

Economic Importance of Tourism to Marquette County, Michigan

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May, 2001

Summary: Tourists spent an estimated \$69 million in 1998 in Marquette county². This spending resulted in about \$50 million in direct sales to firms in Marquette county and supported about 1,600 direct jobs. Tourist spending yielded \$19 million in direct personal income to the county (wages and salaries) and \$30 million in direct value added³. Similar tourist spending estimates were obtained using both the Michigan Tourism Economic Impact Model (MITEIM) and a tourism satellite accounting approach. These estimates may be updated to 2000 using county room tax figures and a few assumptions. Between 1998 and 2000, room taxes in Marquette county grew by 21%. Adjusting for price increases, visits to the county grew by 13%. With this growth, tourist spending increased to \$85 million in 2000, direct tourism sales increased to \$60.6 million, and direct tourism jobs increased to 1,761.

Methods: Two independent methods were used to estimate tourism's contribution to the Marquette county economy in 1998: (1) the MITEIM model based on visits, spending and multipliers for the area and (2) a Tourism Satellite Accounting approach (TSA).

The MITEIM model (Stynes 2000) applies per visitor spending averages to estimates of the number of tourists in each of five segments: day trips, and overnight trips staying in motels, campgrounds, seasonal homes or with friends and relatives. Volumes of travel activity were derived from room use taxes, and campground and seasonal home inventories. Spending averages from the 1998 Michigan State Welcome Center survey (Vogt et al. 1998) were adapted to Marquette county and economic ratios and multipliers for key tourism sectors were taken from a 1998 input-output model of the Marquette county economy, estimated with the IMPLAN Pro system (MIG, Inc. 1999).

The tourism satellite approach uses official government economic accounts for Marquette county for 1998. A dozen tourism-related sectors were identified from 528 sectors covered in the IMPLAN databases (MIG, Inc. 1999). Tourism industry ratios from the U.S. National Tourism Satellite Accounts (Kass and Okubo 2000) were adjusted to estimate the proportion of sales in each sector attributable to tourism in Marquette county. National ratios were adjusted upward based on estimated numbers of tourists versus local residents in the county on a typical day and their propensity to purchase different items. The satellite accounts only measure direct effects of tourist spending. For comparability with the MITEIM estimates, the satellite estimates do not include capital investments in tourism facilities or infrastructure, purchases of durable goods like RV's, snowmobiles and boats, or imputed rents on seasonal homes.

Complete estimates were first made for 1998, as that is the most recent year for which complete county level economic data is available. Projections are then made to 2000, based on Marquette CVB room tax collections.

MITEIM Model Estimates

The MITEIM model estimates economic impacts as: $VISITS * SPENDING * MULTIPLIER$. We estimate the county hosted 862,000 party days/nights in 1997 split as follows: 15.4% day trips, 23% motel, 4.5% camp, 33% seasonal home, and 24% stays with friends and relatives (Stynes 1998). We assumed no growth in volume of activity between 1997 and 1998 or any changes in segment shares. The MITEIM medium spending figures were adjusted for Marquette county based on judgment and comparisons with the satellite approach.

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² Excludes airfares, travel arrangements and car rentals amounting to about \$40 million in sales in 1998. Tourists are any travelers on trips of 60 miles or more (one way) or involving an overnight stay.

³ Value added includes personal income, rents and profits and indirect business taxes.

(1) Casino and local transportation spending were set to zero, 2) spending on amusements and entertainment were cut in half and (3) retail spending was reduced by 25%. Visits and spending are summarized in Table 1.

Table 1. Tourism Activity and Spending 1998, Marquette County

	Visitor Segment					Total
	Day	Motel	Camp	Seas	VFR	
Visits (Party nights)	133,154	198,560	38,900	285,530	205,786	861,930
Average spending (per party per night)	56.46	151.77	61.89	58.17	60.68	80.23
Total Spending (\$Million)	7.52	30.14	2.41	16.61	12.49	69
Pct of Party Nights	15%	23%	5%	33%	24%	100%
Pct of Spending	11%	44%	3%	24%	18%	100%

Visitor spending is estimated by multiplying the average spending of each segment by the volume of party nights. Visitors staying in motels account for 23% of party nights and 44% of all spending. Seasonal homes account for the largest share of party nights and about a quarter of all visitor spending⁴.

The MITEIM model applies estimate of visitor spending to an input-output⁵ model of the Marquette county economy to estimate direct and total effects. The \$69 million in visitor spending yields direct sales of \$49.6 million, mostly in restaurants, motels, and retail trade. About 72% of visitor spending is captured as direct sales. The 28% not captured includes the producer portion of goods purchased by visitors that are not locally made⁶. The direct sales that is captured supports 1,577 jobs⁷ in these sectors. Total direct wages and salaries are \$19.5 million and total value added is \$30.6 million.

Table 2. Economic Impacts of Visitor Spending : Direct Effects

Sector/Spending category	Direct Sales	Jobs	Personal	Value Added
	\$000's		Income	\$000's
Motel, hotel cabin or B&B	12,906	430	4,959	7,936
Camping fees	428	14	164	263
Restaurants & bars	17,369	582	6,061	8,704
Admissions & fees	2,333	106	937	1,537
Other vehicle expenses	1,596	22	524	869
Retail Trade	11,423	392	5,947	9,683
Wholesale Trade	1,979	24	756	1,341
<u>Local Production of Goods</u>	<u>1,593</u>	<u>6</u>	<u>158</u>	<u>320</u>
Total	49,626	1,577	19,505	30,652

⁴ The seasonal home estimate of 4,079 homes has not been updated since the 1990 Census.

⁵ Sector specific multipliers for Marquette county were extracted from the 1998 IMPLAN model. We use conservative Type SAM multipliers that do not recirculate retirement income and also adjust for worker commuting patterns.

⁶ Marquette county captures retail margins on goods purchased by visitors and a part of the wholesale margins, but only a small percentage of goods are locally made so the producer portion of sales of goods to tourists mostly leaks out of the region and is not counted as direct sales..

⁷ IMPLAN job estimates are not full time equivalents.

The MITEIM model also estimates secondary effects which result from the circulation of tourist spending within the county. Every dollar of direct tourism sales yields another \$.36 in sales through secondary effects (indirect and induced). Including these secondary effects, the total impact on the county economy in 1998 was \$67 million in sales, \$26 million in personal income, \$42 million in value added, and 1,872 jobs (Table 3) .

Table 3. Direct and Total Economic Impacts of Marquette County Visitor Spending, 1998

Economic measure	Direct Effects	Multiplier	Total Effects
Output/Sales (\$ 000's)	\$ 49,626	1.36	\$ 67,360
Personal Income (\$ 000's)	\$ 19,505	1.34	\$ 26,057
Value Added (\$ 000's)	\$ 30,652	1.36	\$ 41,797
Jobs	1,577	1.19	1,872

Satellite Approach

The satellite approach involves extracting the portion of activity attributable to tourism from each sector of the economy. First, nine tourism-related sectors are identified (see Table 4). Sales and value added of each sector are obtained from IMPLAN 1998 data files for Marquette county. A set of tourism industry ratios (which reflect the portion of sales in each sector attributed to tourism) are multiplied by sales and value added within each sector to estimate the contribution from sales to tourists. The tourism industry ratios for Marquette were adapted from the National tourism industry ratios for 1997 (Kass and Okubo 2000) based on the ratio of tourists to residents in Marquette county as compared to the U.S. On a per person per day basis about 9% of people in Marquette county are tourists, compared to about 5.2% for the U.S, so the ratios for Marquette are slightly higher than the U.S. For example a fourth of restaurant sales in Marquette county is assumed to be to tourists, while nationally the restaurant ratio is 17%.

Table 4. Marquette County Tourism GDP of Tourism-Related Industries 1998

	All Economic Activity		Tourism Industry Ratio	Tourism Activity	
	Output (\$millions)	Value Added (\$millions)		Output (\$millions)	Value Added (\$millions)
Hotels And Lodging Places	19.3	11.8	80%	15.4	9.5
Eating & Drinking	63.2	31.7	25%	15.8	7.9
Amusement And Recreation	3.1	2.0	23%	0.7	0.5
Membership sports	3.2	1.6	35%	1.1	0.6
Entertainment	4.4	0.8	21%	0.9	0.2
Retail Trade	120.1	103.4	8%	9.5	8.1
Wholesale Trade	55.2	37.4	4%	2.2	1.5
Auto repair and services	22.4	12.2	7%	1.5	0.8
<u>Local transportation</u>	<u>0.1</u>	<u>0.1</u>	<u>26%</u>	<u>0.0</u>	<u>0.0</u>
Total (tsm sectors)	290.9	200.9		47.2	29.1
Total Marquette economy, 1998	2,415	1,346			
Tsm industry Pct	14%	17%		2.0%	2.2%

For each industry, the tourism industry ratio is multiplied by total output (sales) to estimate sales to tourists. For consistency, we have omitted three tourism-related sectors that are not included in the MITEIM model and for which the national industry ratios may not apply well - namely , air transportation, travel arrangements and car rental and leasing. These omitted sectors report a total of \$40 million in sales in Marquette county in 1998, \$29 million of which would be attributed to tourism using national ratios.

Adding tourism sales across the nine sectors included yields total direct tourism sales of \$47.2 million in Marquette county in 1998. As the satellite approach does not include effects from any locally produced goods bought by tourists, we must add \$1.6 million in local production to the satellite estimate to make it comparable to MITEIM direct sales estimate. With this adjustment, MITEIM (\$49.6 million) and Satellite estimates (\$48.8) are within a million of each other (2% difference). The consistency of the two estimates suggests that total direct tourism sales in Marquette county was about \$50 million in 1998.⁸

The satellite approach is readily extended to estimate tourism jobs, wages and salaries, and value added by applying the same tourism industry ratios to these accounts (Table 5). These estimates are also comparable to the MITEIM estimates. Tourism (excluding air transportation, car rentals and travel arrangements) accounts for 2% of sales in the county, 2.2 percent of value added and almost 5% of all jobs.

Table 5. Tourism Gross Domestic Product, Marquette County, 1998

Tourism industry ratio	Sector	Output \$million	Jobs	Personal Income \$million	Value Added \$million
80%	Hotels And Lodging Places	15.4	514	5.92	9.5
25%	Eating & Drinking	15.8	529	5.51	7.9
23%	Amusement And Recreation	0.7	33	0.29	0.5
35%	Membership sports	1.1	42	0.49	0.6
21%	Entertainment	0.9	16	0.15	0.2
8%	Retail Trade	9.5	328	5.04	8.1
4%	Wholesale Trade	2.2	27	0.85	1.5
7%	Auto repair and services	1.5	21	0.51	0.8
26%	Local transportation	0.0	0	0.01	0.0
	Tourism Total	47.2	1,511	19	29
	Percent of County GDP	2.0%	4.7%	2.1%	2.2%
Omitted Tourism-related sectors					
77%	Air transportation	28.25	317	11.53	18.2
24%	Arrangement Of Passenger	0.51	9	0.25	0.4
<u>60%</u>	<u>Auto rental and leasing</u>	<u>0.53</u>	<u>7</u>	<u>0.15</u>	<u>0.3</u>
	Total other sectors	29.3	333	11.9	18.9

⁸ If we compare estimates sector by sector, a few differences appear. These are generally explained by the fact that MITEIM estimates are on a commodity basis while the satellite estimates are on an industry basis. For example MITEIM lodging sales covers just room sales, while the satellite accounts include meals that are sold in hotel restaurants as hotel sales.

Update to 2000

Room tax collections in Marquette county grew by 9% in 1999 and 21% (over 1998 figures) in 2000. Adjusting for room price increases, hotel visits to Marquette county grew by 13% between 1998 and 2000. If we assume similar growth within other tourist segments, the number of party nights increases from 862,000 in 1998 to 974,000 in 2000. Price inflating spending profiles to 2000 in the MITEIM model and applying the projected level of visits, yields \$60.6 million in direct tourism sales in 2000 supporting 1,761 jobs (Table 6).

Table 6. Direct Economic Impacts of Marquette County Visitor Spending, 2000

Sector/Spending category	Direct Effects			
	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Motel, hotel cabin or B&B	15,692	481	6,029	9,649
Camping fees	520	16	200	320
Restaurants & bars	20,594	634	7,186	10,320
Admissions & fees	2,956	124	1,187	1,947
Other vehicle expenses	2,136	27	701	1,163
Retail Trade	14,124	445	7,353	11,973
Wholesale Trade	2,449	27	936	1,660
<u>Local Production of Goods</u>	<u>2,165</u>	<u>7</u>	<u>197</u>	<u>407</u>
Total	60,637	1,761	23,789	37,439

Further research

This is the third county level tourism impact estimate I have made by comparing satellite and MITEIM methods⁹. The two approaches yield quite consistent estimates and appear to provide a sound basis for tracking tourism's economic importance at the local level. The satellite approach is firmly grounded in a set of economic accounts that form the basis for national, state and local economic analysis and planning. This grounding enhances the credibility of tourism economic estimates. The MITEIM model is more useful for estimating impacts of narrowly defined tourism segments or actions. It also can be used to estimate secondary effects, when desired. Consistency of the MITEIM model with the overall county level tourism estimates supports the validity of the model in these other applications.

Armed with the satellite approach, the MITEIM model and IMPLAN databases, fairly detailed tourism impact estimates can be derived at minimal cost for local areas. They can also be updated regularly over time. There is a lag of two-three years in obtaining data required for the satellite approach, but interim estimates can be made for a current year using good local room tax data or other local indicators of tourist volume.

While satellite and MITEIM estimates are reasonably consistent, both procedures will be subject to a variety of potential errors. These suggest important topics for further research to refine and further validate the approach. The satellite approach requires further research to identify tourism industry ratios for local areas and to refine some of the national ratios¹⁰. Some sectors should be more closely examined to identify the tourism activity covered. For example, national ratios for air transportation and travel arrangements do not apply as readily to local areas, as both sectors serve large number of local residents who are leaving the area. While these outbound travelers count as tourists from a national perspective, they likely should not be part of local tourism estimates.

⁹ I will be completing estimates for the Greater Lansing CVB later this month and have also provided confidential estimates for Saginaw County and Frankenmuth. Statewide satellite and MITEIM model estimates for Michigan are also quite consistent.

¹⁰ I am working on simple models to adjust national ratios for any county based on my county level tourism spending model (Stynes 1998).

Sales estimates from the satellite and MITEIM approaches can be better matched by putting sales on both a commodity and industry basis in each approach¹¹.

The MITEIM model rests on good estimates of travel volumes and spending profiles that reflect different traveler segments and regions. There are few good sources of travel volumes at either the state or local level. Most travel surveys appear to underestimate day trips and seasonal home trips, focusing primarily on overnight trips and stays in motels. The most consistent and reliable tourism data are room taxes, which provide a good picture of overnight visitors in hotels and related commercial lodging. Local room tax data is much better than the state room tax data, as the latter has problems with chain reporting and has not been available in a very timely manner. We encourage Travel Michigan and local CVB's to cooperate in compiling an up-to-date and more complete database covering room taxes. Where local coverage is incomplete or covers multiple counties, CVB's simply need to provide the number of rooms (covered by taxes and not reporting) and tax collections broken down by county. This was the only local data provided by the Marquette CVB to carry out the analysis here.

Visitors staying in hotels and motels have the greatest economic impact, so any system should begin with accurate estimates for this segment. The MITEIM model recognizes four other travel segments - day visitors and overnight visitors staying in campgrounds, seasonal homes and with friends and relatives. A county level spending estimator developed by Stynes (1998) estimates party nights and spending for these other segments using a campground inventory, 1990 Census seasonal home counts, and selected parameters from national, state and local travel surveys. The campground inventory should be updated at the local level. Updated estimates of campground and seasonal home occupancy rates are needed. The 2000 Census will yield new seasonal home counts, although additional studies to estimate occupancies are encouraged. VFR trips and day trips are the most difficult to estimate. Stynes' model first estimates these at a statewide level using the 1995 American Travel Survey. He then allocates trips to counties using simple allocation formulas. Day trips represent an important part of tourism in many counties, but are not sufficiently well understood.

Visitor spending profiles in the MITEIM model were estimated in the 1998 Welcome Center Study (Vogt 1998) and have been adjusted over time using price indices. Data is lacking, however, on how much spending profiles for particular segments may vary across regions. The MITEIM model has an option for selecting "low", "medium" or "high" rates to suit a particular region.

In spite of numerous gaps in data and errors in various sources, the consistency of satellite and MITEIM estimates suggests reasonably accurate aggregate estimates of tourist spending may be obtained by triangulating from several sources and carefully examining the consistency of the data. Progress over time requires that we systematically refine these procedures. Improvements in overall estimates of tourism's economic importance must begin with improvements in individual components.

A useful and reliable system must combine local data with state and national figures. CVB's are the closest to what is happening in their region. Many have the data to make economic estimates, but are unfamiliar with economic concepts and methods. While technical expertise is greater at the state level, state analysts are less familiar with local level trends and data and they also lack resources to cover all markets and regions in any kind of depth. CVB's and local businesses must be more willing to share their data, with adequate protections of confidentiality. Generating overall estimates of tourism's economic importance to an area does not require that any sensitive information be revealed. However, the more details that are available to the analyst, the easier it is to fill gaps, find inconsistencies, and be sure aggregate totals that are reported are accurate.

¹¹ The problem is that the hotel industry produces not only rooms, but also some meals, amusements and retail sales. MITEIM sales figures are on a commodity basis and only count room sales in the hotel category. In contrast, the satellite approach reported here estimates sales on an industry basis so that hotel sales include some meals, retail sales etc. That is why the hotel ratio is less than 100% as some meals, local weddings and banquets will represent sales to local.

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