

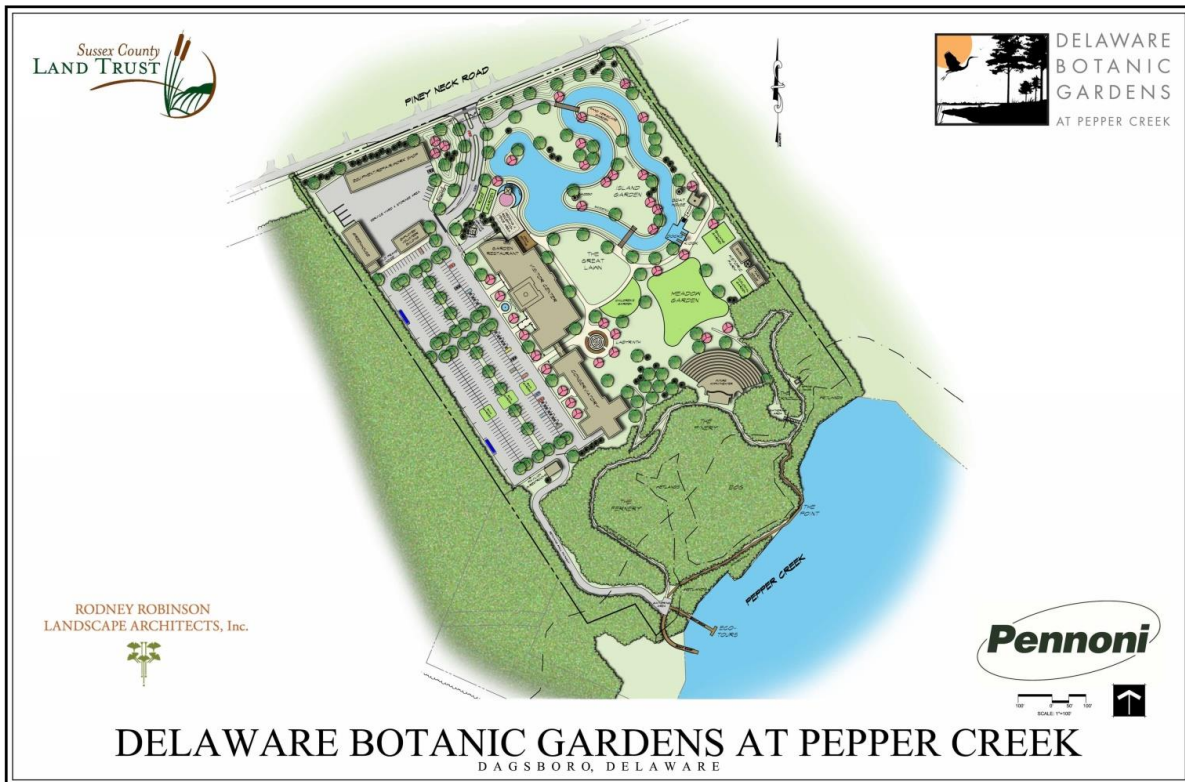


THE ECONOMIC & FISCAL IMPACTS OF THE DELAWARE BOTANIC GARDENS AT PEPPER CREEK



DELAWARE BOTANIC GARDENS AT PEPPER CREEK

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Overview

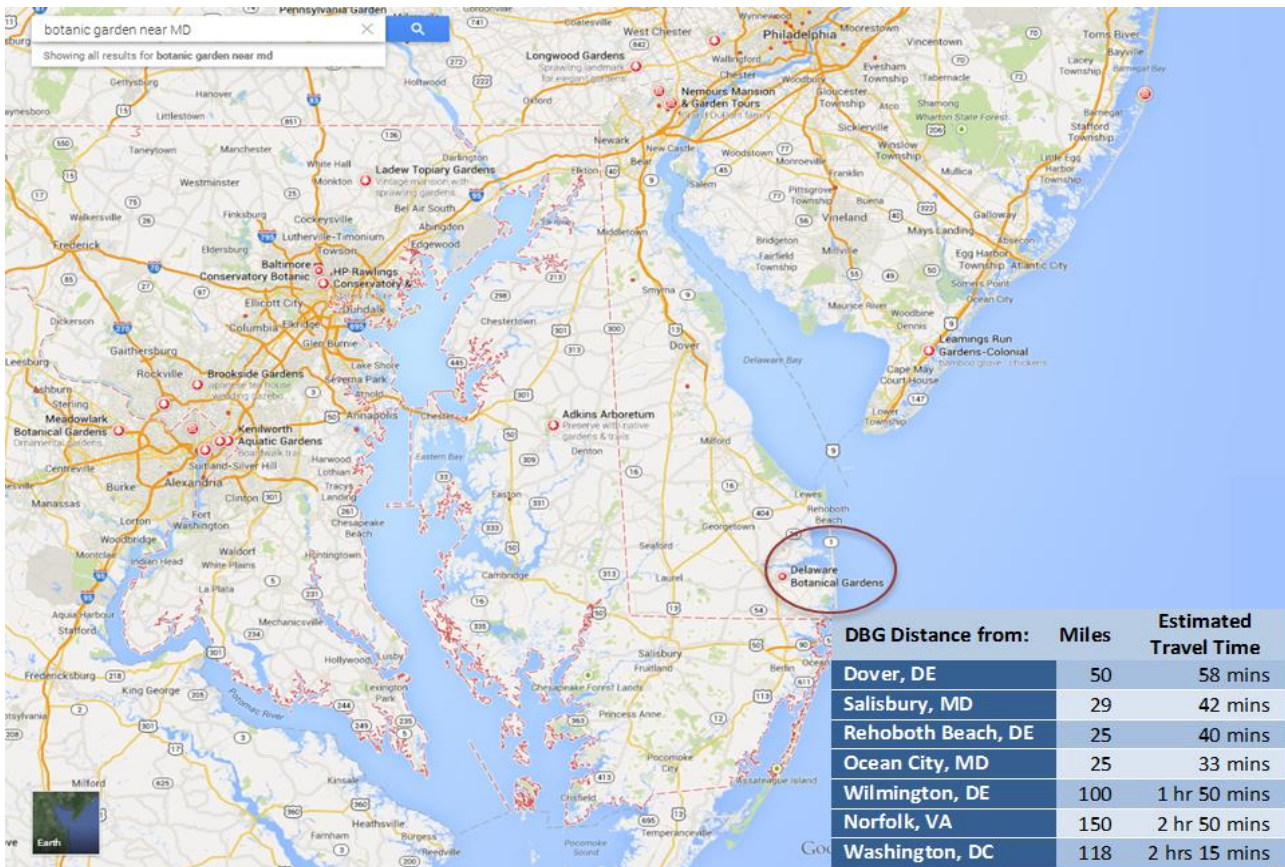


Introduction

Rockport Analytics, a private economic development research consultancy, has been retained by Southern Delaware Botanic Gardens, Inc. (dba as Delaware Botanic Gardens) to provide an assessment of the economic and fiscal impacts of the proposed Delaware Botanic Gardens at Pepper Creek (DBG). The botanic gardens will be located on 37 acres, including 1010 feet of tidal waterfront on Pepper Creek, on Piney Neck Road near

Dagsboro in Sussex County, Delaware. DBG is embarking on a phased plan to bring a coastal plain botanic garden to southern Delaware consistent with its mission to create inspirational, educational, and sustainable public gardens in Delmarva for the benefit and enjoyment of all.

DBG would be centrally located on the Delmarva Peninsula within 3 hours of major cities such as Washington, DC, Baltimore, Philadelphia, Wilmington, and Norfolk. Moreover, the Dagsboro site is about ½ hour from the Delaware and Maryland beaches. Most of the Delaware, Maryland, and Virginia residents of the Delmarva Peninsula are close enough to visit the DBG as part of a single daytrip. At this writing, the closest botanic gardens are in Kennett Square, PA (Longwood Gardens), Hockessin, DE (Mt. Cuba Center), Wilmington, DE (Winterthur Museum and Gardens and Nemours Mansion and Gardens), Washington, DC (U.S. Botanic Garden) and Norfolk, VA (Norfolk Botanic Garden). The only other notable botanic garden on the Delmarva Peninsula is Adkins Arboretum, a native plant garden and preserve, located within the Tuckahoe State Park in Ridgely, MD (near Easton).



Sussex County’s population is expected to eclipse 210,000 in 2014, representing an average increase of over 2% per year since 2004¹. With this growth has come greater demand for more/better cultural, recreational, and educational opportunities. Consider also that nearly 4 million tourists visit the Delaware and Maryland beaches each year, about 65% of whom visit between April and September. While the beach remains their core trip motivation, increasingly visitors seek other trip activities to round out their stay². Moreover, ecotourism is one of the fastest growing segments in the U.S. tourism industry.

A public garden is not only an esthetic community benefit, it has the potential to make serious economic contributions to the region. The purpose of this research is to assess the potential economic impact of the DBG on Sussex County and the State of Delaware. Metrics such as new spending, Sussex jobs supported, wages paid, and state & local tax receipts will be used to measure the potential net new contribution of the DBG to local citizens, businesses, and government entities. Armed with this information, public and private organizations will be better positioned to evaluate its potential return on investment. It is not our intention to evaluate the feasibility of the DBG business plan in this research. We leave this to the financial experts. Rather, our objective is to assess the construction and ongoing operations of the garden, as submitted, as it pertains to the economic development of the local area.

DBG construction and continuing operations will create new permanent jobs in Sussex, generate much-needed tax revenue, enhance Delaware’s already strong tourism offering, and contribute considerable educational benefits. Importantly, it is *net new* spending that is critical in measuring this contribution. Spending by local residents at DBG is clearly critical to the financial feasibility of the attraction, but this would not generally be counted in the economic impact assessment. The argument is that resident spending would take place in the community anyway. Rather, it is spending by DBG visitors from outside of Sussex that would ultimately be net new to the local economy.

Rockport Analytics has performed many such economic development studies over the course of more than 25 years. In this report, we have itemized these net new benefits, quantified them wherever possible, and communicated our findings using metrics that are easily understood. Our approach had us utilize

Methodology Notes

- The economic impacts described in this study are based on the Delaware Botanic Gardens at Pepper Creek (DBG) pro-forma operating financial statements and construction budget as of August 2014. While firm schedules have not yet been put in place, we have assumed that the construction period will take place between 2015 and 2017. Operations are assumed to begin in 2017 and our 5-yr period of evaluation assesses DBG’s economic contribution through 2021.
- The first task was to analyze DBG attendance and revenue estimates against a distance-weighted appraisal of the available market. Available market included Sussex residents, visitors from other Delmarva counties, and incremental attendance from DE and MD summer beach tourists.
- Next, *net new* DBG-initiated spending was estimated. Only the spending that is truly new and incremental to the Sussex economy is part of the impact calculation. This spending emanated from three sources: (1) DBG construction spending, (2) operating expenditures -i.e. labor, material, and supply purchases, and (3) the ancillary spending of visitors from outside of Sussex (e.g. food & beverage, retail, hotel).
- Each net new spending stream was then entered into the appropriate sector of the Sussex County IMPLAN economic development model in order to calculate the direct, indirect, and induced impacts on the Sussex economy including GDP, jobs supported, wages paid, and taxes.
- For more information and specific data sources, please see the Methodology & Data Sources section at the end of the report.

¹ U.S. Bureau of Census, Federal Reserve Bank of St. Louis July 2014

² D.K. Shifflet & Associates (www.dksa.com), Delaware Tourism Office, Rockport Analytics

the construction budget and pro-forma balance sheet and operating profit & loss statements submitted by the DBG in conjunction with pertinent economic & demographic information, botanic garden comparable analysis, and a non-proprietary economic model of Sussex County³. In short, we have deployed a time-tested methodology to produce credible estimates of DBG-initiated spending and its full economic contribution to Sussex County, the state of Delaware, and the entire Delmarva region. Moreover, our research has been executed in a manner consistent with other related economic impact studies, including the 2013 Delaware Tourism Economic Impact⁴, in order to facilitate comparisons with other public projects and help to develop an understanding of the return on investment offered by DBG.

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³ The IMPLAN model was originally developed at the University of Minnesota (see www.implan.com)

⁴ <http://www.visitdelaware.com/industry/delaware-tourism-statistics/>

Executive Summary

At first glance, the Delaware Botanic Gardens’ (DBG) esthetic and educational benefits, commercial value, and contribution to civic pride are arguably easier to grasp. Its full economic contribution to the region, however, is likely to be underestimated.

The attraction’s operational and marketing expenditures, as well as ancillary spending by visitors, will create a steady stream of revenue, jobs, payroll, and tax receipts. These benefits accrue to local citizens, businesses, and government institutions in Sussex County and beyond. Moreover, initial construction and future expansion/improvement of the garden would also create significant one-time economic benefits to the local area. Study findings of those benefits are summarized below.

**Delaware Botanic Gardens at Pepper Creek
Bottom Line**
Budgeted Expenses & Spending Vs. Total Economic Impact

DBG Impact Source <i>(in millions \$)</i>	2015-2017 DBG Budgeted Expenses	2015-2017 Resulting Economic Impact <i>(Value-Added/GDP)</i>
Construction	\$ 6.7	\$ 4.1
Operations	\$ 19.5	\$ 21.7
Ancillary Spending		\$ 10.1
Grand Total	\$ 26.2	\$ 35.9

Including two years of development & construction and five years of ongoing operations, the total DBG economic impact will reach \$36 Million. Three key sources of DBG net new economic contribution were identified and measured separately: (1) DBG construction, (2) DBG local hiring and other operating expenses, and (3) ancillary spending of non-local DBG visitors. **From a total of \$26.2 million in spending, \$35.9 million in economic impact implies a multiplier of 1.37 – quite strong for an attraction of this nature in a more rural environment.**

Beyond the numbers, the DBG would bring other benefits to area businesses, citizens, and government entities. A botanic garden would contribute certain esthetic and educational advantages, provide an assist to ongoing economic development efforts to attract and retain new business, raise property and commercial values, and contribute to local civic pride. Moreover, the DBG would help to strengthen and diversify the cultural and tourism offering of Sussex County, helping to grow the county’s number one industry employer, the tourism sector.⁵ While these benefits are more difficult to quantify, they are both tangible and significant for Sussex County, Delaware, and the entire Delmarva region.

The economic returns are significant and the gardens would no doubt be an important addition to Delmarva’s cultural, educational, and tourism landscape, but **Rockport Analytics would also like to acknowledge the passion and determination of the DBG board.** Their dedication and resolve to this project is palpable. More than that, however, it is arguably the “x factor” that can distinguish between a good development concept and the delivered reality of new Delmarva jobs, income, taxes, and living standards.

⁵ Tourism is Sussex County’s largest industry supporting nearly 15,000 area jobs in 2012 and comprising over 20% of total employment in the county.

DBG Attendance, Revenue, and Expense Assumptions

- DBG management has submitted a pro-forma construction and operating budget. The budgets were informed by solid research on the part of the DBG Board. A respected construction engineering firm guided the development of DBG’s construction budget. The operating budget was informed by extensive interviews with executive management at six existing botanic gardens. Moreover the DBG operating attendance, revenue, and expense estimates were developed with the guidance of the actual financial results from seven established botanic gardens from around the country⁶. The operating budget contains estimates of attendance by year from 2017, when the doors are assumed to open to the public, to 2021 - a 5-year operating horizon. **Attendance is assumed to rise from 31,500 in the first year of operations to 198,000 per year by 2021. Associated revenues were also provided by applying entrance fees and other on-site spending per attendee to these visitor estimates.**
- **Are these numbers reasonable?** Rockport Analytics vetted attendance and revenue against a conservative measure of “available market” for the DBG. The definition of available market included both the demographics of the garden’s expected market footprint and the size and composition of area Delaware and Maryland beach tourists. Secondly, DBG operating costs were compared to existing botanic garden financial statements from around the U.S. Labor, material & supply, and service inputs for gardens with comparable size and offerings were analyzed against the pro-forma DBG figures. **Our findings suggest that DBG assumptions regarding attendance, resulting revenue, and cost appear very realistic and reachable.** Consider:
 - **The total available market (TAM) for the DBG grows from about 563,000 visits in 2017 to 584,000 by 2021.** Population in DBG’s origin market footprint is expected to grow at over 1% per year during that same time period.
 - **Total available market was determined through the combination of total population across the Delmarva region weighted for distance from Dagsboro.** The algorithm was developed by Rockport Analytics from previous research and effectively eliminated prospective attendance from outside of about 90 miles. Next, we weighted TAM by the demographic profile (age/income) of typical botanic garden visitors gleaned from secondary research. Finally, TAM was further reduced to reflect the observed participation rate of Delaware tourists during leisure trips in activities such as nature, hiking, bird watching, and horticultural attractions (roughly 4.5% of Delaware leisure visitors took advantage of these amenities in 2012).
 - **Comparing DBG’s budgeted attendance to our estimates of TAM, the implied market share ranges from only 6% in 2017 to about 34% by 2021.** This assumes fairly low participation rates among Sussex residents and visitors. Moreover, **the fact that the DBG has essentially no competition on the Delmarva Peninsula further suggests that the garden has plenty of room to grow in its principal markets.**
 - **The bottom line is that DBG’s attendance, resulting revenue, and cost assumptions appear both reasonable and attainable.** In fact, there are a number of reasons to conclude that DBG’s attendance estimates are actually too conservative. For one, our participation rate assumption did not consider some of the other ancillary offerings by the DBG such as

⁶ For more detail, see “Methodology & Data Sources” on beginning on page 28.

weddings, holiday light shows, hosted meetings, and educational programs. These would potentially attract other demographic groups to the gardens that our TAM algorithm underweighted. Secondly, our distance weighting algorithm may have been a bit too severe. Delmarva residents are arguably more accustomed to traveling greater distances for shopping, entertainment, cultural, and other activities. Our TAM distance algorithm was developed using more densely populated areas and degrades quickly with distance. Third, our garden attraction participation rates are assumed to be very low, at about 4-5%. Adding just two or three more percentage points would increase TAM significantly. Finally, our assumptions regarding the number of Delaware and Maryland beach tourists that could be attracted to the DBG was very conservative. Total Sussex and Worcester tourists reached an estimated 4 million in 2012, only 4% of whom were added to the TAM.

Construction Expenditures and Economic Impact

- **DBG construction expenditures are expected to total \$6.7 million dollars for DBG’s initial phase.** These estimates were submitted by DBG management and its engineering consultant, Pennoni Associates. The definition of the initial phase was a compromise between DBG’s long-range vision for the attraction, near-term funding realities, and a minimum set of required garden amenities necessary to attract sufficient attendance and justify planned entrance fees. Construction work **is expected to commence in 2015 and carry through to 2017** apportioned 25%, 50%, and 25%, respectively.
- **A total DBG construction budget of \$6.7 million will result in just over \$4 million in economic impact (value added or GDP), \$3 million of which will accrue to Sussex construction firms (Direct) and their local suppliers (Indirect).**
 - **DBG construction will support 50 direct jobs, an average of about 17 per year over the three year construction period. Construction supply chain firms in Sussex County will employ 10 more employees (measured in full-time equivalent or FTEs).** Finally, the induced impact of DBG construction will support another 10 jobs across the county.
 - **At prevailing wage rates for construction workers in Sussex, DBG will generate labor income of over \$2.1 million (Direct).** Upstream supply chain businesses will pay their DBG construction-supported workers almost \$400,000 over the 3-yr construction period. Finally, induced wages paid to DBG construction-supported workers will total \$512,000.
 - **DBG construction will incur many direct and indirect taxes over the course of the project.** Federal taxes, which include personal and corporate income taxes, social security, other levies, will total about \$555,000 over the course of the construction effort. Meanwhile, **Delaware state and Sussex County local taxes will total another nearly \$300,000.** These taxes include income, gross receipts & specialized sales (e.g. fuels, alcohol, tobacco, etc.), franchise, and property, as well as other levies, licenses, and fees. Essentially, **DBG’s \$6.7 million in construction spending will result in a \$300,000 tax windfall to Delaware and Sussex County, an aggregate rate of about 13%.**
- **Although not specifically included in this study, the planned future construction of DBG’s facility enhancements (Visitors/Nature center, Conservatory, and Amphitheater) will also have significant economic benefits.** With a budget of over \$43 million, the construction economic impact alone will

total about \$21 million in value-added/GDP and generate 286 additional jobs in Sussex. Moreover, once in place, the enhanced DBG facilities can be expected to further raise attendance, employment, and operating results. This will ultimately increase the operational economic contribution of the gardens to Sussex, Delaware, and the entire Delmarva region.

Ongoing DBG Operations Economic Impact

- **Initial pre-opening DBG operating expenses are expected to total \$710,500 and \$715,500 in 2015 and 2016, respectively. Six (6) full time employees are assumed at start-up,** carrying a payroll expense (including taxes) of \$288,000 per year. Opening the doors in 2017 will ramp up operating expenditures to \$1,583,200. At that time, more workers will be hired and more materials and services will be purchased to serve visitors. Payroll will rise to 17 employees and \$816,000 in wages & benefits. **DBG expects to grow revenue and expenses over the evaluation period. By 2021, total operating expenses will reach \$6,122,800. DBG will employ 75 full time workers beginning in 2020 and incur over \$3.6 million in payroll expenses.**
- **Visitors to the DBG from out of the area will also engage in ancillary spending during their trip to Dagsboro to visit the garden.** Hotel (if overnight), outside food & beverage, off-site retail, gasoline, and other entertainment purchases are all examples of local spending that can be attributed to the DBG. **Total non-local visitor ancillary spending was estimated to be just short of \$874,000 in the first year of operations (2017) rising to \$6.4 million by 2021.**
- **Total DBG operations expenditures and the ancillary spending of DBG-initiated non-local visitors will total over \$34 million over the first 5 years of operations:**
 - **This, in turn, will generate a total contribution to Sussex value-added (or GDP) of \$30.5 million.** Some of the initial \$34 million in spending will “leak” away to other counties and states since Sussex, like most counties, will lack some of the necessary input requirements needed for the garden – the leakage is estimated at about \$3.7

DBG Economic Impact in Perspective

- ✓ By the end of its first 5 years, DBG will support a total of 178 jobs per year in Sussex with an average salary of \$39,000 per. Only 75 of those workers will be on the DBG payroll.
- ✓ Of DBG’s 614,000 visitors (2017-2021), about 123,000 will be from outside the area. In addition to on-site expenditures, they will bring nearly \$19 million in new spending to Sussex hotels, restaurants, retail shops, and other businesses
- ✓ Each DBG non-local visitor would contribute about \$248 to the Sussex County economy, \$103 of which would go to businesses that would not directly “touch” that visitor
- ✓ 67¢ of each DBG-initiated dollar would be kept within Sussex County
- ✓ Every 208 non-local DBG visitors would support one new Sussex County job
- ✓ Each non-local DBG visitor would generate about \$58 per attendee in tax receipts, \$21 of which would go to state & local authorities
- ✓ Every 51 non-local DBG visitors would generate enough state & local tax revenue to educate one Delaware public school student for a full academic year

million in total.

- **DBG ongoing operations during the first five years will also support an average of about 118 Sussex County jobs per year, some directly employed at the gardens and others at local businesses that will help cater to visitors who come to the area for the purpose of visiting the garden.**
- **These jobs will generate total Sussex County wages of \$22.8 million across a range of industries.** And DBG-supported jobs will be relatively well paid ones. **The average wage over the 5-year period will reach nearly \$39,000 per year.** The amounts will vary by industry, with DBG workers averaging about \$42,000, supply chain industry labor averaging \$44,000, and leisure and hospitality employees receiving an average of \$32,000 per year. **The average wage for all Sussex County workers in 2012 was \$34,376.**
- **Finally, DBG-initiated taxes will total \$7.2 million over the first five years, with about \$4.6 million going to the federal government and \$2.6 million accruing to state and local authorities.** Federal taxes will come primarily from social security taxes, taxes on corporate profits, indirect business taxes and personal income taxes. Principal sources of state and local tax receipts include state personal income and corporate profits taxes, gross receipts & specialized sales taxes, franchise taxes & fees, and property taxes.

Analysis of Delaware Botanic Gardens Visitation, Revenue & Spending



The pro-forma profit & loss statement and high-level construction budget submitted by the DBG was the primary source of garden attendance, revenue, operating, and construction expenses. These measures formed the critical DBG drivers of our economic impact assessment. For a detailed explanation of the approach taken in development of DBG’s pro forma estimates, please see the “Methodology & Data Sources” section at the end of the report. Before simply plugging them into the process, however, certain tests of reasonableness were executed. First, we vetted attendance and revenue against a measure of “total available market” (TAM) for the DBG. The universe of potential DBG visitors included both the demographics within the origin market footprint (essentially the population of Delmarva) and the size and composition of Delaware and Maryland beach tourists. Other potential sources of visitation such as cooperative partnering with the Cape

May-Lewes Ferry, while potentially significant, were not included in our analysis.

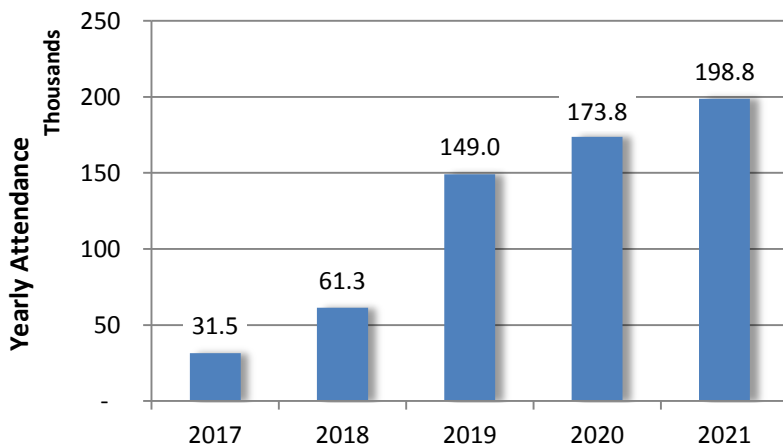
Secondly, DBG operating costs were compared to appropriate existing botanic garden financial statements from around the U.S. Labor, material & supply, and service inputs for gardens with comparable size and offerings were analyzed against the pro-forma DBG figures. Finally, a high-level construction budget for the initial phase of the DBG was organized for eventual submission into the Sussex County economic model in order to capture the one-time economic benefits of DBG development.

DBG Attendance Versus “Total Available Market”

The Delaware Botanic Gardens at Pepper Creek would be the only garden attraction of its kind on the Delmarva Peninsula. The Adkins Arboretum located within the Tuckahoe State Park in Ridgely, Maryland (near Easton), does provide some similar amenities, but it is more a native plant garden and preserve with walking trails. DBG’s educational, recreational, and community offerings have little overlap. Delmarva residents currently seeking the specific advantages of a botanic garden would have to travel to Longwood Gardens in Kennett Square, PA, Mt. Cuba Center in Hockessin, DE, the U.S. Botanic Garden in Washington, D.C., the H.P. Rawlings Conservatory & Botanic Gardens in Baltimore, or the Norfolk Botanical Garden across the Chesapeake

Bay Bridge Tunnel (including a \$30 toll during peak season May-September).

DBG Total Estimated Attendance



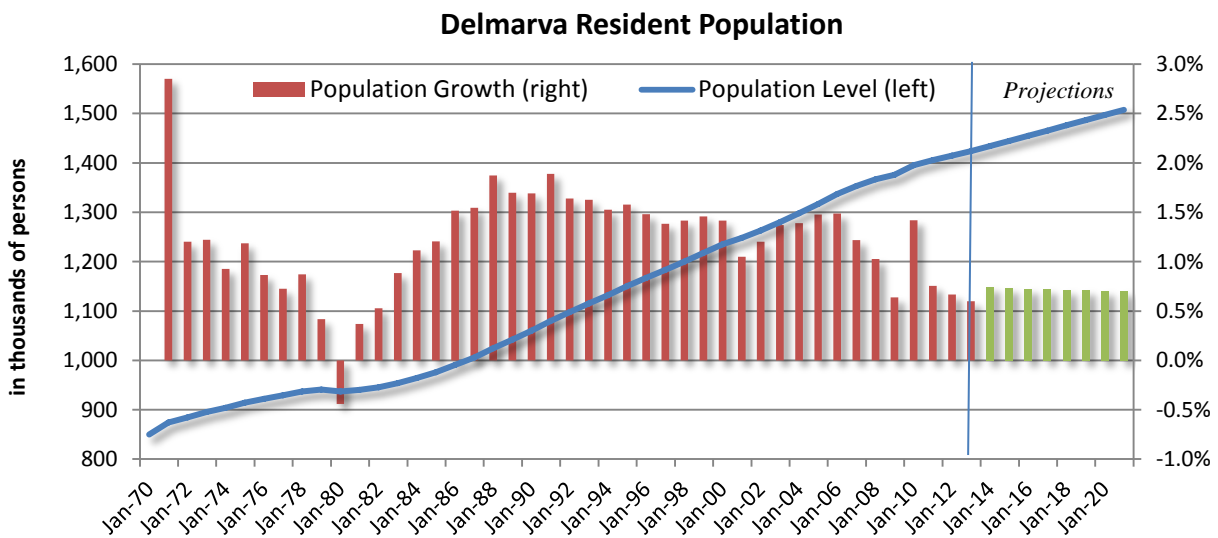
Source: Southern Delaware Botanic Gardens

The DBG pro-forma estimated attendance is 31,500 in the first year of operations (expected to be 2017), rising to nearly 200,000 five years later (see adjacent chart). Attendance is expected to primarily consist of Sussex County residents, visitors from other Delmarva counties, and a portion of existing Delaware and Maryland beach tourists. Of the initial 31,500 attendees, five hundred are assumed to be DBG “members”, who will visit multiple times throughout the year.

Membership is expected to rise over the initial 5-yr period at a much slower rate, rising to 1,250 by 2021.

Is this assumed rate of visitation reasonable? By triangulating the results of available research, Rockport estimated a lower bound of potential DBG visits, or “total available market” (TAM), from (1) Sussex County (local), (2) the rest of the Delmarva Peninsula (non-local), and (3) existing tourists from DE and MD beaches. Given the size of the total available market, DBG attendance assumptions appear conservative. Consider:

- The total population of Sussex County reached more than 206,000 in 2013. It is expected to grow by about 1.5% per year through 2021.
- Delmarva’s resident population reached 1.4 million in 2013, up from 1.28 million ten years earlier. While population growth rates have softened since 2005, the Federal Reserve Board and others expect net births and in-migration to keep these totals rising at about 0.7% per year through 2021 (see chart below).



Source: US Bureau of Census. Federal Reserve Bank of St. Louis

- Using data published by the Delaware Tourism Office and the Maryland Office of Tourism, Sussex and Worcester tourist visits reached an estimated 2.1 million and 1.77 million in 2012, respectively. These numbers, too, are expected to continue to expand through 2021, at about 1.2% per year.
- Research suggests that botanic gardens receive between 70-80% of their attendance from the local population. Moreover, among those local attendees, about 15% are one time visitors, 20% visit between 1-3 times per year, and 65% pass through the gate 4 times or more⁷.
- Among non-local visitors, 60% visit once, 20% between 1-3 times per year, and only 8% frequent the gardens more than 4 times in a year.
- Existing research suggests that typical botanic and horticultural garden visitors skew slightly older (70% are 30 or older) with an average age of about 40. This also suggests higher than average income levels⁸.

⁷ Compiled from an array of U.S. and international botanic garden research and published financial statements, including *Environmental Awareness, Interests and Motives of Botanic Garden Visitor: Implication for Interpretive Practice*, Roy Ballantyne, Jan Packer & Karen Hughes, May 2007.

⁸ For example, see *Botanic Garden User Outcomes: A Means-End Investigation*, Christopher Wassenberg, June 2012.

- Tourism research also yields useful insight into average visitation at botanic gardens. According to the national travel panel of our partner, D.K. Shifflet and Associates, which surveys over 600,000 U.S. households per year⁹ concerning leisure travel behavior and spending, trip participation among the categories most closely related to botanic gardens (unfortunately, there is no exact category for botanic garden visitation) ranges from a high of 6.8% for Park visitation to a low of 3.5% for Wildlife Viewing.
- The percentage of existing Sussex & Worcester County, MD visitors who, over the past 4 years, participated in Wildlife Viewing, Park, Eco-Tourism, and/or Hiking during their leisure trip(s) averaged about 4-5.5% per year¹⁰.

Rockport utilized the research findings from above to create a purposely conservative estimate of DBG’s “total available market” (TAM) and compared it to the attendance projections submitted by DBG management. Algorithms were developed for each attendance source: (a) local Sussex residents, (b) other Delmarva County households, and (c) existing tourists that already visit the area. Our approach included:

1. Sussex County and the rest of Delmarva’s population numbers were weighted to be broadly in line with the demographic profile of other botanic garden user research (i.e. age-income cohorts).
2. Delmarva county populations (other than Sussex County) were also weighted for distance using a linear coefficient determined by each county’s distance from Dagsboro¹¹. This recognizes that the closer one is to the attraction, the more likely they are to visit.
3. The Sussex County TAM was adjusted to reflect the expectation that it will provide 80% of DBG attendance. The remaining 20% are expected to come from other Delmarva counties and incremental existing tourists from Sussex and Worcester.
4. Sussex and other Delmarva counties were further stepped down according to typical trip participation in botanic garden-like attractions (about 4-5%).
5. Attendance frequency was also considered. Among the Sussex attendance “suspects”, 15 % were expected to visit only once per year, 20% would visit twice, and 65% would visit 4 times in a year. For the other Delmarva county suspects (i.e. non-locals), 60% were assumed to be one-time visitors, 20% would visit twice, and 8% would attend 4 times per year.
6. Sussex and Worcester County existing tourist “suspects” were also reduced to reflect observed participation in botanic garden-like activities and entirely considered to be one-time only.

The table below compares the results of our DBG available market estimates and the budgeted expectations of DBG management. DBG’s attendance estimates appear quite reasonable against our conservative definition of available market. In 2017, the assumed first full year of operations, attendance expectations of 31,500 visitors addresses only about 6% of TAM. Even after ramping up marketing and word-of-mouth, DBG’s 2021 expectation of 198,000 visits reaches only about one-third of the available market.

⁹ Source: D.K. Shifflet & Associates’ ongoing travel panel of over 600,000 U.S. households per year (see www.dksa.com). DKSA’s questionnaire asks about participation in over 44 different activities. Rockport Analytics averaged participation rates for the years 2007-2012 for the closest activities to botanic garden visitation.

¹⁰ Source: D.K. Shifflet & Associates. Years and trips were combined in order to provide sufficient sample for Sussex & Worcester County calculations.

¹¹ Distance in miles was calculated from the center of the origin county to Dagsboro.

There are a number of reasons that our estimate of TAM is arguably too conservative. For one, our participation rate assumptions did not consider some of the other ancillary offerings by the DBG such as weddings, holiday light shows, hosted meetings, and educational programs. One would expect these to increase attendance and visitation frequency, particularly among locals. Secondly, our distance weighting algorithm may have been a bit too severe. It was based upon a number of related attraction studies, many of which would undercount Delmarva’s lack of viable competition and the low density/high dispersion of all consumer activities on the Peninsula. Said differently, Delmarva residents are quite used to traveling greater distances for shopping, entertainment, cultural, and other activities. As such, our distance weighting algorithm may have eliminated more suspects than it should have, particularly from more distant Delmarva counties.

Total Available Market versus DBG Attendance Estimates

In thousands of visits	Sussex County Suspect Attendance	Delmarva Non-Local Suspect Attendance	Incremental Sussex & Worcester County Tourist Suspect Attendance	Total Available Market	DBG Estimated Attendance	Implied Market Share
2013	31.7	37.3	326.4	395.5	0	
2014	36.3	42.5	364.2	443.0	0	
2015	36.8	43.1	371.7	451.6	0	
2016	41.5	48.5	416.9	506.9	0	
2017	46.3	54.1	462.7	563.1	31.5	5.6%
2018	47.0	54.8	459.1	560.8	61.3	10.9%
2019	47.6	55.4	463.9	566.9	149.0	26.3%
2020	48.3	56.1	474.3	578.8	173.8	30.0%
2021	48.9	56.8	478.3	584.1	198.8	34.0%

Given the seemingly large and untapped potential of existing beach tourists, attracting more attendance from Dewey, Rehoboth, Bethany, Fenwick, Lewes, and Ocean City would be a strategic initiative with huge potential for the DBG. For one, they are already in Sussex County and many are habitual visitors who may have exhausted other secondary trip activities over the years. Secondly, they are in the right demographic, particularly from an age/income perspective. These tourists already spend an average of \$738 and \$752 per trip for Sussex and Worcester, respectively. The incremental spending associated with DBG admission fees would hardly register on the trip budget scale. Finally, the assumed garden attraction participation rate of about 5% seems rather low to us, something that a well-constructed marketing strategy would likely lift. With over 4 million of these visitors per year, it would not take much to move the DBG attendance needle.

DBG-Initiated Spending in Sussex County

The foundation of any economic impact study requires the estimation of all *net new* spending that can be *attributed* to the activity, attraction, event, or development. The operative words are new and attributed. Spending by local residents, absolutely essential for the operating viability of the DBG, would not be included in the impact accounting since those dollars would have been spent elsewhere in the county. Local attendee spending is essentially a transfer of economic activity from one actor to another, in this case the DBG. New spending comes primarily from non-locals who have been enticed to travel to the area and spend on the DBG gate, concession, and retail items. This spending is both new and initiated by the DBG. Another source of net new spending comes from convincing existing visitors (non-locals) already in the area to spend more than they would have otherwise. Existing Sussex and Worcester tourists clearly fit this description. Their spending at the garden would be net new. DBG can claim their entrance fee and other on-site spending, but cannot claim their ancillary trip spending (i.e. hotel, transportation, other retail, etc.) since they have visited the area for a different primary reason (e.g. beach).

There are three sources of DBG-initiated net new spending that are part of this economic impact assessment:

- (1) *Construction expenditures* –local labor, material, supply, and service spending. Source: DBG, Pennoni Associates
- (2) *DBG operating expenditures* –ongoing labor, material, & services spending in support of DBG operations. Source: DBG
- (3) *Ancillary spending of non-local DBG visitors* who have come to Sussex primarily to visit the garden. Source: Rockport Analytics, D.K. Shifflet & Associates

Construction Expenditures

Construction expenditures are expected to total \$6.7 million dollars for DBG’s initial phase. These estimates were submitted by DBG management and its engineering consultant, Pennoni Associates. The definition of the initial phase was a compromise between DBG’s long-range vision for the attraction, near-term funding realities, and a minimum set of required garden amenities necessary to attract sufficient attendance and justify planned entrance fees.

The adjacent table itemizes expected expenditures by category. Construction would commence in 2015 and carry through to 2017, when the DBG is assumed to open its doors to the public. For the purpose of this study, construction spending is assumed to span the years 2015-2017 apportioned 25%, 50%, and 25%, respectively.

Proposed Initial Phase DBG Construction Budget by Category

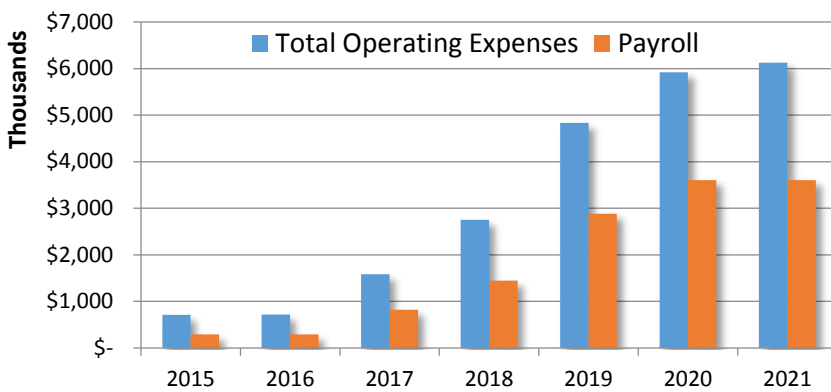
Construction Category	Estimated Cost
Pre-Construction Activities	\$ 591,895
Construction Activities	\$ 1,031,000
General Purpose Buildings	\$ 430,000
Canal and Canal-related Facilities	\$ 2,173,000
Berms and entrance facilities and plantings	\$ 723,000
Water Frontage and Forest improvements	\$ 225,000
Landscaping	\$ 311,450
Equipment and Supplies	\$ 600,000
Other expenses & contingency	\$ 608,535
Total Initial Phase	\$ 6,693,880
Source: Southern Delaware Botanic Gardens, Inc., Pennoni Associates	

DBG has a longer-term plan for enhancements to the facility that would include (1) a permanent Visitor/Nature Center, (2) a Conservatory and (3) an Amphitheater. All have been approved by the Sussex County zoning process and are expected to be completed in the first ten years. The estimated construction budget for these later phases is \$43.7 million. The focus of this study was the initial phase of construction and the first five years of DBG operations, however. These longer-term enhancements will generate new construction benefits (estimated at \$21.7 million and 287 more jobs) and further lift resulting operations and its economic impact.

Ongoing DBG Operating Expenditures

Operating expenses have been extracted from the pro-forma DBG profit & loss statements and include payroll expenses, material purchases, equipment rental, professional services, and ongoing garden & maintenance costs. These spending streams represent a direct injection to the local economy, as the DBG hires, purchases

DBG Operating Expenditures Reach \$6.1M by 2021



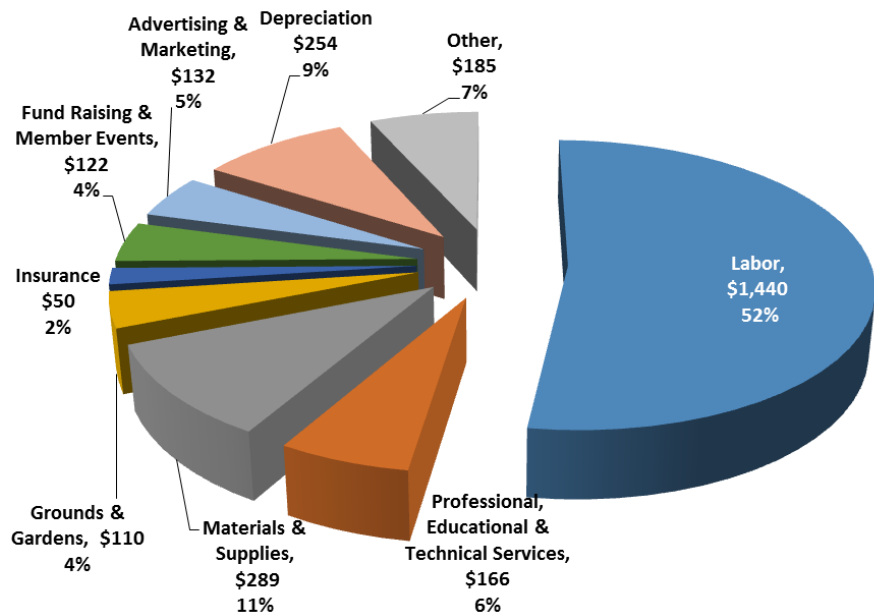
Source: Southern Delaware Botanic Garden, Inc.

materials locally (wherever possible), and engages local contractors. Note that some of these expenses will be incurred in advance of opening the doors. For the purposes of evaluating the economic impact of the DBG, we have assumed an expense commencement in 2015, an attraction opening in 2017, and a 5-yr evaluation period lasting through twenty twenty-one.

Initial pre-opening DBG operating expenses are expected to total \$710,500 and \$715,500 in 2015 and 2016, respectively. These include various start-up expenditures, as well as some uncanceled development costs. Six (6) full time employees are also assumed at start-up, carrying a payroll expense (including taxes) of \$288,000 per year. Opening the doors in 2017 will ramp up operating expenditures to \$1,583,200. Payroll will rise to 17 employees and \$816,000 (including benefits). More materials and services will also be purchased to serve rising visitation. DBG management

DBG Will Hire Local Labor and Purchase Supplies & Services Locally Wherever Possible

2018 Expenditures (in thousands \$)



expects to grow revenue and expenses over the evaluation period, particularly marketing expenditures. By 2021, total annual operating expenses will reach \$6,122,800. DBG will employ 75 full time workers beginning in 2020 and incur over \$3.6 million in payroll expenses.

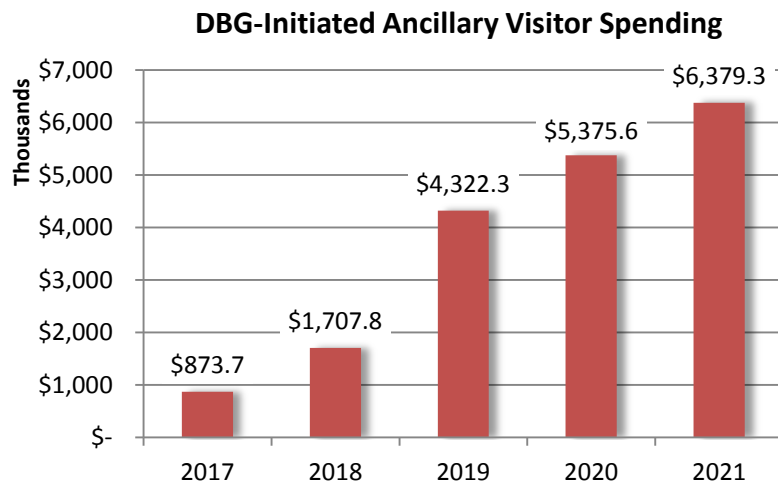
For the purpose of economic impact assessment, the labor, material, and services expenses of the DBG are assumed to be made locally wherever possible. The IMPLAN model of Sussex County automatically incorporates current levels of available supply for key materials and services. In the event that sufficient supply does not exist in the county, IMPLAN creates an “import” requirement - something that ultimately reduces the *local* impact¹². Interestingly, imported supply items/levels also represent an upstream economic development opportunity where a ready-made market exists for a new business entrant. The above pie chart illustrates the level and percentage of key DBG labor, material, and service inputs for 2018, the second year of full operations. Like a snowball rolling down a hill, by hiring Sussex County labor and purchasing other input requirements locally, DBG will set its economic development contribution in motion.

Ancillary DBG Visitor Expenditures

The last category of net new DBG-initiated spending covers the ancillary expenditures of non-local visitors that come to Sussex County to visit the gardens. Hotel (if overnight), outside food & beverage, off-site retail, gasoline, and other entertainment purchases are all examples of local spending that can be attributed to the DBG. Rockport has tapped existing ongoing tourism research on Sussex County, Delaware, and U.S. visitors to help estimate this ancillary spending, once again striving to be conservative in our calculations:

- Only visitors from outside of Sussex County were included, estimated at 20% of total DBG attendance.
- Rockport assumed that Delmarva non-local visitors were primarily day trips with an average trip expenditure of only \$138 per trip in 2017, rising to \$160 in 2021¹³.
- None of the ancillary spending of existing tourists from Sussex and Worcester counties was included

since their primary trip purpose was something other (e.g. beach) than the DBG.



Total non-local visitor ancillary spending was estimated to be just short of \$874,000 in the first year of operations (2017). Given DBG attendance expectations, the 20% non-local assumption, and the more conservative estimates of spend-per-trip, DBG-initiated ancillary spending rises to \$6.4 million by 2021 (see chart at left).

Source: Rockport Analytics

¹² This may not reduce the economic impact at the state or regional level, however, since materials and services could be purchased in other Delaware or Delmarva counties.

¹³ D.K. Shifflet & Associates 4-yr (2009-2012) average spending of Sussex County daytrips @ \$120.26 was projected through 2021 using a travel inflation rate of 3% per year.

Delaware Botanic Gardens Economic Impact



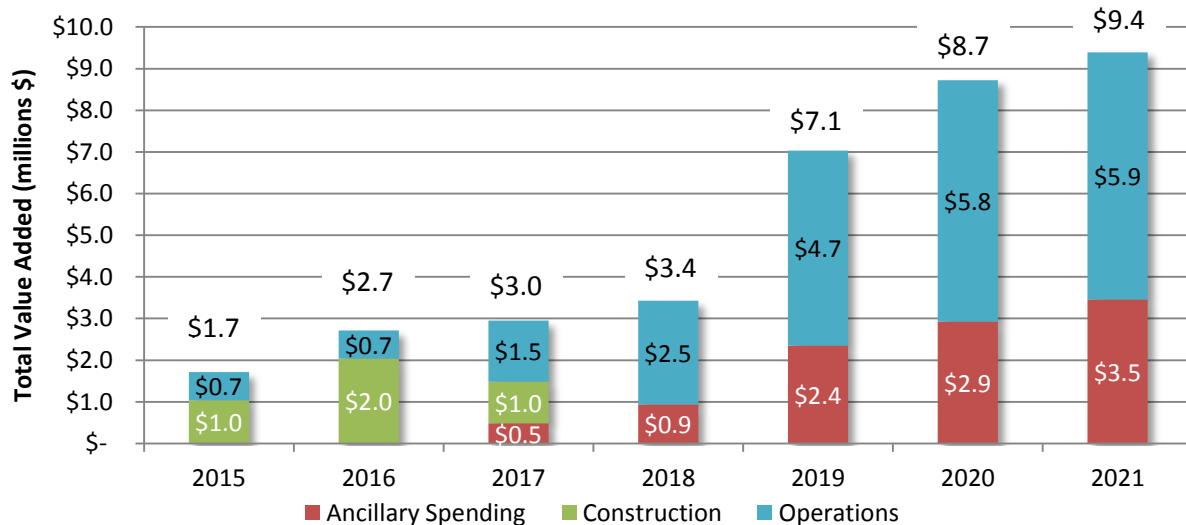
Overview

Including two years of development & construction and five years of ongoing operations, total DBG economic impact will reach \$36 Million

Three key sources of DBG net new economic contribution were identified and assessed separately: (1) DBG construction, (2) DBG local hiring and other operating expenses, and (3) ancillary spending of non-local DBG visitors. DBG management submitted budgets that spanned a seven year period hinging on when the garden was expected to open its doors. For the purposes of this study, that was assumed to be 2017. Construction would take place from 2015 through 2017. Operations would span from 2015 through five years after opening (2021). Finally, the ancillary visitor spending attributable to the DBG would begin at opening (2017) and also carry through to 2021.

The chart below summarizes the total economic impact of the DBG by year and source. The economic contribution of the DBG to Sussex County begins in 2015, totaling \$1.7 million. The impact of the first phase of construction of the DBG ends in 2017 (3-yr total @ \$4.1 million). DBG Operations impact begins immediately (2015) as development gets started. Operations see a big boost beginning in 2017 when the doors are assumed to open. In the final three years of our analysis, the DBG is marketing heavily and building its brand. With attendance rising rapidly, resulting total annual economic contribution to Sussex will reach \$9.4 million by 2021. Finally, although not illustrated on the graph below, planned construction of enhanced facilities will eventually add \$21 million more in value-added/GDP and generate 286 additional jobs in Sussex.

Projected Economic Impact (Value Added) of DBG By Source
2015-2021 (millions \$)



Source: DBG, D.K. Shifflet & Associates, Rockport Analytics

DBG Construction Impacts

The Delaware Botanic Gardens at Pepper Creek is expected to break ground some time in 2015. It will take until 2017 to complete the initial phase and open DBG’s doors to the public. At this writing, the 37-acre parcel with 1,010 feet of waterfront along Pepper Creek has been acquired from the Sussex County Land Trust under a 99 lease agreement (renewable). Moreover, with the help of Pennoni Associates, an engineering design firm, an initial construction budget has been developed. The costs from this budget were used by Rockport Analytics to estimate the one-time economic impact of DBG’s construction on Sussex County and the state of Delaware. DBG construction will generate a host of spending streams inside the county throughout the life of the project. Construction labor will be hired, various materials will be purchased, equipment will be leased, and engineering and technical services will be acquired. The economic impact process again assumes that all of these inputs and services will be purchased locally, where possible. Where vendors do not exist or lack sufficient scale, the IMPLAN economic model will assume the remaining requirements are imported into Sussex County.

When the spending streams from the DBG construction budget are entered into the economic model, direct, indirect, and induced impacts are estimated. *Direct* impacts represent the valued added (or GDP) that accrues to the business actually engaged in DBG construction. The *Indirect*, or supply chain, impacts are those upstream benefits that accrue to businesses that supply the construction firms. An example might be a local quarry or concrete supplier. The *Induced* impacts accrue to virtually all consumer-oriented businesses in the county when the workers of the construction companies and those of their suppliers take their wages home and spend them on all of the consumer goods and services that we all buy every day. The sum of these three types of economic benefits represents the *Total* economic impact of DBG construction budgeted in the first phase.

DBG Construction Economic Impact Summary

Total for the 3-yr Period

	Direct	Indirect	Induced	Total
Total DBG Construction Expenditures				\$6,693,900
Value-Added (GDP)	\$2,463,000	\$620,700	\$985,700	\$4,069,400
Wages Paid	\$2,161,100	\$397,300	\$512,100	\$3,070,500
Jobs Supported (in full-time equivalents)	50	10	10	70
Taxes				\$852,600
Federal				\$554,800
State & Local				\$297,800

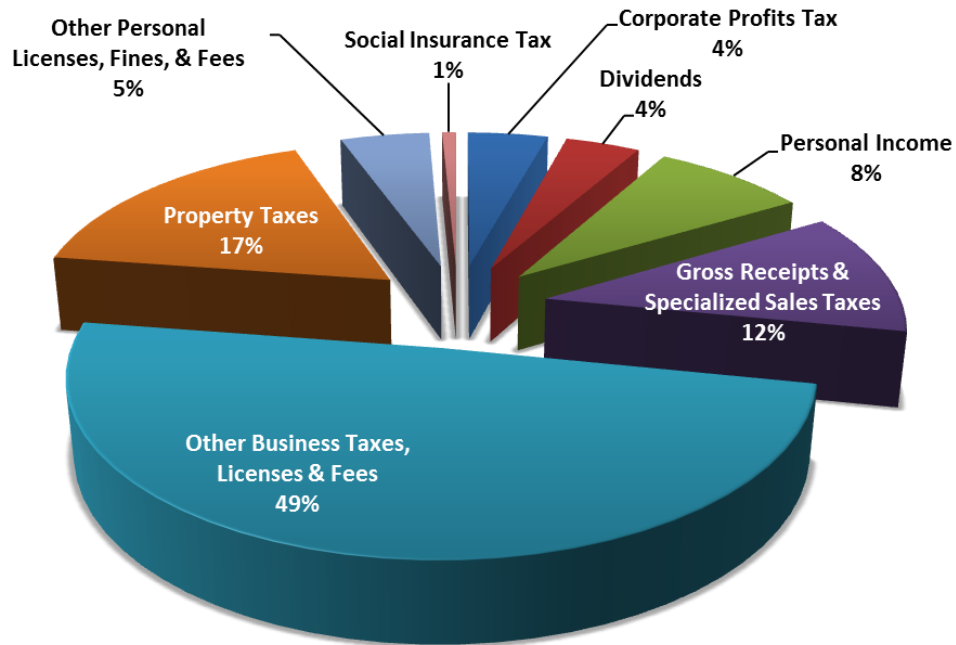
Total DBG construction spending is estimated at \$6.7 million released over a three year period beginning in 2015. This spending will result in a little over \$4 million in total economic impact (value added or GDP), \$3 million of which will accrue to Sussex construction firms (Direct) and their local suppliers (Indirect). Why not all \$6.7 million? Some of the necessary labor and material inputs will not be available in sufficient quantities in

Sussex. This difference is referred to as “leakage”. Leakage represents spending and income that accrues to places other than Sussex County.¹⁴

DBG construction will support 50 direct jobs, an average of about 17 per year over the three year construction period. These jobs are reported in “full-time equivalents” (FTEs). This is a method, based upon 2,080 hours per full-time year, to combine full and part-time workers into full-time jobs. Construction supply chain firms in Sussex County will employ 10 more FTEs (3 per year) in order to support DBG’s construction firms. Finally, the induced impact of DBG construction will support another 10 jobs (again, 3 per year) across the county. At prevailing wage rates for construction workers in Sussex, DBG will generate labor income of over \$2.1 million (Direct). Upstream supply chains will pay their DBG construction-supported workers almost \$400,000 over the 3-yr construction period. Finally, induced wages paid to DBG-supported workers will total \$512,000 over the construction period.

The last key impact metric is taxes. DBG construction will incur many direct and indirect taxes over the course of the project. Federal taxes, which include personal and corporate income taxes, social security, other levies, will total about \$555,000 over the course of DBG construction. Meanwhile, Delaware state and Sussex County local taxes will total another nearly \$300,000. These taxes include gross receipts & specialized sales, property, income, and other levies, licenses, and fees. Essentially, DBG’s \$6.7 million in construction spending will result in a \$300,000 tax windfall to Delaware and Sussex County, an aggregate rate of about 13%.

DBG Construction-Initiated Sussex County State & Local Tax Sources
Total = \$297.8K



Source: Rockport Analytics, IMPLAN

¹⁴ Leakage from Sussex may actually find its way to businesses in Kent or New Castle County. As such, this impact is not lost to the state. Likewise, this leakage from Sussex County may ultimately become a benefit to other Delmarva counties.

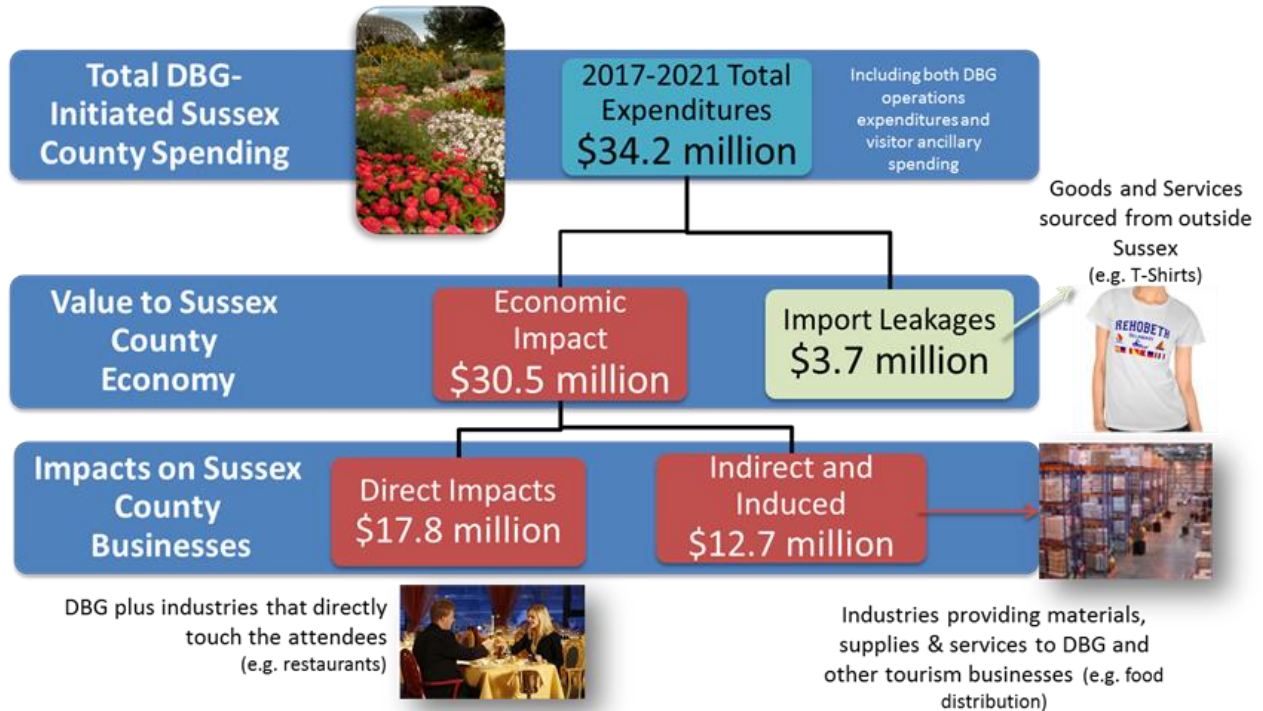
The eventual construction of DBG’s facility enhancements, namely the Visitors/Nature center, Conservatory, and Amphitheater, will also have significant economic benefits. The construction benefit alone will total about \$21 million in value-added/GDP and generate 286 additional jobs in Sussex. Moreover, once in place, the enhanced DBG facilities can be expected to raise attendance, employment, and operating results. This will add significantly to the ongoing economic contribution of the gardens to Sussex, Delaware, and the entire Delmarva region.

DBG Ongoing Operating Impacts

Since we have already addressed the one-time construction impact of DBG, the remainder of the analysis will focus on the ongoing economic stimulus that will result from DBG operations, specifically from DBG’s operational spending and the ancillary expenditures of non-local visitors to the garden. This section describes the economic flows that will accrue to Sussex County, Delaware, and Delmarva over the first five years of operations (2017 – 2021).

The economic contribution of an industry, event, facility, or policy is estimated by measuring its impact on GDP, employment, payrolls and tax receipts. These universal measures describe how the activity contributes to living standards within a defined community. This analysis considers what DBG will add to the bottom line of Sussex County’s economy. The flow chart below steps down through the operating impacts of the DBG. The figures represent the total across the period 2017 through 2021 and show the progression from spending through to direct, indirect, and induced *value-added*, a concept akin to gross county product.

The 5-Year Projected Economic Impact of Ongoing DBG Operations Reaches Nearly \$31 million



- **Total DBG-Initiated Sussex County Spending (\$34.2 million)** - is the sum of DBG operating expenditures and the ancillary spending of DBG-initiated visitors from outside of Sussex County.

- **Value to Sussex County Economy (\$30.5 million)** – this includes the direct, indirect, and induced value-added (GDP) that is both net new to Sussex County and directly attributable to the DBG. Import leakages, at \$3.7 million, represent the portion of DBG-initiated spending that leaves Sussex due to the lack of adequate local supply of certain businesses/sectors necessary to fulfill demand. Some level of leakage is common to virtually every geographic definition. For example, if a DBG attendee purchases a \$20 t-shirt, it is unlikely that the merchandise was made in Sussex and, therefore, a portion of its value leaves the county.
- **Impacts on Sussex County Businesses (\$17.8 million, \$12.7 million)** – this includes (a) the impact of DBG on local labor and the front-line businesses that serve non-local DBG-initiated visitors (Direct), (b) the impact on local supply chain businesses of DBG and other tourism sector businesses (Indirect), and (c) the impact on downstream businesses that benefit each time a DBG, tourism sector, or supply chain employee spends his/her wages locally.

DBG Ongoing Operations Economic Impact* Summary

Totals for the 5-yr Period

	2017	2018	2019	2020	2021	5-Year Projection
DBG-Ops & Ancillary Visitor Spending	\$1,713,900	\$3,323,800	\$8,150,000	\$9,736,500	\$11,284,200	\$34,208,400
Economic Impact (value-Added or GDP)	\$1,947,500	\$3,422,500	\$7,031,600	\$8,722,900	\$9,391,700	\$30,516,200
Wages Paid	\$1,469,200	\$2,580,300	\$5,257,300	\$6,527,600	\$6,941,100	\$22,775,500
Annual Jobs Supported (in FTEs)	39	66	136	169	178	118 avg per year
Taxes (Federal, State, & Local)	\$612,500	\$776,500	\$1,618,000	\$2,007,300	\$2,178,000	\$7,192,300

*includes the direct, indirect, and induced effects

The table above shows the various DBG operations and ancillary economic impact metrics by year for the first five years. Total DBG operations expenditures and the ancillary spending of DBG-initiated non-local visitors total over \$34 million during that period. This, in turn, will generate a total contribution to Sussex value-added (or GDP) of \$30.5 million. DBG ongoing operations will also support an average of about 118 Sussex County jobs per year (measured in full-time equivalents), some directly employed at the garden and others at local businesses that will help cater to visitors who come to the area for the purpose of visiting the gardens. These jobs will generate total Sussex County wages of \$22.8 million across a range of industries. Finally, DBG-initiated taxes will total \$7.3 million over the first five years, with about \$4.6 million going to the federal government and \$2.7 million accruing to state and local authorities.

DBG Operations Will Contribute \$31.1 million to the Delaware State Economy Between 2017-2021

The impact of DBG on the entire Delaware economy is slightly larger than that of Sussex County alone. This is because some of the \$3.7 million in leakages from Sussex County described above will ultimately accrue to businesses in Kent and New Castle counties. Why? First, some DBG and required additional tourism supply employees will reside in Kent and/or New Castle counties and their wages, while perhaps lost to Sussex

County, would remain in Delaware. Secondly, some DBG supply chain business spending will likewise leave Sussex but accrue to businesses in Kent and/or New Castle. Finally, a large portion of the wages of the DBG workers and the affected supply chain businesses’ employees who reside in Kent and New Castle will be spent in those counties. So, while technically lost to Sussex, their spending and resulting taxes will remain within the state economy.

The difference between the Sussex and Delaware state DBG contribution will largely stem from the indirect and induced impacts. The direct impact is essentially the same. In much the same way, the total economic contribution of DBG to the Delmarva region will be even larger since even more of the \$3.7 million in total estimated leakages between 2017 and 2021 would remain within that larger geographic area.

DBG Operations Would Add \$30.5 million to the Sussex County Economy

Out of a total of \$34 billion in traveler & operational expenditures, \$30.5 million will be retained in the local Sussex County economy. The remaining \$3.7 million will make its way to suppliers outside of the county who would provide some of the materials & supplies used in DBG operations and the products and services purchased by DBG-initiated travelers to Sussex County. For example, if the DBG engages professional horticultural consulting services from, say, a firm located in New Castle County, these payments will “leak” from the Sussex economy to New Castle. As noted earlier, however, the state of Delaware would retain this entire impact.

Projected 5-Yr (2017–2021) DBG Economic Impact (Value-Added) to Sussex County

Industry (NAICS)	Direct (\$ 000)	Indirect (\$ 000)	Induced (\$ 000)	Total (\$ 000)
Museums & similar (including Botanic Gardens)	10,896.8	0.0	5.9	10,902.7
Food services & drinking places	2,292.5	195.4	472.2	2,960.1
Real estate	0.0	382.0	2,323.5	2,705.5
Accommodations	1,764.8	43.1	3.2	1,811.0
Admin support services	0.0	1,621.8	121.8	1,743.5
Professional- scientific & tech services	0.0	1,257.9	188.6	1,446.5
General merchandise stores	1,132.2	6.1	199.0	1,337.4
Amusement- gambling & recreation	775.7	3.5	113.3	892.5
Gasoline stations	599.9	2.0	74.6	676.5
Ambulatory health care	0.0	0.0	615.7	615.7
Civic, social, professional, organizations	0.0	395.1	148.0	543.1
Monetary authorities	0.0	226.5	274.8	501.3
Transit & ground passengers	385.0	30.5	17.0	432.5
Hospitals	0.0	0.0	386.0	386.0
Insurance carriers & related	0.0	205.7	33.3	239.0
Food & beverage stores	0.0	3.5	232.5	236.0
Utilities	0.0	179.3	47.1	226.4
Nursing & residential care	0.0	0.0	214.9	214.9
Printing & Related	0.0	201.6	1.0	202.6
Motor vehicle & parts dealers	0.0	3.3	177.0	180.4
Other	0.0	523.4	1,739.4	2,262.8
Total	17,846.8	5,280.7	7,388.6	30,516.2

Source: IMPLAN, Rockport Analytics

Of the \$30.5 million of projected economic impact, \$17.8 million will go to industries that directly “touch” the DBG visitor. This would include the garden itself, as well as restaurants, hoteliers, and sports and entertainment complexes utilized by those same visitors. The remaining \$12.7 million constitute the Indirect and Induced impacts of the DBG and would be spread among many other Sussex industries.

These additional impacts assure that DBG-initiated visitation to Sussex County will benefit not only the garden and local tourism suppliers, but many other sectors that are both upstream and downstream. The table above summarizes the projected economic impact, by industry, of the Delaware Botanic Gardens. Economic impact represents the total value added to the Sussex County economy, a concept similar to GDP.

Not surprisingly, ‘Museums & Similar’ is the largest industrial benefactor of DBG tourism. This is the NAICS sector code to which the DBG belongs. The direct contribution of hiring local labor adds about \$11 million to the Sussex economy over the first 5 years of the garden’s existence. Other tourism-intensive sectors will benefit from DBG visitors spending elsewhere while on their trip to experience the gardens. Examples include restaurants, accommodations and retail totaling \$2.9 million, \$1.8 million and \$1.3 million, respectively.

It is important to note that many businesses outside of travel & tourism will receive significant benefit from the DBG. These industries include: Real Estate, which will receive an economic impact of \$2.7 million; Admin Support Services, which will tally \$1.7 million in value added; and Professional and Technical Services, which will receive \$1.4 million in economic benefit.

Supporting an Average of 118 Jobs Per Year in Sussex County

Projected visitation to the Delaware Botanic Gardens will support a total of about 118 jobs (annual full time equivalents) per year in the local economy. DBG employees will comprise about 51 of the 83 direct jobs. The remaining 32 jobs will be employed in the hotel, food & beverage, retail, and transportation sectors. Meanwhile, Sussex supply chain firms will employ an additional 16 workers on behalf of the DBG. And finally, DBG and travel & tourism workers’ wages will support 19 jobs.

Projected 5-Yr (2017–2021) DBG Economic Impact (Employment) to Sussex County

Industry (NAICS) In Average Full-Time Equivalents per Year	Direct	Indirect	Induced	Total
Museums & similar (including Botanic Gardens)	51	0	0	51
Food services & drinking places	13	1	3	16
Accommodations	6	0	0	7
General merchandise stores	4	0	1	5
Admin support services	0	4	1	5
Professional- scientific & tech services	0	4	0	5
Transit & ground passengers	3	0	0	4
Amusement- gambling & recreation	3	0	0	3
Civic, social, professional, organizations	0	2	1	3
Gasoline stations	2	0	0	2
Real estate	0	0	1	2
Ambulatory health care	0	0	1	1
Food & beverage stores	0	0	1	1
Monetary authorities	0	0	0	1
Hospitals	0	0	1	1
Nursing & residential care	0	0	1	1
Social assistance	0	0	1	1
Printing & Related	0	1	0	1
Insurance carriers & related	0	0	0	1
Educational services	0	0	0	1
Other	0	1	6	7
Total	83	16	19	118

Source: IMPLAN, Rockport Analytics

Like economic impact, the primary employment beneficiaries will be DBG workers (NAICS=Museums & similar) and the industries that directly support DBG-initiated non-local visitors (e.g. Food Service, Accommodations, Retail, etc). Accommodations and Food Services alone will need to add about 23 local employees per year. Retail businesses will need to hire another 4-5 workers per year to service DBG’s non-local visitors. Other beneficiaries include Admin & Support Services (5 jobs), Professional & Technical Services (5 jobs) and Real Estate (2 jobs).

Paying \$22.8 million in Wages to Sussex County Workers

The wages that will be generated by the Delaware Botanic Gardens will also be substantial. A total of \$22.7 million in wages and proprietors income will be generated over the first five years of DBG’s operation. This total will be comprised of \$15.4 million in direct, another \$3.6 million in indirect, and \$3.8 million in induced wages. Workers in the travel & tourism support sectors and DBG employees will be the key beneficiaries with \$10.9 million in wages going to DBG employees, \$2 million to restaurant workers, and \$1 million to hotel workers. Other industries receiving a significant wage benefit will be Admin Support Services and Professional and Technical Services, both projected to receive over \$1 million dollars in wage impact over the five-year period.

And DBG-supported jobs will be relatively well paid ones. The average annual wage over the 5-year period will reach nearly \$39,000 per year. The amounts will vary by industry with DBG workers averaging about \$42,000, supply chain industry labor averaging \$44,000, and leisure and hospitality employees receiving an average of \$32,000 per year. The average wage for all Sussex County workers in 2012 was \$34,376.¹⁵

Projected 5-Yr (2017–2021) DBG Economic Impact (Wages) to Sussex County

Industry (NAICS)	Direct (\$ 000)	Indirect (\$ 000)	Induced (\$ 000)	Total (\$ 000)
Museums & similar (including Botanic Gardens)	10,896.8	0.0	3.2	10,900.0
Food services & drinking places	1,609.7	137.2	331.6	2,078.5
Admin support services	0.0	1,144.0	92.5	1,236.6
Professional- scientific & tech services	0.0	931.9	128.1	1,060.0
Accommodations	989.7	24.2	1.8	1,015.7
General merchandise stores	696.5	3.8	122.4	822.7
Ambulatory health care	0.0	0.0	565.8	565.8
Amusement- gambling & recreation	506.6	2.2	51.4	560.2
Religious	0.0	391.6	147.9	539.5
Gasoline stations	369.4	1.2	46.0	416.6
Hospitals	0.0	0.0	361.6	361.6
Transit & ground passengers	309.1	24.5	13.7	347.2
Monetary authorities	0.0	109.1	132.3	241.4
Nursing & residential care	0.0	0.0	199.1	199.1
Real estate	0.0	52.2	122.2	174.4
Government	0.0	65.2	103.6	168.8
Insurance carriers & related	0.0	142.9	19.5	162.4
Printing & Related	0.0	158.2	0.8	158.9
Motor vehicles & parts dealers	0.0	2.8	146.8	149.5
Food & beverage stores	0.0	2.2	143.6	145.8
Other	0.0	358.3	1,112.5	1,470.8
Total	15,377.7	3,551.4	3,846.4	22,775.5

Source: IMPLAN, Rockport Analytics

Generating \$7.2 Million in Taxes

Projected total tax receipts generated from the first five years of the Delaware Botanic Gardens operation is \$7.2 million. This includes \$4.6 million in Federal taxes and another \$2.6 million in state and local collections. Taxes will stem from an array of sources including Social Security taxes, taxes on corporate profits, indirect business taxes and personal income taxes. Nearly \$3 million will come from taxed wages, \$73,000 from taxes on proprietor income, over \$2 million in taxes on production and imports, \$1.7 million from taxes on households and \$335,000 in taxes on corporations.

Delaware state and local tax collections driven by ongoing DBG operations are arguably the most important impact metrics when considering public investment in such attractions. Over the initial 5-year operating period, the DBG will generate over \$2.6 million in state and local taxes. Principal sources include state personal income and corporate profits taxes, the gross receipts & specialized sales taxes (e.g. fuels, alcohol, tobacco, etc.), franchise taxes & fees, and property taxes. The table and pie chart below aggregates tax collections for the 5-year period by tax type and payer.

¹⁵ U.S. Bureau of Economic Analysis

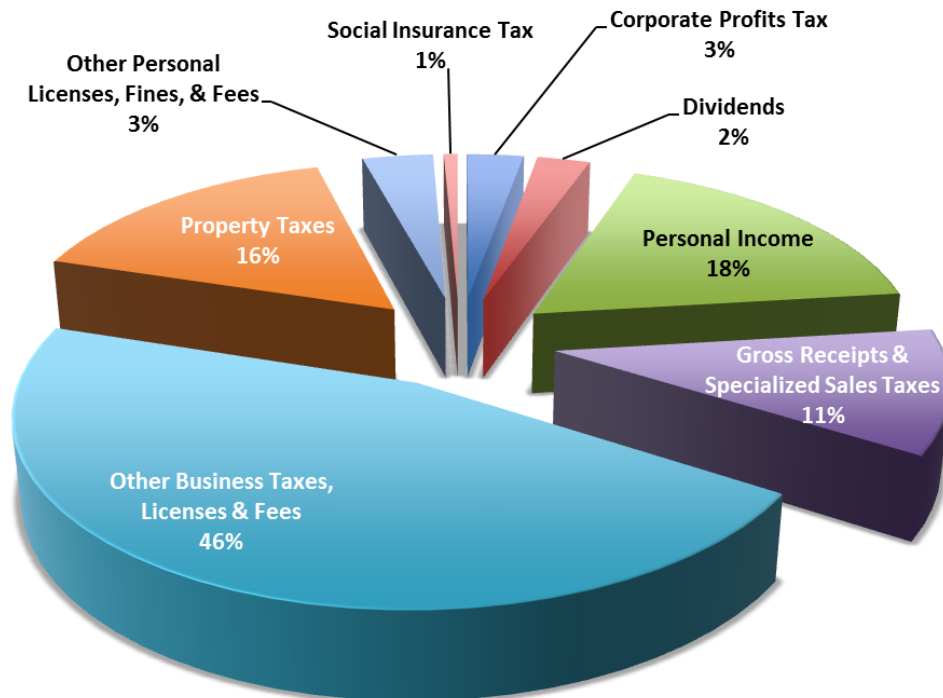
Projected DBG-Initiated Tax Receipts (2017–2021)

(in thousands of \$\$)	Employee Compensation	Proprietor Income	Tax on Production & Imports	Households	Corporations	Total
Social Insurance Tax	\$2,965.3	\$72.9	\$-	\$-	\$-	\$3,038.2
Indirect Business Taxes	\$-	\$-	\$211.2	\$-	\$-	\$211.2
Corporate Profits Tax	\$-	\$-	\$-	\$-	\$191.9	\$191.9
Personal Tax: Income Tax	\$-	\$-	\$-	\$1,115.8	\$-	\$1,115.8
Total Federal Tax	\$2,965.4	\$72.9	\$211.2	\$1,115.8	\$191.9	\$4,557.2
Dividends	\$-	\$-	\$-	\$-	\$68.8	\$68.8
Social Insurance Tax	\$18.3	\$-	\$-	\$-	\$-	\$18.3
Indirect Business Taxes	\$-	\$-	\$1,910.2	\$-	\$-	\$1,910.2
Corporate Profits Tax	\$-	\$-	\$-	\$-	\$74.0	\$74.0
Personal Tax: Income Tax	\$-	\$-	\$-	\$563.9	\$-	\$563.9
Total S&L Tax	\$18.3	\$-	\$1,910.2	\$563.9	\$142.8	\$2,635.1
Total DBG Initiated Taxes	\$2,983.6	\$72.9	\$2,121.4	\$1,679.7	\$334.7	\$7,192.3

Source: IMPLAN, Rockport Analytics

DBG-Initiated* Sussex County State & Local Tax Sources

Total = \$2,635K



* From DBG operations and non-local visitor ancillary spending
Source: Rockport Analytics, IMPLAN

Methodology & Data Sources



The purpose of this study is to estimate the economic contribution of the proposed Delaware Botanic Gardens at Pepper Creek (DBG), to be located just outside of Dagsboro, Delaware, on the Sussex County economy. The study accounts for net new expenditures in the county initiated by DBG construction and ongoing operations. While resident membership and attendance at the garden are critical to the financial viability of the project, this study is most concerned with new contributions to the Sussex County, Delaware, and Delmarva economies. These will come primarily from new hiring and operational expenditures, as well as the ancillary spending of non-local visitors to the area that will come to experience the DBG.

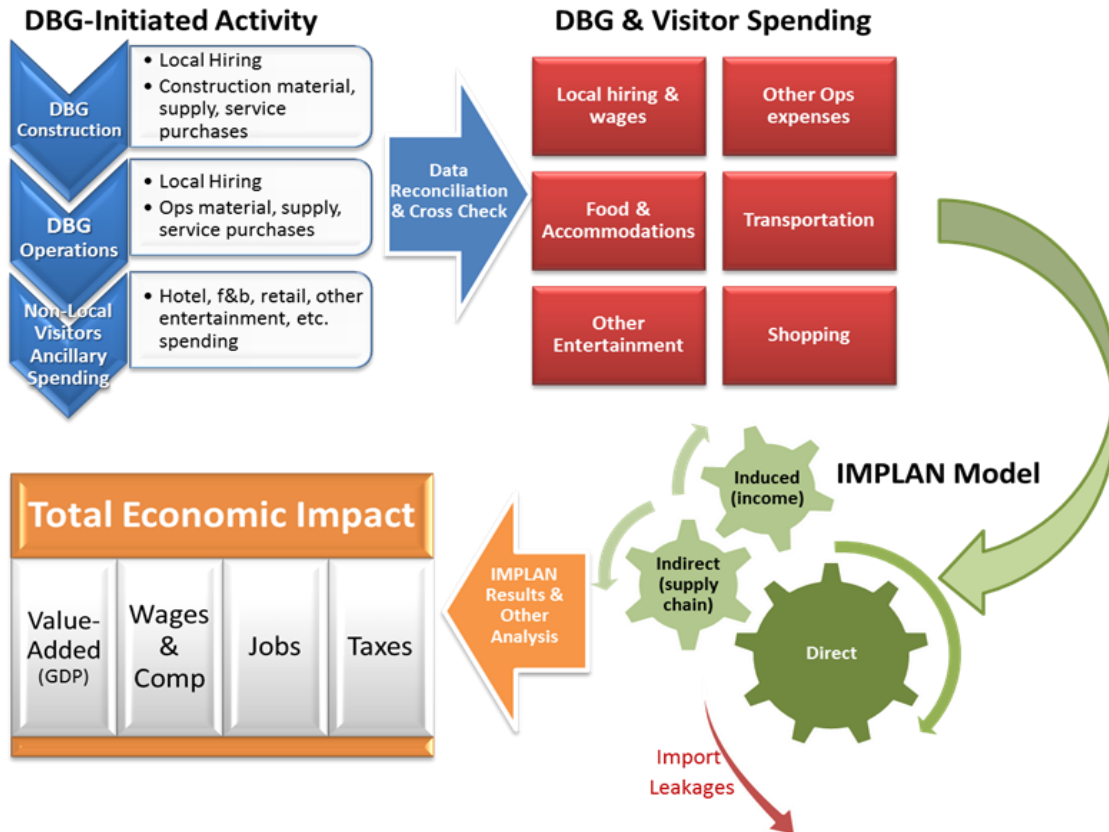
The total economic impact of the DBG is separated into three distinct effects: direct, indirect, and induced. The direct impacts represent the value added, jobs, wages, and taxes generated by DBG workers and those of the tourism suppliers that serve the non-local visitors to the garden. Each interacts directly, or “touches”, the DBG visitor. The indirect impact represents the benefit to local suppliers of those direct sectors. These would include, for example, Sussex-based food suppliers to restaurants. The induced impact adds the contribution of DBG-generated wages as they are spent throughout the area economy.



The image of an iceberg provides a good metaphor for the various impacts of the DBG. Those businesses (including the DBG) that are part of the direct provision of visitor goods and services represent the impact that is visible, i.e. above the surface of the water. They would include the DBG, hotels, restaurants, entertainment venues, and retail stores. But below the surface, DBG-initiated commerce also generates wages, jobs and taxes in a host of supporting industries. Food distribution, business services, and utilities provide examples. Although these sectors are less obvious, they are nonetheless critical to building and operating the garden. Including all of these downstream benefits is part of the full accounting of the economic contribution made by the DBG to local residents, businesses, and government entities.

The economic impacts reported in this study are based on the pro-forma financial budgets provided by DBG management. Ancillary visitor spending is calculated using origin market demographic, secondary research on botanic garden attendees, and the Delaware and Maryland visitor profiles provided by D.K. Shifflet & Associates’ PERFORMANCE/MonitorSM travel survey (www.dksa.com). An economic model of Sussex County is also critical to estimating how DBG and its visitor’s spending resound through the local economy. Rockport Analytics has chosen the IMPLAN model for Sussex (www.implan.com). IMPLAN is a non-proprietary economic model that has fast become the defacto standard for most economic impact assessment in the U.S.

IMPLAN also helps to measure how much of each DBG-initiated dollar remains in the local economy. Total spending generally exceeds the direct impact of proposed attractions. This is because not all goods and services purchased by the DBG or its visitors are supplied by firms located in Sussex County. The IMPLAN model accounts for these import “leakages” to suppliers located outside of the area. Generally, the more diversified a local economy, the lower import leakages and the greater the retention of net new spending.



Critical Data & Tools List

There are certain data inputs that are mission critical to the overall effort, some being more important than others. A list of the most influential data and modeling tools is provided below:

- DBG attendance and revenue *Source: Southern Delaware Botanic Gardens, Inc. and Rockport Analytics*
- Detailed construction budget *Source: Southern Delaware Botanic Gardens, Inc. and Pennoni Associates Inc.*
- DBG Pro forma Operating Financial Statements. *Source: Southern Delaware Botanic Gardens, Inc.*
- Comparable garden/attractions research. *Source: American Public Gardens Association (APGA), direct contact with specific gardens, literature search, and Rockport Analytics*
- Area Hotel Occupancy & ADR *Source: Smith Travel Research*
- State of Delaware and Sussex County Tourism Statistics and Visitor Profile Studies (various). *Source: D.K. Shifflet & Associates, Delaware Tourism Office, Maryland Office of Tourism*
- Sussex County economic statistics covering industry employment & value-added, construction activity, inflation, etc. *Source: BLS, BEA, other government sources*
- Applicable Sussex County and Delaware tax code. *Source: appropriate DE fiscal authorities*
- IMPLAN Model for Sussex County. *Source: Minnesota IMPLAN Group*

Developing DBG Attendance Estimates and Operating Results

When estimating the economic contribution of any proposed attraction, event, or development, the assumed level of attendance and resulting operational figures are pivotal. The size and seasonality of DBG's contribution and the way in which it will manifest in the local economy required a careful analysis of ongoing attendance, revenues, and expenses. Two approaches were taken in the development of these critical measures: (1) an analysis of comparable, existing botanic gardens and (2) an assessment of DBG's available market. The analysis of existing gardens included both executive interviews and a detailed review of financial statements. The examination of DBG's available market utilized existing botanic gardens visitor profiles, detailed demographic data of DBG's market footprint, ongoing tourism research of Sussex and Worcester counties, and competitive analysis.

Over the past year, DGB Board Members have conducted a series of telephone interviews with six Botanic Garden Executive Directors. Many were initially identified by the American Public Gardens Association (APGA) and others were uncovered by the DBG Board during telephone interviews. Each was an experienced leader who has faced the issues confronting DBG management at the initial stage of development and beyond. Moreover, two were contributing authors to the seminal book, *Public Garden Management*. Additional insight was drawn from two important books covering all aspects of garden development and operation: (1) *Public Garden Management: A Complete Guide to the Planning and Administration of Botanical Gardens and Arboreta* by Donald A. Rakow and Sharon A. Lee (John Wiley & Sons, Inc. 2011) and (2) *Garden Tourism* by Richard W. Benfield (CABI 2013). Critical knowledge was gained from each of these experienced leaders and authors. Their contributions encompassed best practices, budgeting, fundraising, visitor trends, membership, and operations. The panel of experts included the Executive Directors from the following gardens:

- Sarah P. Duke Gardens, Durham, NC
- John Bartram Gardens, Philadelphia, PA
- Cape Fear Botanic Gardens, Fayetteville, NC
- Tucson Botanical Gardens, Tucson, AZ
- Naples Botanic Gardens, Naples, FL
- Myriad Botanic Gardens, Oklahoma City, OK

In developing projections for the Delaware Botanic Gardens, DBG also relied on the experience of its two respected in-house professional horticulturists and their many years of public garden experience.

Finally, the actual attendance, revenue, and expense histories of seven existing gardens were critical in the development of DBG's pro forma results. The seven were chosen for their similar size, scope and complexity. Financial statements were either obtained through publicly available sources or through interviews with DBG representatives specifically for this purpose. The seven gardens included:

1. Adkins Arboretum, Ridgely, Maryland
2. Naples Botanical Garden, Naples, Florida
3. Coastal Maine Botanical Gardens, Inc., Boothbay, Maine
4. Desert Botanical Gardens, Inc., Phoenix, Arizona
5. Tucson Botanical Gardens, Tucson, Arizona
6. Norfolk Botanical Garden, Norfolk, Virginia
7. Cape Fear Botanical Garden, Fayetteville, North Carolina

Approach

Our approach has clearly and comprehensively shown how local households, businesses and government institutions benefit from the investment in DBG as a new cultural and tourism asset in Sussex County. This was accomplished by:

- **Step 1: Evaluating the Expected Visitation, Revenue Streams, and Costs (Feasibility) from Operations** -Rockport Analytics carefully evaluated the estimates provided in the current DBG business plan. The figures were compared and contrasted with comparable botanic gardens from around the country and the demographics of DBG origin markets. The task required that we develop an estimate of DBG's addressable market by reconciling the size of the population within driving distance of Dagsboro with the demographic profile of the typical botanic garden visitor.
- **Step 2: Estimating DBG-initiated Ancillary Spending by Non-local Visitors** - When out-of-town tourists come to Sussex County and visit DBG, they will generate ancillary spending on a host of travel-related categories including hotels, restaurants, retail stores, and other entertainment venues. If the primary purpose of the trip is to visit DBG, then virtually all of their spending was categorized as DBG-initiated. If, on the other hand, the visitor is coming to Sussex for some other primary purpose such as a beach vacation, then only certain incremental items were attributed to DBG.
- **Step 3: Calculating the Economic Benefits of DBG Construction** - the design and development of the Delaware Botanic Gardens will involve significant construction activity. The economic benefit of construction was included in our assessment. While only a one-time benefit, DBG's construction would still contribute to local jobs, spending, wages, and taxes. Construction benefits are a part of the overall story of DBG's economic contribution and return on investment.
- **Step 4: Calculating the Economic Benefits from Ongoing DBG Operations** – with construction completed and the doors open, DBG's hiring of local labor and purchases of materials, supplies, and services will add to Sussex County's economy. This step was accomplished by utilizing the DBG operating budget for the years 2017-2021, the time required to move through development and ramp up to full operations. Information covering hiring, sales and expenses were used to quantify the size and growth of DBG operations, as well as its interaction with the local economy.

Rockport also estimated the impacts of the ancillary spending of non-local DBG visitors who will have come to the area to experience the garden. Their spending at Sussex restaurants, hotels, retail stores, and other tourism-oriented businesses is also attributable to the DBG.

About Rockport Analytics



Rockport Analytics, LLC (www.rockportanalytics.com) is a research and analytical consulting firm providing high quality quantitative and qualitative research solutions to business, government, and non-profit organization clients across the globe. Headquartered in West Chester, PA, Rockport's focus is on creative and actionable research in the travel & tourism market. We provide fast, nimble service in a transparent environment.

Rockport Analytics capabilities include:

- Market Analysis and Forecasting
- Economic Impact Assessment, Tourism Satellite Accounting, and Economic Development
- Market Modeling and Decision Support Tools
- Project Feasibility Assessment
- Primary Research and Secondary Research Synthesis
- Stakeholder Surveys – internal & external

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