



**The 2017 Economic Impact of
Missouri Botanical Garden
St. Louis, Missouri
August 2018**

The St. Louis Regional Chamber, working with the Metropolitan Zoological Park and Museum District, has estimated the economic impact of the Zoo Museum District and its institutions – **St. Louis Art Museum, St. Louis Zoological Park, Missouri Botanical Garden, St. Louis Science Center, and the Missouri Historical Society** – on the regional economy. This report summarizes the economic impact of the **Missouri Botanical Garden**. The Missouri Botanical Garden provided data about attendance, payroll, operation's expenditures for 2017, and capital expenditures and construction spending for 2013 to 2017.

Economic Impact Definitions

The economic impact of a business, organization, or event measures the dollar amount associated with an entity and the way those dollars circulate through the region. Estimates were developed with a computer model called IMPLAN, which stores a profile of the St. Louis metropolitan economy in a database. The model uses production functions for each industry in the region to calculate how spending in one industry circulates through other industries. This economic impact can be expressed either as an annual flow of dollars (output) or an equivalent level of employment.

There are three levels of impact we consider when developing these figures: direct impact, indirect business spending impact, and induced household spending impact. All three impacts can be expressed in terms of an annual flow of dollars (output) or annual total employment. The total impact is the sum of these three factors.

Direct Impact

This is the most basic part of an organization's economic impact that measures the dollars and jobs an organization directly generates. When expressed in dollars, the direct impact approximates a company's total spending or gross output. Alternatively, the direct impact is the average annual value of output associated with the given number of jobs in that industry.

The economic impact of the Missouri Botanical Garden is based on the amount of money the organization spends in the local economy through operations and capital improvements as well as the amount out-of-town visitors spend on overnight accommodations, food and drink, shopping, gasoline, and other items in the St. Louis region.

Indirect Business Impact

This is a secondary measure of a business's economic impact representing the revenue dollars and jobs generated by an organization's operating expenses. Examples include purchasing raw materials from a local supplier or using the professional services of an accounting or law firm. This spending generates revenue and employment at the firms supplying those goods or services. Every dollar an organization spends locally to conduct its business supports another business in some way.

Induced Household Spending Impact

This is a tertiary measure of a business' economic impact representing a business' revenue generated by the personal spending of the organization's employees. Think of an organization's employee spending money at the local grocery store. The employee's paychecks support revenue and jobs the same way the organization's spending on equipment supports revenue and jobs.

This summary combines the indirect business impact and the induced household spending impact and refers to these combined impacts as "indirect impacts."

Geography and IMPLAN Definitions

Geography

The local economy for this analysis is defined as the 15-county St. Louis MO-IL MSA. The MSA includes St. Louis City and Franklin, Jefferson, Lincoln, St. Charles, St. Louis, and Warren Counties in Missouri and Bond, Calhoun, Clinton, Jersey, Macoupin, Madison, Monroe, and St. Clair Counties in Illinois.

Definitions

- **Jobs (employment)** include full-time and part-time workers of firms as well as self-employed individuals.
- **Output** represents the value of industry production. For the service sectors, production equals sales.

Operations Expenditures

The Missouri Botanical Garden provided annual revenue, operations and payroll expenditures, and staffing levels for 2017. The direct spending for the Garden totaled \$45.9 million. This spending generated a total of \$62.2 million in indirect spending, bringing the total operations output impact to \$108.1 million. Annual operations include 399 direct jobs and indirect impacts added an additional 424 jobs, bringing the total to an estimated 823 jobs in the region.

Table 1
Estimated Total Economic Impacts of
Operation of the Missouri Botanical Garden
2017

	Direct	Indirect	Total
Output	\$ 45.9 million	\$ 62.2 million	\$ 108.1 million
Employment	399	424	823

Notes:

Impacts were calculated using IMPLAN Professional for Windows, ver. 3.0 (base year 2016)

Impacts presented in 2017 dollars

Impact estimates based on 2017 payroll and operating expenditures

Numbers may not add due to rounding

Geographic Area: St. Louis, MO-IL Metropolitan Statistical Area (MSA)

Construction and Capital Expenditures

The Missouri Botanical Garden provided construction and capital expenditures data for the 2013 to 2017 period. Construction and capital spending have a one-time impact on the local economy, while operations of the Garden contributes the regional economy annually. Since construction and capital expenditures can vary widely from year to year, this analysis presents the annual average of the Garden's spending from 2013 through 2017.

Construction and other capital expenditures totaled over \$16 million during this five-year period. This analysis presents an annualized expenditure level, estimating a "typical" year of spending. The direct impact of annualized local capital expenditures and construction spending totaled nearly \$2.8 million. The \$2.8 million in spending generated another \$2.5 million in indirect spending for a total of \$5.3 million. This average annual activity created 21 direct jobs and 16 indirect jobs for a total of 36 jobs.

Table 2
Estimated Total Economic Impacts of Annualized Construction and Capital Improvement Expenditures of the Missouri Botanical Garden
2013 - 2017

	Direct	Indirect	Total
Output	\$ 2.8 million	\$ 2.5 million	\$ 5.3 million
Employment	21	16	36

Notes:

Impacts were calculated using IMPLAN Professional for Windows, ver. 3.0 (base year 2016)

Impacts presented in 2017 dollars

Impact estimates based on construction and capital expenditures. The construction spending pro-rated expenditures for the renovation of the Stephen and Peter Sachs Museum to estimate spending in 2017. The 11-month construction project was completed in April 2018.

Capital expenditures reflect the impact of gross retail sales (purchase price)

Numbers may not add due to rounding

Geographic Area: St. Louis, MO-IL Metropolitan Statistical Area (MSA)

Out-of-Town Visitor Spending

The Missouri Botanical Garden is an important tourism asset to the region, drawing visitors from around the country. The Garden attracted over 1 million visitors in 2017; about 43 percent of attendees were from outside the St. Louis region. Spending by the 1,037,000 out-of-town visitors is an important component of the Garden's regional economic impact.

Estimates of how much out-of-town visitors spend are based on surveys provided by Explore St. Louis. According to a 2017 survey of visitor spending, leisure tourists spend on average \$97 per day per person on lodging, meals, attractions, entertainment, shopping, transportation, and other spending. A portion of this spending is attributed to institutions drawing visitors to the region and correlates with how long those visitors spend their time at the institution. Using the Garden's online Google My Business listing to estimate the length of time a typical visitor spends at the institution, a tourist's daily spending is apportioned accordingly.

Out-of-town spending generated \$4.0 million in direct impact and another \$4.3 million for a total impact of \$8.3 million. Spending also generated 87 direct jobs and 29 indirect jobs for a total impact of 116 jobs.

Table 3
Estimated Total Economic Impacts of
Out-of-Town Visitor Spending of the Missouri Botanical Garden
2017

	Direct	Indirect	Total
Output	\$ 4.0 million	\$ 4.3 million	\$ 8.3 million
Employment	87	29	116

Notes:

Impacts were calculated using IMPLAN Professional for Windows, ver. 3.0 (base year 2016)
 Impacts presented in 2017 dollars
 Impact estimates based on number of out-of-town visitors for the Garden and typical tourist spending
 Numbers may not add due to rounding
 Geographic Area: St. Louis, MO-IL Metropolitan Statistical Area (MSA)

Total Impact

The Garden's 2017 operations, average construction, and capital improvement spending along with out-of-town visitors' expenditures had a direct impact of \$52.7 million, an indirect impact of \$69.0 million, and a total regional economic impact of \$121.7 million. This spending generated 507 direct jobs and another 469 jobs indirectly, bringing the total employment impact to 975 jobs in the region.

Table 4
Estimated Total Economic Impacts of
Estimated Total Economic Impacts for the Missouri Botanical Garden
2017

	Direct	Indirect	Total
Output	\$ 52.7 million	\$ 69.0 million	\$ 121.7 million
Employment	507	469	975

Notes:

Impacts were calculated using IMPLAN Professional for Windows, ver. 3.0 (base year 2016)
 Impacts presented in 2017 dollars
 Numbers may not add due to rounding
 Geographic Area: St. Louis, MO-IL Metropolitan Statistical Area (MSA)

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