



The Pennsylvania Horticultural Society

**Economic Impact Analysis
for the 2010 and 2011 Philadelphia
International Flower Shows**

February 7, 2011

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1 Executive Summary

This study was prepared by KPMG LLP (“KPMG”) at the request of the Pennsylvania Horticultural Society (“PHS”) to evaluate the economic and fiscal impact of the Philadelphia International Flower Show (the “Flower Show”) on the local economy.

This study estimates the economic impacts of the Flower Show on Philadelphia and its neighboring counties (both in Pennsylvania and New Jersey). These regions combined are collectively referred to as “Greater Philadelphia” throughout this report.

The economic impacts are divided into three different effects for the purposes of this analysis: direct, indirect and induced effects. Direct effects are production changes associated with the immediate effects, or final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries; that is, additional purchases to produce additional output. Induced effects are changes in regional household spending patterns caused by changes in household income generated by the direct and indirect effects.¹

Each of the three types of effects result in changes in employment, labor income, value added and output. Employment is the number of jobs that are created or supported by the Flower Show while labor income refers to the total income earned from these jobs. Value added is the difference between an industry’s total output and the cost of the intermediate inputs. The output represents the total industry production in the economy. This output is an indicator of how the Flower Show contributes to the growth of business in the local economy.²

The following tables illustrate the estimated total economic impacts to Greater Philadelphia of the Flower Show in 2010 and 2011.

Table 1: Estimated Total Economic Impact of the Flower Show on Greater Philadelphia, 2010³

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	392	\$ 12,288,498	\$ 15,651,693	\$ 26,758,590
Indirect Effect	73	\$ 3,800,025	\$ 6,240,382	\$ 10,845,715
Induced Effect	148	\$ 7,144,834	\$ 12,797,381	\$ 20,883,651
Total Effect	614	\$ 23,233,357	\$ 34,689,456	\$ 58,487,956

Table 2: Estimated Total Economic Impact of the Flower Show on Greater Philadelphia, 2011^{4,5}

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	406	\$ 12,693,970	\$ 16,162,446	\$ 27,631,880
Indirect Effect	75	\$ 3,907,650	\$ 6,426,966	\$ 11,170,520
Induced Effect	157	\$ 7,559,586	\$ 13,539,438	\$ 22,096,043
Total Effect	637	\$ 24,161,205	\$ 36,128,850	\$ 60,898,443

¹ IMPLAN Glossary:

http://www.implan.com/V4/index.php?option=com_glossary&task=list&glossid=13&letter=R&Itemid=12

² Ibid.

³ The discrepancy between the total effect figures and the sum of each column is a result of rounding the estimates.

⁴ The economic impact of the 2011 Flower Show has been estimated using the projections provided by PHS’ management.

⁵ The discrepancy between the total effect figures and the sum of each column is a result of rounding the estimates.



The results summarized in Table 1 and Table 2 show that the Flower Show generated approximately \$58.5 million in 2010, and is expected to generate \$60.9 million in 2011 in to the economy of the Greater Philadelphia Region. The impact of the Flower Show also generated approximately 614 full-time equivalent jobs in 2010, and is expected to support 637 full-time equivalent jobs in 2011.

This report is organized as follows. Following the background information in Section 2, Section 3 provides the economic benefits and impacts. Section 4 provides the conclusion. The appendices are supporting documents to this analysis.

2 Background Information¹

PHS was founded in 1827 as a not-for-profit membership organization to promote the art and science of horticulture in the Philadelphia region. Today, PHS offers legions of gardeners throughout the region, events, activities and publications for educational and leisure purposes.

Since its founding, PHS has organized one of the most prestigious horticultural attractions in the world, the Philadelphia International Flower Show. Early Flower Shows were a place to debut some of today's most popular plants including the Poinsettia, and the Chrysanthemum. The event continued to gain in popularity throughout the 1980s when gardening as hobby became more popular, and in the 1990s attendance skyrocketed to more than 300,000 visitors when the event moved to the Pennsylvania Convention Center in downtown Philadelphia.

Today, the Flower Show spans more than 10 acres of exhibition space during its eight day run and offers many hands-on activities for visitors, such as horticultural, floral and landscape design competitions as well as a host of activities and special attractions for people of all ages. As the premier event of its kind, the Flower Show garners media attention from around the world and recently received eight awards from the International Festival and Events Association. Flower Show vendors come from 26 states to sell their products in the bustling Show Marketplace. The Show volunteer corps numbers more than 3,500 who hail from 41 states across the country.

Throughout the year, proceeds from the Flower Show along with support from diverse funding sources, helps PHS to conduct programs that have gained national recognition for innovative approaches to urban greening. From stormwater management to transforming some of Philadelphia's most blighted communities, PHS impacts thousands of people in underserved communities with initiatives such as City Harvest that provide local food shelters with fresh produce grown by local gardeners. PHS works to raise the standard of horticultural excellence in city parks and treasured public spaces along the famed Benjamin Franklin Parkway, Columbus Boulevard and along hundreds of miles of roads and interstates throughout Philadelphia. In 2011, PHS will launch Plant One Million, a multi-state, multi-county campaign to plant trees in the Greater Philadelphia Region.

PHS operates Meadowbrook Farm, an exceptional garden center in Abington Township, PA and welcomes more than 17,000 gardening enthusiasts as members from 50 states, engaging thousands more in its many programs year-round.

¹ Information provided by PHS management.

3 Estimated Benefits and Impacts

3.1 Overview

The local economy of the Greater Philadelphia Region reaps benefits from the Flower Show, both through direct and indirect impacts. The direct impacts of the Flower Show include the following:

- Operating expenditure
- Salaries/Benefits
- Visitor expenditure
- Volunteer expenditure
- Participant expenditure
- Marketplace sales

The Flower Show results in PHS employees, visitors, volunteers and other participants to purchase goods and services, not only at the event itself, but also from local establishments throughout Greater Philadelphia. These purchases are then divided between spending and savings from the local establishments; the spending will then recycle itself through different parts of the economy while the savings will make new funds available for the economy in the future.

KPMG conducted this analysis using the 2009 IMPLAN model, a widely-accepted Input-Output modeling and database system. IMPLAN, which stands for “Impact Analysis for Planning,” analyzes the impacts to the economy at national, state and local levels. The IMPLAN model captures the relationships among the economic sectors affected by the Input-Output relationships in all three of these geographic regions. Appendix B provides a more detailed description of the IMPLAN model.

The IMPLAN model was used to estimate the impacts of the Flower Show on the Greater Philadelphia Region, that includes five counties in the state of Pennsylvania (Bucks, Chester, Delaware, Montgomery and Philadelphia), collectively referred to as “Southeastern Pennsylvania” in this report, and counties in the southwestern part of New Jersey.

The following sections quantify the benefits of the Flower Show measured in terms of full-time equivalent jobs, spending and income.

3.2 Direct Benefits

3.2.1 Flower Show Operating Expenditure Impacts

PHS incurs a significant amount of operating expenditure for the production of the Flower Show each year. PHS provided segmented operating expenditure data for 2010, as well as the projections for 2011. These Flower Show operating expenses were segmented by department, and only the operating expenses incurred by the departments that engage directly in the organization of the Flower Show were considered in this analysis. PHS management

represented that the operating expenses were incurred substantially in the Greater Philadelphia Region.

The following tables illustrate the operating expenditure for the production of the Flower Show for 2010 and 2011.

Table 3: Operating expenditure incurred in connection with the 2010 and 2011 Flower Shows

Operating Expenditure	2010	2011
Staging	\$ 2,045,169	\$ 2,085,745
Subsidies	\$ 1,057,400	\$ 1,072,500
Advertising, sponsorship and publicity	\$ 486,152	\$ 468,210
Professional services	\$ 59,000	\$ 59,000
Program/project expense	\$ 664,681	\$ 678,450
Events	\$ 490,895	\$ 549,000
Merchandising	\$ 170,122	\$ 184,200
Training and development	\$ 4,843	\$ 17,180
Occupancy	\$ 70,000	\$ 73,000
Insurance	\$ 102,074	\$ 102,074
Other	\$ 107,591	\$ 118,800
Total	\$ 5,257,927	\$ 5,408,159

3.2.2 Flower Show Salaries/Benefits

A significant portion of the operating expenses incurred by PHS is the salaries and benefits for PHS employees involved in the production of the Flower Show. Salaries and benefits are essential to this analysis as they generate certain ripple effects in terms of consumer spending and savings. Although salaries and fringe costs are part of PHS' operating expenditure, they were analyzed separately in this report because their economic impact can be described in terms of consumer spending and savings, instead of the value added through other types of operating expenses.

PHS provided a list of employees by department and residence for the 2010 and 2011 Flower Shows. PHS also indicated that the employees of the Shows and Marketing departments engage full-time in the preparation of the annual Flower Show. PHS management represented that the certain departments, including Administrative, Finance, HR, IT and President's Office, provide support functions to the Shows and Marketing departments. Therefore, a part of the costs incurred by these departments was considered to be incurred in connection with the Flower Show for the purposes of this analysis. Furthermore, PHS management indicated that all of its employees support the Flower Show full-time for two weeks every year. Therefore, their fully-loaded salaries for two weeks were also included in the salaries expenses for the purpose of this analysis.

Benefits were also taken into account as PHS management represented that employee benefits amounted to approximately 25 percent of employee salaries. Therefore, a benefit rate of 25 percent was applied to the salaries in order to capture the total compensation of PHS employees.

Paid interns were also included in salaries and benefits costs for the purpose of this analysis. The following tables illustrate the PHS employee salaries and benefits costs.

Table 4: Salaries and benefits in connection with the 2010 Flower Show

PHS Salaries/Benefits	2010 Total Salaries
Salaries	\$ 1,615,439
Benefits	\$ 403,860
Interns	\$ 1,320
Total	\$ 2,020,618

Table 5: Projected salaries and benefits in connection with the 2011 Flower Show

PHS Salaries/Benefits	2011 Total Salaries
Salaries	\$ 2,087,445
Benefits	\$ 521,861
Interns	\$ 1,320
Total	\$ 2,610,627

3.2.3 Visitor Expenditure Impacts

Visitors to the Flower Show incur expenses in Greater Philadelphia during their visit. According to a survey conducted by PHS to the visitors of the Flower Show in 2010, they incurred the following types of expenses during their visit: food and drinks, accommodation, transportation and “other expenses” (i.e. entertainment, souvenirs, etc).

KPMG relied on survey data from 2006-2010 provided by PHS to estimate the expenses incurred by visitors. These data has a +/- sampling error of 4.1 percent with a 95 percent confidence interval.⁷ The average food and drink, and “other” expenses per visitor for the 2010 Flower Show were \$27.49 and \$34.89, respectively. The accommodation expense estimates were provided PHS were represented as \$123, based on survey data provided by PHS.

Transportation expenses for local visitors were estimated to be \$4 for both 2010 and 2011. For visitors that require accommodation, the average accommodation expense was estimated to be as \$123 for 2010 and \$124.35 for 2011, while their transportation expenses were estimated to be \$25 for both 2010 and 2011.⁸ The accommodation expenses were estimated under the assumption of two-individual occupation of hotel rooms.

For the purpose of this analysis, PHS management indicated that they estimate that the Flower Show visitors will incur similar expense patterns in 2011. Therefore, the visitor expenses for 2011 were estimated by applying the expected inflation rate to the 2010 visitor expenses.

⁷ This means that if this same sampling procedure were repeated 100 times, the results would be within +/- 4.1%, 95 times out of 100.

⁸ Transportation expenses for local visitors were assumed to be equal to the cost of two base fares, based on the Southeastern Pennsylvania Transportation Authority website. Transportation expenses for non-local visitors were assumed to be approximately equal to the cost of a taxi fare from the airport to downtown Philadelphia, based on the Philadelphia Official Visitor website. While not all non-local visitors may fly to Philadelphia, this fare was considered a representative estimate.

The following table illustrates the visitor expenditure for the 2010 Flower Show and the estimated expenses for the 2011 Flower Show.

Table 6: Visitor expenditure during the 2010 Flower Show

Visitor Expenses	Number of visitors	Average expense per person	Total expense
Food/Drink	231,924	\$ 27.49	\$ 6,374,807
Transportation (Local Visitors)	210,077	\$ 4.00	\$ 837,524
Transportation (Overnight Visitors)	21,847	\$ 25.00	\$ 563,575
Other	231,924	\$ 34.89	\$ 8,092,861
Accommodation	21,847	\$ 123.00	\$ 2,929,687
Total			\$ 18,798,454

Table 7: Projected visitor expenditure during the 2011 Flower Show

Visitor Expenses	Number of visitors	Average expense per person	Total expense
Food/Drink	247,000	\$ 27.79	\$ 6,863,876
Transportation (Local Visitors)	223,733	\$ 4.00	\$ 891,966
Transportation (Overnight Visitors)	23,267	\$ 25.00	\$ 600,210
Other	247,000	\$ 35.28	\$ 8,713,738
Accommodation	23,267	\$ 124.35	\$ 3,154,450
Total			\$ 20,224,241

Visitors may also buy goods in the Flower Show's Marketplace. The expenses incurred in the Marketplace are analyzed in section 3.2.6.

3.2.4 Volunteer Expenditure Impacts

Volunteers account for a significant portion of the assistance that PHS enlists for the production of the Flower Show, both at the event and during the planning stage. PHS estimates that volunteers spend on average, eight hours at the Flower Show and also incur costs for food and drink and transportation for the event. Management represented that the average volunteer expenditure for food/drink and transportation is estimated to be the same as those of the visitor expenditure at \$27.49 and \$4, respectively, for the 2010 Flower Show. Accommodation expenses and transportation costs were also estimated for volunteers that were not residents of PA, NJ and DE, as their participation in the Flower Show may require an overnight stay in Philadelphia similar to those of visitors.⁹

The following table illustrates the volunteer expenditure for the 2010 and 2011 Flower Shows.

⁹ The accommodation expenses were estimated under the assumption of a one-individual occupation of hotel rooms, in the case of volunteers.

Table 8: Volunteer expenditure during the 2010 Flower Show

Volunteer Expenses	Number of volunteers	Average expense per person	Total expense
Food/Drink	3,663	\$ 27.49	\$ 100,683.49
Transportation (Local Visitors)	3,229	\$ 4.00	\$ 12,916.00
Transportation (Overnight Visitors)	434	\$ 25.00	\$ 10,850.00
Accommodation	434	\$ 123.00	\$ 112,805.17
Total			\$ 237,254.66

Table 9: Projected volunteer expenditure during the 2011 Flower Show

Volunteer Expenses	Number of volunteers	Average expense per person	Total expense
Food/Drink	3,663	\$ 27.79	\$ 101,791.00
Transportation (Local Visitors)	3,229	\$ 4.00	\$ 12,916.00
Transportation (Overnight Visitors)	434	\$ 25.00	\$ 10,850.00
Accommodation	434	\$ 124.35	\$ 114,046.03
Total			\$ 239,603.03

Volunteers may also buy goods in the Flower Show’s Marketplace. The expenses incurred in the Marketplace are analyzed in section 3.2.6.

3.2.5 Participant Expenditure Impacts

The Flower Show participants include class and major exhibitors and marketplace vendors. The class exhibitors are groups or individuals that participate in class competitions held at the Flower Show each year. Many gardening classes and horticultural organizations compete in these competitions depending on their display type. The major exhibitors are landscapers or groups that display large and elaborate garden exhibitions, which are the Flower Show’s main attraction.

There were 754 class exhibitors, 58 major exhibitors and 175 marketplace vendors that participated in the 2010 Flower Show. PHS estimates that the number of participants in the 2011 Flower Show will be consistent with that of the 2010 Flower Show. The participant expenses, including food/drinks and accommodation, for marketplace vendors and major exhibitors were estimated for the week of the Flower Show, including the several days before the first day of the Flower Show required for setting up. Similarly, the class exhibitors’ food/drinks and accommodation expenses were also estimated for the duration of the Flower Show.

The participants were assumed to incur expenses similar to visitors, including food/drink and accommodation expenses. The following tables illustrate the participant expenditure for the 2010 and 2011 Flower Shows.

Table 10: Participant expenditure during the 2010 Flower Show

Participant Expenses	Average expense per person	Participants from PA	Participants from NJ	Participants from Other	Total Expenditures
Food/Drinks	\$ 27.49	\$ 227,380.31	\$ 68,284.68	\$ 136,256.01	\$ 431,921.00
Accommodation	\$ 123.00	NA	NA	\$ 435,304.87	\$ 435,304.87
Total		\$ 227,380.31	\$ 68,284.68	\$ 571,560.88	\$ 867,225.87

Table 11: Projected participant expenditure during the 2011 Flower Show

Participant Expenses	Average expense per person	Participants from PA	Participants from NJ	Participants from Other	Total Expenditures
Food/Drinks	\$ 27.79	\$ 229,881.49	\$ 69,035.81	\$ 137,754.83	\$ 436,672.13
Accommodation	\$ 124.35	NA	NA	\$ 440,093.23	\$ 440,093.23
Total		\$ 229,881.49	\$ 69,035.81	\$ 577,848.05	\$ 876,765.35

In addition, as not all of the major exhibitors' expenditures were accounted for, either through their revenues or expenditure, KPMG estimated the remaining amount of expenses not covered through subsidies provided by PHS. PHS management represented that subsidies (which are part of PHS' operating expenditure) account for only 60 percent of the display costs. Therefore, the following tables illustrate the costs incurred by participants that are not covered with the subsidies provided by PHS.

Table 12: Cost of exhibits not covered by subsidies, 2010 Flower Show

Cost of exhibits not covered by subsidies (per major exhibitor)	Participants from PA	Participants from NJ	Participants from Other	Total
\$ 17,623	\$ 528,700	\$ 123,363	\$ 52,870	\$ 704,933

Table 13: Projected cost of exhibits not covered by subsidies, 2011 Flower Show

Cost of exhibits not covered by subsidies (per major exhibitor)	Participants from PA	Participants from NJ	Participants from Other	Total
\$ 17,875	\$ 536,250	\$ 125,125	\$ 53,625	\$ 715,000

3.2.6 Marketplace Sales

The marketplace is an area of the Flower Show venue where attendees may purchase plants, gardening goods and other services from vendors. There are vendors who are invited to sell their goods at the Flower Show every year, as well as new vendors who are invited each year. There were 175 vendors in total at the 2010 Flower Show; PHS management represented that a similar number of vendors would be expected for the 2011 Flower Show.

Marketplace sales refer to the revenue that the marketplace vendors receive from attendees purchasing goods and services at the Flower Show. The marketplace sales impacts were estimated based on the average amount purchased by visitors and volunteers during their visit to the Flower Show. Marketplace vendors' sales were allocated according to their state of origin for the purpose of this analysis. Many marketplace vendors were out-of-state businesses and contributed to a significant portion of the marketplace sales.

The following tables illustrate the marketplace sales for the 2010 and 2011 Flower Shows.

Table 14: Marketplace sales during the 2010 Flower Show

Marketplace Sales	Average purchase per person	Number of visitors/volunteers	PA	NJ	Other	Total Expense
Visitors	\$ 43.66	231,924	\$ 2,926,274	\$ 936,408	\$ 6,262,226	\$ 10,124,908
Volunteer	\$ 43.66	3,663	\$ 46,217	\$ 14,790	\$ 98,905	\$ 159,912
Total		235,587	\$ 2,972,492	\$ 951,197	\$ 6,361,132	\$ 10,284,821

Table 15: Projected marketplace sales during the 2011 Flower Show

Marketplace Sales	Average purchase per person	Number of visitors/volunteers	PA	NJ	Other	Total Expense
Visitors	\$ 44.14	247,000	\$ 3,150,775	\$ 1,008,248	\$ 6,742,659	\$ 10,901,682
Volunteer	\$ 44.14	3,663	\$ 46,726	\$ 14,952	\$ 99,993	\$ 161,672
Total		250,663	\$ 3,197,501	\$ 1,023,200	\$ 6,842,652	\$ 11,063,354

3.3 Indirect and Induced Effects

3.3.1 Indirect Effects

Each dollar generated locally has a ripple effect on the region's economy. For example, the increase in business at a local store could prompt it to hire additional staff, who would spend a portion of their income in Greater Philadelphia, potentially encouraging hiring at other local businesses. The impact of the jobs offered by PHS for the Flower Show will therefore include not only the earnings of the PHS employees, but also the other employment and earnings generated in the local economy. Based on the economic relationship between sectors of the local economy, this ripple effect can be quantified in terms of the associated indirect employment and earnings.

The following tables summarize the indirect effects caused by the operation of the Flower Show in Greater Philadelphia.

Table 16: Indirect effects of the 2010 Flower Show

Impact Type	Employment	Labor Income	Value Added	Output
Indirect Effect	73	\$ 3,800,025	\$ 6,240,382	\$ 10,845,715

Table 17: Projected indirect effects of the 2011 Flower Show

Impact Type	Employment	Labor Income	Value Added	Output
Indirect Effect	75	\$ 3,907,650	\$ 6,426,966	\$ 11,170,520

3.3.2 Induced Effects

Induced effects are changes in regional household spending patterns caused by changes in household income generated by the direct and indirect effects. The following tables summarize the induced effects contributed by the Flower Show in Greater Philadelphia.

Table 18: Induced effects of the 2010 Flower Show

Impact Type	Employment	Labor Income	Value Added	Output
Induced Effect	148	\$ 7,144,834	\$ 12,797,381	\$ 20,883,651

Table 19: Projected induced effects of the 2011 Flower Show

Impact Type	Employment	Labor Income	Value Added	Output
Induced Effect	157	\$ 7,559,586	\$ 13,539,438	\$ 22,096,043

3.4 Fiscal Impacts

The impact on taxes from the changes in economic activities can be modeled in IMPLAN. Along with the estimated economic impacts, we are also able to estimate the tax revenues associated the Flower Show for both 2010 and 2011. The total tax generated, both at the state and local and federal levels, is estimated to be \$7.7 million from the 2010 Flower Show, and it is expected to be approximately \$8.0 million in 2011.

Table 20: Fiscal impacts of the 2010 Flower Show

Description	Employee Compensation	Proprietor Income	Indirect Business Tax	Households	Corporations
Total State and Local Tax	\$15,762	\$0	\$2,343,821	\$175,775	\$161,833
Total Federal Tax	\$2,292,769	\$172,962	\$688,104	\$1,478,622	\$340,617
Total Tax	\$2,308,531	\$172,962	\$3,031,925	\$1,654,397	\$502,450
Total	\$7,670,265				

Table 21: Projected fiscal impacts of the 2011 Flower Show

Description	Employee Compensation	Proprietor Income	Indirect Business Tax	Households	Corporations
Total State and Local Tax	\$16,416	\$0	\$2,453,149	\$182,941	\$169,234
Total Federal Tax	\$2,389,648	\$178,886	\$720,783	\$1,538,551	\$355,959
Total Tax	\$2,406,064	\$178,886	\$3,173,932	\$1,721,492	\$525,193
Total	\$8,005,567				

4 Conclusions

The Flower Show contributes significantly to the economy of Greater Philadelphia. As shown in this report, the economic benefits arise from current operating operational and production plans, PHS employee salaries, event attendees and marketplace sales. On an annual recurrent basis, KPMG estimates that:

- The total economic impact to the Greater Philadelphia in terms of spending is estimated to be approximately \$58.5 million and \$60.9 million for the 2010 and 2011 Flower Shows, respectively;
- The number of jobs supported by the Flower Show is estimated to be approximately 614 and 637 for the 2010 and 2011 Flower Shows, respectively;
- The impact of the indirect effects from the Flower Show is estimated to be approximately \$10.8 million and \$11.2 million for the 2010 and 2011 Flower Shows, respectively;
- The impact of the induced effects from the Flower Show (which is included in the total economic impact) is approximately \$20.9 million and \$22.1 million in 2010 and 2011, respectively; and
- The impact of the fiscal effects from contributions to the government is approximately \$7.7 million in 2010 and \$8.0 million in 2011.

A Data

This analysis relies on factual and financial information PHS provided to KPMG. While KPMG believes that the information used in this analysis is accurate, KPMG has not independently verified the information in all cases and does not warrant its accuracy. If any of the stated facts, circumstances or assumptions is not entirely complete or accurate, it is imperative that KPMG be informed immediately, as the inaccuracy or incompleteness could have a material effect on the conclusions reached herein.

The following documents were provided by PHS management and used in our analysis:

- Background Information on Flower Show and PHS
- 2006-2010 Philadelphia Flower Show: Post-Show Telephone Survey
- Segmented Operating Expenditure, 2001 – 2011
- 2011 Flower Show Expense P/L
- Ticket revenue, 2001 - 2011
- Flower Show Attendance, 2001 - 2011
- Flower Show Volunteer List
- 2009 Flower Show Class Exhibitors List
- 2009 Flower Show Major Exhibitors List
- 2009 Flower Show Marketplace Vendors List
- Greater Philadelphia Cultural Alliance Economic Calculator

B IMPLAN Model Description

The Impact Analysis for Planning (“IMPLAN”) model is a microcomputer-based program that allows construction of regional Input-Output models for regions as small as a county and aggregation of individual county databases for multi-county analysis. IMPLAN was originally developed for the U.S. Department of Agriculture and is maintained and supported by the Minnesota IMPLAN Group, Inc., Stillwater, Minnesota.

The components of the IMPLAN database calculate from the economic accounts of an individual county, several counties or an entire state. These accounts show the flow of commodities to industries and institutional consumers in **509** separate industries in agriculture, mining, construction, manufacturing, wholesale and retail trade, utilities, finance, insurance and real estate, and consumer and business services. Each industry is described in terms of its purchases from and sales to all other industries in the local economy. Values for all activities are in producers’ prices and do not include transportation costs or other additional transaction costs associated with delivering outputs from each industry to other intermediate users.

The accounts also provide information on value added by each industry and sales by each industry to final demand. Value added has four main components: employee compensation (wages, salaries, benefits, life insurance, retirement, etc), proprietary income (payments received by self-employed individuals as income), other property-type income (payments received from royalties and dividends) and indirect business taxes (primarily excise and sales taxes individuals pay to businesses).

Final demands are goods and services purchased for their ultimate use by an end user. They include personal consumption expenditure (payments by individuals or households to industries for goods and services for personal consumption); federal government purchases (military and nonmilitary) and sales; state and local government purchases (public education and non-education) and sales; inventory purchases (unsold annual output) and sales (where inventory reduction exceeds additions from production); capital formation (expenditure to obtain capital equipment); and foreign exports. Final demands are allocated to producing industries, and margins are allocated to the service sectors (transportation, wholesale and retail trade, insurance, etc) associated with providing that good to the final user.

The IMPLAN model provides the necessary information to estimate a complete set of regional economic accounts for a local region. The economic accounts are then converted to industry through the use of Input-Output accounts and a set of Leontief multipliers. The initial data set is the “use” of commodities by industry and the “make” of commodities by industry. These flows are derived for the local region from the national Input-Output accounts. Final demands, value added, output and employment are derived for each data set. Employment numbers are also derived for each industry in the local region.

To create a regional Input-Output model for the local region, the regional data are combined with the 1992 national structural matrices produced by the Bureau of Economic Analysis, U.S. Department of Commerce. This operation produces regional structural matrices and eliminates industries that do not exist in the region. Imports are then estimated via the calculation of regional purchase coefficients (“RPC”s). An RPC represents the proportion of the total locally produced supply of a good or service required to meet a particular industry’s intermediate and final demands; RPCs range between 0 and 1. In the IMPLAN model, RPCs are derived from the 1977 Multi-Regional Input-Output Accounts, a cross-sectional database of Input-Output regional accounts linked with consistent interstate trade flows. Imports are calculated by using

the minimum of the RPC or the supply/demand pool. The regional final demands and the use matrix are then multiplied by the resulting RPC coefficients, which creates a set of matrices and final demands that are free of imports. Domestic exports are the residual of regional production not locally consumed. The result is a balanced set of regional economic accounts.

The Input-Output accounts are then developed. The regional use matrix and final demands are converted from a commodity basis to an industry basis by using the market share hypothesis. The subsequent inversion of the Input-Output accounts provides an import-free Leontief matrix of multipliers.

The notion of a multiplier or ripple effect rests on the difference between the initial effect of a change in demand and the total effect of that change. Total effects can be calculated either as direct and indirect effects or as direct, indirect and induced effects. Direct effects are production changes associated with the immediate effects or final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries, that is, additional purchases to produce additional output. Induced effects are changes in regional household spending patterns caused by changes in household income generated by the direct and indirect effects.

IMPLAN estimates five sets of multipliers, corresponding to five measures of regional economic activity: total industry output, personal income, total income, value added and employment. These multipliers are used to estimate the impact of changes in expenditure in an industry that provides inputs to a particular existing or new activity.



C Detailed Impact Estimates for the Greater Philadelphia Region

C.1 Economic Impacts

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	392	\$ 12,288,498	\$ 15,651,693	\$ 26,758,590
Indirect Effect	73	\$ 3,800,025	\$ 6,240,382	\$ 10,845,715
Induced Effect	148	\$ 7,144,834	\$ 12,797,381	\$ 20,883,651
Total Effect	614	\$ 23,233,357	\$ 34,689,456	\$ 58,487,956

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	406	\$ 12,693,970	\$ 16,162,446	\$ 27,631,880
Indirect Effect	75	\$ 3,907,650	\$ 6,426,966	\$ 11,170,520
Induced Effect	157	\$ 7,559,586	\$ 13,539,438	\$ 22,096,043
Total Effect	637	\$ 24,161,205	\$ 36,128,850	\$ 60,898,443

C.2 Fiscal Impacts

Description	Employee Compensation	Proprietor Income	Indirect Business Tax	Households	Corporations
Total State and Local Tax	\$15,762	\$0	\$2,343,821	\$175,775	\$161,833
Total Federal Tax	\$2,292,769	\$172,962	\$688,104	\$1,478,622	\$340,617
Total Tax	\$2,308,531	\$172,962	\$3,031,925	\$1,654,397	\$502,450
Total	\$7,670,265				

Description	Employee Compensation	Proprietor Income	Indirect Business Tax	Households	Corporations
Total State and Local Tax	\$16,416	\$0	\$2,453,149	\$182,941	\$169,234
Total Federal Tax	\$2,389,648	\$178,886	\$720,783	\$1,538,551	\$355,959
Total Tax	\$2,406,064	\$178,886	\$3,173,932	\$1,721,492	\$525,193
Total	\$8,005,567				

D Impacts by Sector – Greater Philadelphia

Figure 1: Top Ten Sectors Impacted by the Flower Show, 2010

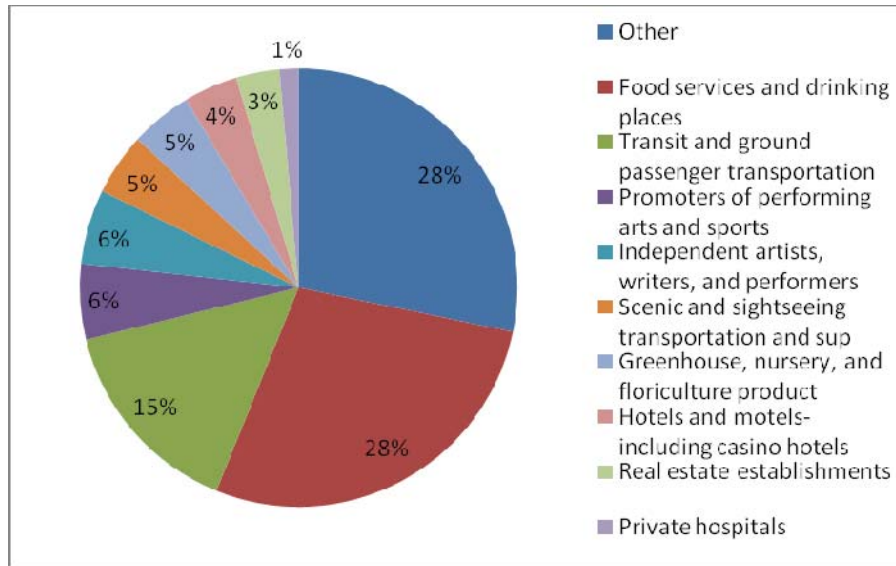
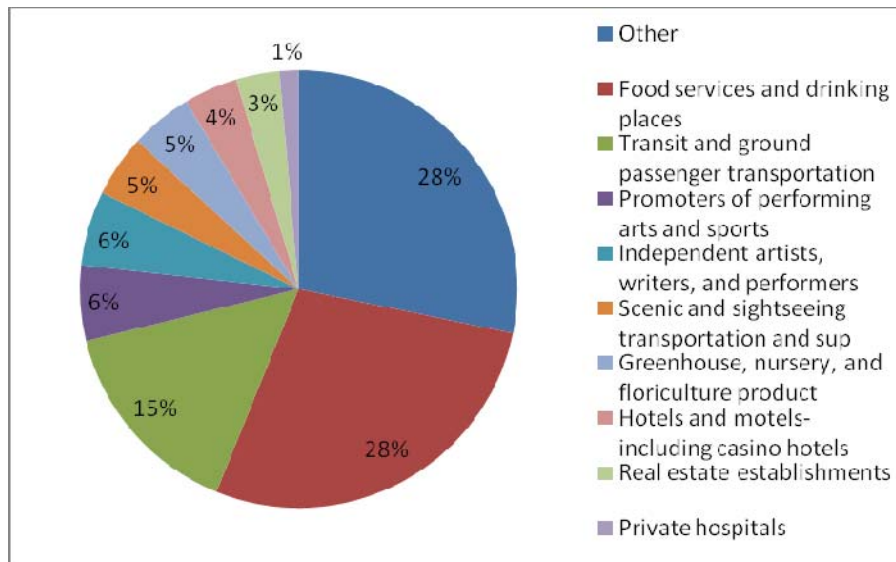


Figure 2: Top Ten Sectors Impacted by the Flower Show, 2011





E Supporting Schedules: Direct Impact Estimates

Economic impact analysis for the 2010 and
2011 Philadelphia Flower Shows

Pennsylvania Horticultural Society

Summary of the Direct Impacts

February 7, 2011

	2010				2011			
	PA	NJ	Other	Total	PA	NJ	Other	Total
Operating Expense	\$ 6,150,722	\$ -	\$ 97,230	\$ 6,247,953	\$ 6,294,514	\$ -	\$ 93,642	\$ 6,388,156
Visitor Expenditures	\$ 18,798,454	NA	NA	\$ 18,798,454	\$ 20,224,241	NA	NA	\$ 20,224,241
Volunteer	\$ 237,255	NA	NA	\$ 237,255	\$ 239,603	NA	NA	\$ 239,603
FS Salaries				\$ 2,020,618				\$ 2,610,627
Participants	\$ 1,572,159	NA	NA	\$ 1,572,159	\$ 1,591,765	NA	NA	\$ 1,591,765
Marketplace Sales	\$ 2,972,492	\$ 951,197	\$ 6,361,132	\$ 10,284,821	\$ 3,197,501	\$ 1,023,200	\$ 6,842,652	\$ 11,063,354
TOTAL	\$ 31,440,530	\$ 1,259,998	\$ 6,460,732	\$ 39,161,260	\$ 33,923,337	\$ 1,255,698	\$ 6,938,711	\$ 42,117,746

Pennsylvania Horticultural Society
Operating Expenses (2)

February 7, 2011

	2010						Projected 2011							
	Total Expenses	% of expenses incurred in PA (3)	Expenses incurred in PA	% of expenses incurred in NJ	Expenses incurred in NJ	% of expenses incurred in other states	Expenses incurred in other states	Total Expenses	% of expenses incurred in PA	Expenses incurred in PA	% of expenses incurred in NJ	Expenses incurred in NJ	% of expenses incurred in other states	Expenses incurred in other states
Staging	2,045,169	100%	2,045,169	-	-	-	-	2,085,745	100%	2,085,745	-	-	-	-
Subsidies	1,057,400	100%	1,057,400	-	-	-	-	1,072,500	100%	1,072,500	-	-	-	-
Advertising, sponsorship and publicity (1)	486,152	80%	388,921.60	-	-	20%	97,230.40	468,210	80%	374,568.00	20%	93,642.00	-	
Professional services	59,000	100%	59,000	-	-	-	-	59,000	100%	59,000	-	-	-	
Program/project expense	664,681	100%	664,681	-	-	-	-	678,450	100%	678,450	-	-	-	
Events	490,895	100%	490,895	-	-	-	-	549,000	100%	549,000	-	-	-	
Merchandising	170,122	100%	170,122	-	-	-	-	184,200	100%	184,200	-	-	-	
Training and development	4,843	100%	4,843	-	-	-	-	17,180	100%	17,180	-	-	-	
Occupancy	70,000	100%	70,000	-	-	-	-	73,000	100%	73,000	-	-	-	
Insurance	102,074	100%	102,074	-	-	-	-	102,074	100%	102,074	-	-	-	
Other	107,591	100%	107,591	-	-	-	-	118,800	100%	118,800	-	-	-	
Total Expense before G & A	\$ 5,257,927		\$ 5,160,696	\$ -		\$ 97,230		\$ 5,408,159		\$ 5,314,517	\$ -		\$ 93,642	
General and Administrative (4)	\$ 990,026		\$ 990,026					\$ 979,997		\$ 979,997				
Total Expense with G & A	\$ 6,247,953		\$ 6,150,722	\$ -		\$ 97,230		\$ 6,388,156		\$ 6,294,514	\$ -		\$ 93,642	

Notes:

(1) The percentage of advertising expenses, by region, for 2010 is assumed to be consistent with the projected 2011 figures (as described in the 'Media Plan' prepared by PHS).

(2) Operating expenses do not include depreciation and compensation expenses. Depreciation does not represent a cash expense, and therefore does not generate a direct economic impact. Salaries are analyzed in a different tab.

(3) Operating expenses (excluding advertising and marketing) were assumed to be incurred by PHS' Shows department locally in Pennsylvania.

(4) Operating expenses were assumed to be incurred by PHS' Admin department locally in Pennsylvania.

Pennsylvania Horticultural Society

Visitor Expenditures

February 7, 2011

	2010 Visitors (1) 231,924		2011 Visitors (2) 247,000	
	2010		2011 (7)	
	Average expense per person	Total expense	Average expense per person	Total expense
Food/Drink (3)	\$27.49	\$ 6,374,806.67	\$27.79	6,863,876.08
Avg. (Ground) Transportation - Local visitors (4)	\$4.00	\$ 837,523.95	\$4.00	891,966.40
Other (3) (8)	\$34.89	\$ 8,092,861.07	\$35.28	8,713,738.06
Avg. Accommodation (5)	\$123.00		\$124.35	
Percentage of visitors that incur accommodation expenses (3)	10%		10%	
Average of nights	2.11		2.11	
Accommodation expense (6)		\$ 2,929,687.16		3,154,450.12
Transportation expense - Visitors that require accommodation	\$25.00	\$ 563,575.32	\$25.00	\$ 600,210.00
Total		\$ 18,798,454.16		\$ 20,224,240.66

Notes:

- (1) The number of visitors of the 2010 Flower Show reflects the Ticket Drop Count for the 2010 Flower Show, provided by PHS.
- (2) The number of visitors of the 2011 Flower Show reflects the projected total ticket drop for 2011 the Flower Show provided by PHS.
- (3) Source: 2010 Flower Show Post-Show Telephone Survey.
- (4) Source: "Arts, Culture, & Economic Prosperity," Greater Philadelphia Cultural Alliance.
- (5) Source: Economic Calculator worksheet provided by PHS.
- (6) Assumed occupancy of two people per hotel room.
- (7) An inflation rate of 1.1%, per the EIU consumer price index growth rate in the US for 2011, was applied to the 2010 average expenses per person.
- (8) "Other" expenses include parking/transportation and additional food/drink purchases made outside of the Marketplace

Pennsylvania Horticultural Society

Volunteer Expenditures

February 7, 2011

Total volunteers 2010 (1)
3,663

Total volunteers 2011 (1)
3,663

	2010		2011 (4)	
	Average expense per person	Total expense	Average expense per person	Total expense
Food/Drink (2)	\$27.49	\$100,683.49	\$27.79	\$101,791.00
Avg Transportation (3) - Local visitors	\$4.00	\$12,916.00	\$4.00	\$12,916.00
Transportation expense - Visitors that require accomodation	\$25.00	\$10,850.00	\$25.00	\$10,850.00
Accommodation (5)	\$123.00	\$112,805.17	\$124.35	\$114,046.03
Total		\$237,254.66		\$239,603.03

Notes:

(1) The number of volunteers for the 2010 Flower Show reflects the volunteer headcount, provided by PHS. The number of volunteers for the 2011 Flower Show was estimated to be equal to 2010. PHS management represented that the average volunteer shift is 8 hours. Thus, volunteers were assumed to incur the same average expenses as visitors for their 1-day shift.

(2) Source: 2010 Flower Show Post-Show Telephone Survey

(3) Source: Transportation expenses for local visitors were assumed to be equal to the cost of two base fares, based on the Southeastern Pennsylvania Transportation Authority website.

Transportation expenses for non-local visitors were assumed to be approximately equal to the cost of a taxi fare from the airport to downtown Philadelphia, based on the Philadelphia Official Visitor website. While not all non-local visitors may fly to Philadelphia, this fare was considered a representative estimate.

(4) An inflation rate of 1.1%, per the EIU consumer price index growth rate in the US for 2011, was applied to the 2010 average expenses per person.

(5) Assumed occupancy of two people per room was not assumed for volunteers, as it is more likely for volunteers to attend the Flower Show independently.

Pennsylvania Horticultural Society

Flower Show Salaries

February 7, 2011

Employees	2010 (1)		2011 (4)	
	Total Salaries		Total Salaries	
Salaries (2) (5)	\$	1,615,439	\$	2,087,445
Benefits (3)	\$	403,860	\$	521,861
Total - Salary & Benefits	\$	2,019,298	\$	2,609,307
		100%		100%
Interns Total (4)				
1320	\$	1,320	\$	1,320
Total	\$	2,020,618	\$	2,610,627

Notes:

(1) Source: 2010 Staff Salary excel sheet provided by PHS (Empl Sal, 2011 Salary, 2010 Salary tabs).

(2) As represented by PHS management, salaries of employees working of the "Shows" and "Marketing" departments were considered to be entirely attributed to the organization of the Flower Show. Salaries of the employees of supporting departments (Admin, Finance, HR, IT and President's office) were allocated to the 'Shows' and 'Marketing' employees based on total expenses (excluding depreciation and salaries).

(3) As represented by PHS management, benefits were assumed to represent 25% of employees salaries.

(4) Source: 2011 FS Expense excel sheet provided by PHS (FS Expense Breakdown tab).

(5) PHS management represented that the PHS staff expense related to the Flower Show by departments not not allocated to marketing and shows accounts for 3.8 % of salaries

Pennsylvania Horticultural Society

Participants Expenses

February 7, 2011

Breakdown by region	2010				2011 (1)			
	PA	NJ	Other	Total	PA	NJ	Other	Total
Marketplace Vendors (2)	50	16	107	173	50	16	107	173
Major Exhibitors (2)	30	7	3	40	30	7	3	40
Class Exhibitors (2)	463	159	132	754	463	159	132	754
Total	543	182	242	967	543	182	242	967

	Average expense per person	Participants from PA	Participants from NJ	Participants from Other	Total	Average expense per person (7)	Participants from PA	Participants from NJ	Participants from Other	Total
EXPENDITURES										
Food/Drinks (3) (4) (10)	\$27.49	\$227,380.31	\$68,284.68	\$136,256.01	\$431,921.00	\$27.79	\$229,881.49	\$69,035.81	\$137,754.83	\$436,672.13
Marketplace Vendors		\$46,408.41	\$14,850.69	\$99,313.99	\$160,573.09		\$46,918.90	\$15,014.05	\$100,406.45	\$162,339.40
Major Exhibitors		\$79,161.46	\$18,471.01	\$7,916.15	\$105,548.62		\$80,032.24	\$18,674.19	\$8,003.22	\$106,709.65
Class Exhibitors		\$101,810.44	\$34,962.98	\$29,025.87	\$165,799.29		\$102,930.35	\$35,347.57	\$29,345.15	\$167,623.08
Accommodation (5) (6)	123	NA	NA	\$435,304.87	\$435,305	124.35	NA	NA	\$440,093.23	\$440,093
Marketplace Vendors				\$402,094.87					\$406,517.92	
Major Exhibitors				\$33,210.00					\$33,575.31	

	Average cost of exhibits not covered by subsidies (per major exhibitor)	Participants from PA	Participants from NJ	Participants from Other	Total	Cost of exhibit not covered by subsidies	Participants from PA	Participants from NJ	Participants from Other	Total
Cost of exhibit not covered by subsidies (9) (11)	\$ 17,623.33	528,700	123,363	52,870	704,933	\$17,875.00	536,250	125,125	53,625	715,000
Total		\$756,080	\$191,648	\$624,431	\$1,572,159		\$766,131	\$194,161	\$631,473	\$1,591,765

Notes:

- (1) The participant numbers in the 2011 Flower Show are assumed to be equal to the 2010 Flower Show.
- (2) Source: PHS provided lists of class exhibitors, marketplace vendors, and major exhibitors to the 2010 Flower Show.
- (3) Source: 2010 Flower Show Post-Show Telephone Survey
- (4) Participants were assumed to incur food and drinks expenses for the 8 days of the duration of the Flower Show.
- (5) Source: Economic Calculator worksheet provided by PHS.
- (6) All participants that were not originally from PA and NJ were assumed to incur 7 nights of accommodation expenses.
- (7) An inflation rate of 1.1%, per the EIU consumer price index growth rate in the US for 2011, was applied to the 2010 average expenses per
- (8) We are working under the assumption that marketplace vendors with one booth will have on average 2 individuals per day working during the Flower Show while vendors with two or more booths will have on average 6 individuals per day working during the Flower Show, major exhibitors will have on average 6 individuals per day working during the Flower Show, and class exhibitors will have on average one individual
- (9) We are taking into account the unaccounted portion of costs (40%) that is not covered by subsidies, which is 60% of costs
- (10) We are working under the assumption that Major Exhibitors utilize the help of six staff members for both the set-up and run-of-show of exhibits
- (11) The cost of exhibits not covered by subsidies was calculated in order to encapture the total effect of the major exhibitors' costs for the Flower Show

Pennsylvania Horticultural Society

Marketplace sales

February 7, 2011

Breakdown by region

Marketplace Vendors (2)

Major Exhibitors (2)

Class Exhibitors (2)

Total

2010			
PA	NJ	Other	Total
50	16	107	173
30	7	3	40
463	159	132	754
543	182	242	967

2011 (1)			
PA	NJ	Other	Total
50	16	107	173
30	7	3	40
463	159	132	754
543	182	242	967

	Average purchase per person (3)			2010				Average expense per person (4)			2011			
		Individuals	Total Expense -	PA	NJ	Other	Total		Individuals	Total Expense -	PA	NJ	Other	Total
Visitors	43.66	231,924	\$ 10,124,908.22	\$2,926,274.05	\$936,407.70	\$6,262,226.47	\$10,124,908.22	44.14	247,000	\$ 10,901,682.04	\$3,150,775.16	\$1,008,248.05	\$6,742,658.84	\$10,901,682.04
Volunteer	43.66	3,663	\$ 159,912.47	\$46,217	\$14,790	\$98,905	\$159,912	44.14	3,663	\$ 161,671.50	\$46,726	\$14,952	\$99,993	\$161,672
% Marketplace Vendors by region				29%	9%	62%	100%				29%	9%	62%	100%
Total				\$2,972,492	\$951,197	\$6,361,132	\$10,284,821				\$3,197,501	\$1,023,200	\$6,842,652	\$11,063,354

Notes:

(1) The participant numbers in the 2011 Flower Show are assumed to be equal to the 2010 Flower Show.

(2) Source: PHS provided lists of class exhibitors, marketplace vendors, and major exhibitors to the 2010 Flower Show.

(3) Source: 2010 Flower Show Post-Show Telephone Survey

(4) An inflation rate of 1.1%, per the EIU consumer price index growth rate in the US for 2011, was applied to the 2010 average

Supporting Schedule

Number of nights stayed in PA (1)	% visitors (1)	Weight (2)
1	3.3%	0.34
2	4.1%	0.85
3	1.4%	0.43
4	0.4%	0.16
5	0.1%	0.05
6	0.1%	0.06
7	0.3%	0.22

Total percentage of visitors that required accomodation **9.7%**

Average accomodation stay (in number of nights) **2.11**

	2010 (3)	2011 (4)
Total Visitors	231,924	247,000
Visitors that will require accomodation	22,543	24,008
Total Volunteers	3,663	3,663
Volunteers that will require accomodation	434	434

Total room nights (assuming double occupation, and average stay of 2.11 nights) **24,277** **25,825**

Notes:

(1) Source: 2010 Post Show Telephone Survey. A small percentage of visitors reported a stay of 21 nights - We changed the 21 nights to 7 nights as it is likely that this number indicates those who stayed 7 nights or more.

(2) This column illustrates the contribution to the average nights of accomodation. This weight is calculated as (%visitors/total % of visitors that required accomocation)* number of nights.

(3) The number of visitors of the 2010 Flower Show reflects the Ticket Drop Count for the 2010 Flower Show, provided by PHS.

(4) The number of visitors of the 2011 Flower Show reflects the projected total ticket drop for 2011 the Flower Show provided by PHS.