



## 2015 FLORIDA STRAWBERRY FESTIVAL ECONOMIC IMPACT STUDY

Tampa Bay Regional Planning Council, Regional Economic Analysis Program

## Authors

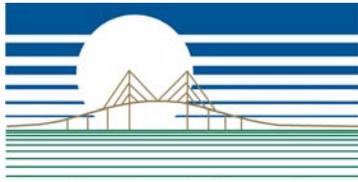
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*Tampa Bay Regional Planning Council*

The Tampa Bay Regional Planning Council is an association of local governments from Hillsborough, Manatee, Pasco and Pinellas Counties.

## About the Economic Analysis Program

Since 1999, the Tampa Bay Regional Planning Council has been producing economic impact studies for a variety of public and private sector clients.

Using the most powerful analytical tools, including IMPLAN and REMI PI+, the Council's Economic Analysis Program has produced hundreds of reports covering topics such as job creation, land use, natural resources and energy, as well as a variety of public policy questions.

## Acknowledgements

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**Cover photo courtesy of the Florida Strawberry Festival**

## Background: The Florida Strawberry Festival

At the request of the Florida Strawberry Festival, the Tampa Bay Regional Planning Council conducted a study of the economic impacts of the Festival on the Plant City area<sup>1</sup>. For over eighty years the Florida Strawberry Festival has drawn thousands of customers to the Plant City area. In 2013, attendance over the eleven day festival reached a total of 526,100 admissions and in 2015, attendance was 517,427. As a chart below indicates, daily attendance during the 2015 Festival varied greatly day-to-day from a low of 23,000 to a high of 95,000, but averaged 47,000 a day. Because the Festival is a largely outdoor event attendance can vary greatly with the weather.

## Summary of Economic Impacts

The estimated \$25.8 million in direct tourism spending during the Festival was modeled in economic impact software REMI PI+. Table 1 summarizes the economic impacts of the Florida Strawberry Festival.

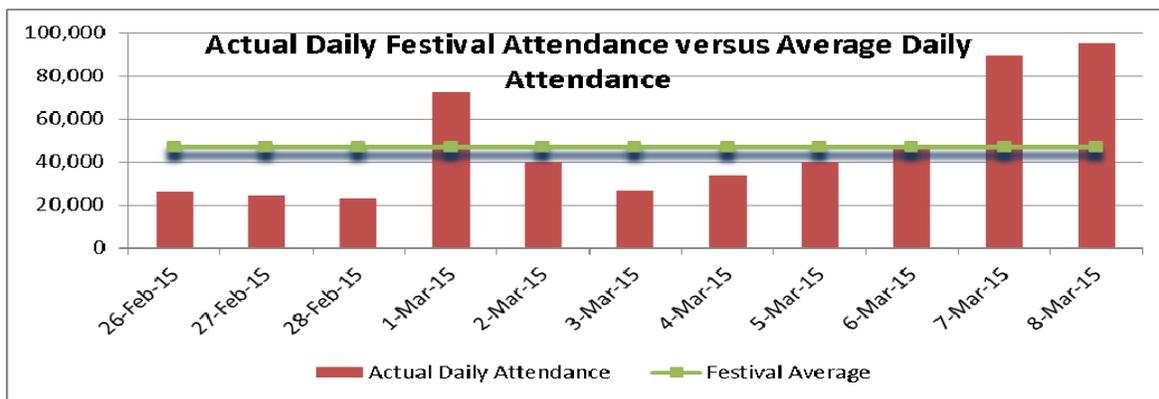
**Table 1**

Summary of Economic Impacts of the Florida Strawberry Festival				
Category	Units	2015		
		Hillsborough	Florida*	
<b>Total Employment</b>	FTE (Jobs)	214	311	
<b>Gross Regional Product</b>	Millions of Nominal (2015) Dollars	15	21	
<b>Value Added</b>	Millions of Nominal (2015) Dollars	15	21	
<b>Personal Income</b>	Millions of Nominal (2015) Dollars	7	10	

\*Includes impacts for Hillsborough County and all other Florida counties.

## Characteristics of the Festival

The following chart and related information are drawn from admissions data and a survey conducted by the Festival of Festival customers.



<sup>1</sup> Data collection for the study included surveys of customers of the Festival, a survey of vendors who worked the Festival and a survey of Plant City Chamber of Commerce members. While customers of the Festival were more than adequately sampled (n=1,062 legible and completed responses), the response rate from Chamber of Commerce members and from vendors was inadequate for any strong conclusions.

### *Party Size*

Respondents were asked how many people were in their party. On average there were 4.3 individuals in each party. However, there were over 30 responses purporting to have party sizes over 10 people—usually tour groups, which ranged in size up to 236 individuals. Without groups over 10 people, the average party size was 3.3.

### *Parties*

Given the average party size and attendance of 517,427, TBRPC estimated that there were 158,830 parties, or independent groups, attending the Festival.

### *Return Visits*

Respondents said that their parties visited the Festival an average of 1.7 days.

### *Other events*

Over the course of a year, the Festival also hosts a wide range of events, with over 50,000 participants. As with tourism during the Festival, customers spend money in the area, providing a boost to the economy.

## **Components of the Economic Impact Study**

TBRPC's approach was to assess the impacts of measurable expenditures, based on surveys of the key populations involved in the Festival. The Council looked at expenditures by customers in the area, outside of the Festival, to directly measure their impact on the local economy.

As originally conceived, TBRPC prepared three survey instruments. The first instrument was deployed over the eleven days of the Festival, with Festival Ambassadors administering the survey to willing Festival customers. While selection bias cannot be ruled out in selecting respondents, a large enough sample size was obtained to justify broad conclusions.

The second instrument was designed to obtain local spending information by vendors working at the Festival. While information on revenues from the Festival would have been extremely useful, questions about this issue were excluded from the survey because TBRPC did not believe that vendors would willingly share such information. Out of several hundred vendors, only three were returned. Therefore, this part of the project was not successful.

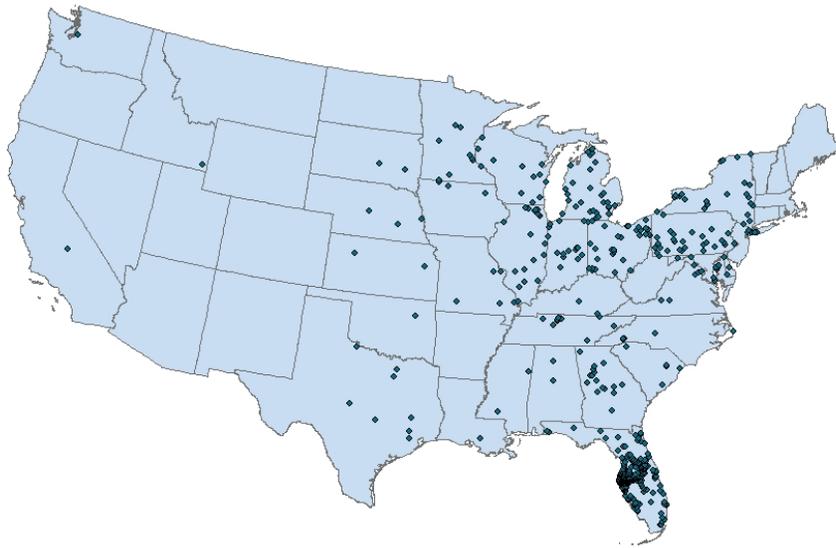
The third survey instrument was applied to the entire membership of the Plant City Chamber of Commerce. 53 responses were entered in an online survey, or about 7 percent of the total membership. A better response rate would have been important in allowing the research team to draw firm conclusions from the online survey. Instead, TBRPC regards the results as informative but not conclusive.

Together with data drawn from the Florida Strawberry Festival organization, TBRPC modeled the economic impacts of the Festival on Hillsborough County and the State of Florida.

### Where are customers coming from?

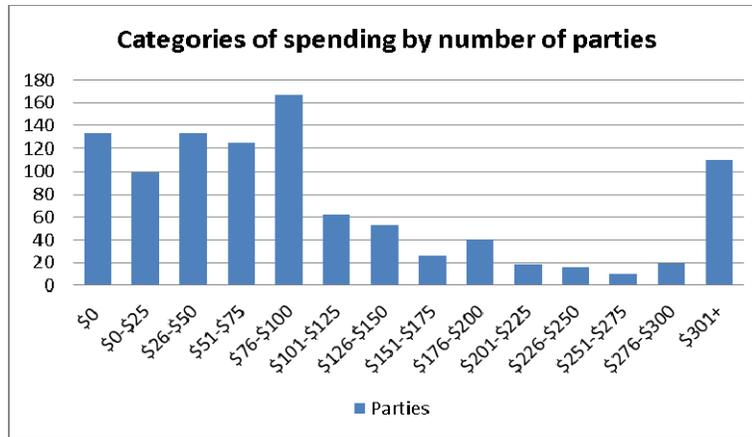
Surveyed Festival customers came from all over the United States. Surveyed international customers came from Ontario (Canada), Finland and the United Kingdom. The following map depicts where customers came from within the continental US. Notably, most respondents (67%) stated that their home Zip Codes are more than 50 miles away from the Strawberry Festival site.

Where are Sampled Strawberry Festival Customers from? By Home Zip Codes



### How much are customers spending, per party?

Festival customers were asked to classify their spending outside the Festival within given ranges. Offering spending ranges was also helpful in encouraging responses when some respondents appeared to be reluctant to be specific or where respondents were unable to recall how much they spent, exactly. Overall, spending per party averaged \$112 during the Festival while the most frequently chosen range (mode) was \$76-\$100.



### Did customer spending vary by how far they traveled to the Festival?

Yes. As shown in the table below, the closer customers lived to the Festival the more days they spent at the Festival. Total average spending generally declines with greater home distance from the Festival, and then rises again as the number of overnight stays increase.

**Table 2**

Home distance to Festival	% of respondents	Average days spent at Festival	Average overnight stays*	Average Total Spending
Within 5 miles	1	7.0	0	\$240
Within 10 miles	3	3.6	0	\$206
Within 50 miles	33	1.9	3.8	\$133
Within 100 miles	45	1.8	3.4	\$124
More than 100 miles	55	1.6	4.7	\$171

\*Most parties reported that they did not spend any nights in the area. The question specified **if** the customer overnights in the area how many nights did the customer spend.

### How were Plant City businesses impacted by the Festival?

While the Plant City Chamber of Commerce survey did not yield a statistically useful set of results—there were few respondents and they were all self-selected—there are a number of conclusions that can be drawn from the survey of businesses. First, many businesses reported that the Festival did not impact their business. For businesses in areas such as insurance, health care and computer equipment, the Festival may not impact the business at all.

On the other hand, businesses that appeal to tourists—restaurants, hotels, and grocery stores do see a significant impact from the Festival, and reported as such in an online survey of chamber members. In a follow up analysis of these kinds of businesses, repair shops reported additional business of about \$10,000 during the Festival, restaurants reported a range of \$15,000 to over \$40,000 and hotels reported a range of a few thousand additional dollars to more than \$70,000 in additional revenue.

### How did we determine the economic impacts of the Festival?

The estimated economic impact of the Festival is the total impact of customer spending during the Festival and of temporary hiring by the Festival organization, where added payroll enters the economy through household demand for goods and services. TBRPC assessed customer

spending impacts by first asking customers how much they spent on activities outside of the festival—parking, fuel costs, dining, groceries, hotel stays and so on. Then using data provided by the Festival on admissions data we compiled an overall picture of customer spending. Festival spending on temporary labor was also considered in the analysis.

A key issue in determining an economic impact is to compare the amount of money that stays in the area versus the amount of money that leaves. An example of the former is the proliferation of informal parking arrangements where many Plant City residents turned their lots into parking grounds and charged customers \$5 on average to park on their property. It is estimated that customers left behind \$645,000 to property owners for parking<sup>2</sup> and that money will stay with them. On the other hand, while the Festival took in \$2.4 million in concert receipts, most of those revenues would be paid to concert organizers and artists, most of whom do not live in the Plant City area.

The true economic comparison here is the balance between how much money leaves Hillsborough County versus how much is added to the local economy by non-local customers (those who come from more than 50 miles away). That is because we may assume that the local customers would be simply spending roughly the same amount of money at other “local” venues and so their true impact may not be relevant to assessing the Strawberry Festival. On the other hand, non-local customers are bringing cash to the venue that they would have otherwise have spent outside the region.

Based on the survey data results, TBRPC estimates that Festival customers spent about \$17.8 million in the Plant City/Hillsborough area during the Festival. However, this does not include spending at the Festival itself (on admissions, food and festival events). Customer spending at the festival on admissions, concerts and attractions (midway admissions) came to approximately \$8 million. We do not have information on how much was spent on food from vendors. Together, customer spending amounted to about \$25.8 million in the area and on select spending categories during the Festival.

Using Geographic Information Systems to estimate spending by the residential location of customers, TBRPC divided total spending into spending from local customers who live within 50 miles of the Festival site and non-local customers who come from farther away. Spending from non-local customers, as shown in the following table, came to \$22 million, or about 85 percent of all spending at the festival.

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<sup>2</sup> About 129,000 vehicles paid \$5 each for parking on private lots, for a total of \$645,000.



## Local Spending versus Non-Local Spending

**Table 3**

	<b>Local</b>	<b>Non-Local</b>	<b>Total</b>
<b>Non-Festival Spending</b>	\$1,230,000	\$16,600,000	\$17,830,000
<b>Festival Spending</b>	\$2,640,000	\$5,360,000	\$8,000,000
<b>Total</b>	\$3,870,000	\$21,960,000	\$25,830,000

Total customer spending was \$25.8 million from both spending on non-festival activities (travel, lodging, dining) and from festival spending on admissions and events. There are several avenues for assessing the economic impact of total customer spending. As revenue for the Festival, for example, not all fees retained from admissions to activities are circulated through the economy as tourist spending. Significant Festival expenditures on safety and other public services provide public value that is not readily convertible to dollars. In order to get a rough picture of what the total economic impact of the Festival TBRPC treated all revenue as tourism spending.

## Summary of Economic Impacts

The \$25.8 million in tourism spending at the Festival was modeled in economic impact software REMI PI+. The following table summarizes the economic impacts of the Florida Strawberry Festival.

**Table 4**

Summary of Economic Impacts of the Florida Strawberry Festival			
Category	Units	2015	
		Hillsborough	Florida
<b>Total Employment</b>	Full Time Equivalents (Jobs)	214	311
<b>Gross Regional Product</b>	Millions of Nominal (2015) Dollars	15	21
<b>Value Added</b>	Millions of Nominal (2015) Dollars	15	21
<b>Personal Income</b>	Millions of Nominal (2015) Dollars	7	10

The total employment identified in the table above indicates new jobs in a variety of businesses and occupations—from retail to professional services that are sustained through the year 2015 as the result of the Florida Strawberry Festival. While the Festival hired 530 temporary workers in 2015, those workers are on board for much shorter periods than a year and their total annual personal incomes from working the Festival are about the same as sixteen employees working year round (\$7 million).

\$15 million is added to the Hillsborough economy from local and non-local sources from the \$25.8 million spent during the festival. \$10.8 million leaves the area to other parts of the state (\$6 million) while the rest (\$4.8 million) goes to other parts of the country. Since non-local spending is \$22 million (see Table 4) compared to \$10.8 million, **Hillsborough County sees a net gain of nearly \$11 million dollars to Gross Domestic Product/Value Added from non-local sources.** In other words, for each dollar that leaves the region, \$2.03 from outside the region stays in the region.

## Conclusions

The Florida Strawberry Festival is a major tourist attraction. Each year, the Festival creates several hundred temporary new jobs, and 214 year round full time jobs as the result of Festival related spending in the Hillsborough economy. The Festival creates another nearly 100 jobs in the rest of the state.

In 2015, the Festival added \$15 million dollars to the Hillsborough economy--\$11 million dollars of which came from nonlocal sources. Since the difference--\$4 million--can be thought of as local spending that could have otherwise been spent in the regional economy outside of the festival, we consider the true net new money injected into the economy as \$11 million.

For every dollar that was expended on out of area suppliers, paid as royalties and fees to copyright holders and artists, and similar costs, two dollars entered the regional economy.

Viewed from another perspective, each customer contributed \$21.25 to the region's economy

during the Festival.

## Glossary

**Employment:** Full-Time Equivalent (FTE) compensated labor.

**Gross Regional Product:** The sum of the gross values added of all resident, institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs). The term is the same as Gross Domestic Product, reduced to a regional context.

**Personal Income:** Compensation to employed labor.

**Value Added:** revenue less outside purchases (of materials and services).

## About REMI PI+

Founded in 1980, Regional Economic Models, Inc. (REMI) constructs models that reveal the economic and demographic effects that policy initiatives or external events may cause on a local economy. REMI model users include national, regional, state and city governments, as well as universities, nonprofit organizations, public utilities and private consulting firms. A major feature of REMI Policy Insight is that it is a dynamic model which forecasts how changes in the economy and adjustments to those changes will occur on a year-by-year basis. The model is sensitive to a very wide range of policy and project alternatives and to interactions between the regional and national economies. By pointing and clicking, you can answer the toughest “What if...?” questions about federal, state, local or regional economies.

## Model Introduction

Tampa Bay Regional Planning Council’s REMI Policy Insight includes a REMI model that has been built especially for the Tampa Bay region version of the model and a state model. The model-building system uses hundreds of programs developed over the past two decades to build customized models for each area using data from the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Department of Energy, the Census Bureau and other public sources. The REMI model is a structural model, meaning that it clearly includes cause-and-effect relationships. The model shares two key underlying assumptions with mainstream economic theory: *households maximize utility* and *producers maximize profits*. Since these assumptions make sense to most people, the model can be understood by intelligent lay people as well as trained economists.

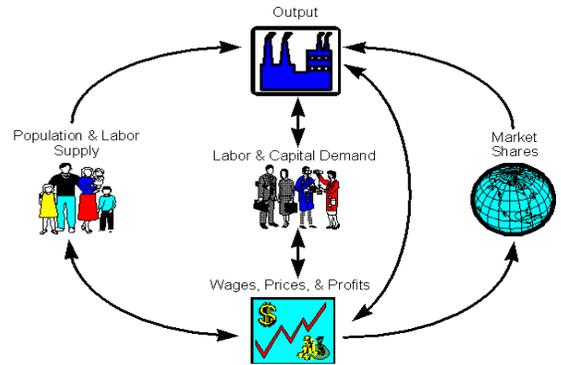
In the model, businesses produce goods to sell to other firms, consumers, investors, governments and purchasers outside the region. The output is produced using labor, capital, fuel and intermediate inputs. The demand for labor, capital and fuel per unit of output depends on their relative costs, since an increase in the price of any one of these inputs leads to substitution away from that input to other inputs. The supply of labor in the model depends on the number of people in the population and the proportion of those people who participate in the labor force. Economic migration affects the population size. More people will move into an area if the real after-tax wage rates or the likelihood of being employed increases in a region.

Supply and demand for labor in the model determine the wage rates. These wage rates, along with other prices and productivity, determine the cost of doing business for every industry in the

model. An increase in the cost of doing business causes either an increase in price or a cut in profits, depending on the market for the product. In either case, an increase in cost would decrease the share of the local and U.S. market supplied by local firms. This market share combined with the demand described above determines the amount of local output. Of course, the model has many other feedbacks. For example, changes in wages and employment impact income and consumption, while economic expansion changes investment and population growth impacts government spending.

Model Overview

A pictorial representation of the model is adjacent. The Output block shows a factory that sells to all the sectors of final demand as well as to other industries. The Labor and Capital Demand block shows how labor and capital requirements depend both on output and their relative costs. Population and Labor Supply are shown as contributing to demand and to wage determination in the product and labor market. The feedback from this market shows that economic migrants respond to labor market conditions. Demand and supply interact in the Wage, Price and Profit block. Once prices and profits are established, they determine market shares, which along with components of demand, determine output.



The REMI model brings together all of the above elements to determine the value of each of the variables in the model for each year in the baseline forecasts. The model includes all the inter-industry relationships that are in an input-output model in the Output block, but goes well beyond the input-output model by including the relationships in all of the other blocks shown in the figure.

In order to broaden the model in this way, it was necessary to estimate key relationships. This was accomplished by using extensive data sets covering all areas in the country. These large data sets and two decades of research effort have enabled REMI to simultaneously maintain a theoretically sound model structure and build a model based on all the relevant data available.

The model has strong dynamic properties, which means that it forecasts not only what will happen but when it will happen. This results in long-term predictions that have general equilibrium properties. This means that the long-term properties of general equilibrium models are preserved without sacrificing the accuracy of event timing predictions and without simply taking elasticity estimates from secondary sources.