

# Michigan Golf Tourists - Economic Impacts<sup>1</sup>

Daniel J. Stynes, Ya-Yen Sun and Daniel R. Talhelm  
Department of Park, Recreation and Tourism Resources  
Michigan State University

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## Introduction

Tourists spent an estimated \$10 billion in Michigan in 1998. Michigan attracts a number of important market segments including general vacation travelers, outdoor recreation market segments (downhill skiers, snowmobilers, campers, anglers, hunters), and cultural tourists. Golfers are an important and growing segment of the travel market.

The National Golf Foundation (NGF) reports there were 26.4 million golfers in the U.S. in 2000 accumulating 565 million rounds of golf (NGF, May/June 2000). Nationally, golfers averaged 21.4 rounds in 2000. Michigan leads the nation in the number of daily fee and municipal courses (799) and is third in total courses (951) behind Florida and California, who have more private courses. Michigan is one of the top 10 states in attracting golfers on trips away from home. About 15% (78 million rounds) of all rounds nationally are on trips away from home (NGF, 2000).

As part of a program to estimate the relative importance of different vertical market segments, Travel Michigan is seeking estimates of spending and economic impacts of golf-related travel. An economic impact model (MITEIM) developed for Travel Michigan can readily estimate the economic impacts of tourism activity, but requires reliable estimates of travel volumes and spending patterns for particular segments. General traveler spending profiles were developed in 1998 from a survey at Michigan state Welcome Centers (Vogt et. al. 1998). However, some activities like golf and downhill skiing entail unique expenses, that are not covered in the general travel spending profiles.

An economic study of golf in Michigan was conducted in 1997, but spending profiles consistent with the MITEIM model could not be developed from the results. There are significant gaps and inconsistencies in both state and national golf spending studies, so we decided to conduct a new survey targeted specifically to the MITEIM model data needs. Part of the problem is to separate golfing that occurs on trips that would be counted as "tourism" from golfing near home. Tourism is defined to include all trips of more than 100 miles (or in some cases 50 miles) away from home or overnight.

An additional issue is what portion of trip expenses should be included if golf is not the primary trip purpose. The NGF travel spending figures count all spending on any trips in which one or more members of the travel party played golf. This yields a total golf travel spending of \$24 billion nationally. In the NGF study, golf-only travelers averaged \$571 per trip compared to over \$1,000 per trip for golfers on more general business or vacation trips. It is not clear whether the NGF figures are per person or per party and actual golf expenses (excluding lessons) are not even included.

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## Michigan Golf Study - 1997

A 1997 survey (Dodge and Fullerton 1997) of golfers at selected Michigan resorts found a typical golfer spent \$83 at the resort per day (\$62 for green fees and cart rental, \$14 for food and \$7 in pro shop) and another \$ 142 per day off the course. The results are based on a sample of 874 completed surveys with a response rate of 86%. Sixty percent of the respondents were on overnight trips averaging 2.6 nights. Lodging expenses averaged \$89 per night. Other off-course expenditures were not directly measured, but an average of \$38 was imputed based on the activities each golfer expected to participate in while in the area (activities included clubs and bars, shopping, gambling and sightseeing).

A daily spending profile per golfer was constructed based on the survey. This apparently required several assumptions to fill incomplete data and to convert spending to a per golfer per day basis. Dodge and Fullerton report the average daily spending per golfer at \$225 per golfer per day, distributed as in Table 1. A 40% adjustment factor is applied to the lodging expense, apparently to account for golfers not staying overnight and golfers who might share a room. It is not clear that transportation expenses are on a per day basis. The \$26 figure for meals appears to be from secondary sources and may not have taken into account food purchased at the course.

**Table 1 . 1997 Michigan Golfer Spending Estimates**

<u>Spending Category</u>	<u>Dollars per golfer per day</u>
On Course	84.49
Off Course	
Lodging	53.10
Other Activities	37.83
Meals	26.00
<u>Gas/Transportation</u>	<u>23.14</u>
<u>Total</u>	<u>224.56</u>

a. From Dodge and Fullerton (1997).

Other estimates from the study that are useful in evaluating spending information are the party sizes and number of rounds played. The results show that golfing groups at resorts are quite varied. Four in ten golfers were part of larger groups playing in organized competitions, although 68% of these groups involved less than 16 golfers. Relatives were playing partners 23% of the time, business associates 24% of the time. It is not clear if the respondent was reporting expenses for other members of the party, which would tend to inflate the per golfer spending averages. The study did not report the number of rounds of golf played on the trip. Golf rounds is the likely statistic for expanding spending to statewide, regional, or individual course totals.

Dodge and Fullerton also estimate economic impacts of golf course operations using National Golf Foundation (NGF, 1995) figures. Direct revenue of 586 Michigan daily fee operations is estimated to be \$327 million or about \$558,000 per course. Golf fees make up 68% of the total, merchandise sales 11%, food and beverage sales 16%, and other sources 5%. These courses employed an estimated 10,000 year round jobs and 15,000 seasonal positions. Total payroll was \$184 million, roughly 56% of golf course revenue.

The report also estimates secondary economic effects, using a statewide sales multiplier of 1.7 for golfer off-course expenses and 1.55 for golf course operations. While the sales impacts of course operations is stated fairly precisely at \$507 million, impacts of off-course golfer spending range from \$ 434 million to \$1.2 billion (presumably including secondary effects). It is not stated how golfer off-course spending was extrapolated to the state totals. One cannot directly extrapolate from the survey as the spending figures only represent golfers at higher end resorts, while the vast majority of golf takes place at local courses, where off-course expenses will be much lower. The Dodge and Fullerton Study provides a great deal of useful information about Michigan golfers and their economic impacts. However, there are some problems with the per day golfer spending estimates and extrapolations to state totals.

The Michigan Tourism Economic Impact Model (Stynes 2000) recommends dividing golfers into distinct segments, in particular separating local golf activity from golfing on day trips of 60 miles or more and also distinguishing overnight golf trips. Widely varying prices and golfer spending patterns between higher end resort golf facilities and less expensive or close-to-home opportunities also must be taken into account if one desires an overall statewide total. The lack of separate spending profiles for distinct golfer segments poses problems in interpreting and applying the Dodge and Fullerton spending estimates. The year 2000 study attempts to refine the golfer spending estimates and more clearly identify that portion of golf activity that is counted as "tourism".

## Objectives

1. Estimate spending profiles of Michigan golfers on trips of 60 miles or more or overnight.
2. Estimate total spending and economic impacts on the state economy of tourist golfers
3. Estimate the share of tourism activity and spending due to golf
4. Apply MITEIM model to estimate impacts of particular golf course developments on local areas

## Methods

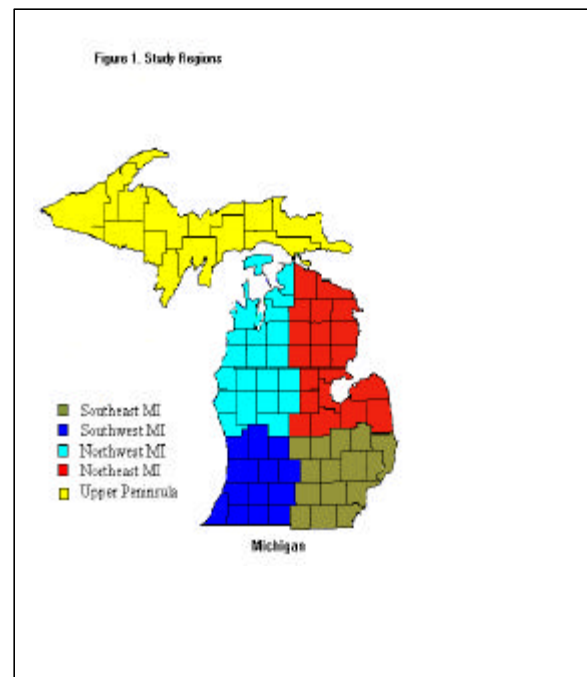
The study involved two surveys: (1) a spending survey of a sample of golfers at Michigan destination golf courses, and (2) a survey of golf course managers to estimate rounds of golf in 2000. The golfer survey provides estimates of spending for distinct golfer segments on a per trip, per day, and per round basis. The course manager survey estimates the number of rounds of golf in 2000 and the percentage of rounds by these different segments. The two sets of findings are combined in the MITEIM model to estimate total spending and the economic impacts on state and local economies.

### Golfer Survey

The purpose of the golfer survey was to estimate spending of golfers on trips to Michigan courses. The population for the study is golfing trips to Michigan courses that are 60 miles or more away from home or involve an overnight stay. To obtain reliable spending data, golfers were contacted at Michigan courses and asked about their current trip.

Limiting the study to golfing activity on trips poses some problems as many golf courses serve mostly local residents, while others serve a mix of "tourists" and local residents. For a strict economic impact analysis, we wanted a sample of golfers from outside the local region whose primary trip purpose was golfing. Industry representatives helped us to identify courses that would attract golfers on vacation trips or day trips of 60 miles or more. Several potential courses were chosen in each of five regions (Figure 1) and contacted about their cooperation in the survey. We sought five courses in each of the five regions including three higher end courses (green fees over \$25) and two lower priced facilities (under \$25). Twenty courses were recruited for the study and sixteen completed the sampling procedures.

To keep costs down, golf course staff carried out the sampling and a web-based survey approach was used. On five designated dates (split between weekend and weekdays) throughout the summer and early fall, courses were asked to recruit 20 golfers who did not live in the local area. Golfers willing to complete the survey provided an e-mail address. When they arrived home from the trip, an e-mail message was waiting with instructions for completing the survey. The e-mail message directed them to a web site where they entered a password and then completed a fill-in form. Their responses were posted to an Access database and then transferred to the SPSS package for statistical analysis. (See Appendix F for a copy of the



questionnaire). A follow-up reminder was sent via e-mail one week later and a final reminder was sent to all non-respondents at the end of survey period in late September.

### Golf Course Manager Survey

The course manager survey was a short mailed survey requesting the number of golf rounds (18 hole equivalent) in 2000 and the manager's estimate of the distribution of rounds across the four trip segments (See Appendix F for a copy of the survey instrument). Mailed surveys were sent to 640 Michigan courses compiled from directories supplied by Travel Michigan and the Michigan Golf Course Owner's Association (MGCOA). The analysis developed separate estimates of rounds for each region and price category and then extrapolated the results from responding courses to the full population of Michigan daily fee courses. The inventory of courses and price information was updated based on the mailed survey and information at <http://www.golfcourse.com>.

### The MITEIM Model

The Michigan Tourism Economic Impact Model is a spreadsheet model for estimating tourist spending and economic impacts (Stynes 2000). Golfer spending profiles by segment from the golfer survey and estimates of golfer rounds by segment in 2000 from the course manager survey were entered on the spreadsheet. The model computes total spending and applies economic ratios and multipliers by sector from an input-output model of the Michigan economy to estimate direct and secondary economic impacts.

## **Results**

### Resort Golfer Survey

A total of 665 e-mail addresses were generated across the 16 cooperating courses. However, 15% of these (103 addresses) could not be contacted due to faulty addresses or illegible writing. Messages that were returned as undeliverable were double checked and several variations of each e-mail address were tested. A total of 328 golfers completed the survey on the WWW for an overall response rate of 49% of all e-mail addresses and 58% of valid e-mails.

**Table 2. Sample Distribution and Response Rate by Course**

<b>Course</b>	<b>Region</b>	<b>Price</b>	<b>E-mail addresses</b>	<b>Responses</b>	<b>Pct of all E-mails</b>	<b>Pct of valid E-mails</b>
Fox Run Country Club	NE	High	46	25	54%	60%
Thunder Bay Resort	NE	High	26	14	54%	64%
Pine View Highlands Golf Course	NE	Low	7	3	43%	43%
White Deer Country Club	NE	Low	66	33	50%	62%
Boyne Mountain Resort	NW	High	76	29	38%	47%
Snow Snake Golf Club	NW	High	61	28	46%	55%
Mistwood Golf Course	NW	High	44	20	45%	50%
Elmbrook Golf Course	NW	Low	37	17	46%	52%
The Fortress Golf Course	SE	High	76	42	55%	69%
The Legacy Golf Club	SE	High	49	17	35%	40%
Majestic at Lake Walden	SE	High	8	3	38%	50%
Island Hills Golf Club	SW	High	53	37	70%	77%
Pohlcat Championship Golf Course	SW	High	52	28	54%	65%
Old Channel Trail Golf Course	SW	High	21	9	43%	45%
Timber Stone Golf Club	UP	High	30	18	60%	78%
<u>Red Fox Run Golf Club</u>	<u>UP</u>	<u>Low</u>	<u>13</u>	<u>5</u>	<u>38%</u>	<u>50%</u>
Grand Total			665	328	49%	58%

### Sample Profile

The average age of the sample was 44 years. The largest group was golfers age 36-50 (Table 3). About a third of the golfers reported incomes over \$100,000, 10% were under \$50,000 (Table 4). Almost three fourths (72%) of the golfers came from Michigan. Of the 28% from out of state, 7% were from Indiana, 6% from Ohio, 3% from Illinois and Wisconsin respectively, 4% from Ontario, Canada and 7% from other regions. About 14% of the sample were retired. Fourteen percent have a seasonal home in Michigan.

**Table 3. Distribution of Golfer's by Age**

<b>Age Category</b>	<b>Number of cases</b>	<b>Percent</b>
Less than 36 years old	73	23%
36-50 years old	143	45%
<u>More than 50 years old</u>	<u>101</u>	<u>32%</u>
<b>Total</b>	<b>317</b>	<b>100%</b>

**Table 4. Income Level for the Golfer Sample**

<b>Income level</b>	<b>Number of cases</b>	<b>Percent</b>
Below \$25,000	4	1%
\$25,000-\$49,999	29	9%
\$50,000-\$74,999	83	26%
\$75,000-\$99,999	74	23%
\$100,000-\$149,999	72	22%
<u>Above \$150,000</u>	<u>33</u>	<u>10%</u>
<b>Total<sup>2</sup></b>	<b>323</b>	<b>100%</b>

Golfers played an average of 33 rounds (18 hole equivalents) in the previous year, 22 rounds within Michigan and 11 rounds outside the state. About seventy percent of the golfers were avid golfers playing 25 or more rounds last year, 24% were moderate golfers (8-24 rounds last year) and 7% were occasional golfers (playing <8 rounds last year). Golfers averaged 7.5 golfing trips in the past year, 3.5 overnight trips and 4.0 day trips. Trips were divided 4.5 trips to Michigan and 3.0 trips outside of Michigan (Table 5).

**Table 5. Number of Golf Trips in Previous Year**

	<b>Trip types</b>	<b>Average Trips</b>
Golfing trips in MI	Day trip	2.5
	Overnight trip	<u>2.0</u>
	Total	4.5
Golfing trips outside MI	Day trip	1.5
	Overnight trip	<u>1.5</u>
	Total	3.0
Total golfing trip in 2000	Day trip	4.0
	Overnight trip	<u>3.5</u>
	Total	7.5

<sup>2</sup> 28 golfers did not answer the income question.

Golf was the primary trip purpose for 61 % of the golfers (Table 6). Other purposes were vacation (18%) , visiting friends and relatives (13%), and business (8%). Local golfers and those buying golf packages were the most likely to cite golf as the primary trip purpose. Over half of golfers on day trips or staying in motels cited golf as their primary motivation, while only a third of golfers staying with friends or relatives or a seasonal home made the trip to the area primarily for golf.

**Table 6. Primary Reasons for Making Trip by Segment**

Reason	Day trips	Motel	VFR/SH	Local	Package	Total
Golf	54%	55%	33%	81%	87%	61%
Vacation	21%	25%	31%	6%	6%	18%
VFR	18%	8%	35%	3%	0%	13%
Business	7%	12%	0%	10%	6%	8%
Total	100%	100%	100%	100%	100%	100%
Cases	28	60	54	67	31	240

Three fourths of the trips involved an overnight stay in the local area (within 60 miles of the golf course). For golfers who stayed overnight, 41% stayed at a motel/hotel in the region, 21% stayed with friends and relatives, 20% stayed at a hotel provided by the golf course, 13% stayed at a seasonal home and a few stayed at a local campground (5%).

The average party size was 3.6 persons consisting of 3.3 adults and 0.3 children (under 18 years of age). Thirteen percent reported one or more children in the travel party. Almost all travel party members were golfing.

#### Golf packages

About 18% of the sample had purchased some kind of golf packages. Golf packages were split about evenly between golf/lodging packages and packages that included golf, lodging and meals. Eight cases with an average package price of \$513 included unlimited rounds, while 50 packages with an average value of \$300 provided limited rounds.

**Table 7. Types of Golf Package**

Items Included	Number of cases	Percentage
Green fee covered	2	4%
Food and green fee covered	1	2%
Lodging and green fee covered	24	44%
Lodging , food and green fee covered	27	50%
Total	54	100%

**Table 8. Items Included and Prices of Golf Packages**

Item/Price	Limited rounds	Unlimited rounds
Nights covered (if included)	1.9	3.6
Meals covered (if included)	5.6	3.9
Number of rounds covered	5.7	Unlimited
Price per package	\$301	\$513
Price per package per night	\$171	\$135
Number of cases	47	8

a. Seven cases purchasing packages are excluded due to incomplete information or coverage of very large parties.

### Golfer Spending on Trips

Golfers reported spending by all members of their travel party within 60 miles of the course where they were sampled. We first report spending averages as reported by the golfer on a party trip basis. Spending is then converted to a per-round basis so it can be expanded to all golf rounds in Michigan in 2000 and then to a per golfer per day basis for comparison with the 1997 Dodge and Fullerton (1997) study.

Four segments were established based on the golfers’ residence being within 60 miles of the golf course and the lodging used on the trip. Golfer trip segments were defined as:

- a) **Day Trips:** Golfers who are on a day trip and live more than 60 miles from the golf course.
- b) **Motel:** Golfers who live 60 miles away and stay overnight in the region in commercial lodging. Most of these golfers stayed in a motel or resort, a few were camping.
- c) **VFR/SH:** Golfers who live 60 miles away and are staying overnight in the local region with friends and relatives or an owned seasonal home.
- d) **Local:** Golfers who live within 60 miles from the golf course.

Groups larger than 8 people had to be omitted from most of the analysis as it was unclear how much of the off-course spending was included. Only a single person reported for the entire group. Sixty-two golfers (19% of sample) purchased a golf package. The vast majority of these fall into the motel segment with about half being large groups. Spending averages are based on smaller parties (less than eight people) who did not purchase a golf package. The sample is not assumed to be representative of segment shares statewide, as we intentionally screened for golfers on trips away from home. The percentage of golf rounds by locals, day trippers, and overnight segments were estimated independently in the golf course owner survey (see below).

**Table 9. Lodging Segments in the Golfer Sample**

Segment	Counts		Pct	
	No Package	Including Packages	All Responses	Shares <sup>a</sup>
Day trips	30	31	10%	14%
Motel	67	95	30%	30%
VFR/SH	54	55	17%	24%
Local	71	73	23%	32%
Large groups (>8)	37	67	21%	
<b>Total</b>	<b>259</b>	<b>321</b>	<b>100%</b>	<b>100%</b>

a. Based on 222 groups less than 8 in size and not purchasing a golf package.

The lodging segments form a sound basis for identifying spending patterns associated with distinct types of golfing trips. The sample of golfers was divided into the four lodging segments and spending averages were computed for each segment.

Golfers from the local area averaged \$202 per party per trip. Golfers on day trips spent \$237, while golfers staying in motels and other commercial lodging spend \$805 per party, and golfers staying with friends and relatives or their own seasonal home spend \$370 per trip (Table 10). Golfers on day trips or from the local area spend the majority of their money at the course, while the two overnight segments spend about \$2 off the course for every dollar at the course. Golfers on overnight trips therefore have significant impacts on other businesses in the area. Overnight visitors were also much more likely to play other courses in the area while on the trip.

**Table 10 . Michigan Golfer Spending (\$ per party per trip)**

Spending Category	Local	Day Trips	Motel	VFR/SH
<b>At Course</b>				
Green Fees/Cart	82.43	106.86	128.37	95.19
Food and Beverages	27.15	25.46	52.24	27.00
Pro-Shop	14.21	15.00	23.41	7.08
Lodging	1.40	-	65.11	-
Other	3.85	0.36	3.94	0.62
<b>Sub-total at Course</b>	<b>129.04</b>	<b>147.68</b>	<b>273.06</b>	<b>129.88</b>
<b>Off Course Spending</b>				
Lodging	0	-	199.57	-
Restaurants/Bars	23.34	23.89	129.41	83.50
Groceries	9.78	8.57	22.40	48.23
Gas/Auto outside	12.49	18.68	37.68	44.73
Recreation/Entertainment	6.54	16.07	13.48	14.27
Golf at Other Courses	16.04	11.14	86.25	38.38
Other	4.71	11.18	43.37	10.88
<b>Sub-Total Off-Course</b>	<b>72.89</b>	<b>89.54</b>	<b>532.16</b>	<b>240.00</b>
<b>Total Spending</b>	<b>201.93</b>	<b>237.21</b>	<b>805.22</b>	<b>369.88</b>

a. Golfers on trips, VFR/SH = staying with friends or relatives or in owned seasonal homes.

Table 11 summarizes some of the characteristics of these golfer segments. Golf party sizes range from 3.1 to 3.4. Golfers staying in motels tend to be in smaller groups than the other three segments. These party sizes exclude large groups reporting more than 8 people. Problems were encountered in distinguishing the spending party size and the golf party size for large groups. The study did not ask for length of stay, as spending is converted to a per round rather than per night basis. However, based on reported lodging expenses, motel guests stayed between 2.0 and 2.6 nights.

**Table 11. Segment profiles: Party Size and Golf Rounds**

Characteristic	Local	Day Trips	Motel	VFR/SH
Golfers per party	3.4	3.4	3.1	3.3
Golf rounds per party	5.2	4.3	6.1	7.6
At Course	3.6	3.7	3.4	5.1
Other courses	1.6	0.6	2.8	2.5
Adjusted golf rounds	4.0	4.1	5.6	4.5
At Course	3.5	3.7	3.4	3.3
Other courses	0.5	0.4	2.2	1.2
Golf as primary trip purpose	79%	52%	59%	36%

To expand spending to all golfer trip spending in Michigan in 2000, spending is put on a per round basis. Spending per party per trip is divided by the average number of rounds of golf played by the party on the trip. Golf rounds per party were adjusted slightly based on reported green fees and to account for golfers who were apparently not part of the spending party. After adjustments, parties averaged between 4.0 and 5.6 rounds on the trip. These are all slightly higher than golf party sizes, as some golfers played multiple rounds, including at other courses in the area. Golfers staying in motels averaged about two rounds per golfer (Table 11).

Golfers staying in motels spent \$39 per round on green fees and overall \$145 per round (Table 12). Local golfers spend \$50 per round including about \$25 in green fees, the VFR/SH segment spent \$67 per round, and day trip golfers spend \$58 per round.

**Table 12. Golfer Spending (\$ per round of golf)**

Spending Category	Local	Day Trips	Motel	VFR/SH
Lodging	.35	-	47.63	-
Restaurants & bars	12.62	12.15	32.69	17.00
Groceries, take-out food/drinks	2.44	2.11	4.03	6.00
Gas & oil , vehicle	3.12	4.60	6.78	4.00
Golf fees	24.62	29.06	38.62	31.80
Recreation/Enter.	1.64	3.96	2.43	3.40
Clothing	1.78	1.85	2.11	0.84
Sporting goods	1.78	1.85	2.11	0.84
<u>Souvenirs and other expenses</u>	<u>2.14</u>	<u>2.84</u>	<u>8.51</u>	<u>2.74</u>
<b>Total</b>	<b>50.48</b>	<b>58.42</b>	<b>144.90</b>	<b>66.62</b>

To compare these results with the 1997 Michigan golf study (Dodge and Fullerton), spending can be put on a per golfer per day basis by dividing spending per party per trip by the product of golf party size and length of stay. Per golfer per day spending estimates will vary a great deal with party sizes and lengths of stay. The motel segment most closely matches the profile in the 1997 study<sup>3</sup>. If we assume a party size of 2.5 and a two night length of stay (both likely conservative), the per golfer per day average for the motel segment in 2000 is \$161, \$63 less than the \$224 estimated by Dodge and Fullerton in 1997. While the lodging and restaurant categories are identical between the two studies (not factoring in inflation), course fees, transportation, and other expenses are much less in 2000. We believe the 1997 figures were not converted properly to a per day per golfer average. To spend \$84 on course fees, golfers would need to average at least 2 rounds per day. Transportation expenses of \$23 per golfer per day equates to \$115 per party per trip, for a party of 2.5 people staying 2 nights. This would be unreasonable unless some parties were reporting airfares and car rentals. No airfares are included in 2000 as these don't accrue to the local economy.

**Table 13 . Comparison of Spending per golfer per day;  
1997 and 2000 Studies (\$)**

Category	Motel 2000 <sup>a</sup>	1997 study
Course fees	59	84
Restaurant	26	26
Lodging	53	53
Other	16	38
<u>Transportation</u>	<u>7</u>	<u>23</u>
<b>Total</b>	<b>161</b>	<b>224</b>

a. Assumes party size of 2.5 and a two night stay. 1997 figures are not price adjusted to 2000.

<sup>3</sup> An average of \$53 per golfer per day for lodging in 1997 indicates that golfers on day trips or staying with friends or relatives were likely excluded in the per day calculations. We assume a 2 night stay = 2 days of spending.

### Golf Course Manager Survey

The updated counts of daily fee courses by region and price category are shown in Table 14. These include 696 daily fee and 98 municipal facilities, but exclude 141 private courses. The survey results will be extrapolated to 794 courses that are available for public play. These 794 courses represent 650 distinct course owners/facilities.

Estimates of rounds of play and segment distributions were received from 146 courses out of 640 on our original mailing list. The sample of responses includes about one in every five courses statewide; 10% of all lower priced courses, 42% of mid-priced courses and 28% of high priced courses. Responses cover between seventeen and twenty-five percent of the courses in each of the five regions (Table 15).

**Table 14. Michigan Golf Courses by Region and Green Fees<sup>a</sup>**

Region	Green Fee Lower than \$25			Green Fee \$25 -\$50			Green Fee Higher than \$50			Grand Total	
	Cases	Column %	Row %	Cases	Column %	Row %	Cases	Column %	Row %	Cases	Column %
Southeast MI	232	43%	69%	77	45%	23%	27	33%	8%	336	42%
Southwest MI	207	38%	78%	44	26%	17%	15	18%	6%	266	34%
Northwest MI	48	9%	48%	27	16%	27%	25	30%	25%	100	13%
Northeast MI	32	6%	55%	16	9%	28%	10	12%	17%	58	7%
Upper Peninsula	<u>22</u>	4%	65%	<u>7</u>	4%	21%	<u>5</u>	6%	15%	<u>34</u>	4%
Grand Total	541			171			82			794	

a. Courses include all daily fee and municipal courses, private courses are excluded.

**Table 15. Golf Courses Providing Estimates of Rounds by Region and Green Fees**

Region	Green fees			Total	Response rate
	Lower than \$25	\$25 -\$50	Higher than \$50		
Southeast MI	18	32	6	56	22%
Southwest MI	22	19	4	45	20%
Northwest MI	6	11	7	24	32%
Northeast MI	0	8	5	13	27%
Upper Peninsula	<u>5</u>	<u>2</u>	<u>1</u>	<u>8</u>	<u>21%</u>
Total	51	72	23	146	23%
Percentage of all courses	9.4%	42.1%	28.0%	18.4%	

Michigan courses provided an average of about 20,000 rounds (18 hole equivalents) in 2000 (Table 16). The average rounds per course drops slightly as one moves north from 25,000 in Southeast Michigan to 18,000 in Southwest MI, 13,000 in Northeast and Northwest MI and 12,000 in the Upper Peninsula. The percentage of rounds by local golfers also declines as one moves north, dropping from 88% in Southeast Michigan to between 40 and 50% in northern Michigan. Day trip shares (>60 miles) average 7% statewide, but are slightly higher in areas of northern Michigan with a lower density of courses (10% in UP). About 30% of golf rounds in the Northeast and Northwest regions involve overnight stays in commercial lodging. Another 18% of rounds in these regions involve overnight stays with friends and relatives or in seasonal homes.

**Table 16. Golf Rounds and Segment Shares by Region and Price Category**

	Price Category			Total
	Low	Medium	High	
<b>Southeast</b>				
Rounds of golf per course	25,920	23,944	25,617	25,443
Percent local	91%	81%	77%	88%
Percent Day trips	4%	9%	15%	6%
Percent Overnight trips	2%	4%	5%	3%
Percent VFR/SH	3%	5%	3%	3%
<b>Southwest</b>				
Rounds of golf per course	16,574	24,742	20,550	18,150
Percent local	84%	76%	34%	79%
Percent Day trips	6%	9%	23%	8%
Percent Overnight trips	3%	10%	25%	6%
Percent VFR/SH	7%	5%	18%	7%
<b>Northwest</b>				
Rounds of golf per course	8,750	19,464	12,872	12,673
Percent local	59%	43%	19%	42%
Percent Day trips	4%	10%	12%	9%
Percent Overnight trips	28%	26%	44%	31%
Percent VFR/SH	10%	21%	26%	18%
<b>Northeast</b>				
Rounds of golf per course	8,750 <sup>b</sup>	16,856	19,600	12,857
Percent local	59%	53%	18%	46%
Percent Day trips	4%	10%	12%	8%
Percent Overnight trips	28%	23%	37%	28%
Percent VFR/SH	10%	15%	33%	18%
<b>Upper Peninsula</b>				
Rounds of golf per course	9,050	16,000 <sup>e</sup>	15,752 <sup>c</sup>	11,466
Percent local	66%	53%	18%	52%
Percent Day trips	9%	10%	12%	10%
Percent Overnight trips	9%	23%	37%	18%
Percent VFR/SH	17%	15%	33%	20%
<b>State Totals</b>				
Rounds of golf per course	18,215	22,462	19,120	19,873
Percent local	85%	71%	43%	79%
Percent Day trips	5%	10%	16%	7%
Percent Overnight trips	4%	11%	24%	8%
Percent VFR/SH	6%	8%	18%	7%

a. Totals are adjusted to reflect the population distribution of courses by region and price category.

b. Northwest region figures are used due to low response in this category.

c. Northeast Michigan segment shares used for these categories due to low number of responses.

### Total Golf Rounds in Michigan in 2000

Total golf rounds in Michigan in 2000 may be estimated by expanding the data from the sample to all courses in the state. The sample is representative across regions. However, there is considerable variation in golf rounds and segment shares across individual courses, which may introduce some errors in the sample averages.

Expanding from the sample based on the number and distribution of courses in Table 14 yields 15.8 million rounds of golf (excluding private courses) in 2000 (Table 17). Private courses are excluded. If we assume similar levels of play, total rounds including private courses would be about 19 million.

**Table 17. Golf Rounds by Segment, Price Category and Region (000's)**

	Price Category			Total	Pct
	Low	Medium	High		
Southeast	6,013	1,844	692	8,549	54%
Southwest	3,431	1,089	308	4,828	31%
Northwest	420	526	322	1,267	8%
Northeast	280	270	196	746	5%
Upper Peninsula	199	112	79	390	2%
<u>State Totals</u>	<u>10,343</u>	<u>3,840</u>	<u>1,596</u>	<u>15,779</u>	<u>100%</u>
Pct	66%	24%	10%	100%	

a. Excludes rounds at private courses

**Table 18. Distribution of Golf Rounds by Price Category and Region**

	Price Category			Total
	Low	Medium	High	
Southeast	70%	22%	8%	100%
Southwest	71%	23%	6%	100%
Northwest	33%	41%	25%	100%
Northeast	38%	36%	26%	100%
<u>Upper Peninsula</u>	<u>51%</u>	<u>29%</u>	<u>20%</u>	<u>100%</u>
State	66%	24%	10%	100%

Travel golf rounds exclude rounds by golfers from the local area (the "Local" segment). Based on the segment shares provided by course managers, we estimate that roughly 3.4 million (21 %) of the 15.8 million golf rounds took place on trips away from home (Table 19). NGF (2000) estimate that 15% of golf rounds nationally are travel rounds. We might expect Michigan's percentage of travel rounds to be slightly above the national average based on it's prominence as a golf destination and the number of courses designed to attract travelers. However, the estimates here are based on course manager's judgment and may be inflated somewhat.

The percentage of rounds by golfers from outside the area (i.e., travel rounds) increases with price category and as one goes north (Table 20). Southwest and Southeast Michigan each receive about 30% of all golf travel rounds, followed by Northwest Michigan (22%), Northeast Michigan (12%) and the UP (5%). Courses with green fees over \$50 account for 10% of all rounds, but 25% of travel rounds. Travel rounds are divided fairly evenly across day trips, motel, and the VFR/SH segments (Table 20A).

**Table 19. Travel Golf Rounds by Price Category and Region (000's)**

	Price Category			Total	Pct
	Low	Medium	High		
Southeast	541	352	160	1,053	31%
Southwest	541	265	202	1,009	30%
Northwest	172	299	262	733	22%
Northeast	114	128	160	402	12%
Upper Peninsula	68	53	64	186	5%
<u>State</u>	<u>1,437</u>	<u>1,097</u>	<u>848</u>	<u>3,382</u>	<u>100%</u>
Percent	42%	32%	25%	100%	

**Table 20. Travel Golf Rounds as a Percentage of All Rounds by Region and Price**

Region	Price Category			Total
	Low	Medium	High	
Southeast	9%	19%	23%	12%
Southwest	16%	24%	66%	21%
Northwest	41%	57%	81%	58%
Northeast	41%	47%	82%	54%
<u>Upper Peninsula</u>	<u>34%</u>	<u>47%</u>	<u>82%</u>	<u>48%</u>
<u>State</u>	<u>14%</u>	<u>29%</u>	<u>53%</u>	<u>21%</u>

**Table 20A. Travel Golf Rounds by Segment and Region**

	Segment			Total	Pct
	Day Trips	Motel	VFR/SH		
Southeast	522	244	287	1,053	31%
Southwest	379	278	352	1,009	30%
Northwest	109	391	233	733	22%
Northeast	59	211	132	402	12%
<u>Upper Peninsula</u>	<u>37</u>	<u>72</u>	<u>77</u>	<u>186</u>	<u>5%</u>
<u>State</u>	<u>1,106</u>	<u>1,196</u>	<u>1,080</u>	<u>3,382</u>	<u>100%</u>
Percent	33%	35%	32%	100%	

**Table 20B. Travel Golf Rounds by Segment and Price Category**

	Price Category			Total	Pct
	Low	Medium	High		
Day Trips	496	362	248	1,106	33%
Motel	427	418	351	1,196	35%
<u>VFR/SH</u>	<u>514</u>	<u>317</u>	<u>250</u>	<u>1,080</u>	<u>32%</u>
<u>Total</u>	<u>1,437</u>	<u>1,097</u>	<u>848</u>	<u>3,382</u>	<u>100%</u>
Pct	42%	32%	25%	100%	

### Total Golfer Spending

Golfer spending on golfing trips was estimated by multiplying rounds of golf in 2000 (Table 17) by golfer spending profiles converted to a per round basis. Distinct spending profiles were used for each segment and course price category. Spending profiles for the low, medium and high price categories are reported in Appendix D. The spending profiles derived from the sample of golfers was assumed to represent courses in the medium price range (green fees of \$25-\$50) as the per round green fees for the sample fell between \$25 and \$38 dollars. Spending profiles for the low (less than \$25) and high (more than \$50) price categories were developed by adjusting the medium spending profiles. Average per round for green fees were set at \$16 for the low category, \$32 for the medium category and \$64 for the high category. Other spending was adjusted by assuming that golfers paying higher green fees would also spend more on other items. Spending on items other than green fees was reduced by 25% for the low category and raised by 25% for the high category.

No significant regional differences were found within a given price category and golfer segment, so the statewide averages for each segment were applied in each sub-region. Regional spending estimates by segment and course price ranges are shown in Table 22. These reflect the spending profiles of the different golf segments and also the geographic distribution of courses, rounds of golf, and segments attracted to each region.

We estimate that golfers spent about \$789 million in Michigan in 2000 in conjunction with golfing trips (Table 21). This does not include most equipment purchases. If we exclude spending on local golf outings, golfers spent \$306 million while on golf trips in Michigan in 2000 (travel rounds). About 40% of all golfer trip spending is on trips away from home (60 miles or more); 30% of on course spending is for travel rounds and about half of the off-course spending is for travel rounds.

**Table 21. Total Spending by Golfers in Michigan, 2000 (\$ Millions)**

Spending Category	Local	Day Trips	Motel	VFR/SH	Total	Travel Total	Pct
<b>At Course</b>							
Green Fees/Cart	179.11	29.09	30.82	22.75	261.76	82.65	27%
Food and Beverages	70.31	6.54	11.07	5.07	93.00	22.68	7%
Pro-Shop	36.78	3.86	4.96	1.60	47.20	10.41	3%
Lodging	4.24	-	13.79	-	18.03	13.79	5%
Other	9.98	0.09	0.83	0.14	11.04	1.06	0%
<b>Sub-total at Course</b>	<b>300.42</b>	<b>39.58</b>	<b>61.47</b>	<b>29.56</b>	<b>431.03</b>	<b>130.61</b>	<b>43%</b>
<b>Off Course</b>							
Lodging	-	-	42.28	-	42.28	42.28	14%
Restaurants/Bars	60.43	6.14	27.42	12.17	106.16	45.73	15%
Groceries	25.32	2.20	4.75	6.09	38.36	13.03	4%
Gas/Auto outside	32.33	4.80	7.98	4.06	49.17	16.84	6%
Recreation/Entertainment	16.95	4.13	2.86	3.22	27.15	10.21	3%
Golf at Other Courses	34.85	3.03	20.71	9.17	67.76	32.91	11%
Other	12.22	2.87	9.19	2.46	26.74	14.52	5%
<b>Sub-Total Off-Course</b>	<b>182.10</b>	<b>23.18</b>	<b>115.18</b>	<b>37.17</b>	<b>357.62</b>	<b>175.53</b>	<b>57%</b>
<b>Total Spending</b>	<b>482.52</b>	<b>62.76</b>	<b>176.65</b>	<b>66.72</b>	<b>788.65</b>	<b>306.13</b>	<b>100%</b>
Percent	61%	8%	22%	8%	100%	39%	

a. Based on 794 courses (excludes private courses) and 15.8 million rounds of golf.

**Table 22. Golfer Spending by Segment, Region and Price Category (\$000's)**

	Price Category			Total
	Low	Medium	High	
<b>Southeast</b>				
<b>Total Spending</b>	<b>200,644</b>	<b>104,457</b>	<b>63,328</b>	<b>368,430</b>
Local	172,106	76,280	44,206	292,592
Day Trips	8,867	10,049	10,150	29,066
Overnight	12,802	11,837	6,953	31,593
VFR/SH	6,869	6,292	2,018	15,179
<b>Southwest</b>				
<b>Total Spending</b>	<b>117,090</b>	<b>67,730</b>	<b>37,310</b>	<b>222,130</b>
Local	90,880	42,094	8,824	141,798
Day Trips	7,691	5,781	6,582	20,054
Overnight	8,619	16,476	16,226	41,322
VFR/SH	9,900	3,379	5,678	18,957
<b>Northwest</b>				
<b>Total Spending</b>	<b>21,500</b>	<b>41,303</b>	<b>46,614</b>	<b>109,417</b>
Local	7,812	11,577	4,975	24,364
Day Trips	566	3,204	3,684	7,453
Overnight	11,497	19,490	29,476	60,464
VFR/SH	1,625	7,032	8,480	17,137
<b>Northeast</b>				
<b>Total Spending</b>	<b>14,333</b>	<b>20,333</b>	<b>26,936</b>	<b>61,603</b>
Local	5,208	7,253	2,984	15,446
Day Trips	377	1,500	2,181	4,058
Overnight	7,665	9,024	15,084	31,773
VFR/SH	1,084	2,556	6,687	10,326
<b>Upper Peninsula</b>				
<b>Total Spending</b>	<b>7,814</b>	<b>8,444</b>	<b>10,824</b>	<b>27,082</b>
Local	4,114	3,012	1,199	8,325
Day Trips	630	623	876	2,129
Overnight	1,689	3,747	6,061	11,498
VFR/SH	1,380	1,062	2,687	5,129
<b>State Totals</b>				
<b>Total Spending</b>	<b>361,382</b>	<b>242,268</b>	<b>185,012</b>	<b>788,661</b>
Local	280,120	140,215	62,188	482,524
Day Trips	18,130	21,157	23,473	62,760
Overnight	42,273	60,575	73,802	176,649
VFR/SH	20,858	20,321	25,549	66,728

## **Economic Impacts of Golfer Spending**

The economic impacts of golfer spending on the state of Michigan may be estimated by applying the spending estimates to a model of the Michigan economy. Similarly, local and regional impacts may be estimated by applying spending in a given region to sub-regional economic models. The MITEIM model will estimate impacts down to a county level.

There are several distinct types of economic impact analysis that may be carried out. For example, NGF (1992) illustrates procedures to estimate impacts of golf course operations on national, state and local economies. Course operations capture only the effects of spending at golf facilities (including associated food and beverage and lodging at golf facilities and resorts). Golfer spending in local communities outside the course or resort also impacts the local economy. See Appendix A for definitions of economic impact concepts.

Our focus here is on spending by golfers both at golf courses/resorts and elsewhere in the local area. We do not include any air-related travel expenses. While all golfer spending might be included in a general assessment of the economic significance of the industry, only spending associated with travel rounds would normally be part of an economic impact analysis.

Impacts can be further narrowed to only those trips where golf was the primary trip purpose. A strict economic impact analysis would assess what the change in spending would be in an area if a golf course or group of courses did not exist or conversely what the change would be if new courses were developed. In these cases a **with vs without** evaluation is desired. Golf was the primary trip purpose for about 60% of motel trips, 52% of day trips, and 36% of VFR/SH trips. Many golfers are on general vacation trips, visiting friends or relatives, or a trip to their seasonal home. A question arises as to how much of their spending should be attributable to golf. Generally, all trip spending would be counted if a trip would not be made in the absence of the golfing opportunity. In some cases the additional spending due to golfing may be included for trips made for other purposes. The point is there is not a single measure of economic impact. Which spending to include depends on the intended uses of the results.

Here we report three different measures of golf's economic impact.

1. The statewide significance of golfer trip spending to the state economy.
2. Statewide impacts of golfer spending on trips away from home.
3. Impacts of a typical golf course/resort on the local area.

### **1. Statewide Significance of Golfer Spending.**

To estimate the statewide significance of golfer trip spending, all 15.8 million rounds and \$789 million in spending is applied to the state economic impact model. The state captured \$677 million in direct sales, generating \$241 million in direct personal income, \$383 million in direct value added and supporting about 19,000 direct jobs (Table 23). The state sales multiplier for golfer spending is 1.62. This means that \$ .62 of additional sales is generated for every dollar of direct sales through secondary effects. Including these secondary effects, the total sales effect on the state of spending on golf outings is \$1.1 billion. This generates about \$400 million in personal income, \$637 million in value added and supports 24,000 jobs. More complete impact tables for this scenario are given in Appendix B.

### **2. Statewide Impact of Golf Travel Spending.**

Only the \$306 million spent by golfers on 3.4 million travel rounds are included in this scenario. Golfers spent \$306 million on Michigan golfing trips of 60 miles or more away from home in 2000. The state captured \$267 million (87%) of this spending as direct sales generating \$95 million in personal income and \$151 million in value added (Table 23). This spending supported 7,300 direct jobs. With multiplier effects, the total impact of golf travel is \$435 million in sales, \$158 million in personal income, \$253 million value added, and 9,500 jobs. More complete impact tables for this scenario are given in the Appendix C.

**Table 23. Statewide Economic Impacts of Golfer Spending**

Impact Measure	Statewide Significance	Travel Impact
Rounds (millions)	15.8	3.3
Spending (\$ millions)	\$ 789	\$ 306
Spending per round	\$ 50	\$ 91
<b>Direct effects</b>		
Sales (\$millions)	\$ 677	\$ 267
Income (\$millions)	\$ 241	\$ 95
VA (\$millions)	\$ 383	\$ 151
Jobs	18,800	7,300
<b>Total effects</b>		
Sales (\$millions)	\$ 1,096	\$ 435
Income (\$millions)	\$ 397	\$ 158
VA (\$millions)	\$ 637	\$ 253
Jobs	24,200	9,500

### **3. Impact of a Golf resort on the Local Area.**

The MITEIM model may be applied to assess local impacts of individual golf course developments on a local area. Results for a typical application may be illustrated using a hypothetical medium priced resort (\$32 green fees) providing 10,000 travel rounds split one third each to day trips, motel, and VFR/SH segments. Multipliers for a typical northern Michigan rural economy are used to estimate direct and secondary effects.<sup>4</sup> Such a course generates \$900,000 in spending in the local area (about \$90 per golf round including all trip expenses). The local area captures \$750,000 (83%) as direct sales yielding \$245,000 in direct personal income, \$380,000 value added, and supporting 25 direct jobs (Table 24).

The golf course itself captures about \$320,000 in green fees<sup>5</sup>. The portion of restaurant, lodging and retail sales captured by the course will depend on its facilities relative to what is available in the area. If green fees are 75% of course revenues<sup>6</sup>, then another \$108,000 is captured at the course. In this case 58% of the direct sales impact accrues to the course and 42% to other businesses in the local area.

**Table 24. Direct Economic Impacts of 10,000 Travel Rounds on Local Area**

Sector/Spending category	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Motel, hotel cabin or B&B	148	4	42	64
Restaurants & bars	191	6	59	83
Golf and recreation	343	13	112	183
Goods production (Manf.)	7	0	1	2
Retail Trade	52	2	27	42
<u>Wholesale Trade</u>	<u>9</u>	<u>0</u>	<u>3</u>	<u>6</u>
Total	750	25	245	380

<sup>4</sup> Capture rates and secondary effects would be about 10-20% larger in metropolitan areas.

<sup>5</sup> A small percentage of sales in the "golf and recreation" category is for other recreation and entertainment fees in the area.

<sup>6</sup> The NGF ratios used by Dodge and Fullerton were 70% for green fees, 11% for merchandise sales, 14% for food and beverage sales and 5% other. Here we would only count the retail margin on merchandise sales.

Secondary Effects

Secondary effects of golfer spending are obtained using economic multipliers for the study region. In this example we use multipliers for a typical rural area in Michigan. The local sales multiplier is 1.34 for such a region, compared to 1.63 for the state as a whole. There are two kinds of secondary effects. Indirect effects stem from the golf course and other businesses selling to golfers buying goods and services from backward linked industries in the region. Induced effects stem from employees in these businesses spending the income earned from golfers in the local area. The size of the multiplier depends on the propensity of businesses and households in the area to buy goods and services from local suppliers. The higher the percentage of sales and income that is re-circulated within the region, the larger the multipliers and associated secondary effects.

Including multiplier effects, total sales impacts on the local economy are \$1 million, total income is \$330,000, total value added \$535,000, and a total of 30 jobs are supported (Table 25). The size of the secondary effect can be obtained by subtracting the direct effects from the total effects. Hence, in this case there are 25 direct jobs and 5 jobs from secondary effects.

**Table 25. Direct and Total Economic Impacts of 10,000 Travel Rounds on Local Area**

<b>Economic measure</b>	<b>Direct Effects</b>	<b>Multiplier</b>	<b>Total Effects</b>
Output/Sales (\$ 000's)	750	1.34	1,000
Personal Income (\$ 000's)	245	1.35	330
Value Added (\$ 000's)	380	1.41	535
Jobs	25	1.18	30
Total Visitor Spending (\$ 000's)		\$ 900	
Capture rate		83%	

As the spending and impact models are all linear, one can readily estimate impacts for different scales of development. A course providing 20,000 travel rounds would generate twice the impact of one generating 10,000 travel rounds. Table 26 reports the marginal changes in various economic impact measures per unit of spending and per golf round. Each \$1,000 of golfer spending yields \$272 in direct personal income and \$367 with secondary effects. Every 1,000 rounds of golf yields about \$25,000 in personal income for the area, \$33,000 with secondary effects. Each 1,000 rounds supports 2.5 direct jobs and about 3 jobs including secondary effects.

**Table 26. Marginal Impacts per \$1,000 of spending and per 1,000 golf rounds**

<b>Impact measure</b>	<b>change per \$1,000 of visitor spending</b>	<b>change per 1,000 rounds of golf</b>
Direct sales	\$833	\$75,000
Direct personal income	\$ 272	\$ 24,469
Direct value added	\$ 422	\$ 37,953
Direct jobs	0.028	2.5
Total sales	\$1,116	\$100,000
Total personal income	\$ 367	\$ 33,056
Total value added	\$ 593	\$ 53,427
Total jobs	0.032	3

The MITEIM model also estimates tax impacts on the direct sales and income from golfer spending. Tax revenues are estimated based on federal, state and local tax rates, which are applied to the spending and income estimated by the model. Here we assume a local lodging and meal tax of 2% on top of the state 6% sales tax. The federal sales tax is just on gasoline purchases. Income taxes are estimates of taxes on wage and salary income using an "effective" tax rate that adjusts for various deductions and different tax brackets. Taxes here do not include property or business taxes paid by the golf courses or other businesses. Dodge and Fullerton estimated property taxes for 586 daily fee operations at \$33 million in 1997, based on an average of \$56,000 per course.

The \$900,000 in golfer spending in this scenario generates a total of \$109,000 in taxes, \$65,000 in sales taxes accruing mostly to the state and \$44,000 in income taxes accruing mostly to the federal government (Table 27).

**Table 27. Tax Impacts of Direct Sales From 10,000 Travel Rounds (\$000's)**

Gov't Level	Sales	Income	Total
Federal	5	36	41
State	53	8	61
<u>Local</u>	<u>7</u>	<u>-</u>	<u>7</u>
<b>Total</b>	<b>65</b>	<b>44</b>	<b>109</b>

## Conclusions

Golf is a significant component of Michigan tourism and has substantial economic impacts on state, regional and local economies. This study provides quantitative estimates of the size and importance of the golf industry based on golfer spending on trips. Precise estimates of golf rounds, golfer spending, and economic impacts are difficult to obtain given inherent fuzziness over what a "round" is, which trips should be counted as "tourism", and how much trip spending should be attributable to golf, if golf is not the primary trip purpose. Measurement, non-response and sampling errors are also involved in the two surveys. These have been minimized by adjusting the sample to the distribution of courses by region and price category and also checking the consistency of results with other sources and information.

We estimate that golfers played about 16 million rounds of golf in Michigan in 2000 at roughly 800 courses available for public play. These golfers spent about \$800 million on golf outings, \$300 million of it on trips away from home. This spending represents about 4% of all tourism spending in Michigan (excluding airfares). Roughly 20% of golf rounds and 40% of golfer spending takes place on trips away from home. Golf travel rounds are divided about a third each to day trips of 60 miles or more, overnight stays in commercial lodging, and overnight stays with friends and relatives or in owned seasonal homes.

The study estimated golfer spending profiles for different golf market segments that can be used with the MITEIM model to estimate economic impacts of golf-related decisions. The model was applied to estimate statewide significance of golfer trip spending, the impacts of golfer trip spending on the state, and the impacts of a hypothetical golf course on the local economy. A medium-priced course (\$32 green fees) in a non-metro region, providing 10,000 travel rounds, generates \$900,000 in golfer spending. This spending yields almost \$250,000 in direct personal income for the region and supports about 25 jobs. With secondary effects (sales multiplier of 1.34), total economic impacts are \$1 million in sales, \$330,000 in personal income, and 30 jobs.

Overall statewide impact of all golfer trip spending (\$800 million, excluding golf at private courses) is about \$250 million in direct personal income, \$400 million value added, and 19,000 jobs<sup>7</sup>. With secondary effects (state sales

<sup>7</sup> Economic impact estimates in this summary have been rounded from those in the body of the report to avoid the impression of undue precision.

multiplier of 1.62), total impacts are \$400 million in personal income, \$650 million value added, and about 24,000 jobs. Counting only spending on golf trips away from home, (\$300 million), the direct economic impact on the state economy is about \$100 million in personal income, \$150 million value added, and 7,300 jobs. With multiplier effects the total impact is \$150 million in personal income, \$250 million value added, and 9,500 jobs.

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## Appendix A. Economic Impact Terminology

The following definitions should be helpful in interpreting the economic impact tables. Further discussion of economic impact concepts and methods may be found at our website.

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

### Impact measures

**Sales** are total sales by businesses resulting from the golfer spending. Note that retail sales are treated in a special way. Retail and wholesale margins on retail purchases are assigned to the retail and wholesale trade sector. The remaining producer price or cost of the goods sold is assigned to a production sector, if the item is produced in Michigan. The value of goods not made in Michigan is not counted as Michigan sales. This, along with sales taxes that are also removed, accounts for the difference between golfer spending of \$789 million and direct sales accruing to Michigan businesses of \$677.

**Personal income** includes wages and salaries, income of sole proprietors, and worker payroll benefits.

**Value added** is the sum of personal income, profits and rents, and indirect business taxes. It is a commonly used measure of the contribution of a region or sector to gross state or national product.

**Jobs** are not full time equivalents

**Multipliers** are the ratio of total effects to direct effects. A sales multiplier of 1.62 means for the state of Michigan means that for every dollar of direct sales, another \$ .62 in sales is generated in the region through secondary effects. MITEIM uses IMPLAN Type SAM multipliers, which are more conservative (and realistic) than tourism multipliers that are frequently cited.

**Direct Effects** are the immediate effects on businesses that sell goods and services to golfers. These include golf courses, motels, restaurants, gas stations, grocery stores and other retail stores. Direct effects can be itemized by sector if golfer spending is reported within spending categories. The MITEIM model employs multipliers for 12 distinct economic sectors to capture the distinct economic characteristics of each tourism-related sector (e.g., hotel, restaurant, amusements, retail trade, wholesale trade, transportation,..).

**Secondary or Multiplier effects** are the additional sales, income and jobs that result from the re-circulation of golfer spending within the region. There are two types of secondary effects:

**Indirect effects** result from golf courses, restaurants and other businesses purchasing goods and services from other businesses in the region (called backward linked industries). In this way, golfer spending creates additional sales as the money is circulated to other businesses in the area. For example, golf courses purchase utilities, fertilizer, and other goods and services in order to provide rounds of golf. Purchases that golf courses make from other businesses in the region create additional economic activity that is measured as indirect effects. The size of the indirect effects rest on the propensity of businesses to buy from other businesses in the region. Indirect effects are smaller for local economies than a statewide region as a smaller portion of the spending is captured at the local level.

**Induced effects** are the changes in economic activity due to household spending of income earned directly or indirectly from golfer spending. Employees of golf courses and other businesses serving golfers live in the area and spend their income at local businesses. These businesses, in turn, create additional rounds of indirect and induced effects as the original infusion of golfer spending "turns over" in the economy. In theory, multipliers trace the circulation of spending until it leaves the region. The majority of the secondary effects, however, generally take only a couple of rounds of re-spending.

**Total Effects** are the sum of direct and secondary or multiplier effects. The size of the secondary effect may be obtained by subtracting the direct effect from the total effect. The MITEIM model reports secondary and total effects in the aggregate.

## Appendix B

**Statewide Significance** - Economic Impacts of \$789 million in Golfer Trip Spending on the State Economy. The analysis includes expenses on trips: golf fees, transportation (excludes airfares), food, lodging, etc.). It does not include equipment purchases by golfers normally made at home. Results are based on an estimated 15.8 million rounds of golf at 754 Michigan public golf courses (including public, municipal and semi-private courses) in 2000.

**Table B1. Economic Significance of Golfer Spending to the State Economy : Direct Effects**

<b>Sector/Spending category</b>	<b>Direct Sales \$Millions</b>	<b>Jobs Thousands</b>	<b>Personal Income \$Millions</b>	<b>Value Added \$Millions</b>
Motel, hotel cabin or B&B	56	1.3	21	31
Restaurants & bars	184	5.5	63	89
Golf & recreation	337	10.3	122	204
Goods Production	35	0.1	4	8
Retail Trade	53	1.4	26	41
<u>Wholesale Trade</u>	<u>11</u>	<u>0.1</u>	<u>5</u>	<u>8</u>
<b>Total</b>	<b>677</b>	<b>18.8</b>	<b>241</b>	<b>383</b>

**Table B2. Direct and Total Economic Impacts of Golfer Spending**

<b>Economic measure</b>	<b>Direct effects</b>	<b>Multiplier</b>	<b>Total effects</b>
Output/Sales (\$ Millions)	\$ 677	1.62	\$ 1,096
Personal Income (\$ Millions)	\$ 241	1.65	\$ 397
Value Added (\$ Millions)	\$ 383	1.67	\$ 637
Jobs	18,800	1.29	24,200
Total Visitor Spending (\$ Millions)		\$ 789	
Capture rate		86%	

**Table B3. Tax Impacts of Direct Sales and Income (\$ millions)**

<b>Gov't Level</b>	<b>Sales</b>	<b>Income</b>	<b>Total</b>
Federal	5	35	40
State	47	8	55
<u>Local</u>	<u>5</u>	<u>-</u>	<u>5</u>
<b>Total</b>	<b>56</b>	<b>43</b>	<b>99</b>

a. Tax impacts include sales, and use taxes on direct sales and personal income taxes on direct income. Secondary tax effects are not included, nor are property and other business taxes. Local taxes are based on an assumed 2% local sales tax applying only to rooms and meals.

### Appendix C

**Statewide Impact** - Economic Impacts on the state economy of \$306 million in Golfer Trip Spending on trips away from home. The analysis includes expenses on trips: golf fees, transportation (excludes airfares), food, lodging, etc.). It does not include equipment purchases by golfers normally made at home. Results are based on an estimated 3.4 million "travel" rounds of golf at 754 Michigan public golf courses (including public, municipal and semi-private courses) in 2000.

**Table C1. Economic Impacts of Visitor Spending : Direct Effects**

Direct Effects				
Sector/Spending category	Direct Sales	Jobs	Personal Income	Value Added
Motel, hotel cabin or B&B	52	1.2	19	29
Restaurants & bars	63	1.9	21	30
Golf & recreation	119	3.7	43	72
Goods Production	12	-	1	2
Retail Trade	17	0.5	8	13
<u>Wholesale Trade</u>	<u>4</u>	<u>0.0</u>	<u>1</u>	<u>3</u>
<b>Total</b>	<b>267</b>	<b>7.3</b>	<b>95</b>	<b>151</b>

**Table C2. Direct and Total Economic Impacts of Visitor Spending**

Economic measure	Direct effects	Multiplier	Total effects
Output/Sales (\$ Millions)	\$ 267	1.63	\$ 435
Personal Income (\$ Millions)	\$ 95	1.66	\$ 158
Value Added (\$ Millions)	\$ 151	1.68	\$ 253
Jobs	7,300	1.30	9,500
Total Visitor Spending (\$ Millions)		\$ 306	
Capture rate		87%	

**Table C3. Tax Impacts of Direct Sales and Income (\$ millions)**

Gov't level	Sales	Income	Total
Federal	2	14	15
State	18	3	21
<u>Local</u>	<u>2</u>	<u>-</u>	<u>2</u>
<b>Total</b>	<b>22</b>	<b>17</b>	<b>39</b>

a. Tax impacts include sales, and use taxes on direct sales and personal income taxes on direct income. Secondary tax effects are not included, nor are property and other business taxes. Local taxes are based on an assumed 2% local sales tax applying only to rooms and meals

### Appendix D. Golfer Spending Profiles

Table D1 gives spending profiles from the sample of golfing trips in our survey. The sample intentionally targeted courses attracting tourists and therefore over-represents higher end courses.

**Table D1. Golfer Spending by Spending Category and Segment - Sample (\$per round)**

Spending Category	Local	Day Trips	Motel	VFR/SH	Total	Travel Total	Pct
Lodging	-	-	47.67	-	3.14	16.90	18%
Restaurants & bars	10.55	11.36	32.72	16.29	12.38	20.41	22%
Groceries, take-out food/drinks	2.04	1.97	4.03	5.75	2.38	3.83	4%
Gas & oil , vehicle	2.61	4.30	6.79	3.83	3.06	5.04	5%
Golf fees	17.30	28.45	45.00	31.25	20.61	35.16	38%
Recreation/Enter.	1.37	3.70	2.43	3.05	1.68	3.05	3%
Clothing	1.48	1.73	2.11	0.76	1.50	1.57	2%
Sporting goods	1.48	1.73	2.11	0.76	1.50	1.57	2%
<u>Souvenirs and other expenses</u>	<u>1.79</u>	<u>2.66</u>	<u>8.52</u>	<u>2.45</u>	<u>2.32</u>	<u>4.67</u>	<u>5%</u>
<b>Total per round</b>	<b>38.63</b>	<b>55.89</b>	<b>151.37</b>	<b>64.14</b>	<b>48.57</b>	<b>92.21</b>	<b>100%</b>

a. These spending averages are from the sample of golfing trips and reflect the distribution of rounds across low, medium, and high priced courses.

Three distinct sets of spending profiles were developed from the survey data (Tables D2-D4) based on green fees. Rounds of golf by region, segment and green fees were estimated directly in a year-end survey of golf courses. Spending profiles for each price category were then applied to the reported rounds of golf in 2000. This procedure adjusts for potential biases in the sample of golfing trips based on price category, region, and segment. Tables D2-D4 give spending profiles used in estimating total golfer spending.

**Table D2. Golfer Spending - Low Priced Rounds (\$ per round of golf)**

Spending Category	Local	Day Trips	Motel	VFR/SH
Lodging	-	-	35.72	-
Restaurants & bars	9.47	9.12	24.52	12.75
Groceries, take-out food/drinks	1.83	1.58	3.02	4.50
Gas & oil , vehicle	2.34	3.45	5.09	3.00
Golf fees	12.31	14.53	19.31	14.88
Recreation/Enter.	1.23	2.97	1.82	2.39
Clothing	1.33	1.39	1.58	0.59
Sporting goods	1.33	1.39	1.58	0.59
<u>Souvenirs and other expenses</u>	<u>1.60</u>	<u>2.13</u>	<u>6.38</u>	<u>1.92</u>
<b>Total per round</b>	<b>31.45</b>	<b>36.55</b>	<b>99.02</b>	<b>40.62</b>

**Table D3. Golfer Spending - Medium priced rounds (\$ per round of golf)**

Spending Category	Local	Day Trips	Motel	VFR/SH
Lodging	1.00	-	47.63	-
Restaurants & bars	12.62	12.15	32.69	17.00
Groceries, take-out food/drinks	2.44	2.11	4.03	6.00
Gas & oil , vehicle	3.12	4.60	6.78	4.00
Golf fees	24.62	29.06	38.62	29.75
Recreation/Enter.	1.64	3.96	2.43	3.18
Clothing	1.78	1.85	2.11	0.79
Sporting goods	1.78	1.85	2.11	0.79
<u>Souvenirs and other expenses</u>	<u>2.14</u>	<u>2.84</u>	<u>8.51</u>	<u>2.56</u>
Total per round	51.13	58.42	144.90	64.07

**Table D4. Golfer Spending - High priced rounds (\$ per round of golf)**

Spending Category	Local	Day Trips	Motel	VFR/SH
Lodging	2.00	-	59.54	-
Restaurants & bars	15.78	15.19	40.86	21.25
Groceries, take-out food/drinks	3.06	2.64	5.04	7.50
Gas & oil , vehicle	3.90	5.75	8.48	5.00
Golf fees	49.23	58.12	77.24	59.50
Recreation/Enter.	2.05	4.95	3.03	3.98
Clothing	2.22	2.31	2.63	0.99
Sporting goods	2.22	2.31	2.63	0.99
<u>Souvenirs and other expenses</u>	<u>2.67</u>	<u>3.55</u>	<u>10.64</u>	<u>3.20</u>
Total per round	83.13	94.82	210.09	102.40

### Appendix E

**Local Impact of a Single Course on a Non-Metro Area. Scenario is a moderately priced course (green fees \$32) providing 10,000 travel rounds split one third each to day trips, motel, and VFR/SH segments.**

**Table E-1. Economic Impacts of Golfer Spending : Direct Effects**

Sector/Spending category	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Motel, hotel cabin or B&B	148	4	42	64
Restaurants & bars	191	6	59	83
Golf and recreation	343	13	112	183
Goods production (Manf.)	7	0	1	2
Retail Trade	52	2	27	42
<u>Wholesale Trade</u>	<u>9</u>	<u>0</u>	<u>3</u>	<u>6</u>
<b>Total</b>	<b>750</b>	<b>25</b>	<b>245</b>	<b>380</b>

**Table E-2. Direct and Total Economic Impacts of Golfer Spending**

Economic measure	Direct Effects	Multiplier	Total Effects
Output/Sales (\$ 000's)	750	1.34	1,000
Personal Income (\$ 000's)	245	1.35	330
Value Added (\$ 000's)	380	1.41	535
Jobs	25	1.18	30
Total Visitor Spending (\$ 000's)		\$ 900	
Capture rate		83%	

**Table E-3. Marginal Impacts per \$1,000 of spending and per 1,000 golf rounds**

Impact measure	change per \$1,000 of visitor spending	change per 1,000 rounds of golf
Direct sales	\$833	\$75,000
Direct personal income	\$ 272	\$ 24,469
Direct value added	\$ 422	\$ 37,953
Direct jobs	0.028	2.5
Total sales	\$1,116	\$100,000
Total personal income	\$ 367	\$ 33,056
Total value added	\$ 593	\$ 53,427
Total jobs	0.032	2.9

**Table E-4. Tax Impacts of Direct Sales and Income (\$000's)**

Level	Sales	Income	Total
Federal	5	36	40
State	53	8	61
<u>Local</u>	<u>7</u>	<u>-</u>	<u>7</u>
<b>Total</b>	<b>65</b>	<b>44</b>	<b>108</b>

**Appendix F**

**On-line golfer survey instrument**

**Golf Course Owner Survey Instrument**