

Bay County

Economic Impacts of Visitor Spending

1999-2001

Prepared by:

Daniel Stynes
Michigan State University
Department of Park Recreation & Tourism Resources

Sponsored by:

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Summary of Key Findings

Visitors

- ✘ 800,000 visitors (person trips to the area)
 - ◆ 215,000 day trips, 585,000 overnight trips
- ✘ 1.8 million visitor days/nights
 - ◆ 215,000 day trips and 1.6 million person nights on overnight trips
- ✘ 671,000 travel party days/nights (average party size 2.6)
 - ◆ 58% overnight stays with friends and relatives (VFR), 14% day trips, 22% motel, 3% campground, 3% seasonal homes
 - ◆ 148,000 room nights in hotels

Spending

- ✘ \$66 million total visitor spending in Bay County excluding airfares
 - ◆ \$74 per travel party per day for day visitors, \$192 per party per night for visitors in motels
 - ◆ Spending by category: restaurants (20%), lodging (19%), gas and local transportation (15%), groceries (15%), recreation/entertainment (7%), other retail (24%).
 - ◆ Tourist spending accounts for 80% of all hotel sales in the area, 14% of restaurant sales, 15% of amusements, and 4% of retail trade
- ✘ Overnight visitors staying in motels account for 43% of visitor spending, visitors staying with friends and relatives 42%.

Economic Impacts

- ✘ Direct Effects in tourism-related businesses
 - ◆ 1,300 jobs
 - ◆ \$18 million for wages, salaries and payroll benefits
 - ◆ \$124,000 in local room tax, \$3.8 million in state sales taxes
 - ◆ Tourism jobs by primary tourism sectors
 - restaurants - 434 hotels - 286
 - amusements - 186 retail trade - 312
- ✘ Total impacts including secondary effects
 - ◆ 1,500 jobs
 - ◆ \$25 million wages and salaries
 - ◆ Tourism accounts for about 1.3% of all sales in the county and about 3% of all jobs

Tourism Activity and Spending 1999-2001

Baseline tourism activity and spending estimates are for the year 2000. Figures for 1999 are used to establish consistency with official economic accounts for Bay County. Projections to 2001 are based primarily on changes in room tax collections. The Bay County CVB covers about 62% of rooms in the county. Room taxes from CVB member establishments were extrapolated to all rooms in the county by assuming similar occupancy and room rates at non-member establishments. See (See Table 1.)

Table 1. Tourism Activity and Spending, Bay County, 1999-2001

Measure	1999	2000	2001
Room tax collections (2%) ^a	\$ 109,215	\$ 123,634	\$ 109,807
Room Revenue from CVB members	\$ 5,460,750	\$ 6,181,700	\$ 5,490,350
Room Revenue incl. all rooms	\$ 8,869,315	\$ 10,015,543	\$ 8,895,423
Tourist Party days/nights	660,000	671,000	660,000
Spending per day	\$ 95	\$ 99	\$ 100
Total spending (in millions)	\$ 63	\$ 66	\$ 66

a. CVB taxes cover 62% of rooms in the county.

Tourist Market Segments by Lodging Type, 2000

Tourists are divided into five segments based on the type of lodging used on the trip (Table 2). Tourism activity may be measured in terms of trips (person or party) or the number of days/nights in the area. The latter is more useful for estimating spending.

In 2000, the county hosted an estimated 800,000 person trips, which equates to 313,000 travel party trips and 671,000 party days/nights¹ in the county.

In terms of travel party days/nights, visitors staying with friends and relatives are the largest market segment for Bay county, accounting for 58% of all visitor days/nights. Visitors on day trips account for 14% of tourist days and visitors staying overnight in hotels account for 22% of party nights. For the hotel segment, party nights are the same as room nights. Bay county hosted 148,000 hotel room nights in 2000.

¹ A party night is one travel group spending one day (for day trips) or one night (for overnight stays) in the county. The party usually consists of all people traveling together in the same vehicle or staying in the same room/campsite. A typically party consists of 2-3 people.

Table 2. Breakdown of Visitors by Segment , Bay County, 2000

	Day Trip	Hotel, B&B	Camp	Seasonal Home	VFR	Total
Party nights (000's)	91,868	147,606	22,152	21,300	387,937	670,863
Party size	2.35	2.3	3.0	2.6	2.8	
Length of stay in days	1.0	2.0	2.0	3.0	3.0	
Party Trips (000's)	91,868	73,803	11,076	7,100	129,312	313,159
Person Trips (000's)	215,889	169,747	33,228	18,460	362,075	799,399
Person days/nights (000's)	215,889	339,494	66,456	55,380	1,086,225	1,763,444
Percent of Party nights	14%	22%	3%	3%	58%	100%

Spending by Lodging Segment, 2000

The five lodging-based segments help explain variations in spending by different types of visitors. Visitors on day trips spend \$74 per party per day , while visitor parties staying overnight in hotels spend \$192 per night, of which \$81 is the nightly room cost (including the 2% local room tax and 6% state tax) for their room.

Table 3. Visitor Spending by Lodging Segment, Bay County 2000

CATEGORY	Overnight stays in ..					Total Spending		
	Day Trips	Motel	Camp	Seasonal Home	With friends or relatives	\$000's	Pct	
	Spending per party per night							
Motel, hotel cabin or B&B	0.00	80.47	0.00	0.00	0.00	11,878	18%	
Camping fees	0.00	0.00	16.09	0.00	0.00	357	1%	
Restaurants & bars	19.39	41.98	14.36	18.25	12.15	13,399	20%	
Groceries, take-out food/drinks	5.48	11.04	11.04	13.79	19.59	10,272	15%	
Gas & oil	11.99	14.84	14.05	10.93	11.43	8,268	12%	
Other vehicle expenses	0.42	1.51	1.84	4.49	0.22	484	1%	
Local transportation	1.35	6.44	2.84	4.01	0.64	1,472	2%	
Admissions & fees	10.29	10.64	5.50	3.93	4.12	4,319	7%	
Clothing	5.37	8.20	3.84	5.38	2.93	3,038	5%	
Sport ing goods	0.41	1.02	1.10	1.51	1.50	828	1%	
Gambling	0.00	0.00	0.00	0.00	0.00	-	0%	
<u>Souvenirs and other expenses</u>	<u>19.18</u>	<u>15.77</u>	<u>9.99</u>	<u>10.21</u>	<u>19.54</u>	<u>12,109</u>	<u>18%</u>	
Total	73.88	191.91	80.66	72.50	72.12	66,424	100%	
Party nights	91,868	147,606	22,152	21,300	387,937	670,863		
Total spending (\$000's)	6,788	28,327	1,787	1,544	27,978	66,424		
Percent of spending	10%	43%	3%	2%	42%	100%		

Total visitor spending in Bay County in 2000 was \$66 million. Visitors staying in hotels accounted for 43% of this spending, with VFR stays accounting for 42% of spending. By spending category, visitor purchases go to restaurants (20%), lodging (19%), souvenirs and other retail purchases (18%), groceries (15%) and gas and oil (12%).

Direct Economic Impacts of Visitor Spending

Direct economic effects are the changes in economic activity within those economic sectors selling directly to tourists (e.g., hotels, restaurants, retail stores). Sales, jobs, wages and salaries, and value added are four measures of economic impact².

The \$66 million spent by visitors in 2000 in Bay county yields about \$46 million in direct sales after excluding producer prices for roughly \$20 million in purchases of imported goods (gas and oil, groceries, souvenirs and other retail purchases of items not made locally). The \$46 million in sales accruing to area businesses resulted in \$18 million in direct personal income (wages and salaries) in tourism-related sectors and a total direct value added to the region's economy of \$29 million. Tourism supported about 1,300 jobs in tourism-related sectors.

Table 4. Economic Impacts of Visitor Spending , Bay County 2000

Sector/Spending category	Sales (\$000's)	Jobs	Personal Income \$000's	Value Added \$000's^a
Direct Effects				
Motel, hotel cabin or B&B	11,878	286	4,751	7,798
Camping fees	357	9	143	234
Restaurants & bars	13,399	434	4,568	6,620
Admissions & fees	4,319	186	1,848	3,024
Gambling	-	-	-	-
Other vehicle expenses	484	6	158	260
Local transportation	1,472	42	614	748
Retail Trade	10,834	281	5,314	8,952
Wholesale Trade	1,944	22	803	1,379
<u>Local Production of Goods</u>	<u>964</u>	<u>3</u>	<u>111</u>	<u>213</u>
Total Direct Effects	45,650	1,269	18,309	29,228
<u>Secondary Effects</u>	<u>17,793</u>	<u>252</u>	<u>6,595</u>	<u>11,010</u>
Total Effects	\$ 63,443	1,521	\$ 24,904	\$ 40,238
Multiplier	1.38	1.20	1.36	1.38

² Wages and salaries include all payments to workers including contributions to retirement and health care programs. Jobs are not full time equivalents, but count part time and full time jobs the same. Value added is a commonly used measure of the contribution of an activity or sector to the region's economy. Value added includes wages and salaries paid to workers, profits and rents of firms, and sales and other indirect business taxes attributable to visitor spending.

Secondary and Total Economic Impacts of Visitor Spending

Secondary effects add another 250 jobs, \$6.6 million in wages and salaries and \$11 million in value added. While the direct effects can be traced to individual tourism sectors, secondary effects generally accrue to a variety of firms within the county that benefit either by selling goods and services to tourism firms or to their employees. The total tourism impact on the county economy including multiplier effects is \$63 million in sales, \$25 million in wages and salaries, \$40 million value added and 1,500 jobs.

Multipliers for Bay county are presented in greater detail in the Appendix.

Tourism Satellite Accounts

Tourism Satellite Accounts (TSA) are an alternative method for estimating the significance of tourism to an area's economy. The satellite accounts ground the tourism economic estimates in official economic accounts for Bay county. 1999 is the most recent year for which complete economic accounts are available.

The TSA approach attributes a percentage of economic activity in each sector to tourist spending. The Tourism industry (TI) ratios in the first column of Table 5 are the percentage of sales in each sector within Bay county that is attributed to tourist spending. TI ratios are adjusted from those used in the national tourism satellite accounts, based on the ratio of tourists to local residents of the area.

Table 5. Tourism Satellite Account, Bay County 1999^a

Tourism industry ratio	Sector	Output (\$ millions)	Jobs	Wages & Salaries (\$ millions)	Value Added (\$millions)
80%	Hotels And Lodging Places	12.3	314.4	4.7	8.1
14%	Eating & Drinking	15.7	541.0	5.3	7.8
17%	Amusement And Recreation	0.9	39.5	0.3	0.6
25%	Membership sports	1.2	42.7	0.4	0.5
16%	Entertainment	1.6	24.1	0.2	0.3
8%	Prof sports	0.1	0.5	0.0	0.0
4%	Retail Trade	10.6	288.5	5.0	8.8
1%	Wholesale Trade	2.2	26.2	0.9	1.5
9%	Auto rental and leasing	0.1	1.3	0.0	0.1
2%	Auto repair and services	0.7	9.2	0.2	0.4
18%	Local transportation	0.5	15.4	0.2	0.3
50%	Air transportation	0.3	3.6	0.1	0.2
4%	Transportation Services	0.1	1.5	0.0	0.1
<u>15%</u>	<u>Water transportation</u>	<u>1.0</u>	<u>5.8</u>	<u>0.1</u>	<u>0.2</u>
	Total	47	1,314	17	29
	Percent of County Economy	1.0%	2.5%	1.1%	0.9%

a. Economic data from IMPLAN 1999 base year data.

Table 6 compares the MITEIM estimates of visitor spending for 2000 with the 1999 TSA estimates of business receipts from tourism. The fact that the two independent estimates are very close to each other, provides some validation of the results. The TSA approach grounds the tourism impact estimates firmly in official economic data, while the MITEIM approach helps to break down the impacts by visitor segment and spending categories. The tourism satellite accounts for 1999 are just slightly higher than the MITEIM model estimates for 2000 (Table 6). Given some increase in tourism activity in Bay county between 1999 and 2000 (as indicated by the room tax increase) , this suggest the MITEIM estimates for 2000 may be somewhat conservative.

Table 6. Comparison of MITEIM and TSA Direct Tourism Sales (\$ millions) Estimates, Bay County

Sector	MITEIM - 2000	TSA - 1999
Lodging	\$ 12.2	\$ 12.3
Restaurants	13.4	15.7
Amusements	4.3	3.7
Retail Trade	10.8	10.6
Other	4.9	4.6
Total	45.7	46.9

Methods

We employ two distinct methods to estimate tourism impacts. The first uses the MITEIM model which multiplies visits in party nights times an average spending per party night to obtain total tourist spending in the region. Distinct spending profiles are used for each segment. The MITEIM “medium” spending profiles were used for Bay county with an average room rate of \$75 (before taxes) in 2000. Visits were estimated based on room taxes (for motel), an inventory of lodging establishments, and assumed occupancy rates for seasonal homes and campgrounds. Shirley Roberts of the Bay Area CVB provided room tax data for this analysis. Day trips and trips to visit friends or family are estimated by allocating a share of statewide totals to each county in Michigan based on population and tourist attractions.

Direct and secondary economic impacts are estimated by applying total spending to an input-output model of the Bay county economy. The model is estimated using 1999 data and the IMPLAN system. The model converts spending to the associated income and jobs and also estimates multiplier effects.

The Tourism satellite approach uses IMPLAN base year data for Bay county for 1999. Sales, income and jobs in 16 tourism-related sectors are extracted from the IMPLAN accounts. Tourism industry ratios for each sector are adjusted from national ratios based on the resident population, numbers of tourists and spending patterns of each group.

MITEIM estimates for 1999 are compared with the TSA estimates to establish consistency of the two approaches. Tourist spending estimates are then projected to 2000 and 2001 using local room tax data and price indices.

References

The MITEIM model is described in Stynes (2000). Tourism satellite approaches are summarized by Frechtling (2000) and WTO (1999). National tourism satellite accounts for the U.S. were developed by the Bureau of Economic Analysis (BEA). The BEA reports for 1992 (Okubo and Planting, 1998) and 1996/1997 (Kass and Okubo, 2000) are available on the WWW. Stynes (2001) discusses the methods used here to compare the MITEIM and TSA methods. Stynes (2002) is a statewide application of the approach. Links to these references as well as other information may be found at our economic impacts of tourism website :

<http://www.msu.edu/course/prr/840/econimpact/index.htm>

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Glossary of Selected Economic Impact Terms

Impact analysis estimates the impact of dollars from outside the region (“new dollars”) on the region’s economy. Impact analysis typically includes only the spending of visitors from outside the region.

IMPLAN is a micro-computer-based input output modeling system. With IMPLAN, one can estimate Input-Output models of up to 528 sectors for any region consisting of one or more counties.

Multipliers capture the size of the secondary effects in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers express the degree of interdependency between sectors in a region’s economy and therefore vary across regions and sectors.

Region - defines the geographic area for which impacts are estimated. Impact regions are generally an aggregation of one or more counties.

Sector - a grouping of industries that produce similar products or services. Tourism is more an activity or type of customer than an industrial sector. While hotels are a relatively pure tourism sector, restaurants, retail establishments and amusements sell to both tourists and local customers. Tourist spending surveys are useful in determining visitor spending in various sectors.

Economic Impact Effects

Direct effects are the changes in economic activity during the first round of spending. For tourism this involves the impacts on the tourism industries themselves (businesses selling directly to tourists).

Secondary effects are the changes in economic activity from subsequent rounds of re-spending of tourism dollars. There are two types of secondary effects:

Indirect effects are the changes in sales, income or employment within the region in backward-linked industries supplying goods and services to tourism businesses. For example, the increased sales in linen supply firms resulting from more motel sales are an indirect effect of visitor spending.

Induced effects are the increased sales within the region from household spending of the income earned in tourism and supporting industries. Employees in tourism and supporting industries spend the income they earn from tourism on housing, utilities, groceries and other consumer goods and services. This generates sales, income, and employment throughout the region’s economy.

Total effects are the sum of direct, indirect and induced effects.

Measures of Economic Activity

Sales - the dollar volume of a good or service produced or sold.

Income is the money earned within the region from production and sales. Total income includes wage and salary income and income from sole proprietor’s profits and rents.

Jobs or employment - a measure of the number of jobs required to produce a given volume of sales/production. Jobs are usually not expressed as full-time equivalents, but include part-time and seasonal positions.

Value added is the sum of total income and indirect business taxes. Value added is the most commonly used measure of the contribution of a region to the national economy, as it avoids double counting of intermediate sales and captures only the “value added” by the region to final products.

Multipliers and Economic Ratios for Bay County, 1999

Multipliers capture the magnitude of the secondary effects as visitor spending circulates through the local economy. The two types of secondary impacts are indirect and induced effects. *Indirect effects* are the changes in sales, income or employment within the region in backward-linked industries supplying goods and services to tourism businesses. For example, the increased sales in linen supply firms as a result of hotel sales is an indirect effect of visitor spending. *Induced effects* are the increased sales within the region that result from the spending of the income earned in tourism and supporting industries. Employees in tourism and supporting industries spend their income on housing, utilities, groceries and other goods and services thereby generating sales, income and employment throughout the region.

The size of a multiplier depends largely on a region's geographic size and overall economic diversity. Regions with extensive economic development will have larger tourism multipliers than regions with limited economic development. The overall tourism sales multiplier for Bay county is 1.38, which means that an additional \$.38 in secondary sales is generated for every \$1.00 of direct tourism sales.

Economic ratios and multipliers for individual sectors for Bay county are reported in Table 5. The overall tourism sales multiplier of 1.38 for Bay county is a weighted average of the Type II sales multipliers for individual sectors in Table 5, with each sector weighted in proportion to the percentage of tourism spending it receives.

Table 5. Multipliers for selected tourism-related sectors, Bay county 1999

Sector	Direct effects			Sales II	Total effects multipliers			
	Jobs/ MM sales	Personal inc/sales	Value Added /sales		JobsII/ MMsales	InclII/ sales	VA II/sales	Sales I
Hotels And Lodging Places	25.60	0.40	0.66	1.41	32.11	0.56	0.92	1.19
Eating & Drinking	34.42	0.34	0.49	1.40	40.22	0.49	0.74	1.20
Amusement And Recreation	45.80	0.43	0.70	1.38	51.74	0.57	0.94	1.15
Auto repair and services	13.17	0.33	0.54	1.43	18.52	0.48	0.78	1.24
Local transportation	30.68	0.42	0.51	1.48	37.43	0.60	0.80	1.24
Manufacturing	11.55	0.27	0.42	1.37	16.68	0.41	0.64	1.22
Petroleum refining	0.60	0.04	0.10	1.24	3.23	0.11	0.25	1.20
Retail Trade	27.54	0.49	0.83	1.35	32.87	0.62	1.04	1.09
Wholesale trade	12.02	0.41	0.71	1.37	17.72	0.55	0.94	1.14

The sector-specific multipliers in Table 5 are used in the MITEIM model to estimate tourism impacts. They can be briefly explained using the hotel and lodging places sector as an example. Direct effects describe the structure of the hotel industry itself. For every million dollars of sales in hotels, there are 25.6 hotel jobs. Each dollar of sales in hotels yields \$.40 in hotel wages and salaries and another \$.26 in hotel profits and sales taxes to create \$.66 in value added within the hotel sector. The sales II multiplier of 1.41 indicates that for every dollar of direct sales in hotels, another \$.41 in secondary sales accrues to Bay county businesses, \$.19 is from indirect effects (the Type I sales multiplier) and .22 from induced effects. Including these secondary sales, each million dollars of hotel sales yields 32 jobs. This means roughly 7 jobs are created through secondary effects (32 total jobs –25 direct jobs) from each million dollars in hotel sales.