



Impacts of Visitor Spending on the Local Economy: *Homestead National Monument of America, 2009*



ON THE COVER

Photo courtesy of Homestead National Monument of America

Impacts of Visitor Spending on the Local Economy: *Homestead National Monument of America, 2009*

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Executive Summary

Homestead National Monument of America hosted 71,301 recreation visits in 2009. Adjustments for visitor group size and re-entries resulted in 24,457 visitor group trips to the park in 2009. Based on a 2009 Visitor Services Project (VSP) survey conducted May 25-June 27, 61% of these visitor group trips were local residents (19%) or non-locals on day trips not staying overnight within 60 miles of the park(42%).¹ Twenty-one percent of the visitor group trips involved an overnight stay in motels, lodges or cabins outside the park, and 9% of visitor group trips were overnight stays in campgrounds outside the park.

Visitors reported their group's expenditures inside the park and in the surrounding communities within 60 miles of the park. In 2009 the average visitor group size was 2.9 people and spent \$85 in the park and within 60 miles of the park. Broken down further, the average spending per visitor group trip was \$29 for visitors from the local region on day trips, \$42 for non-local visitors on day trips, \$209 for visitors staying in motels or lodges outside the park, and \$128 for visitors camping outside the park. Overall 90% of spending took place outside the park.

Total visitor spending in 2009 within 60 miles of the park was \$2.1 million including \$200,000 inside the park. The greatest proportions of expenditures were for lodging (29%), restaurant meals and bar expenses (23%), and gas and oil expenses (21%). Overnight visitors staying in motels or lodges outside the park accounted for 51% of the total spending.

Fifty-five percent of visitor groups indicated the park visit was the primary reason for their trip to the area. Counting only a portion of visitor expenses if the park visit was not the primary trip purpose yields \$1.6 million in spending attributed directly to the park.

The economic impact of park visitor spending was estimated by applying the spending to an input-output model (IMPLAN) of the local economy. The local region was defined as a 13-county region including Gage, Pawnee, Johnson, Nemaha, Richardson, Otoe, Lancaster, Seward, Saline, Thayer, and Jefferson counties, Nebraska, and Marshall and Washington counties, Kansas. This region roughly coincides with the 60 mile radius for which spending was reported.

Including direct and secondary effects, the \$1.6 million in visitor spending attributed to the park generates \$1.8 million in sales in the region which supports 27 jobs. These jobs pay \$588,000 in labor income, which is part of \$977,000 in value added to the region.²

A separate study estimated impacts of the park employee payroll on the local economy.³ The park itself employed 24 people in FY 2010 with a total payroll including benefits of \$1.1 million. Including secondary effects, the local impacts of the park payroll in FY 2010 were \$551,000 in sales, 30 jobs, \$1.3 million in labor income, and \$1.4 million total value added.

The combined regional impacts of visitor spending attributable to the park and NPS payroll are \$2.4 million in sales which supports 57 jobs with labor income of \$1.9 million, which is part of a total value added of \$2.4 million.⁴

¹ Results in this study sometimes differ from those reported in the VSP survey report (Papadogiannaki et al. 2010) because the current analysis excludes some cases as outliers. See Study Limitations and Errors section.

² Jobs include fulltime and part-time jobs. Labor income consists of wages and salaries, payroll benefits and income of sole proprietors. Value added includes labor income as well as property income (dividend, royalties, interest and rents) to area businesses and indirect business taxes (sales, property, and excise taxes).

³ Stynes (2011).

⁴ Regional impacts of the park's purchases of goods and services from local suppliers and from construction activity are not estimated in this report.

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Introduction

Homestead National Monument of America commemorates passage of the Homestead Act of 1862, which eventually transferred 270 million acres from public to private ownership. The 195-acre site is located four miles west of Beatrice, Nebraska on a site that includes some of the first acres successfully claimed under the Homestead Act. Homestead National Monument of America was created in 1936, and the park received 71,301 recreation visits in 2009 (Table 1).

Table 1. Recreation visits, Homestead National Monument of America, 2009

Month	Recreation Visits
January	3,612
February	3,126
March	3,543
April	4,344
May	8,324
June	9,981
July	8,970
August	6,928
September	8,377
October	7,422
November	3,740
<u>December</u>	<u>2,934</u>
Total	71,301

Source: NPS Public Use Statistics 2009.

The purpose of this study is to estimate the local economic impacts of visitors to Homestead National Monument of America in 2009. Economic impacts are measured as the direct and secondary sales, income, and jobs in the local region resulting from spending by park visitors. (See Appendix A: Glossary for definitions of terms.) The local economic region defined for this study includes Gage, Pawnee, Johnson, Nemaha, Richardson, Otoe, Lancaster, Seward, Saline, Thayer, and Jefferson counties, Nebraska, and Marshall and Washington counties, Kansas.

This 13 county region of Nebraska and Kansas has a population of 394,941 (USCB 2010), gross regional product of \$16.7 billion (MIG, Inc. 2008), median household income of \$47,762, and family poverty rate of 7.4% (USCB 2010). State and local governments are the major employers in the region (MIG, Inc. 2008), and the region experienced a 4.5% unemployment rate in 2009 (BLS 2009).

Methods

The economic impact estimates are produced using the Money Generation Model 2 (MGM2) (Stynes et al. 2007). The three main inputs to the model are:

1. number of visits broken down by lodging-based segments;
2. spending averages for each segment; and
3. economic multipliers for the local region.

Inputs are estimated from the Homestead National Monument of America Visitor Services Project (VSP) visitor survey (Papadogiannaki et al. 2010), National Park Service Public Use Statistics (2009), and IMPLAN input-output modeling software (MIG, Inc. 2008). The MGM2 model provides a spreadsheet template for combining park use, spending, and regional multipliers to compute changes in sales, labor income, jobs, and value added in the region.

The VSP visitor survey was conducted at Homestead National Monument of America from May 25-June 17, 2009 (Papadogiannaki et al. 2010).⁵ This survey measured visitor demographics, activities, and travel expenditures. Questionnaires were distributed to a systematic, random sample of 340 visitor groups. Visitors returned 254 questionnaires resulting in a response rate of 75%.

Spending and economic impact estimates for Homestead National Monument of America are based on the 2009 VSP survey. Visitors were asked to report expenditures within 60 miles of the park. The local region for determining economic impact was defined as a 13-county area around the park including Gage, Pawnee, Johnson, Nemaha, Richardson, Otoe, Lancaster, Seward, Saline, Thayer, and Jefferson counties, Nebraska, and Marshall and Washington counties, Kansas, which roughly coincides with the 60 mile radius for which visitor spending was reported.

The MGM2 model divides visitors into segments to help explain differences in spending across distinct user groups. Five segments were established for Homestead National Monument of America visitors based on reported trip characteristics and lodging expenditures:

Local: Visitors from the local region.

Day trip: Visitors from outside the local region, not staying overnight within 60 miles of the park.

Motel-out: Visitors reporting motel expenses outside the park within 60 miles of the park.

Camp-out: Visitors reporting camping expenses outside the park within 60 miles of the park.

⁵ Results in this study sometimes differ from those reported in the VSP survey report (Papadogiannaki et al. 2010) because the current analysis excludes some cases as outliers. See Study Limitations and Errors section.

Other overnight (Other OVN): Visitors staying overnight in the local region but not reporting any lodging expenses. This segment includes visitors staying in private homes, with friends or relatives, or in other unpaid lodging.⁶

The VSP survey was used to estimate the percentage of visitors from each segment as well as spending averages, lengths of stay, and visitor group sizes for each segment.

Results

Visits

Based on the VSP survey, 68% of park entries were classified as day trip visits by either local residents or visitors from outside the region, and 32% were classified as overnight visits including an overnight stay in the local region (Table 2). The average visitor group size ranged from 2.1 to 3.6 people across the five segments with an average visitor group of 2.9 people.⁷ The average length of stay in the local region on overnight trips was 1.9 nights.

Table 2. Selected visit/trip characteristics by segment, 2009

Characteristic	Segment					All visitors
	Local	Day trip	Motel-out	Camp-out	Other OVN	
Visitor segment share (park entries)	24%	44%	15%	8%	9%	100%
Average visitor group size	3.6	3.0	2.1	2.4	3.2	2.9
Length of stay (days or nights)	1.0	1.0	1.3	2.1	2.7	1.9
Re-entry rate (park entries per trip)	1.0	1.0	1.0	1.1	1.0	1.0
Percent primary purpose trips	100%	61%	48%	71%	13%	55%

Fifty-five percent of visitor groups indicated that visiting the park was the primary reason for their trip to the area. Other stated reasons were visiting friends and relatives in the area, business, or visiting other area attractions.

The 71,301 recreation visits in 2009 were allocated to the five segments using the visit segment shares in Table 2. Since spending is reported for the stay in the area, park entries were converted to trips to the area by dividing by the average number of times each visitor entered the park during their stay. Park re-entry rates were estimated based on the number of entries into the park reported by survey respondents.

Recreation visits were converted to 24,457 visitor group trips by dividing recreation visits by the average visitor group size and park re-entry rate for each segment (Table 3). Person trips for each

⁶ Visitors reporting multiple lodging types and expenditures were classified based on the greatest reported lodging expense. Some visitors listing motels or campgrounds as lodging types did not report any lodging expenses and were classified in the other overnight (Other OVN) category.

⁷ Visitor group size reported herein is based on the number of people covered by expenditures reported in the VSP survey.

segment are equal to visitor group trips multiplied by average party size. In 2009, there were 53,951 person trips to the park.

Table 3. Recreation visits and visitor group trips by segment, 2009

Measure	Segment					All visitors
	Local	Day trip	Motel-out	Camp-out	Other OVN	
Recreation visits	17,047	31,276	10,532	5,745	6,702	71,301
Visitor group trips	4,579	10,384	5,106	2,278	2,110	24,457
Percent of visitor group trips	19%	42%	21%	9%	9%	100%
Person trips	16,557	31,276	10,532	5,442	6,702	53,951

Visitor Spending

The VSP survey covered expenditures of the visitor group inside the park and within 60 miles of the park. Spending averages were computed on a visitor group trip basis for each segment. The average visitor group in 2009 spent \$85 on the trip inside the park and in the local region (Table 4). On a visitor group trip basis, average spending was \$29 for day trips by local residents and \$42 for day trips by non-local visitors. Visitor groups staying in motels, cabins, lodges or B&B's outside the park spent an average of \$209 on their trips and those camping outside the park spent \$128. Visitor groups spent about 10% of their total spending inside the park and 90% outside the park.

Table 4. Average spending by segment (\$ per visitor group per trip).

Expenditures	Segment					All visitors*
	Local	Day trip	Motel-out	Camp-out	Other OVN	
Inside Park						
Souvenirs & other expenses	4.51	9.17	9.82	6.21	9.40	8.18
Total Inside Park	4.51	9.17	9.82	6.21	9.40	8.18
Outside Park						
Motel, hotel, cabin or B&B	.00	.00	105.03	.00	.00	21.93
Camping fees	.00	.00	.00	32.22	.00	3.00
Restaurants & bars	10.78	11.28	44.09	16.00	25.76	19.73
Groceries & takeout food	4.32	4.51	4.52	28.47	.95	6.40
Gas & oil	5.30	12.75	24.18	41.64	25.12	17.50
Local transportation	.37	1.22	4.24	.00	.00	1.48
Admission & fees	.00	.04	5.09	1.33	2.57	1.43
Souvenirs & other expenses	3.59	3.50	11.55	1.94	6.90	5.35
Total Outside Park	24.36	33.31	198.70	121.61	61.31	76.80
Total Inside & Outside Park	28.88	42.48	208.52	127.82	70.71	84.98

* Average weighted by percent visitor group trips.

The relative standard error at a 95% confidence level for the overall spending average is 16%. A 95% confidence interval for the overall visitor group spending average is therefore \$85 plus or minus \$12 or between \$73 and \$97.

On a per night basis, visitor groups staying in motels or lodges outside the park spent \$161 in the local region, and campers spent \$62. The average reported per night lodging expense was \$81 for motels outside the park and \$16 for camping fees outside the park (Table 5).

Table 5. Average spending per night for visitor groups on overnight trips (\$ per visitor group per night).

Expenditures	Segment		
	Motel-out	Camp-out	Other OVN
Motel, hotel, cabin or B&B	81.02	0.00	0.00
Camping fees	0.00	15.62	0.00
Restaurants & bars	34.01	7.76	9.66
Groceries & takeout food	3.48	13.80	0.36
Gas & oil	18.65	20.19	9.42
Local transportation	3.27	0.00	0.00
Admission & fees	3.93	0.65	0.96
<u>Souvenirs & other expenses</u>	<u>16.48</u>	<u>3.95</u>	<u>6.12</u>
Total per visitor group per night	160.85	61.97	26.52

Total spending was estimated by multiplying the number of visitor group trips for each segment by the average spending per trip and summing across segments. Homestead National Monument of America visitors spent a total of \$2.1 million in the local region in 2009 (Table 6). Overnight visitors staying in motels outside the park account for 51% of the total spending, and non-local day trip visitors accounted for 21%. Lodging expenses represent 29% of the total spending, and restaurant & bar expenses were 23%, and gas & oil expenses were 21% (Figure 1).

Because visitors would come to the region whether or not the park existed, not all visitor spending can be attributed to the park. Forty-five percent of visitor groups did not make the trip primarily to visit Homestead National Monument of America. Spending directly attributed to park visits was estimated by counting all spending on trips for which the park was the primary reason for the trip. If the park was not the primary trip purpose, one night of spending was counted for overnight trips and half of the spending outside the park was counted for day trips. All spending inside the park was treated as park-related spending. With these assumptions, a total of \$1.6 million in visitor spending is attributed to the park visit (Table 7). This represents 76% of the overall visitor spending total.

Table 6. Total visitor spending by segment, 2009 (\$000's).

Expenditures	Segment					All visitors
	Local	Day trip	Motel-out	Camp-out	Other OVN	
Inside Park						
<u>Souvenirs & other expenses</u>	<u>21</u>	<u>95</u>	<u>50</u>	<u>14</u>	<u>20</u>	<u>200</u>
Total Inside Park	21	95	50	14	20	200
Outside Park						
Motel, hotel, cabin or B&B	0	0	536	0	0	536
Camping fees	0	0	0	73	0	73
Restaurants & bars	49	117	225	36	54	482
Groceries & takeout food	20	47	23	65	2	157
Gas & oil	24	132	123	95	53	428
Local transportation	2	13	22	0	0	36
Admission & fees	0	0	26	3	5	35
<u>Souvenirs & other expenses</u>	<u>16</u>	<u>36</u>	<u>59</u>	<u>4</u>	<u>15</u>	<u>131</u>
Total Outside Park	112	346	1,015	277	129	1,878
Total Inside & Outside Park	132	441	1,065	291	149	2,078
Segment Percent of Total*	6%	21%	51%	14%	7%	100%

*Percentages do not total 100% due to rounding.

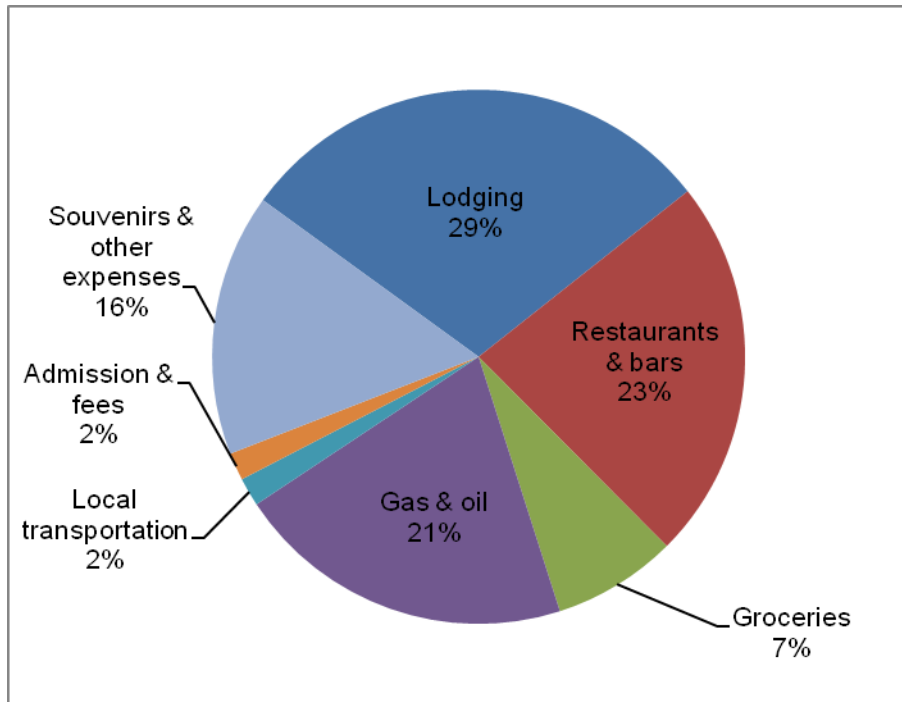


Figure 1. Homestead National Monument of America visitor spending by category.

Table 7. Total spending attributed to park visits, 2009 (\$000's).

Expenditures	Segment					
	Local	Day trip	Motel-out	Camp-out	Other OVN	All visitors
Motel, hotel, cabin or B&B	0	0	473	0	0	473
Camping fees	0	0	0	62	0	62
Restaurants & bars	0	94	199	31	25	349
Groceries & takeout food	0	38	20	55	1	114
Gas & oil	0	107	109	80	24	320
Local transportation	0	10	19	0	0	29
Admission & fees	0	0	23	3	2	28
<u>Souvenirs & other expenses</u>	<u>21</u>	<u>29</u>	<u>102</u>	<u>18</u>	<u>26</u>	<u>196</u>
Total Attributed to Park	21	279	945	249	78	1,572
Percent of Spending Attributed to the Park	16%	63%	89%	86%	53%	76%
Percent of Attributed Spending	1%	18%	60%	16%	5%	100%

Economic Impacts of Visitor Spending

The economic impacts of Homestead National Monument of America visitor spending on the local economy are estimated by applying visitor spending to a set of economic ratios and multipliers in MGM2 representing the economy of the 13-county region.⁸ Economic ratios and multipliers for the region were estimated using the *Impact Analysis for Planning (IMPLAN) Professional software* (version 3, MIG, Inc. 2008) with 2008 data.⁹ Employment multipliers were adjusted to take into account price changes from 2008 to 2009 (see Study Limitations and Error section below).

Not all visitor spending is counted as direct sales to the region. The amount a visitor spends for a retail good is made up of the cost of the good from the producer, a markup by a wholesaler, and a markup by a retailer. In MGM2, retail and wholesale margins for grocery & takeout food, gas & oil, and souvenirs & other expenses are applied to visitor spending to account for mark-ups by retailers and wholesalers. The retail margins for the three sectors are 25.3%, 22.3%, and 50.0%, respectively, and the wholesale margins are 12.3%, 8.3%, and 11.4%. In addition, regional purchase coefficients from IMPLAN for all sectors are used to account for the proportion of demand within the region satisfied by imports into the region.

The tourism output sales multiplier for the region is 1.54. Every dollar of direct sales to visitors generates another \$0.54 in secondary sales through indirect and induced effects.¹⁰ (See Appendix A: Glossary for further explanation of terms.)

⁸ Economic ratios convert between various economic measures, e.g., direct spending to the directly associated jobs, labor income, and value added in each sector. Economic multipliers capture the secondary effects of economic measures.

⁹ See Appendix B: Economic Ratios and Multipliers for the region.

¹⁰ Indirect effects result from tourism businesses buying goods and services from local firms, while induced effects stem from household spending of income earned from visitor spending.

Impacts are estimated based first on all visitor spending and then based on the visitor spending attributed to the park. Including all visitor spending accounts for the overall contribution visitors make to the economy of the local region. Including only visitor spending attributable to the park accounts for the impact or contribution the park makes to the economy of the local region.

Using all visitor spending and including direct and secondary effects, the \$2.1 million spent by park visitors supports 36 jobs in the local region and generates \$2.3 million in sales, \$761,000 in labor income and \$1.3 million in value added (Table 8).¹¹

Value added is the preferred measure of the contribution of visitors to the local economy as it includes all sources of income to the area -- payroll benefits to workers, profits and rents to businesses, and sales and other indirect business taxes that accrue to government units. Value added impacts are also comparable to Gross Regional Product, the broadest measure of total economic activity in a region. The largest direct effects are in lodging establishments and restaurants.

Table 8. Impacts of all visitor spending on the local economy, 2009.

Sector/Expenditure category	Sales (\$000's)	Jobs	Labor Income (\$000's)	Value Added (\$000's)
Direct Effects				
Motel, hotel, cabin or B&B	536	9.0	172	312
Camping fees	73	1.2	23	27
Restaurants & bars	482	10.4	144	215
Groceries & takeout food	40	0.9	16	24
Gas & oil	95	1.3	29	66
Local transportation	36	0.7	16	22
Admission & fees	35	0.3	6	11
Souvenirs & other expenses	165	3.5	71	105
Wholesale trade	52	0.7	16	36
<u>Local production of goods</u>	<u>2</u>	<u>0.0</u>	<u>0</u>	<u>0</u>
Total Direct Effects	1,518	27.9	493	819
<u>Secondary Effects</u>	<u>817</u>	<u>7.8</u>	<u>269</u>	<u>440</u>
Total Effects	2,335	35.7	761	1,260

Note: Impacts of \$2.1 million in visitor spending reported in Table 6.

Using only visitor spending attributable to the park by including only some spending on trips where the primary trip purpose was not to visit Homestead National Monument of America reduces the overall impacts by about 23% (Table 9; see spending inclusion assumptions in previous section). Including direct and secondary effects, the \$1.6 million spent by park visitors and attributable to the park generates \$1.8 million in sales, which supports 27 jobs in the local region. These jobs pay \$588,000 in labor income, which is part of \$977,000 in value added to the region.

¹¹ Jobs include full and part time jobs. Labor income consists of wages and salaries, payroll benefits and income of sole proprietors. Value added includes labor income as well as profits and rents to area businesses and sales and excise taxes.

Table 9. Economic impacts of visitor spending attributed to the park, 2009.

Sector/Expenditure category	Sales (\$000's)	Jobs	Labor Income (\$000's)	Value Added (\$000's)
Direct Effects				
Motel, hotel, cabin or B&B	473	8.0	151	276
Camping fees	62	1.0	20	23
Restaurants & bars	349	7.4	104	155
Groceries & takeout food	29	0.6	12	18
Gas & oil	71	1.0	22	49
Local transportation	29	0.6	13	18
Admission & fees	28	0.3	5	9
Souvenirs & other expenses	98	2.1	42	62
Wholesale trade	36	0.5	11	25
<u>Local production of goods</u>	<u>1</u>	<u>0.0</u>	<u>0</u>	<u>0</u>
Total Direct Effects	1,177	21.4	379	635
<u>Secondary Effects</u>	<u>636</u>	<u>6.1</u>	<u>209</u>	<u>342</u>
Total Effects	1,813	27.5	588	977

Note: Impacts of \$1.6 million in visitor spending attributed to park reported in Table 7.

Impacts of the NPS Park Payroll

In addition to visitor spending, spending by park employees also impacts the local region. A separate study (Stynes 2011) estimated the impacts of park payroll by applying economic multipliers to wage and salary data to capture the induced effects of NPS employee spending on local economies. Homestead National Monument of America itself employed 24 people in FY 2010 with a total payroll including benefits of \$1.1 million. Including secondary effects, the local impacts of the park payroll in FY 2010 were \$551,000 in sales, 30 jobs, \$1.3 million in labor income and \$1.4 million value added (Stynes 2011).

The combined impacts to the region of visitor spending attributable to the park and NPS payroll are \$2.4 million in sales which support 57 jobs with labor income of \$1.9 million, which is part of a total value added of \$2.4 million.¹²

¹²Regional impacts of the park's purchases of goods and services from local suppliers and from construction activity are not included in this estimate of impacts.

Study Limitations and Errors

The accuracy of the MGM2 estimates rests on the accuracy of three inputs: visits, spending averages, and multipliers. Visits are taken from NPS Public Use Statistics (2009). Recreation visit estimates rely on counting procedures at the park, which may miss some visitors and count others more than once during their visit. Re-entry rates are important to adjust the park visit counts to reflect the number of visitor trips to the region rather than park entries. Re-entry rates were estimated based on visitor responses to a VSP survey question about the number of times they entered the park.

Spending averages are derived from the 2009 Homestead National Monument of America VSP visitor survey (Papadogiannaki et al. 2010). Estimates from the surveys are subject to sampling errors, measurement errors, and potential seasonal/sampling biases. The overall spending averages are subject to sampling errors of 16%.

Spending averages are also sensitive to decisions about outliers and treatment of missing data. In order to estimate spending averages, incomplete spending data was filled with zeros. Visitor groups of more than 8 people (2 cases), visiting the local region for more than 7 nights (4 cases), or spending greater than \$475 (the mean plus two times the standard deviation of the mean for spending, 9 cases) were omitted from the analysis. These are conservative assumptions about outliers and likely result in conservative estimates of economic impacts.

The sample only covers visitors during late May and June. To extrapolate to annual totals, it was assumed that this sample represented visitors throughout the year.

Multipliers are derived from an input-output model of the local economy using IMPLAN (MIG, Inc. 2008). The basic assumptions of input-output models are that sectors have homogeneous, fixed and linear production functions, that prices are constant, and that there are no supply constraints. The IMPLAN system uses national average production functions for each of 440 sectors based on the NAICS system (see Appendix B, Table B2). The most recent local IMPLAN datasets available for this analysis were 2008. It was therefore assumed that most multipliers have remained stable through 2009. Employment multipliers were adjusted to take into account price changes. Local job to sales ratios were adjusted from 2008 to 2009 based on the percentage changes in national job to sales ratios between 2008 and 2009 and then adjusted to 2009 based on consumer price indices.

Sorting out how much spending to attribute to the park when the park is not the primary reason for the trip is somewhat subjective. Because half of visitors to Homestead National Monument of America did not make the trip primarily to visit the park and most spending occurred outside the park, adjustments for non-primary purpose trips have a significant effect on the overall spending and impact estimates.

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Appendix A: Glossary

Term	Definition
Direct effects	Changes in sales, income and jobs in those business or agencies that directly receive visitor spending.
Economic multiplier	Captures the size of secondary effects and are usually expressed as a ratio of total effects to direct effects.
Economic ratio	Converts various economic measures from one to another. For example, direct sales can be used to estimate direct effects on jobs, personal income, and value added by applying economic ratios. I.e., $\text{Direct jobs} = \text{direct sales} * \text{jobs to sales ratio}$ $\text{Direct personal income} = \text{direct sales} * \text{personal income to sales ratio}$ $\text{Direct value added} = \text{direct sales} * \text{value added to sales ratio}$
Indirect effects	Changes in sales, income and jobs in industries that supply goods and services to the businesses that sell directly to visitors, i.e., businesses in the supply chain. For example, linen suppliers benefit from visitor spending at lodging establishments.
Induced effects	Changes in economic activity in the region resulting from household spending of income earned through a direct or indirect effect of visitor spending. For example, motel and linen supply employees live in the region and spend their incomes on housing, groceries, education, clothing and other goods and services. IMPLAN's Social Accounting Matrix (SAM) multipliers also include induced effects resulting from local/state/federal government spending.
Jobs	The number of jobs in the region supported by visitor spending. Job estimates are not full time equivalents, but include both fulltime and part-time positions.
Labor income	Wage and salary income, sole proprietor (business owner) income and employee payroll benefits.
Regional purchase coefficient (RPC)	The proportion of demand within a region supplied by producers within that region.
Retail margin	The markup to the price of a product when a product is sold through a retail trade activity. Retail margin is calculated as sales receipts minus the cost of goods sold.
Sales	Direct sales (retail goods and services) by firms within the region to park visitors.

Term	Definition
Secondary effects	Changes in the economic activity in the region that result from the re-circulation of money spent by visitors. Secondary effects include indirect and induced effects.
Total effects	Sum of direct, indirect and induced effects. <ul style="list-style-type: none"> • Direct effects accrue largely to tourism-related businesses in the area • Indirect effects accrue to a broader set of businesses that serve these tourism firms. • Induced effects are distributed widely across a variety of local businesses.
Value added	Labor income plus property income (rents, dividends, royalties, interest) and indirect business taxes. As the name implies, it is the net value added to the region's economy. For example, the value added by a hotel includes wages and salaries paid to employees, their payroll benefits, profits of the hotel, and sales, property, and other indirect business taxes. The hotel's non-labor operating costs such as purchases of supplies and services from other firms are not included as value added by the hotel.
Visitor group	A group of people traveling together to visit the park. Visitor group is the basic sampling unit for VSP surveys; each visitor group receives only one questionnaire.
Wholesale margin	The markup to the price of a product when a product is sold through wholesale trade. Wholesale margin is calculated as wholesale sales minus the cost of the goods sold.

Appendix B: Economic Multipliers and IMPLAN Sectors

Table B1. Economic ratios and multipliers for selected tourism-related sectors, Homestead National Monument of America region, 2009.

Sector	Direct effects			Total effects multipliers				
	Jobs / \$MM sales	Income / sales	Value added / sales	Sales I	Sales SAM	Jobs II / MM sales	Income II / sales	Value Added II / sales
Motel, hotel, cabin or B&B	16.86	0.32	0.58	1.29	1.55	22.50	0.50	0.87
Camping fees	16.52	0.32	0.37	1.42	1.70	23.97	0.55	0.75
Restaurants & bars	21.26	0.30	0.45	1.27	1.51	26.18	0.46	0.72
Groceries & takeout food	21.79	0.40	0.61	1.26	1.57	27.46	0.58	0.93
Gas & oil	13.37	0.30	0.69	1.21	1.45	17.85	0.45	0.94
Local transportation	19.62	0.44	0.62	1.15	1.46	24.32	0.59	0.88
Admission & fees	9.12	0.18	0.32	1.41	1.61	15.26	0.37	0.64
Souvenirs & other expenses	21.24	0.43	0.64	1.25	1.56	26.88	0.61	0.95
Local production of goods	9.91	0.29	0.37	1.17	1.38	13.54	0.41	0.59
Wholesale trade	6.51	0.37	0.64	1.23	1.52	11.70	0.55	0.93

Source: IMPLAN (MIG, Inc. 2008).

Explanation of table

Direct effects are economic ratios to convert sales in each sector to jobs, income and value added.

Jobs/\$MM sales is jobs per million dollars in sales.

Income/sales is the percentage of sales going to wages, salaries, and employee benefits.

Value added/sales is the percentage of sales that is value added (Value added covers all income, rents and profits and indirect business taxes).

Total effects are multipliers that capture the total effect relative to direct sales.

Sales I captures only direct and indirect sales.

Sales SAM is the SAM sales multiplier = (direct + indirect + induced sales) / direct sales.

Job II/ MM sales = total jobs (direct + indirect + induced) per \$ million in direct sales.

Income II /sales = total income (direct + indirect + induced) per \$ of direct sales.

Value added II/sales = total value added (direct + indirect + induced) per \$ of direct sales.

Using the hotel sector row to illustrate

Direct Effects: Every million dollars in hotel sales creates 16.9 jobs in hotels. Thirty-two percent of hotel sales go to wages and salaries of hotel employees and 58% of hotel sales is value added. That means 42% of hotel sales goes to purchase inputs by hotels (e.g., linens, cleaning supplies). The wage and salary income creates the induced effects and the 42% spent on purchases by the hotel starts the rounds of indirect effects.

Multiplier effects: There is an additional 29 cents of indirect sales in the region for every dollar of direct hotel sales (type I sales multiplier = 1.29). Total secondary sales are 55 cents per dollar of direct sales, which means 29 cents in indirect effects and 26 cents in induced effects. An additional 5.6 jobs are created from secondary effects of each million dollars in hotel sales (22.5

total jobs – 16.9 direct jobs per \$million). These jobs are distributed across other sectors of the local economy. Similarly, the secondary effects on income for each dollar of hotel sales are 18% (50%-32%), and the secondary effects on value added for each dollar of hotel sales are 29% (87%-58%). Including secondary effects, every million dollar of hotel sales in the region yields \$1.55 million in sales, \$500,000 in income, and \$870,000 in value added.

Table B2. MGM2 sector correspondence to IMPLAN and 2007 NAICS sectors.

MGM sector	IMPLAN		2007 NAICS
	No.	Name	
Motel, hotel, cabin or B&B	411	Hotels and motels, including casino hotels	72111-2
Camping fees	412	Other accommodations	72119, 7212-3
Restaurants & bars	413	Food services and drinking places	722
Groceries & takeout food	324	Retail - Food and beverage	445
Gas & oil	326	Retail - Gasoline stations	447
Local transportation	336	Transit and ground passenger transportation	485
Admission & fees	410	Other amusement and recreation industries	71391-3, 71399
Souvenirs & other expenses	329	Retail - General merchandise	452
Local production of goods	317	All other miscellaneous manufacturing	339993, 339995, 339999
Wholesale trade	319	Wholesale trade	42

Source: IMPLAN (MIG, Inc. 2008).

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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