenues and expenditures are analyzed as well as location quotients. The differences in municipal government revenues and expenditures can be credited to the substantial tourism industry of Tybee Island, and location quotient scores reveal the substantial presence or lack thereof of tourism related industries in Tybee Island and the comparison group.

Comparison Group

A comparison group of eight cities was formed based on demographic and economic similarities to Tybee Island. Data was collected from the U.S. Census Bureau and JobsEQ by Chmura Economics & Analytics. Several variables were analyzed in the comparison group including population, population density (person per square mile), ethnic population percentages, median age of population, number of year-round residents, percent of occupied units, people per household, percent of units built since 2000, median household income, and unemployment rate. Although variation is to be expected, many of the economic and demographic variable averages are comparable to the City of Tybee Island. The comparison cities were also selected based on the most recent available financial statements common across all cities. The map to the right shows the geographic location of the eight chosen comparison cities: Royston, Watkinsville, Springfield, Vienna, Ringgold, Sylvania, Washington, and Gray. Table 11 displays the economic and demographic variables information.



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

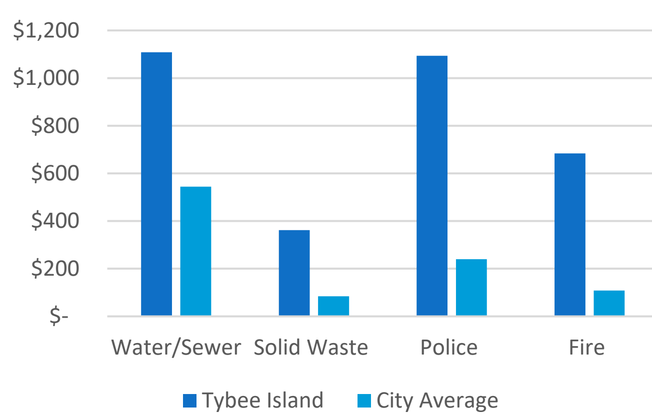
Table 11: LQ of Tourism Industry by 2-Digit NAICS Codes										
	Tybee Island	**Gray**	**Ringgold**	**Royston**	**Springfield**	**Sylvania**	**Vienna**	**Washington**	**Watkinsville**	**Comparison City Average**
Population	**3,094**	3,223	3,454	3,009	4,026	2,633	3,610	3,946	2,932	**3,325**
Person/Mile	**1,079.1**	885.7	683.9	783.4	863.7	508.2	476.4	472.90	892.6	**738.43**
% White	**94.76**	73.3	88.9	74.1	71.2	51.7	16.7	39.6	86.4	**66.30**
% Black	**2.78**	23.9	6	19.6	24.7	44.8	74.5	56.8	6.7	**28.86**
% Hispanic	**0.2**	0.2	2.4	2.3	0.6	4.6	11.8	0.2	1.7	**2.67**
Median Age of Population	**55.9**	34.3	44.9	33.1	32.4	54.3	36	48.2	34.8	**41.54**
# of Year-Round Residents	**3,041**	3,196	3198	2488	2,589	2533	3,085	3,701	2,793	**2958.22**
% Occupied Units	**78.6**	62.1	43.5	43.2	62.3	55.3	47.9	60.4	73.7	**58.56**
People per Household	**2.19**	2.56	2.07	2.39	2.37	2.16	2.72	2.26	2.8	**2.39**
% Units built since 2000	**22.3**	35.5	44.4	9.4	15.5	4.1	6.9	3.9	21.9	**18.21**
Median HH Income	**94,722**	55,735	46,237	25,640	51,923	30,595	33,687	31,902	73,500	**49,327**
Unemployment Rate (%)	**5.1**	0.9	5.2	12.1	5.6	1.0	16.6	2.5	2.8	**5.76**
Source: JobsEQ by Chmura Economics & Analytics										

Financial Statement Analysis

Revenue and expenditure categories affected by tourism were compared between the comparison group averages and the City of Tybee Island figures. Information is based on 2021 figures as this was the most recently available financial statement year common to all cities in the analysis. See Appendix D for a list of financial statements from each comparison city.

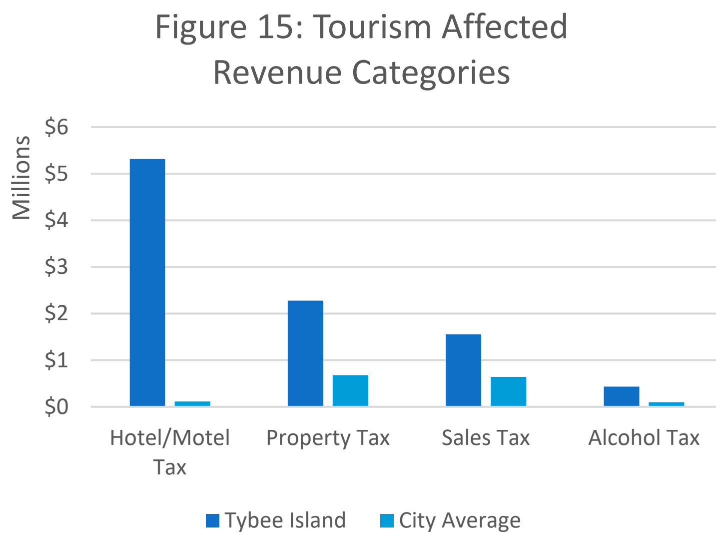
Starting with expenditures, those likely influenced by tourism that are analyzed in Figure 14 are water/sewer, solid waste, police, and fire expenditures. The categories of solid waste, police, and fire only had one of the individual comparison cities not represented. The population of Tybee Island is slightly lower than that of the comparison group, however expenditures per capita these expenditure categories are much higher for the City. This shows that expenditures are influenced by tourism these numbers are likely driven higher by the presence of tourists. As established in the Tourist Spending and Inputs for IMPLAN section of this report, Tybee Island has an average annual tourist visitation of 1.7 million people. The presence of more people will drive

Figure 14: Tourism Affected Expenditure Categories Per Capita



up the demand and use of water, sewer, and solid waste services. The presence of more people also increases the likelihood that police and fire department services will be required.

Sources of revenue that could be affected by tourists and the tourism industry were analyzed by total collections. Figure 15 shows the total revenue generated by property tax, local options sales tax (LOST), alcohol tax, and hotel/motel tax for Tybee Island and the comparison group. Tybee surpasses the comparison group in all revenue categories. The most prominent difference is in hotel/motel tax figures. Not only is Tybee's hotel/motel tax revenue more than 46 times the amount of the comparison group average, three of the individual cities used in the comparison group do not report revenue from this category. One individual city also does not report alcohol tax revenue.



Tybee Island has a general revenue fund that is larger than the comparison group, $14.2 million compared to $2.3 million, respectively. Analyzing the share of the general revenue fund that each category possesses provides more context. As seen in Figure 16, the property and sales taxes contribute larger shares to the general revenue fund in the comparison group than in the City of Tybee Island. (Note, hotel/motel tax is often not listed under the general revenue fund in the comparison group and is therefore not included in this figure.)

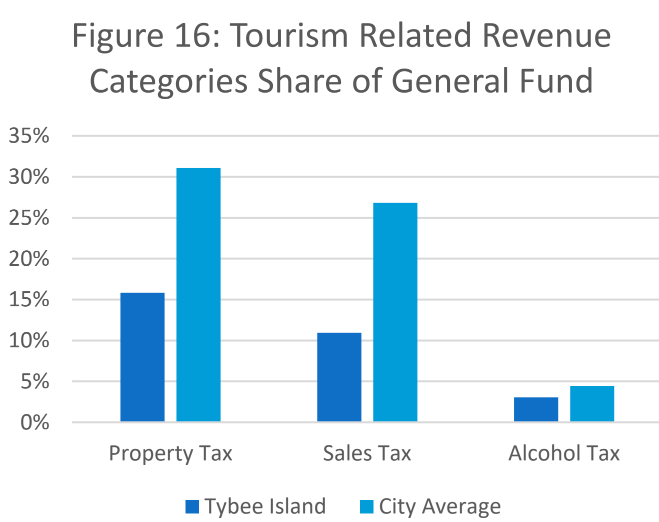


Figure 16 indicates that the general revenue fund for Tybee Island is supported by different sources of revenue. One of the revenue sources contributing to Tybee Island's general revenue fund is parking. In 2021, parking fees contributed approximately $5.8 million to the total general revenue fund, which accounts for approximately 41 percent of this $14.2 million fund.

Location Quotient (LQ) Analysis

As noted in the previous section, supporting tourists and the needs of local residents has a cost. This section seeks to highlight the economic value that is linked to supporting the tourism industry by analyzing location quotients (LQs). The information presented here also illustrates that Tybee Island shares the economic benefits of tourism with other parts of the local area.

A location quotient is a unit of measurement for the relative size or concentration of an industry in a given region compared to the national average size or concentration. An LQ score of 1.00 indicates regional industry size is the same to the national average; an LQ score of 2.0 indicates regional industry size is twice the national average; and an LQ score of 0.50 indicates the regional industry size is half the size of the national average.[14] Size, or concentration, is determined by industry employment. An LQ score of 1.25 or higher is considered to represent a comparative advantage of that industry in the analyzed region. A comparative advantage is held by the region that can produce goods or services at a lower cost than others. [15]

Table 17: LQ of the Tourism Industry	
Tybee Island	**2.56**
Comparison Group Average	**0.98**
Gray	1.11
Ringgold	1.20
Royston	1.40
Springfield	0.62
Sylvania	1.33
Vienna	0.47
Washington	1.02
Watkinsville	0.66
Source: JobsEQ by Chmura Economics & Analytics	

Table 17 depicts the LQ scores of the tourism industry in the City of Tybee Island and the comparison group cities. These LQ scores clearly define Tybee Island as a tourist destination. Not only does the City's LQ score of 2.56 indicate Tybee Island is comparatively advantageous in the tourism industry, but it also indicates that the concentration of tourism in the City is 2.5 times the national rate. The comparison group is in alignment with the national average for tourism. However, two cities stand out as also having comparative advantages when each individual city in the comparison group is considered: Royston (LQ 1.40) and Sylvania (LQ 1.33).

For further analysis, Table 18 depicts the four 2-digit North American Industry Classification System (NAICS) codes that are included in the tourism industry being measured in Table 17. These NAICS codes are Arts, Entertainment, and Recreation (71), Retail Trade (44), Real Estate and Rental Leasing (53), and Accommodation and Food Services (72).

The 2-digit NAICS code analysis reveals that the high tourism LQ score of Tybee is largely due to the Real Estate and Rental Leasing and the Accommodation and Food Services sectors with LQ scores of 5.44 and 4.24, respectively. The City also has a comparative advantage in the Arts, Entertainment, and Recreation sector, but its Retail Trade sector is just barely on par with the national average. This suggests that Tybee tourists do some retail and entertainment spending off the island.

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[14] "Location Quotient," *JobsEQ by Chmura Economics & Analytics*, https://help.eqsuite.com/miscellaneous-pages/location-quotient/

[15] Lauren F. Landsburg, "Comparative Advantage," *Econlib*, https://www.econlib.org/library/Topics/Details/comparativeadvantage.html

Table 18: LQ of Tourism Industry by 2-Digit NAICS Codes				
	Arts, Entertainment, and Recreation (71)	**Retail Trade (44)**	**Real Estate and Rental Leasing (53)**	**Accommodation and Food Services (72)**
Tybee Island	**1.25**	**0.99**	**5.44**	**4.24**
Comparison Group Average	**0.15**	**1.24**	**0.26**	**0.97**
Gray	0.26	1.45	0.36	1.02
Ringgold	0.68	1.54	0.32	1.07
Royston	0.04	1.96	0.24	1.25
Springfield	0.03	0.83	0.11	0.59
Sylvania	0.02	1.82	0.01	1.29
Vienna	0.04	0.44	0.18	0.68
Washington	0.05	1.28	0.18	1.09
Watkinsville	0.07	0.64	0.70	0.80
Source: JobsEQ by Chmura Economics & Analytics				

The comparison group has a larger concentration of the Retail Trade industry than the City of Tybee Island. The individual cities of Gray (LQ 1.45) and Ringgold (LQ 1.54) have likely been influenced by their close proximity to the larger cities of Macon, GA and Chattanooga, TN, respectively. Royston (LQ 1.96), Sylvania (LQ 1.82), and Washington (LQ 1.28) are centered at the intersection of two or more highways, placing these cities in a better position to service a larger geographical area.

For Tybee Island, the Real Estate and Rental Leasing (NAICS 53) is largely driven higher by the Real Estate sector (NAICS 531) than the Rental and Leasing Services sector (NAICS 532) sector with LQ scores of 6.10 and 2.82, respectively. However, both scores are still higher than the national average.

The Accommodation and Food Services (NAICS 72) industry on Tybee is also driven by one 3-digit NAICS code sector more than the other, but in this case one of the sectors is less than the national average. The Full-Service Restaurants (NAICS 722511) has an LQ score of 8.62 and the Limited-Service Restaurants (NAICS 722513) has an LQ score of 0.79. A full-service restaurant is defined as an establishment where patrons order and are served while seated and pay after eating, whereas limited-service restaurants usually require patrons to order and pay before eating.[16] Tybee's LQ scores in these sectors indicate that the City has a much higher concentration of full-service restaurants than limited-service restaurants.

[16] "NAICS Code Description: 722511 – Full-Service Restaurants," *NAICS Association*, https://www.naics.com/naics-code-description/?code=722511

Conclusion

The tourism industry has had a substantial effect on economic activity in the City of Tybee Island. This report found that an annual average of 1.7 million tourist visitors and 1.9 million total visitors traveled to the island in 2021 and 2022 from every U.S. state. When this information is compared to the 2015 report, visitation has increased by 83 percent. This current report has also captured visitor survey data from an additional 10 U.S. states, and 0.4 percent of data represents tourists with an international point of origin. Combined, these travelers used 1.19 million room-nights at local accommodation providers. Even with the increase of travelers, day-trip tourists still comprised 61 percent of visits, while 39 percent were overnight tourists.

Across Tybee Island the tourism industry is led by the Accommodation and Food Services and the Real Estate and Leasing industries. Overall, these account for most of the tourism activity when compared to other similar-sized communities and the national mix of industries. Tybee Island also has a comparative advantage in the Arts, Entertainment, and Recreation industry but not as strong. Also, the City has a smaller concentration Retail Trade than the comparison group but is on par with the national average. This is due to strong linkages between the island and the other areas of Chatham County.

The on-island total revenue (output) reached $215.6 million over the four quarters of the economic impact analysis. This resulted in a total of 1,902 jobs supported on Tybee Island. Due to the economic linkage between the City of Tybee Island and the rest of Chatham County, the off-island impact was larger. The spending for tourist spending off-island reaches $612.38 million in total revenue. This supported a total of 6,174 jobs across Chatham County. The economic activity supported $11.6 million in city tax collection and $5.6 million in county revenue.

The analysis also found that the City of Tybee Island collects more tax revenue than other similar communities based on population, but the increase in visitors also requires higher expenditures on local services. These funds are also spent supporting additional services that makes this community a good place to visit and live.

Appendix A: Complete List of Visitor Point of Origin

Tables 19 and 20 show the complete list of states that are the point of origin for all survey participants in the CBAER data and all visitors in the Placer.ai data, respectively. Also included is Washington D.C. and international figures. (At the time of reporting, Placer did not collect international data.)

Table 19: Visitor Point of Origin 2021-2022 Complete List, CBAER Data

	State	% of Visitors			State	% of Visitors
1	Georgia	38.82		**27**	Connecticut	0.35
2	North Carolina	7.35		**28**	Maine	0.27
3	South Carolina	6.99		**29**	New Hampshire	0.27
4	Tennessee	6.26		**30**	Oklahoma	0.27
5	Ohio	5.22		**31**	Mississippi	0.24
6	Indiana	2.79		**32**	Washington	0.24
7	Kentucky	2.81		**33**	Utah	0.20
8	Virginia	2.81		**34**	Nebraska	0.18
9	Florida	2.57		**35**	Nevada	0.18
10	New York	2.50		**36**	Arkansas	0.15
11	Michigan	2.26		**37**	Louisiana	0.13
12	Pennsylvania	2.28		**38**	Arizona	0.11
13	Illinois	1.99		**39**	Delaware	0.11
14	Alabama	1.66		**40**	Oregon	0.11
15	Maryland	1.53		**41**	Vermont	0.11
16	New Jersey	1.20		**42**	New Mexico	0.07
17	Wisconsin	1.02		**43**	Idaho	0.02
18	Missouri	0.89		**44**	South Dakota	0.04
19	Texas	0.86		**45**	Montana	0.02
20	Massachusetts	0.82		**46**	North Dakota	0.02
21	Minnesota	0.80		**47**	Rhode Island	0.02
22	California	0.69		**48**	Alaska	-
23	West Virginia	0.66		**49**	Hawaii	-
24	Colorado	0.62		**50**	Wyoming	-
25	Iowa	0.55			Washington, D.C.	0.11
26	Kansas	0.40			International	0.40

Table 20: Visitor Point of Origin 2021-2022 Complete List, Placer Data						
	State	**% of Visitors**			**State**	**% of Visitors**
1	Georgia	41.63		**27**	Oklahoma	0.45
2	North Carolina	6.15		**28**	Kansas	0.44
3	South Carolina	5.83		**29**	Mississippi	0.42
4	Florida	5.10		**30**	Louisiana	0.41
5	Tennessee	4.51		**31**	Iowa	0.41
6	Ohio	3.85		**32**	Connecticut	0.38
7	Kentucky	2.73		**33**	Washington	0.35
8	Virginia	2.61		**34**	Utah	0.24
9	Alabama	2.26		**35**	Nebraska	0.23
10	Illinois	2.24		**36**	New Hampshire	0.17
11	Pennsylvania	2.19		**37**	Oregon	0.15
12	New York	1.85		**38**	Nevada	0.13
13	Indiana	1.82		**39**	Delaware	0.12
14	Michigan	1.77		**40**	Maine	0.11
15	Texas	1.65		**41**	New Mexico	0.11
16	Missouri	1.23		**42**	South Dakota	0.10
17	Maryland	1.14		**43**	Rhode Island	0.09
18	California	1.11		**44**	Idaho	0.08
19	Wisconsin	1.09		**45**	Vermont	0.08
20	New Jersey	0.86		**46**	Alaska	0.07
21	West Virginia	0.69		**47**	Montana	0.07
22	Minnesota	0.65		**48**	Hawaii	0.06
23	Colorado	0.61		**49**	North Dakota	0.05
24	Massachusetts	0.59		**50**	Wyoming	0.05
25	Arizona	0.48			Washington D.C.	0.14
26	Arkansas	0.47			International	N/A

Appendix B: IMPLAN Model

Input/output (I/O) models examine the relationships between different industrial sectors in a targeted geographic area. The regions could include (but are not limited to): United States, Grouping of States, One State, or Sub-State (County or City). These models are not forecasting models, which are designed to predict changing economic situations. Rather, I/O models, including IMPLAN, assume that the economy is in a state of general equilibrium. When an analyst enters data into an input-output system, the economy is “shocked by the new action.”

This shock to the model sets off a set of relationships between the different industrial sectors in the model. These relationships create changes in the equilibrium of the model. It is this change from the old equilibrium to new equilibrium that creates the economic impact.

The IMPLAN model follows this type of format. The general equilibrium in the model is defined by several different tables, which make up the structural matrix. One of the foundations of the structural matrix is based on the North American Industry Classification System (NAICS) codes. These codes organize the matrix into sectors of the economy that follow the NAICS codes. The codes determine how closely the economy will be examined. In general, the more specific the NAICS code, the more detailed the analysis. For example, NAICS code 31 represents manufacturing, which includes food and beverage manufacturing, textile mills, appliance apparel manufacturing, and so on. In contrast, NAICS code 31131 represents a specific type of manufacturing, just sugar manufacturing. With this step complete in the matrix, the next step in the IMPLAN model is to examine a targeted region.

The matrix next generates a regional purchase coefficient from the national data. This coefficient is specific to each model’s regional configuration. This coefficient is important to the modeling process because it is how the model accounts for the goods and services necessary to process one unit of output. It also determines how many of the goods and services are produced locally, and what will need to be imported into the region.

This coefficient is also useful in determining the amount of employment in the regional configuration being studied. Inside IMPLAN’s matrix, calculations are done to determine how much output is needed to create one new unit of employment. When an analyst enters an input, the IMPLAN model uses both the coefficient and the matrix to determine how much employment will be added. It is again the regional coefficient’s job to tell the model how much employment will take place in the region being studied. This model is often used to calculate job creation figures for economic impact studies.

Data Used in the IMPLAN Model

The data used in the IMPLAN model are collected from a variety of data sources. The most important federal data sources for this plan come from the U.S. Department of Commerce. This department includes the U.S. Census Bureau and the Bureau of Economic

Analysis. Other data come from the Bureau of Labor Statistics through the U.S. Department of Labor.

The data sets that IMPLAN uses to develop the underlying model are:

- U.S. Bureau of Economic Analysis
- U.S. Bureau of Economic Analysis Output Estimates
- U.S. Bureau of Economic Analysis REIS Program
- U.S. Bureau of Labor Statistics Covered Employment and Wages (ES202) Program
- U.S. Bureau of Labor Statistics Consumer Expenditure Survey
- U.S. Census Bureau County Business Patterns
- U.S. Census Bureau Decennial Census and Population Surveys
- U.S. Census Bureau Economic Censuses and Surveys
- U.S. Department of Agriculture Crop and Livestock Statistics
- U.S. Geological Survey

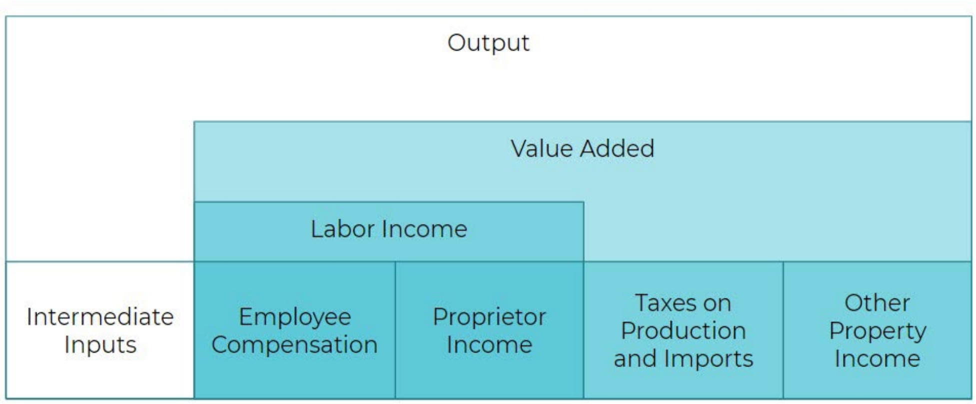
Each of these data sets provides the IMPLAN model with reliable data. MIG then synthesizes the information and develops appropriate equations to make the model function. In addition, IMPLAN fills in any gaps in these data using methods consistent with the common theory in this area.

With these tools in place, the IMPLAN model produces three elements in determining economic impact in the analysis.

Direct effects – Direct effects are the effects of the capital or labor that are directly being studied in the modeling process. An example of a direct effect is the spending by visitors on goods and services within a particular region.

Indirect effects – Indirect effects are the business-to-business transactions caused by the direct effects. For example, when a general contractor purchases supplies, the supplying vendors will use the revenue generated to restock inventory and to potentially hire additional employees.

Induced effects – Induced effects are the impacts of direct and indirect effects on individual employees' income and subsequent spending in the economy.



In general, for every input into a transaction, an amount over that transaction is generated. For example, if a visitor or employee buys lunch at a local restaurant, the amount of this purchase will be re-circulated in the economy. This happens when the business owner replaces the ingredients used in preparing lunch (the indirect effects) or hires an employee to prepare or serve the meal (induced effect). The receivers in this transaction become the next round's inputs, so the cycle continues. The IMPLAN model only tracks the first round of this process.

Using these effects, the model produces several multipliers. Multipliers measure how many times an economic action moves through the economy. They apply to both monetary and employment transactions. The multipliers used in IMPLAN are the indirect multiplier (indirect effect / direct effect), the type I multiplier (direct effect + indirect effect / direct effect), the induced multiplier (induced effect / direct effect), and the type SAM (social accounting matrix) multiplier ((direct effect + indirect effect + induced effect) / direct effect).

Appendix C: Comparison of 2023 and 2015 Reports

Displayed in Table 20 are the areas in which the 2023 and 2015 reports differ. Many of these changes are due to increases in the number of tourists and total visitors traveling to Tybee Island. Other differences can be explained by market factors including inflation/price increases, changes in spending patterns, and consumer preferences.

Table 20: Differences Between the 2015 and 2023 Reports		
Visitation and Accommodations	**2023**	**2015**
Number of Visitors	1,763,400	1,044,100
Average Overnight Visitor Party Size	4.50	3.75
Average party size	4.30	4.30
Out-of-State Visitor Percentage	61%	27%
From Georgia (excluding Chatham County)	33%	48%
Economic Impacts	**2023**	**2015**
On-island total business revenue (Output)	$215,159,543	$164,898,510*
Off-island total business revenue (Output)	$612,347,162	$143,547,000*
On-island total employment	1,902	1,225
Off-island total employment	6,147	1,643
**Inflation adjusted from 2015 to 2022 using CPI*		

Appendix D: Financial Statements of Comparison Cities Reference List

City of Tybee Island, Georgia, Financial Report for the fiscal year ended June 30, 2021, https://www.cityoftybee.org/DocumentCenter/View/3331/FY-2021-Audited-Financial-Statement

City of Gray, Georgia, Annual Financial Report, for the year ended December 31, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-gray-fy2021-financial-report.pdf

City of Ringgold, Georgia, Annual Financial Report, year ended December 31, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-ringgold-fy2021-financial-report.pdf

City of Royston, Georgia, Annual Financial Report, for the fiscal year ended June 30, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-royston-fy2021-financial-report.pdf

City of Springfield, Georgia, Annual Financial Report, for the year ended December 31, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-springfield-fy2021-financial-report.pdf

City of Sylvania, Georgia, Audit of Financial Statements, for the year ended December 31, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-sylvania-fy2021-financial-report.pdf

City of Vienna, Georgia, Financial Report, for the year ended September 30, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-vienna-fy2021-financial-report.pdf

City of Washington, Georgia, Annual Financial Report, for the year ended December 31, 2021, https://ted.cviog.uga.edu/financial-documents/sites/default/files/budgetdoc/financial-report/city-washington-fy2021-financial-report.pdf

City of Watkinsville, Georgia, Annual Financial Report, for the fiscal year ended June 30, 2021, https://www.dropbox.com/sh/5mln3d1zjmpzphq/AAD6sx_FGR-b2W-vR_fyB8KXa?dl=0&preview=Fiscal+Year+2021+City+of+Watkinsville+Annual+Financial+Report+FINAL.pdf