

Economic Impacts of Gettysburg National Military Park/Eisenhower National Historic Site Visitor Spending on the Local Economy, 2000

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Executive Summary

Economic Impacts of Gettysburg National Military Park/ Eisenhower National Historic Site Visitor Spending on the Local Economy, 2000

Gettysburg National Military Park hosted 1.5 million recreation visits in 2000. Park visitors spent \$76.6 million dollars in the local area¹ generating \$22.6 million in direct personal income (wages and salaries) for local residents and supporting 2000 jobs in the area. An additional \$22.6 million dollars in sales, \$7.6 million in personal income and 354 jobs were generated through secondary effects, as visitor spending circulated through the local economy.

Economic impacts were estimated with the newly updated National Park Service Money Generation Model (Version 2). The MGM2 model used park visitation data, spending averages from the 2000 Eisenhower National Historic Site Visitor Study and MGM2 multipliers to estimate spending, income and jobs attributable to the park. The 1.5 million recreation visits equated to 0.5 million party days/nights in the area (Table E1). The three largest segments in terms of total party nights in the area (Adams county, PA) were overnight visitors staying in hotels (54%), day visitors coming from other regions (26%) and overnight visitors staying in campgrounds (17%). In 2000, park visitors contributed about 275,000 hotel room nights and 85,000 campsite nights.

Table E1. Gettysburg NMP visits and spending by segment

<u>Lodging segment</u>	Recreation visits (000's)	Party nights (000's)	Average spending (\$ per party night)	Total Spending (\$millions)	Pct of spending
Local day visitors	53	16	\$33.00	\$0.5	1%
Non-local day visitors	555	135	\$57.05	\$7.7	10%
Hotel	809	275	\$225.26	\$62.0	81%
<u>Camp</u>	<u>126</u>	<u>85</u>	<u>\$76.20</u>	<u>\$6.4</u>	<u>8%</u>
Total	1,542	510	\$150.22	\$76.6	100%

Park visitors spent \$150 per party per day in the local area with spending varying considerably across four lodging segments. Visitors staying in hotels spent \$225 per night, while local day visitors spent \$35 dollars. Visitors staying in hotels accounted for 81% of the total park visitor spending, followed by day visitors coming from other regions (10%) and campers (8%).

The total visitor spending resulted in \$68 million in direct sales, \$22.6 million in personal income, \$34 million in value added² and 2000 jobs. With the circulation of visitor spending, the total impacts were \$90.6 million in direct sales, \$30 million in personal income, \$48 million in

¹ The local area is defined to be a 20-minute driving distance from the town of Gettysburg (Adams county).

² Value added is the sum of personal income plus rents and profits and indirect business taxes.

value added and 2,353 jobs in total. The hotel sector received the largest share of economic benefits, capturing 40% of direct sales and 36% of the direct jobs (Table E2).

Table E2. Economic Impacts of Gettysburg NMP visitor spending, 2000

Sector/Spending category	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	27,344	720	7,936	12,060
Camping fees	1,981	52	575	874
Restaurants & bars	18,325	589	5,771	8,039
Admissions & fees	11,519	349	3,960	6,480
Local transportation	1,131	39	596	701
Retail Trade	6,599	240	3,366	5,258
Wholesale Trade	835	11	335	571
<u>Local Production of goods</u>	<u>317</u>	<u>1</u>	<u>13</u>	<u>27</u>
Total Direct Effects	68,051	2,000	22,553	34,009
<u>Secondary Effects</u>	<u>22,550</u>	<u>354</u>	<u>7,584</u>	<u>13,978</u>
Total Effects	90,601	2,354	30,137	47,987
Multiplier	1.33	1.18	1.34	1.41

Eisenhower NHS is a separate NPS unit located near Gettysburg NMP. Entry to Eisenhower is by shuttle bus from the Gettysburg NMP, so Eisenhower NHS visitors are a subset of visitors to Gettysburg NMP. Using reported visits to Eisenhower for 2000, we can estimate spending and impacts of Eisenhower NHS as a distinct unit. In 2000, Eisenhower NHS reported 77,000 recreation visits. These visitors to Eisenhower National Historic Site generated \$3.7 million in total spending, \$1.1 million in salaries, \$1.7 million in value added and supported 101 jobs. Visitor spending attributable to Eisenhower NHS (\$3.7 million), is about 5% of the total visitor spending for Gettysburg NMP. The economic contributions of Eisenhower NHS are a part of the total economic impacts of Gettysburg NMP.

Gettysburg National Military Park and Eisenhower National Historic Site are two of the primary tourist attractions in Adams County, Pennsylvania and serve a vital role in generating economic benefits to the region by attracting non-local visitors. Most visitors to the area and their spending are attributable in one way or another to the parks.

Economic Impacts of Visitors to Gettysburg National Military Park and Eisenhower National Historic Site, 2000

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Introduction

The purpose of this study is to document the local economic impacts of visitors to Gettysburg National Military Park (GETT) and Eisenhower National Historic Site (EISE) in 2000. Economic impacts are measured as the direct and secondary sales, income and jobs in the local area resulting from spending by park visitors. The economic estimates are produced using the Money Generation Model 2 (MGM2) (Stynes and Propst, 2000). Three major inputs to the model are:

- 1) Number of visits broken down into four lodging-based segments,
- 2) Spending averages for each segment, and
- 3) Economic multipliers for the local region.

Data sources for estimating these inputs are the Eisenhower National Historic Site Visitor Study, the National Park System Public Use Statistics for 2000, and the MGM2 multipliers. The MGM2 model provides a spreadsheet template for combining park use, spending and regional multipliers to compute changes in sales, personal income, jobs and value added in the region.

Gettysburg National Military Park, Eisenhower National Historic Site and the Region

Located in Gettysburg, Pennsylvania (Figure 1), Gettysburg National Military Park was established in 1895 for preserving the site of the largest Civil War battle. Adjoining Gettysburg NMP, the Soldiers' National Cemetery holds more than 7,000 interments and is the place where Abraham Lincoln delivered his Gettysburg Address. Gettysburg NMP is located within 80 miles of Baltimore and Washington D.C.

Gettysburg National Military Park incorporates nearly 6,000 acres with over 1,400 monuments, markers, and memorials. Park facilities include the National Park Service visitor center, Gettysburg Cyclorama, and "Electric Map". The only lodging within the park is a group campground (open to scouts and youth groups only). Numerous motels and private campgrounds in Gettysburg and the surrounding area provide lodging for overnight visitors.

Eisenhower National Historic Site, established in 1967, is the presidential and retirement place of Dwight D. Eisenhower. The site is adjacent to Gettysburg NMP and includes the Eisenhowers' home, barns, a guesthouse and several guardhouses, which were once used by Secret Service agents. A tour of the Eisenhower home, the farm walking tour, and education programs are available to offer a glimpse into the life and times of Dwight and Mamie Eisenhower. Entry to the site is by shuttle bus only, departing from the Gettysburg National Military Park Visitor Center. Admission, including the bus ticket, to the site is \$5.25 for adults.

The Local Region

The two parks are located in the town of Gettysburg, the center of Adams County, Pennsylvania (Figure 1). Population of the county was 87,697 in 1999 with an average income per capita of \$24,004. Adams county total personal income was \$2.1 billion in 1999, and the total number of full-time and part-time jobs was 41,781 (Table 1). The manufacturing sector accounted for 26% of the income, primarily producing “food and kindred products” and “electronic equipment” (Bureau of Economic Analysis, 2001) . In terms of income generated, manufacturing was followed in importance by services (21%), and government (16%). Of the sectors most closely related to tourism, restaurants generated \$28 million in personal income, followed by the lodging sector (\$11 million), and amusement and recreation service (\$7 million).

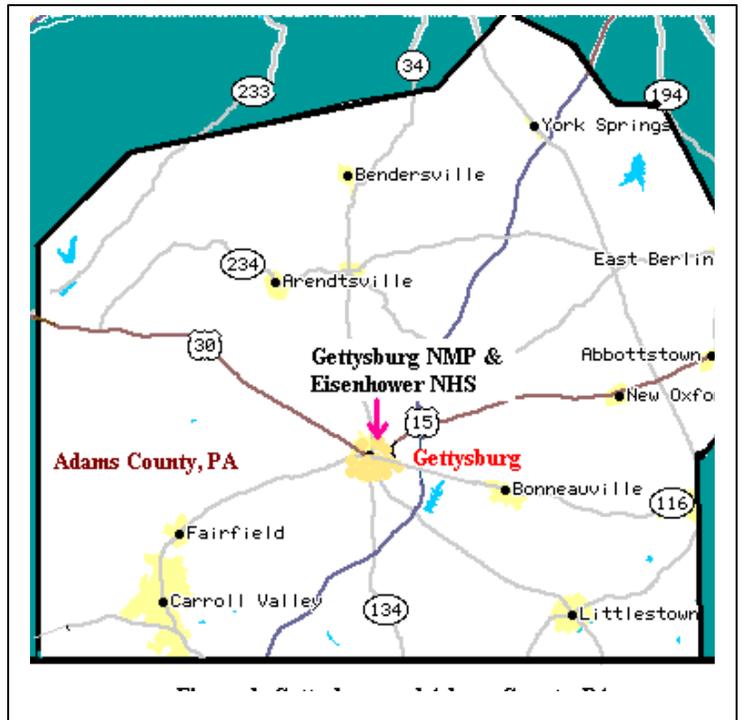


Table 1. Economic activity in Adams County, Pennsylvania, 1999

Categories	Personal income (\$millions) ^a	Employment (000's)	Percent of Personal income
Farm earnings	35	2,211	3%
Ag. service, forestry, fishing, and other	20	695	2%
Mining	8	176	1%
Construction	87	2,805	8%
Manufacturing	267	8,285	26%
Transportation and public utilities	50	1,350	5%
Wholesale trade	47	1,497	5%
Retail trade	101	6,911	10%
Eating and drinking places	28	2,045	
Finance, insurance, and real estate	33	1,968	3%
Services	219	11,121	21%
Hotels and other lodging places	11	853	
Amusement and recreation services	7	372	
Government	160	4,762	16%
Total	1,028	41,781	100%

a: Personal income includes wages and salaries and payroll benefits, reported by place of work.

Source: Bureau of Economic Analysis .

Eisenhower National Historic Site Visitor Survey, 2000

A park visitor survey was conducted at Eisenhower National Historic Site from July 23-29, 2000 as part of the National Park Service's Visitor Services Project (VSP)³. The study measured visitor demographics, trip planning, travel expenditures, satisfaction with park services, facility importance and quality. Interviews were conducted and questionnaires were distributed to visitors who were waiting at the Gettysburg National Military Park visitor center to catch the shuttle bus to Eisenhower NHS. A total of 400 questionnaires were distributed to visitors and 346 were completed for a response rate of 86.5% (Eisenhower National Historic Site Visitor Study, 2000).

Additional analysis of the visitor survey dataset was carried out at Michigan State University to identify visitor segments, to estimate spending averages for these segments, and to develop parameters for expanding from the sample to all park visitors.

Park visitors' spending patterns and characteristics were assumed to be similar between the two parks. The results of the Eisenhower NHS visitor survey were therefore applied to Gettysburg NMP visitors. The total impacts of Gettysburg NMP will be presented first and then the portion of spending attributed to Eisenhower NHS will be estimated.

Some adjustments were made to the survey results to compensate for the seasonal bias introduced by sampling only in July. Some outliers (long stays, large parties and very high spending) were omitted in computing averages from the sample. Figures reported here may therefore vary slightly from those in the VSP report. We assumed somewhat lower off-season values for spending averages, party sizes, and the percentage of visitors who are camping. Weighted averages were taken for the summer and off-season estimates to derive annual averages representing all visitors during the year.

Additional adjustments were made to apply the survey results for Eisenhower NHS visitors to Gettysburg. Visitors to Gettysburg NMP who did not visit Eisenhower NHS were younger, less likely to be staying overnight, and came in larger groups. Lengths of stay in the region were similar (Eisenhower National Historic Site Visitor Study, 2000).

MGM2 Visitor Segments

MGM2 divides visitors into segments to help explain differences in spending across distinct user groups. Overnight visitors were distinguished from day visitors based on lodging types. Four lodging segments were established for the Eisenhower NHS /Gettysburg NMP visitors:

Local : Residents who live within 20-minute drive of Gettysburg. The first person's ZIP code was used to determine residence.

³ A separate survey was conducted for Gettysburg NMP visitors that did not visit Eisenhower NHS.

Day Trips: Visitors from outside the region, not staying overnight in the area. Visitors staying with friends/relatives or at an owned seasonal home in the area are also included in this category.

Motel: Visitors staying in hotels, cabins, or B&Bs within a 20-minute drive of Gettysburg

Camp: Visitors staying in campgrounds within a 20-minute drive of Gettysburg

Recreation Visits

In 2000, Gettysburg NMP received 1,542,184 recreation visits and 28,578 camper nights (NPS Public Use Statistics Office, 2001). The park received 175,000-200,000 visitors per month from April through October (Table 2). Park campgrounds host 3 to 4 thousand campers monthly during this period. An average vehicle party size of 3.3 for November to March and 4.0 for April through October is applied to vehicle counts to estimate park visitation.

Eisenhower NHS received 76,921 recreation visits in 2000. These are the actual counts of visitors purchasing tickets for the shuttle bus. Eisenhower NHS received about 10,000 recreation visits per month from April through October. The visitation to Eisenhower NHS is about 5% of the visitation to Gettysburg NMP. Visitors to Eisenhower NHS are also counted as Gettysburg NMP visitors since they depart from the Gettysburg NMP visitor center.

Table 2. NPS public use data for Gettysburg NMP and Eisenhower NHS, 2000

Month	Gettysburg NMP		Eisenhower NHS
	Recreation Visits	Miscellaneous Camper	Recreation Visits
January	9,882	0	64
February	36,063	0	232
March	77,896	0	1,589
April	174,568	4,579	7,737
May	210,475	4,402	9,803
June	187,856	5,418	10,813
July	203,148	4,106	10,505
August	206,095	2,885	10,130
September	149,263	3,376	11,015
October	173,637	3,812	11,118
November	83,932	0	2,741
<u>December</u>	<u>29,369</u>	<u>0</u>	<u>1,174</u>
Total	1,542,184	28,578	76,921

a: Camping activities are limited to Youth or Scouts.

Source: NPS Public Use Statistics Office,
<http://www2.nature.nps.gov/stats/>

A recreation visit is the count of one person entering the park. Spending depends on how long a visitor stays in the area rather than how many times they enter the park or how much time

they spend in the park. Recreation visits are therefore converted to party days/nights in the region before applying spending averages. This avoids double counting spending of visitors who may enter the park multiple times on the same day and also takes into account additional days a visitor may spend in the area outside the park.

Recreation visits are converted to party nights⁴ as follows:

Person trips to the area = recreation visits / number of park entries per trip

Person nights in the area = person trips * length of stay in area

Party nights in the area = person nights / party size

Distinct re-entry rates, party sizes and lengths of stay were estimated for each segment using the visitor survey data (Table 3). The average party size was 3.0. Hotel users stayed two nights in the area while campers stayed three.⁵ Overnight visitors entered the park 2.3 times during their stay. It should be noted that total party nights and spending will be sensitive to the lengths of stay and re-entry factors. Length of stay indicates how many nights of spending will be counted for each visitor. Re-entry factors correct for multiple counting of the same visitors in the public use statistics.

Table 3. Gettysburg NMP visit conversion parameters by lodging segment.

Segments	Local	Day Trip	Hotel	Camp	Total
Party size ^a	2.78	3.09	2.92	2.88	2.95
Length of stay	1.00	1.00	2.04	3.00 ^b	1.61
Re-entries	1.00	1.02	2.26	2.26	1.65
Number of cases	5	90	163	35	293

a: Party size was decreased 2% for all segments from the July 2000 visitor survey figures to reflect smaller off-season parties. An off-season party size of 2.7 was assumed. Summer season visits (June-August) were 60% of the annual total.

b: Length of stay for campers was adjusted downward from 3.5 to 3 days to reflect both seasonal variations and longer stays for Eisenhower NHS visitors.

Using these conversion parameters, 1.5 million recreation visits to Gettysburg NMP equates to 0.93 million person-trips, 1.5 million person-nights and 0.5 million party-nights (Table 4). Twenty-nine percent of party nights were day trips, the majority of which came from outside the local region. Visitors staying with friends and relatives in the area or an owned seasonal home were treated as day trips, counting only one day's spending for the visit to Gettysburg NMP. Visitors staying in motels accounted for 54% of total party nights; campgrounds accounted for 17%. Park visitors contributed about 275,000 hotel room nights in the area and about 85,000 campsite nights in 2000.

⁴ A party night is a travel group staying one night in the area. The travel group is usually all individuals in the same vehicle or staying in the same room or campsite. For day trips, estimates are in party days.

⁵ Stays of more than 8 days or groups of more than 8 people were omitted in computing these average.

Table 4. Visit measures for Gettysburg NMP by segment, 2000

Segment	Local	Day Trip	Hotel	Camp	Total
Visit Measures in 000's					
Recreation visits (person-entries)	43	425	891	183	1,542
Person-trips ^a	43	416	393	81	934
Person-nights ^b	43	416	804	244	1,506
Party-nights ^c	16	135	275	85	510
Percents by segment					
Pct of recreation visits	3%	28%	57%	12%	100%
Pct of person-trips	5%	45%	42%	9%	100%
Pct of person-nights	3%	28%	53%	16%	100%
Pct of party-nights	3%	26%	54%	17%	100%

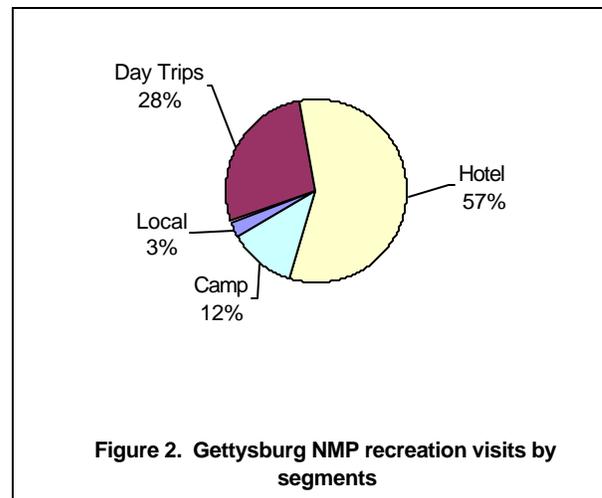
a: Person-trip = recreation visits / re-entry rate

b: Person-night = person-trip * length of stay

c: Party-night = person-night / party size

Visitor spending

Spending averages were estimated from the Eisenhower NHS visitor study. After removing some outliers⁶, spending averages were computed on a party trip basis for each segment and then converted to a party night basis by dividing by the average length of stay. The survey included expenditures that occurred within 20 minutes driving distance, which roughly coincides with Adams County. Spending averages were reduced by 6% across all segments to adjust for the summer-season bias in the sample⁷.



Spending averages per party per night are shown in Table 5 for each segment. Local visitors spent \$33 per party per day, while visitors from outside the county on day trips spent \$57. Overnight visitors spent \$225 per party per night if staying in a hotel, \$76 if camping. The average hotel room rate was \$99, per night camping fee was \$23. These are consistent with rates in the area.

⁶ Spending outliers are defined as cases with party spending exceeding \$1000 per day, or hotel spending exceeding \$1000 per trip (n=7).

⁷ We assumed that visitors during the off-season spent 15% less than summer visitors. As about 60% of Gettysburg NMP visitors come between June and October, the sample spending averages are reduced by 6% to yield an adjusted annual average.

Table 5. Visitor spending in the local area by lodging segment (\$ per party per night)

Spending Category	SEGMENT				Total
	Local ^a	Day Trip	Hotel	Camp	
Motel, hotel cabin or B&B	0.00	0.00	99.38	0.00	53.61
Camping fees	0.00	0.00	0.00	23.43	3.88
Restaurants & bars	12.00	16.90	54.01	11.81	35.93
Groceries, take-out food/drinks	3.00	1.08	4.53	8.71	4.27
Gas & oil	5.00	4.71	8.77	6.80	7.26
Local transportation	0.50	0.25	3.35	1.99	2.22
Admissions & fees	5.00	22.13	27.30	11.22	22.58
<u>Souvenirs and other expenses</u>	<u>7.50</u>	<u>11.98</u>	<u>27.91</u>	<u>12.25</u>	<u>20.48</u>
Total	33.00	57.05	225.26	76.20	150.22

a: The generic local visitor spending profile from the MGM2 model was used due to a small number of cases in this category.

Total visitor spending was calculated by multiplying the number of party-nights from Table 4 by the spending averages in Table 5. Calculations were carried out segment by segment, summing across the four segments to obtain the totals. Visitors to Gettysburg NMP in 2000 spent \$76.6 million in the local area (Table 6). Visitors spent \$27.3 million on motel/hotel rooms, \$18.3 million on restaurant meals, \$11.5 million on admissions & fees, and \$10.4 million on souvenirs. Visitors staying in hotels contributed 81% of the total spending to the region, followed by day visitors coming from other regions (10%), and campers (8%).

Table 6. Total spending by Gettysburg NMP visitors in 2000 (\$000's)

Spending Category	Segment				Total	Pct
	Local	Day Trip	Hotel	Camp		
Motel, hotel cabin or B&B	0	0	27,344	0	27,344	36%
Camping fees	0	0	0	1,981	1,981	3%
Restaurants & bars	188	2,276	14,862	999	18,325	24%
Groceries, take-out food/drinks	47	145	1,247	737	2,176	3%
Gas & oil	78	634	2,414	575	3,702	5%
Local transportation	8	34	921	168	1,131	1%
Admissions & fees	78	2,981	7,512	949	11,519	15%
<u>Souvenirs and other expenses</u>	<u>117</u>	<u>1,613</u>	<u>7,679</u>	<u>1,036</u>	<u>10,446</u>	<u>14%</u>
Total	517	7,683	61,980	6,444	76,624	100%
Percent	1%	10%	81%	8%	100%	

Economic Impacts of Gettysburg NMP Visitor Spending

Economic impacts are estimated by applying the MGM2 economic ratios and multipliers to the total spending. The MGM2 rural area multipliers best represent the Adams county economy. The \$76 million spent by Gettysburg NMP visitors had a direct economic impact on the region of \$68 million in direct sales, \$22.6 million in personal income (wages and salaries), \$34 million in value added, and supported 2,000 jobs in the region (Table 7). The lodging sector received the largest amount of direct sales (\$27 million), followed by restaurants (\$18 million) and admissions and fees (\$11.5 million).

Direct effects are less than total spending, as only the retail and wholesale margins on visitor purchases of goods accrue to the local economy. The local region surrounding Gettysburg NMP captured 89% of visitor spending. Eleven percent of visitor spending leaks out of the local economy to cover the costs of imported goods bought by visitors⁸.

The sales multiplier for the region was 1.33, meaning that an additional \$0.33 in sales is generated through secondary effects for every dollar of direct sales. Secondary effects generated an additional 354 jobs, about \$7.6 million in personal income and \$14 million in value added.

Table 7. Economic Impacts of Gettysburg NMP visitor spending, 2000

Sector/Spending category	Direct Sales (\$000's)	Jobs	Personal Income (\$000's)	Value Added (\$000's)
Direct Effects				
Motel, hotel cabin or B&B	27,344	720	7,936	12,060
Camping fees	1,981	52	575	874
Restaurants & bars	18,325	589	5,771	8,039
Admissions & fees	11,519	349	3,960	6,480
Local transportation	1,131	39	596	701
Retail Trade	6,599	240	3,366	5,258
Wholesale Trade	835	11	335	571
<u>Local Production of goods</u>	<u>317</u>	<u>1</u>	<u>13</u>	<u>27</u>
Total Direct Effects	68,051	2,000	22,553	34,009
<u>Secondary Effects</u>	<u>22,550</u>	<u>354</u>	<u>7,584</u>	<u>13,978</u>
Total Effects	90,601	2,354	30,137	47,987
<u>Multiplier</u>	<u>1.33</u>	<u>1.18</u>	<u>1.34</u>	<u>1.41</u>

⁸For example, if a visitor buys \$50 dollars worth of clothing at a local store, the store receives the retail margin (assume \$20 dollars), the wholesaler or shipper (if local) may receive \$5 dollars, and the remaining producer price of the clothing (\$25 dollars) leaks immediately outside the local economy, unless the clothing is manufactured in the local region.

Economic Impacts of Eisenhower NHS Visitor Spending

Eisenhower NHS recorded 76,921 recreation visits in 2000. These visitors also visited Gettysburg NMP, so our purpose here is to estimate the additional spending associated with a visit to Eisenhower NHS. For visitors on day trips, we count the day's spending for Eisenhower, recognizing that in most cases this spending is shared with Gettysburg NMP. For visitors on overnight trips, we attribute the equivalent of one night's expenses to Eisenhower, assuming that the stay is extended one night to take in the additional attraction⁹.

The 76,000 recreation visits to Eisenhower NHS equates to 25,971 party nights in the area, counting only one night for all overnight trips (Table 8). Overnight visitors staying in hotels contributed 54% of the total party nights attributed to Eisenhower NHS, followed by day visitors (31%) and campers (11%).

Table 8. Visit measures for Eisenhower NHS by segment, 2000

Segment	Local	Day Trip	Hotel	Camp	Total
Recreation visits (person-entries)	2,166	23,264	41,006	10,485	76,921
Person-trips ^a	2,166	23,264	41,006	10,485	76,921
Person-nights ^b	1,039	8,051	14,024	2,857	25,971
Party-nights ^c	1,039	8,051	14,024	2,857	25,971
Percents by segment					
Pct of recreation visits	3%	30%	53%	14%	100%
Pct of person-trips	3%	30%	53%	14%	100%
Pct of person-nights	4%	31%	54%	11%	100%
Pct of party-nights	4%	31%	54%	11%	100%

a: Person-trip = recreation visits / re-entry rate

b: Person-night = person-trip * length of stay

c: Party-night = person-night / party size

Total visitor spending was calculated by multiplying the number of party-nights in Table 8 by the spending averages in Table 5. Visitors to Eisenhower NHS in 2000 generated \$3.7 million in total spending, \$3.4 million in direct sales, \$1.1 million in salaries, \$1.7 million in value added and supported 100 jobs (Table 9). The visitor spending attributed to Eisenhower NHS (\$3.7 million) is 5% of the total spending of Gettysburg NMP visitors (including Eisenhower NHS as part of the Gettysburg totals).

⁹ Comparison of lengths of stay for Gettysburg NMP visitors who went to Eisenhower NHS vs those who didn't supports this assumption.

Table 9. Economic Impacts of Eisenhower NHS visitor spending, 2000

Sector/Spending category	Direct Sales \$000's	Jobs	Personal	Value Added \$000's
			Income \$000's	
Direct Effects				
Motel, hotel cabin or B&B	1,394	36	405	615
Camping fees	67	2	19	30
Restaurants & bars	940	30	296	412
Admissions & fees	598	18	206	337
Local transportation	55	2	29	34
Retail Trade	332	12	169	265
Wholesale Trade	42	1	17	29
<u>Local Production of goods</u>	<u>16</u>	<u>0</u>	<u>1</u>	<u>1</u>
Total Direct Effects	3,443	100	1,141	1,722
<u>Secondary Effects</u>	<u>1,140</u>	<u>18</u>	<u>383</u>	<u>706</u>
Total Effects	4,583	118	1,525	2,428
<u>Multiplier</u>	<u>1.33</u>	<u>1.18</u>	<u>1.34</u>	<u>1.41</u>

Study Limitations and Error

The accuracy of the MGM2 estimates rests on the three inputs: visits, spending averages, and multipliers. The number of visitors is usually the largest potential source of error. Spending calculations require estimates of visits in person or party nights in the area, so park re-entry estimates and length of stay parameters are critical. Visitors may not accurately report park entries and the visitor estimates may not exactly coincide with park visitor counting procedures.

Sampling visitors in a short time period during the peak season can introduce some biases in the distribution of visitors across lodging segments. For example, campers are more prevalent during the summer and locals often represent a higher percentage of visitors during the off-season. Adjustments have been made to attempt to reduce these biases but an off-season survey is suggested to better understand seasonal differences.

Applying spending averages from visitors to Eisenhower NHS to all Gettysburg NMP visitors may also introduce some error. While some adjustments were made to account for some differences in the two groups, other differences may not have been fully captured. The sample of local visitors was too small to be reliable, so the MGM2 low spending averages were used for this segment. As locals constitute a small percentage of visitors and have relatively low spending, this procedure shouldn't have a major effect.

The sampling errors (95% confidence interval) on the spending averages are 5% overall and range from 4- 26% for individual segments¹⁰. Spending averages can also vary by about 10% based on decisions to treat missing spending data as zeros or not, and how many and which outliers to delete. Our analysis generally takes a conservative approach¹¹.

The multipliers and economic ratios used to convert spending to jobs and income and to estimate secondary effects come from a generic profile developed for rural regions. We did not have IMPLAN data for Adams county to estimate multipliers specific to this region. Multipliers largely influence the estimates of the secondary effects and should not introduce errors of more than plus or minus 5%.

Depending on the direction and magnitude of errors in visits, spending, and multipliers, the different errors may compound or cancel each other. The most important potential errors are in the estimates of visits, segment shares, length of stay in the area, and park entries. As the impact model is essentially linear, doubling visitors will double spending and impacts. The proximity of the park to major population centers and likely “pass through” visitors would suggest that the VSP survey may have underestimated day trips and local visitors. With no independent data readily available to verify total overnight visitors staying in hotels or campgrounds, the largest potential error may be in the segment share estimates. These could be further checked by gathering information on total room and campsite nights in Adams county¹².

In addition to these statistical issues, there are also conceptual issues regarding how much and which spending may be claimed by the parks. Eighty-five percentage of Gettysburg visitors indicated the park was their primary destination while 7% were on business trips, 5% were visiting friends and relatives and 4% cited other purposes (Eisenhower National Historic Site Visitor Study, 2000). Some of the visitor spending would likely not be lost to the region if the park were closed or unavailable as some visitors would still come and visit nearby attractions and facilities. Only thirteen percent of the visitors to Eisenhower NHS reported it was their primary destination, so much of the spending attributed to Eisenhower would not be lost if this park were closed, although some visitors would likely shorten their stay in the area and a few trips would not be made at all.

Employment and income data (Bureau of Economic Analysis) for the lodging sector in Adams County (Table 2) can be used to partially validate the impact figures. Total direct effects estimated by the MGM2 model for hotels is 84% of total lodging sector jobs reported for Adams county in 1999 and 72% of personal income in the lodging sector. This means that park visitors account for between 70 and 85% of lodging sector activity in the county.

¹⁰ Sampling errors depend on the sample size and the variation in spending within each segment..

¹¹ Thirty cases with incomplete or missing spending or length of stay data were excluded, as were 17 outliers (party size > 8, length of stay > 8 or spending >\$1000 per day.

¹² We estimate that park visitors account for 275,000 hotel room nights and 85,000 campsite nights in the area in 2000.

Summary and Discussion

Visitors to Gettysburg NMP spent \$76.6 million within the local region (Adams county, PA) in 2000. The total economic impact of visitor spending was \$68 million in direct sales, \$22.6 million in personal income, \$34 million in value added and 2,000 jobs. Sectors receiving the greatest benefits were the lodging sector (\$27 million in direct sales), restaurants (\$18 million), and amusements/entertainment (\$11.5 million). Through multiplier effects, visitor spending generated an additional \$22.6 million in local sales, and an associated \$7.6 million in personal income, \$14 million in value added and 354 jobs.

Visitors to Eisenhower NHS in 2000 generated \$3.7 million in total spending, \$3.4 million in direct sales, \$1.1 million in salaries, \$1.7 million in direct sales and supported 101 jobs. Visitor spending attributed to Eisenhower NHS represents about 5% of total spending by visitors to Gettysburg NMP.

As visitors staying overnight in hotels account for 81% of the spending, management and marketing strategies that motivate park visitors to stay overnight in the area or to extend their length of stay should be encouraged. Differences between Eisenhower NHS and Gettysburg NMP visitors indicate how additional attractions help to extend stays and increase spending. This same principle applies to attractions and spending opportunities outside the park.

Given the importance of these two parks in the regional tourism picture and the fact that most visitor services (restaurants, shops, lodging) are provided outside the park, it is important for the park and local tourism organizations to cooperate on management, regional development and marketing issues. Joint efforts to conduct visitor marketing studies and to track tourist activity in the region can also provide a clearer overall picture of the various roles and contributions of the park and local tourism organizations.

The MGM2 model can be used to evaluate alternative management, development and marketing decisions. For example, the marginal economic impacts of particular visitor segments can be useful for evaluating alternative development or marketing actions. Table 10 shows the changes in sales, jobs, income and valued added associated with an increase or decrease of one thousand additional party-nights by each segment.

To evaluate the regional economic impacts of adding an additional 10 rooms, for example, to a local hotel, first compute the change in party nights – 10 rooms occupied 100 nights yields 1,000 extra party nights. Using Table 10, we see that each 1,000 hotel room nights yields \$204,000 dollars in direct sales in the region, \$67,000 in personal income, \$100,000 in value added and 6 jobs in direct effects. Adding twenty rooms or occupying 10 rooms for 200 nights would double these estimates. Using the MGM2 model, the impact of these alternatives can be compared to others such as expanding campsites, a marketing campaign to increase day trips, etc.

Table 10. Direct impacts of an additional 1,000 party nights by lodging segment, Gettysburg NMP, 2000

Segments	Direct Sales (\$000's)	Jobs	Personal Income (\$000's)	Value Added (\$000's)
(Marginal Impacts per 1,000 party-nights)				
Local day	24	1	9	13
Non-local day	48	1	17	26
Hotel	204	6	67	100
Camp	60	2	21	32

The impact estimates presented in this report document the impacts of 1.5 million recreation visits on the Adams county economy in 2000. Impacts may vary from year to year with changes in prices, visitor volumes, the mix of visitors attracted, and other changes in the park and surrounding communities. The MGM2 model has built-in procedures to price adjust spending averages over time, so updated figures may be obtained fairly easily, if there are not significant changes in visitor use and spending patterns. In the absence of significant structural changes in the local economy, multipliers will be quite stable. So the primary input for updating the estimates are visit estimates, which must take into account any changes in the mix of visitors or their length of stay in the area.

Suggested research to further refine the spending and impact estimates would include (1) surveys of off-season park visitors, (2) surveys of visitors to the region in cooperation with local tourism organizations to better understand the role of the park and other tourism organizations in attracting and serving visitors, and (3) comparisons of park visitor characteristics, spending and impacts from VSP study and this report with other secondary sources of information about tourism activity in the region such as local room taxes , occupancy rates, sales taxes and other local economic statistics.

References

- Bureau of Economic Analysis. (2001). REIS data for Adams County, 1999.
<http://fisher.lib.virginia.edu/reis/county.html>. Data retrieved on October 18, 2001.
- NPS Public Use Statistic Office. (2001). 1979-2000 Visitation DataBase.
<http://www2.nature.nps.gov/stats/>. Data retrieved on October 18, 2001.
- Stynes, D. J., Propst, D.B., Chang, W. and Sun, Y. (2000). Estimating national park visitor spending and economic impacts: The MGM2 model. May, 2000. Final report to National Park Service. East Lansing, Michigan: Department of Park, Recreation and Tourism Resources, Michigan State University.
- U.S. Census Bureau. (2001). American FactFinder.
<http://factfinder.census.gov/servlet/BasicFactsServlet>. Data retrieved on October 18, 2001.

- U.S. Census Bureau. (2001). County Business Patterns.
<http://www.census.gov/epcd/cbp/view/cbpview.html>. Data retrieved on October 18, 2001.
- Visitor Services Project. (2000). Eisenhower National Historic Park Visitor Study. Summer, 2000. Visitor Services Project Report #124. Moscow, ID: National Park Service and University of Idaho, Cooperative Park Studies Unit.

Appendix A: Definition of Terms

Term	Definition
Sales	Sales of firms within the region to park visitors.
Jobs	The number of jobs in the region supported by visitor spending. Job estimates are not full time equivalents, but include part time and seasonal positions.
Personal income	Wage and salary income, proprietor's income and employee benefits.
Value added	Personal income plus rents and profits and indirect business taxes. As the name implies, it is the value added by the region to the final good or service being produced. Value added can also be defined as the final price of the good or service minus the costs of all of the non-labor inputs to production.
Direct effects	Direct effects are the changes in sales, income and jobs in those business or agencies that directly sell goods or services to visitors.
Secondary effects	Secondary effects are the changes in economic activity in the region resulting from the recirculation of money spent by visitors. Secondary effects include both indirect and induced effects.
Indirect effects	Changes in sales, income and jobs within industries that supply goods and services to businesses that sell directly to visitors. 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 direct or indirect effects. For example, motel and linen supply employees who live in the region spend their income on housing, groceries, education, clothing and other goods and services creating sales and jobs in these sectors.
Total effects	Sum of direct, indirect and induced effects.
Marginal impacts	Economic impacts per additional visitor or dollar spent.