

Missoula Case Study:
Direct Impact of Visitor Spending
on a Local Economy

Missoula County, MT

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EXECUTIVE SUMMARY

Introduction

This report examines the direct impact of visitor spending on Missoula County, Montana. The methodology explores the application of the Travel and Tourism Satellite Accounts (TTSA's) to county level economic information in an attempt to develop a simplified method of estimating visitor spending at the local level. Travel and Tourism Satellite Accounts are rearrangements of information from the national economic accounts and other sources for the purpose of analyzing specific economic activities more completely than is possible within the structure of the basic accounts¹. Satellite accounts are used to arrange information about a specific financial activity, i.e. travel and tourism, by cutting across economic sectors in which financial activity occurs. For this study, visitor spending reflects both Montana residents who reside outside of Missoula County as well as nonresident visitors to Montana.

Methodology:

Data from the U.S. Census Bureau's 1992 Economic Census, and 1996 County Business Patterns for Missoula County, along with non-resident visitors data, and a survey of local merchants were used to make adjustments to the TTSA ratios for application to Missoula County. Adjustments for inflation and growth were included to estimate direct spending by visitors to Missoula County in 1998\$.

¹Okubo Sumiye, Planting, Mark A. U.S. Travel and Tourism Satellite Accounts for 1992, Survey of Current Business, July 1998, pp 8-22.

Results:

VISITOR SPENDING IN MISSOULA COUNTY'S ECONOMY

<u>Industry</u>	1992 Receipts (County total)	TTSA Ratio*	Visitor Spending
Hotels, motels, lodging places	\$24,374,000	88%	\$21,449,000
Eating and drinking places	\$82,665,000	25%	\$20,666,000
Miscellaneous amusement & rec. services	\$34,782,000	18%-24%	\$6,261,000-\$8,348,000
Gasoline service stations	\$59,144,000	50%	\$29,572,000
Retail excluding eating & gas stations	\$ 707,330,000	6% - 11%	\$ 42,440,000 - \$77,806,000
TOTALS 1992\$			\$ 120,388,000 - \$ 150,341,000
Adjusted for Growth (92 to 96) and Inflation (92 to 98).			\$164,548,000 - \$210,121,000

PAYROLL ATTRIBUTED TO VISITOR SPENDING IN MISSOULA COUNTY'S ECONOMY

<u>Industry</u>	1996 Payroll (County total)	TTSA Ratio	Payroll Attributed to Visitor Spending
Hotels, motels, lodging places	\$8,434,000	88%	\$7,422,000
Eating and drinking places	\$31,804,000	25%	\$7,951,000
Miscellaneous amusement & rec. services	\$7,612,000	18%-24%	\$1,117,000 - \$1,489,000
Gasoline service stations	\$6,160,000	50%	\$3,080,000
Retail excluding eating & gas stations	\$ 119,851,000	6% - 11%	\$7,191,000 - \$ 13,184,000
TOTALS			\$26,761,000 - \$ 33,126,000
Adjusted for Inflation (96 to 98).			\$ 27,818,000 - \$34,435,000

JOBS ATTRIBUTED TO VISITOR SPENDING IN MISSOULA COUNTY'S ECONOMY

<u>Industry</u>	1996 Jobs (County total)	TTSA Ratio	Jobs Attributed to Visitor Spending
Hotels, motels, lodging places	593	88%	522
Eating and drinking places	3,097	25%	774
Miscellaneous amusement & rec. services	765	18%-24%	138 - 184
Gasoline service stations	374	50%	187
Retail excluding eating & gas stations	4,853	6% - 11%	291 - 534
TOTALS			1912 - 2201 #

For a complete explanation of these tables, including footnotes and references, see the complete report.

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INTRODUCTION

Recent years have seen rapid growth in travel and tourism, both in terms of spending and in the number of travelers. The Travel Industry Association reports that travel related spending in the U.S. has grown from \$216 billion in 1986 to \$408 billion in 1997, with estimates that spending will grow to \$506 billion by the year 2001. Expenditures for international travel tripled between 1987 and 1997 to \$94 billion a year. Total person-trips in the U.S. exceeded one billion in 1997.² Along with this growth, there has been an increased appreciation of travel and tourism's contribution to the economies of a state, county, or local areas.

Literature Review:

When nonresident visitors travel to an area, that area essentially "exports" visitor services³. These exports bring outside dollars into the region, stimulate economic activity, increase local revenues, and create jobs. Spending by nonresident visitors create direct, indirect, and induced effects on the local economy⁴. Direct impacts are essentially the value of the dollars spent by a visitor that is retained by the merchant after paying the costs of doing business. Indirect effects are the result of increased spending by businesses that support visitors. For example, restaurants buy more local fresh vegetables to meet the increased demand caused by increased visitor dining. Finally, induced effects are those effects created by spending of the employees of businesses that support the visitor. For example, the waitress from the restaurant pays for groceries, utilities, and rent from her restaurant paycheck.

The measurement of the effects of visitor spending on a local economy is an area of growing interest to many local communities. Proponents and opponents of sporting facility construction jockey to justify their position based on economic impact data⁵. Federal agencies use economic impact data as one basis for selecting between resource management options⁶. The nationwide growth of legalized gambling has prompted many studies on the economic impacts of gaming development^{7 8 9}. Economic impact assessment has also been beneficial in exploring economic feasibility of alternative

² Travel Industry Association of America Fast Facts. Downloaded from web site, March 16, 1999. <http://www.tia.org/press/fastfacts1.stm>

³ Borden, George W., Fletcher, Robert R., Harris, Thomas R., Economic, Resource, and Fiscal Impacts of Visitors on Washoe County, Nevada, *Journal of Travel Research*, v34, n3, Winter 1996, p75.

⁴ Frechtling, Douglas C., (1994) Assessing the Economic Impacts of Travel and Tourism- Introduction to Travel Economic Impact Estimation. Chapter 27 in Ritchie, J.R.B., & Goeldner, C.R. *Travel, Tourism, and Hospitality Research: A Handbook for Managers and Researchers*, New York, John Wiley.

⁵ Crompton, John L., Economic Impact Analysis of Sports Facilities and Events: Eleven Sources of Misapplication. *Journal of Sports Management*, 1995, 9, 14-35.

⁶ Teasley, Jeff R., Bergstrom, John C. The Impacts of Recreational Spending To A Local and Regional Economy in Northeastern Alabama. Research Report, Dept. of Agricultural & Applied Economics, University of Georgia.

⁷ Borden, G.W., Fletcher R.R., Harris, T.R., Economic, Resource, and Fiscal Impacts of Visitors on Washoe County, Nevada, *Journal of Travel Research*, v34(3) Winter 1996, pp 75-80.

⁸ Casino Gambling in Illinois: Riverboats, Revenues, and Economic Development, *Journal of Travel Research*, v34(3) Winter 1996, pp 89-96.

⁹ Gabe, T., Kinsey, J., Loveridge, S., Local Economic Impacts of Tribal Casinos: The Minnesota Case. *Journal of Travel Research*, V34(3), Winter 1996, p81-88.

resource uses such as converting agricultural land to recreational use, or the impact of various management strategies on visitor spending¹⁰. A number of factors have contributed to the growing need for economic information about visitor spending. As public agencies come under closer scrutiny to justify the investment of public resources, more information is needed both to justify the selection of management alternatives as well as to foster public support

At the global scale, the World Tourism Organization publishes travel spending estimates. At the national level, the travel spending estimates are provided by organizations such as the Tourism Industry Association in the U.S. and Statistics Canada in Canada. In many states, researchers in universities, consulting firms, or state agencies conduct travel studies at statewide and regional levels. But, at the county or local level, very few resources are available to study travel spending. Methodologies for measuring the impact of travelers on a local economy have been an inexact science at best, and expensive and time consuming at worst. The options available for estimating travelers' expenditures range from "taking a guess," to undertaking an extensive economic investigation of the issue. Most administrators and business managers do not want to base public policy or business decisions on a "guess," but there is a lack of expertise or the resources to conduct an in-depth investigation of the economics of travel in their community.

In Montana, county officials, business people, and others are very interested in understanding the role of travel in their county economy, but do not have resources to conduct extensive studies. The Institute for Tourism and Recreation Research (ITRR) at the University of Montana periodically conducts statewide nonresident travel studies for the state of Montana (see for example, Nonresident Summer Travelers to Montana, 1997¹¹). Some data from these studies can be extracted to provide estimates of visitor spending for individual counties. But, developing these county-level estimates is still a time consuming process, data for the relatively less-visited counties is sparse, and the surveys do not account for Montana residents traveling within the state to other counties.

Several methods have been employed to assess the impact of visitor spending in a local economy. Each methodology presents a different combination of advantages, limitations, and disadvantages. Perhaps the most straightforward method of measuring the impact of visitor spending is to measure the direct impact of visitor spending. Using a systematic sampling method, and appropriate statistical techniques, direct visitor spending can be estimated using visitor spending surveys, and visitation rates. Direct spending, however, does not account for the secondary effects of visitor spending on the economy, namely the indirect and imputed effects.

Going beyond direct spending, spending multipliers have been used to estimate the secondary effects of direct visitor spending. While the direct impacts can be obtained through careful visitor spending studies, arriving at an appropriate multiplier is more problematic since the multiplier is a function of the characteristics of the economy being studied. That is "the initial spending on tourism (by visitors) sets off the multiplier

¹⁰ Bergstrom, John C., Cordell, Ken H., Watson, Alan E., Ashley, Gregory A. Economic Impacts of State Parks on State Economies in the South. *Journal of Southern Agricultural Economics*, December 1990.

¹¹ Institute for Tourism and Recreation Research, Nonresident Summer Travelers to Montana, Research Report 51, September 1997. Downloadable at www.forestry.umt.itrr.

process”¹². That being the case, it is not possible to know the appropriate multiplier before undertaking a more advanced economic analysis. The use of multipliers is not as straightforward as one would think. Writing of the problems with using multipliers, Crompton notes, “that it’s basic concept and application are deceptively simple. However, the data and analyses needed to accurately measure a multiplier are fairly complex”.¹³ Local economic differences and methodological differences make the use of a set of “generic” multipliers that would fit a range of settings impossible. It appears from the literature that the misunderstanding, misuse, and sometimes deceptive use of multipliers has significantly undermined the credibility of multipliers in tourism research¹⁴. Errors in the use of multipliers range from haphazard application of multipliers from one community to another to deceptive practices intended to generate support for funding or projects¹⁵.

The most generally accepted approach to estimating the impact of visitor spending on an area’s economy has been the application of Input-Output models, particularly IMPLAN. IMPLAN was developed by the USDA Forest Service to examine economic impact. Essentially, IMPLAN measures the patterns of economic change between interrelated sectors of an area economy that are generated by a change in one sector. Using the earlier example of a restaurant, an increase in restaurant business triggers the restaurant to increase purchasing from suppliers, which, in turn, triggers increases in the suppliers business, etc. The restaurant hires more staff, and those employees spend their paychecks within the local economy. IMPLAN, then, can measure the total economic impact, including direct, indirect, and induced effects, within an area economy.

The advantages to IMPLAN over the other options discussed is that it eliminates the guesswork in deriving the indirect and induced effects of visitor spending and it accounts for revenues, income, and jobs for the self employed and government sectors of the economy as well. Primary data on visitor spending, however, must still be collected. IMPLAN is flexible, in that it allows the user to define the economic “area” under study. Although IMPLAN will allow for examining an economic “area” as small as a county, IMPLAN is most commonly applied to states and regions, including multi-county areas, and less frequently to individual counties. The principal downside to IMPLAN for this study is the objective of developing a model for estimating the impact of visitor spending using readily available economic data.

PURPOSE OF THE STUDY

Therefore, the primary purpose of this study was to examine a model for estimating travelers’ expenditures in a county economy using readily available economic

¹² Braun, Bradley M., The Economic Contribution of Conventions: The Case Study of Orlando Florida. *Journal of Travel Research*, v30, n4, Winter 1992, p35.

¹³ Crompton, John L., Economic Impact Analysis of sports Facilities and Events: Eleven Sources of Misapplication”, *Journal of Sport Management*, (1995), 9, 14-35.

¹⁴ Archer, B. (1982) The Power of Multipliers and Their Policy Implications”, *Tourism Management*, 3(4): 236-241.

¹⁵ Fleming, William R., Toepper, Lorin, Economic Impact Studies: Relating the Positive and Negative Impacts To Tourism Development. *Journal of Travel Research*. Summer 1990,

data. Specifically, ITRR explored adaptation of the Bureau of Economic Analysis' (BEA) US Travel and Tourism Satellite Accounts (TTSA's) to Missoula County, Montana. This was done in order to explore a travel and tourism economic estimation model that requires only generally available economic data and a modest amount of local investigation.

DEFINITIONS

1. Travel Commodities: those products and services purchased by visitors directly from the producers (providers).
2. Usual Environment: the place in which a person engages in their usual activities including work, leisure, and everyday activities. For the purpose of this case study, Missoula County residents are not visitors. Commuters who live outside Missoula County and travel into Missoula County for work are not visitors.
3. Visitor: any person traveling outside his or her usual environment whether for leisure or business purposes. For the purposes of this study, a visitor is defined as any person living outside Missoula County who travels into Missoula County for business or pleasure, for whom Missoula County is not part of his or her usual environment.

METHODOLOGY

Approach

Given the way economic data is collected and reported in the U.S., there is no clearly defined travel industry. But, there are several sectors that provide a good share of travel commodities. These sectors are found throughout the economy within retail, services, transportation, and other industries. However, in addition to selling goods and services to travelers, these industries sell goods and services to other businesses and to consumers who are not traveling. Therefore, the amount of sales or income related to travel cannot be measured directly from reported economic data. Rather, those services and products that make up the travel "industry" must be extracted from overall industry data (or measured directly through expenditure surveys).

In 1997, the Bureau of Economic Analysis (BEA) developed a set of prototype Travel and Tourism Satellite Accounts (TTSA's). Satellite accounts were developed to extract information related to a specific economic activity (travel and tourism) from the larger industries of which it is a part, and to reorganize the data in a form that better represents the economic activities related to that phenomenon (travel and tourism). In this paper, the TTSA data was refined and combined with Economic Census data and data from nonresident visitor spending studies for Missoula County in order to arrive at an estimate of economic activity associated with travel in the county.

Data Sources

Census Data

The US Census Bureau's Economic Census provides data on state and county economies. In particular, information on sales by sector is useful in estimating the contribution of travel and tourism to a local economy. In addition to sales data, the

Census Bureau annually reports payroll and job data by economic sector in the form of “County Business Patterns”. The most recent sales data available is from the 1992 Economic Census, which is conducted every five years. The Geographic Series of the 1997 Economic Census, which includes data for states and counties, will be available some time in 1999. Census data follows the Standard Industrial Classification (SIC) system for reporting economic data. Table 1 identifies industries that contribute to travel and tourism and their associated SIC codes.

Limitations of the Economic Census Data

1. Economic census data is seven years old at this writing. Inflating the numbers to 1999 dollars may help, but will not account for growth (or shrinkage) in the economy in excess of inflation.
2. Although economic census data is generally available down to the detailed 4-digit level (e.g., gasoline service stations) for national data, most state and county data is only available at the less-detailed 2-digit level (e.g., automotive dealers and service stations). The result is “gaps” in the data at the state and local level, which will prevent full and complete application of a model based on these numbers.
3. County Business Patterns data only include wages and salaries, and do not reflect jobs or earnings for the self-employed or government jobs or earnings.

Travel & Tourism Satellite Account Data

It quickly becomes apparent when examining the travel and tourism related industries listed in Table 1 that these industries may provide more than one commodity to tourists, and may also provide commodities to non-travelers. For instance, it may seem logical to assume that hotels and lodging places provide 100% of their services to travelers. Closer examination of the industry reveals that hotels and lodging places also provide services to local customers by renting meeting rooms for local groups, operating a restaurant, providing entertainment, and selling gifts and other retail items. Thus the industry—hotels and lodging places—is providing several different commodities (hotels and lodging, eating and drinking, recreation and entertainment, and even some retail sales) to both visitors and local residents.

In addition to knowing what sectors contribute to the travel industry, it is necessary to be able to partition out the percent of the products and services sold by these sectors to visitors rather than local customers. Without this information, it would not be possible to estimate travel-related expenditures for a local area from published sales data. The process of partitioning out the travel and tourism portion must be accomplished for each sector that supplies products and services to visitors in order for a picture of the economic activity associated with travel and tourism to be complete.

The BEA completed this process for the national economy with the prototype Travel and Tourism Satellite Accounts. It used several sources of information to develop the TTSA's, including national input-output accounts, the Bureau of Labor Statistic's Consumer Expenditure Survey, the Travel Industry Association, D.K. Shifflet and Associates, the In-Flight Survey, and the American Express Survey of Business Travel

Management.¹⁶ The resulting ratios reflect the portion of sales, jobs, or payroll that can be attributed to travelers at the national level (Table 1).

¹⁶Okubo Sumiye, Planting, Mark A. U.S. Travel and Tourism Satellite Accounts for 1992, Survey of Current Business, July 1998, pp 8-22.

TABLE 1: TOURISM INDUSTRIES AND NATIONAL TOURISM RATIOS

Tourism Industry	SIC Codes	National Tourism Industry Ratio¹⁷
Hotels and lodging places	701, 702, 703, 704	.80 - .82
Eating and drinking places	58	.16 - .20
Railroads and related services	40	.04
Local and suburban transit, and interurban highway passenger transportation, except taxicabs	411, 413, 414	.21 - .31
Taxicabs	412	.22 - .70
Air transportation	451, 452	.81
Water transportation (not marinas)	441, 442, 443, 444, 448, 4492, 4499	.14
Auto rental leasing without drivers	751	.54 - .57
Arrangement of passenger transportation	472	.22
Miscellaneous amusements and recreation services (except membership sports and recreation clubs); racing, including track operations; marinas; libraries, museums, art galleries, and botanical and zoological gardens.	4493, 7948, 7992, 7993, 7996, 7999, 823, 84	.18 - .24
Membership sports and recreation clubs	7997	.31 - .40
Motion picture theatres; dance studios, schools, and halls; theatrical producers (except motion picture), bands, orchestras, and entertainers	783, 791, 792	.17 - .27
Professional sports clubs and promoters	7941	.13 - .16
Gasoline service stations	5541	.07 - .11
Retail, excluding eating and drinking places and gasoline service stations	52 to 59 excluding 58 and 5541	.02 - .03

Limitations of the National TTSA Ratios:

1. Ratios built on national data will likely not fit areas of the country with different economic characteristics. For example, a county with a high concentration of tourist facilities (e.g., destination resorts) would differ significantly from the national ratios.
2. Lack of county-level economic information for detailed sectors of the economy make certain ratios useless for predicting the impact of visitor travel.

¹⁷ Ibid. Ranges result from differing methods of computation.

Local Business Data

Because ratios built on national data will not likely fit a local economy, it is important to make adjustments to the TTSA ratios to fit the local situation. Business owners are an excellent source of information for making decisions about adjusting the TTSA ratios. Asking local business people about the proportion of their business that comes from residents versus visitors is a direct approach and may yield some interesting observations, but can be somewhat subjective. However, it can be a useful technique if approached properly.

ITRR conducted a survey of Missoula County retail businesses (restaurants and other retail establishments). Businesses were selected for participation in the interview process in order to ensure a representation based on size and type of business and geographic location in the community. The sample included both national “chain” outlets, as well as locally owned businesses. Retail businesses were organized and sampled at the two-digit SIC level (e.g., Building Materials & Garden Supply, General Merchandise, Food, Automotive Dealers, Apparel & Accessories, Furniture & Furnishings, Eating & Drinking Places, and Miscellaneous Retail). A sample of businesses representing the groups at the two-digit level was selected from the yellow pages.

Business owners were first asked whether they tracked the proportion of their business that came from out of town or out of state. According to merchants, very little formal tracking was done. Merchants’ tracking efforts ranged from personal observation to zip code tracking. Business owners were shown the National TTSA tourism ratio for their industry and asked whether they believed the ratio was high, low, or about right for their industry in Missoula. The interviewer asked the business owner to think about their industry in Missoula and not just their own business location.

Limitations to data from local businesses

1. Most business owners will only be able to make an estimate of the proportion of their business that comes from visitors.
2. Business owners may not recognize patrons as being visitors, particularly if they have regular customers from outside the county.

Tracking retail sales. The best information about the origin of retailers’ customers comes from businesses that record their customers’ zip codes. Zip code tracking provides for very accurate estimate of the proportion of local versus visitor business. More and more retailers are beginning to track their sales in this manner. However, this type of tracking is generally limited to larger businesses that use the information for marketing purposes, especially chain retail outlets. Many grocery stores are tracking customer-buying behavior using bar-code discount cards. However, not everyone uses these and local patrons are more likely to obtain the cards. In the absence of a zip code database of customers, business owners generally have a reasonable sense of their customer base.

ANALYSIS

This Missoula Case Study examined economic activity associated with travelers to Missoula County, Montana by applying modified TTSA ratios to 1992 Economic Census sales data and to 1996 County Business Patterns payroll and employment data.

Modifying the TTSA Ratios for Missoula County

Because the TTSA ratios are based on national level data, application of the TTSA ratios to a smaller economy raises many questions. The application of the national TTSA ratios from state-to-state can lead to inaccuracies based on the differences in state economies, let alone the potential error that may result from applying the same ratios to a local economy. After initial examination of the national TTSA ratios, it was determined that some of the ratios may not be appropriate for the Missoula County economy. Ratios called into question included those for hotels & lodging places, eating & drinking places, gasoline service stations, and other retail (retail aside from eating & drinking places and gasoline service stations). Before making any adjustments to the TTSA ratios for estimating visitor economic impact, a defensible argument must be made that the ratio should be different than the national ratio.

Gasoline Service Stations:

The first ratio examined was that for gasoline service stations. The national TTSA ratio of 7% to 11% was considered too low for the Montana and Missoula economies based on other available data. A June 1998 report published by the Institute for Tourism and Recreation Research estimated non-resident expenditures for gasoline and diesel fuel at \$301 million, or 35% of gasoline and diesel sales in the state in 1996.¹⁸ Data from Montana nonresident studies indicated over \$30 million in spending for gasoline in Missoula County, or over 51% of the county's annual sales of fuels (including diesel fuel).¹⁹ Because this figure was sizable and much larger than the TTSA estimate, ITRR compared Missoula County data with other counties and with the state. A comparison of 1992 sales and population data for Missoula County and the state shows that Missoula County had higher spending per capita on gasoline than the statewide average. By contrast, Yellowstone County had lower spending per capita than the state. In 1992, sales in Missoula County service stations were \$59 million, while they were about 10% higher (\$66 million) in Yellowstone County. Yet, Yellowstone County's population was 30% higher than Missoula County's. Sales to nonresidents in Yellowstone County accounted for about 31% of the County's gasoline sales, lower than the 51% estimated for Missoula County.

In addition, although Missoula is not a travel destination, it is strategically located in western Montana. Missoula is located on Interstate 90, which is a high traffic corridor for travelers. Primary visitor attractions such as the mountains, Yellowstone and Glacier National Parks, and Flathead Lake, and six of Montana's seven largest cities and counties are located in Montana's mountainous west. Almost 40% of nonresident summer visitors to Montana and about half of nonresident winter visitors to Montana travel through Missoula²⁰. Given this information it appears reasonable to adjust the TTSA ratio to 50% for Missoula County rather than the 7% - 11%, as the national TTSA ratio would indicate.

¹⁸ Cheek, Kristin Aldred, Black, Rita, Nonresident Travel in Montana: Putting the Numbers in Context. Technical Completion Report 98-2, June 1998. . Downloadable at: www.forestry.umt.edu/itr

¹⁹ Unpublished data compiled by ITRR from nonresident survey results.

²⁰ Institute for Tourism and Recreation Research, Winter Nonresident Travelers to Montana: Profiles and Characteristics, Research Report 59, August 1998. Downloadable at: www.forestry.umt.edu/itr

Eating and Drinking Places:

Also examined were the ratios for eating and drinking places. For this, ITRR conducted a survey of Missoula area businesses. In general, business owners indicated that because Missoula was a regional shopping center even for households residing outside Missoula County, a greater portion of their business came from out of town than the National TTSA ratio would indicate. Operators of eating and drinking places generally agreed with the national TTSA ratios or indicated it should be higher. No one suggested that it should be lower than the National TTSA ratio. Those who thought the ratio should be higher were generally located in high-traffic, high volume locations for tourists including along major highways, regional shopping areas, or adjacent to hotels and motels.

In addition, data from ITRR's nonresident visitor studies indicated that nonresident visitors spent almost \$22 million (1992\$) dollars in Missoula restaurants and bars.²¹ This represented close to 25% of sales, as compared to the 16% to 20% suggested by the Travel and Tourism Satellite Account for restaurants and bars. Based on this information and the observations and comments of owner-operators, the ratio was adjusted to 25% for the Missoula Case study. It should be noted here that the surveys of non (Montana) resident traveler spending did not account for spending by non-Missoula County residents. Logically, if out-of-state visitors spent \$22 million in the county, the contribution of non-Missoula County residents would push this amount even higher. Because no data exists on spending by non-Missoula County residents in Missoula County, the ratio of 25% was considered to be a conservative estimate of spending in Missoula County by all visitors.

Retail (Excluding Eating and Drinking and Gasoline Service Stations):

Among other retail merchants surveyed, merchants stated they drew a much higher percentage of their business from out of town than the TTSA figures indicated. Owners of these other retail businesses explained that outlying areas and neighboring counties lacked many of these types of retail stores, forcing shoppers to travel to Missoula for the selection. Because Missoula is considered to be a regional center for retail, as well as health care, and education, and because of the considerable distance to an equivalent retail center, it was determined that the retail ratio should be increased for the case study. Again, according to the Montana non-resident travel studies, out-of-state visitors spent almost \$39 million (1992\$) in Missoula County.²² Once again, this amount is greater than the national TTSA ratio would suggest. Non Montana resident spending in Missoula County accounted for 5.5% of retail spending in Missoula County as opposed to the 2% to 3% suggested by the satellite account for retail. Again, as with restaurants and bars, this is based on out-of-state visitor spending. Additional spending by residents of surrounding counties would push this percentage higher. For the purpose of this investigation, 6% to 11% was considered a conservative estimate of non-resident spending in Missoula County.

Miscellaneous Amusement and Recreation Services:

Business owners in the miscellaneous amusement category felt that their out-of-town business was equal to or less than the TTSA ratios. They based their claim on the fact that most towns have business such as bowling alleys, movie theatres, and golf courses

²¹ Unpublished data compiled by ITRR from nonresident survey results.

²² Ibid.

available to the local population, therefore out of county visitors do not need to travel to Missoula to find these amusements. Based on comments by owners of amusement businesses, it was determined to leave the TTSA ratio for amusement businesses at the national level and report sales for this sector as a range reflecting the national TTSA ratios.

Hotels, Motels, & Lodging Places:

Finally, the TTSA ratio for lodging places was examined. In this instance, the TTSA ratio was reasonably accurate. Based on ITRR's nonresident visitor studies, travelers accounted for 88% of lodging receipts as compared to the TTSA ratio of 80% to 82%.²³ Based on this information, the TTSA ratio for the Missoula case study was adjusted to 88%.

Estimating Visitor Spending

Using TTSA ratios, local business survey data, and knowledge of statewide nonresident visitor spending based on previous research by the Institute for Tourism and Recreation Research, estimates of visitor spending in Missoula County were developed (Table 2). Applying the adjusted TTSA ratios to Missoula County economic census data results in an estimated \$120 million to \$150 million in visitor spending in Missoula in 1992 dollars.

Underestimation Using Available Data

Economic Census data (see Appendix A) at the county level are incomplete at best, because data are often suppressed if the number of businesses within a particular SIC code is low (in order to maintain businesses' confidentiality). In the case of the sectors that make up the TTSA, only five provided any data at the county level: lodging, eating and drinking places, gasoline service stations, miscellaneous amusements, and other retail. Basing visitor spending estimates on data from these five sectors will result in an underestimation of actual travel expenditures. To determine the extent to which missing data for Missoula County would result in an underestimation of visitor spending, data for the state was examined. In applying the TTSA ratios to Montana's economic data, it was determined that these five sectors for which county-level data is available accounted for approximately 90% of visitor related spending in Montana.

²³ Ibid.

TABLE 2: VISITOR SPENDING IN MISSOULA COUNTY'S ECONOMY

Industry	1992 Receipts (County total)²⁴	TTSA Ratio*	Visitor Spending
Hotels, motels, lodging places	\$24,374,000	*88%	\$21,449,000
Eating and drinking places	\$82,665,000	*25%	\$20,666,000
Miscellaneous amusement & rec. services**	\$34,782,000	18%-24%	\$6,261,000-\$8,348,000
Gasoline service stations	\$59,144,000	*50%	\$29,572,000
Retail excluding eating & gas stations	\$ 707,330,000	*6% - 11%	\$ 42,440,000 - \$77,806,000
TOTALS 1992\$			\$ 120,388,000 - \$ 150,341,000
Adjusted for Growth (92 to 96) and Inflation (92 to 98).			\$164,548,000 - \$210,121,000#

* TTSA ratio modified based on other data sources described above.

** From General Statistics, others from Nonemployer Statistics

See Sidebar: Underestimation Using Available Data on page

Adjusting the 1992\$ to 1998\$ required the addition of both an inflation factor and a growth factor. Inflation was adjusted for the period 1992 to 1998 using an inflation calculator available on the Internet²⁵. Annual growth in the Missoula economy was projected based on the average growth rate in payroll in each sector reflected in the County Business Patterns between 1992 and 1996. Accounting for both growth and inflation results in estimated visitor spending of \$165 million to \$210 million in 1998 dollars. Table 3 shows the adjustments made for inflation and for growth.

TABLE 3: ADJUSTING SPENDING FOR INFLATION AND GROWTH

Industry	1992 Payroll*	1996 Payroll	Pct. Growth	Inflation 1992-98
Hotels, motels, lodging places	6,225,000	8,434,000	35%	16%
Eating and drinking places	27,525,000	31,804,000	16%	16%
Miscellaneous amusements & rec. services.	County Business Patterns data not available at county level			16%
Gasoline service stations	4,812,000	6,160,000	28%	16%
Retail excluding eating & gasoline stations	83,305,000	91,231,000	10%	16%

* Expressed in 1996\$ to eliminate effect of inflation.

²⁴ 1992 Economic Census, retail trade and taxable service industries, Employer statistics and Nonemployer statistics. <http://govinfo.library.orst.edu>

²⁵ "What's a dollar worth?" <http://woodrow.mpls.frb.fed.us/economy/calc/cpihome.htm>

Estimating the Impact of Visitor Spending on Local Wages

Visitor spending is not always the best indicator of the impact of visitors on a local economy. For instance, in the retail sector, the greatest portion of merchant receipts leave the local economy almost immediately in the form of payments to out-of-town suppliers and wholesalers. Then local merchants pay local suppliers, wages and salaries. Employees in turn, spend some of their wages and salaries in the community. For that reason, payroll may be a better indicator of the degree to which visitors support a local economy.

Payroll information is available from the U.S. Census Bureau publication “County Business Patterns” (See Appendix B). Payroll information is available to the 4-digit SIC code level, and is also more current (1996) than Economic Census payroll data. Applying TTSA ratios to county payroll data provides a measure of the extent to which visitor dollars translate into income for local residents (Table 4). However, payroll data from County Business Patterns only reflect employment covered under the state unemployment system. They exclude self-employed persons and many part-time or seasonal workers. With a large number of self-employed persons providing services to the travel and tourism industry, such as outfitters, guest ranches operators, and crafts persons, the payroll data will underestimate the true impact of visitor spending on travel-related payroll. In addition, payroll of state and federal employees are not included in the County Business Patterns data. Government employees of parks, land, and resource management agencies could also be considered part of the travel economy, but their payroll will not be represented by County Business Pattern data. From the available data, it is estimated that visitor spending contributed between \$27 million and \$34 million annually to local wages in 1998.

TABLE 4: PAYROLL ATTRIBUTED TO VISITOR SPENDING IN MISSOULA COUNTY’S ECONOMY

Industry	1996 Payroll (County total)²⁶	TTSA Ratio*	Payroll Attributed to Visitor Spending
Hotels, motels, lodging places	\$8,434,000	*88%	\$7,422,000
Eating and drinking places	\$31,804,000	*25%	\$7,951,000
Miscellaneous amusement & rec. services**	\$7,612,000	18%-24%	\$1,117,000 - \$1,489,000
Gasoline service stations	\$6,160,000	*50%	\$3,080,000
Retail excluding eating & gas stations	\$ 119,851,000	*6% - 11%	\$7,191,000 - \$ 13,184,000
TOTALS			\$26,761,000 - \$ 33,126,000
Adjusted for Inflation (96 to 98).			\$ 27,818,000 - \$34,435,000#

* TTSA ratio modified based on other data sources described above.

** From General Statistics, others from Nonemployer Statistics

See Sidebar: Underestimation Using Available Data on page

²⁶ County Business Patterns, Counties – Employees, Payroll, and Establishments: 1996. : <http://www.com.mt.gov/ceic/economic/CBP/index.htm>

Estimating the Impact of Visitor Spending on Local Employment

The Census Bureau's County Business Patterns also provides data on the number of jobs supported by each industry sector. Application of the revised TTSA ratios to employment yields an estimation of the number of jobs which are supported by visitors to Missoula County (Table 5). Caution must again be exercised in interpreting this data because the County Business Patterns does not include job data for self-employed persons or for government employees involved in the recreation/travel industry and will under represent true visitor supported jobs. In addition, employment represents a mid-March employment period, which would completely miss the impact of summer and seasonal jobs. This estimate of jobs also assumes full-time (FTE jobs), while a great number of jobs in the travel industry are characterized as seasonal and/or part-time. It is likely that visitor spending supports many more jobs than these numbers would indicate. From the available data, it is estimated that visitor spending supports at least 1900 to 2200 FTE jobs in Missoula County, but the true figure is probably much higher. No attempt has been made to adjust for growth for jobs.

TABLE 5: JOBS ATTRIBUTED TO VISITOR SPENDING IN MISSOULA COUNTY'S ECONOMY

<u>Industry</u>	1996 Jobs (County total)²⁷	TTSA Ratio*	Jobs Attributed to Visitor Spending
Hotels, motels, lodging places	593	*88%	522
Eating and drinking places	3,097	*25%	774
Miscellaneous amusement & rec. services**	765	18%-24%	138 - 184
Gasoline service stations	374	*50%	187
Retail excluding eating & gas stations	4,853	*6% - 11%	291 - 534
TOTALS			1912 - 2201 #

* TTSA ratio modified based on other data sources described above.

** From General Statistics, others from Nonemployer statistics.

See Sidebar: Underestimation Using Available Data on page

²⁷ County Business Patterns, Counties – Employees, Payroll, and Establishments: 1996.
<http://www.com.mt.gov/ceic/economic/CBP/index.htm>

Estimating visitor spending in your county

1. Get sales, payroll and/or income data for your county. You can download this information from the internet (see “Resources” at the end of this document for specific web site addresses). Remember the limitations of each type of data (these are described in an earlier section of this paper). For sales data, try to get “non-employer statistics” for retail and service industries. The sales data for all establishments in these tables include the sales of small businesses that do not have employees. If this data is undisclosed, revert to the “general statistics” report. For payroll data, look for the annual total for each sector under consideration.
2. Select a sample of local businesses to survey. It is most important when selecting a sample of businesses that the sample be representative of the businesses in your local area. The sample should include businesses of various sizes, be geographically distributed within the community, represent “local” as well as “name-brand” businesses, and represent a cross section of types of businesses in the sector. Focus on sectors in which the community may be atypical of the national ratios. For example, if the majority of motels in the county offer only “basic services”, i.e. no restaurant, gift shop, or meeting rooms, it is possible the ratio could be higher in your community. Also, focus attention on those businesses and sectors that make up the greatest contribution to visitor spending. For example, if you are able to determine the amount of sales in a sector is dominated by one business, that business’s information will drive the ratio for that sector.
3. Survey local business people about the percent of their sales made to travelers. Show them the TTSA ratio for their industry and ask them to respond: high, low, or about right. Ask them if they track data closely and are able to give you a more accurate estimate.
4. Adjust the ratios where adequate information is available. Be creative and look for other sources of information. ITRR has published some data for communities that have gone through the Community Tourism Assessment Process (CTAP), as well as data for the state’s larger counties.
5. Apply the ratios, keeping the limitations of each piece of data in mind. Use ranges of estimates for sectors. If you present the data to others, be sure to let them know the limitations, too.

SUMMARY AND RECOMMENDATIONS FOR FURTHER DEVELOPMENT

Applying the TTSA ratios to county-level sales data is a relatively straightforward procedure. In absence of another rationale for estimating visitor spending in a county, use of the national TTSA ratios would serve as a very rough “ball park” estimate with no “tweaking” of the ratios. Refining the TTSA ratios by studying local business activities would certainly lead to more accuracy, particularly if there is a reason to believe the national ratios are inappropriate for the local situation. Applying the TTSA ratios to payroll and job data is also relatively straightforward. Payroll largely represents that portion of visitor spending that remains in a community after employers have paid their costs of doing business. There are limitations associated with both the jobs and the payroll data (see descriptions above).

It should also be noted that the methodology presented here attempts to account for direct visitor spending in the Missoula economy only. There has been no attempt to “derive” a multiplier to measure the extent of indirect and induced impacts of visitor spending on the local economy. To achieve that, it would be necessary to conduct an input-output study using tools such as the IMPLAN system discussed in the literature review.

As indicated at the beginning, there is a need at the local level of government for a relatively straightforward method for estimating the impact of travel on a local economy. This was a first step toward creating an estimation model that is based on readily available data and an initial effort to apply the recently developed Travel and Tourism Satellite Accounts to a county economy. Although the TTSA ratios can be applied directly to county sales patterns, that would provide only a very rough “ball park” estimate that does not take the complexities and uniqueness of a local economy into account. The authors have attempted to demonstrate a method for manipulating the national TTSA ratios that requires a modest amount of local data collection. Additional investigation is needed to improve and refine this model; comments and contributions are welcomed.

RESOURCES

Cheek, K. A., Black, R., Nonresident Travel in Montana: Putting the Numbers in Context. Institute for Tourism and Recreation Research, Technical Completion Report 98-2, June 1998. Downloadable at: www.forestry.umt.edu/itr

McMahon, K., Cheek, K.A., Black, R., Winter Nonresident Travelers to Montana: Profiles and Characteristics, Institute for Tourism and Recreation Research, Research Report 59, August 1998. Downloadable at: www.forestry.umt.edu/itr

Okubo Sumiye, Planting, Mark A. U.S. Travel and Tourism Satellite Accounts for 1992, Survey of Current Business, July 1998, pp. 8-22.

Parish, J., Nickerson, N., McMahon, K., Nonresident Summer Travelers to Montana, Institute for Tourism and Recreation Research, Research Report 52, September 1997. Downloadable at: www.forestry.umt.edu/itr

United States Census Bureau Data. Homepage: <http://www.census.gov/>
Or, you can access census data through the Government Information Sharing Project:
<http://govinfo.kerr.orst.edu>

County Business Patterns Data: <http://www.com.mt.gov/ceic/economic/CBP/index.htm>

APPENDIX A

Economic Census Data: Missoula County, Montana

1992 Economic Census -- Retail Trade: Nonemployer Statistics

Missoula County, Montana

SIC and Description	All establishments		Nonemployers	
	Number	Sales (\$1,000)	Number	Sales (\$1,000)
Retail Trade	1054	863832	372	18403
52 Building matrl & garden supp.	49	54605	14	1472
53 General merchandise stores	20	(D)	5	(D)
54 Food stores	79	145713	22	712
55ex.554 Automotive dealers	100	217835	52	3522
554 Gasoline service stations	52	59144	4	1844
56 Apparel and accessory stores	71	29210	15	435
57 Furniture and homefurnishings	77	44823	26	1722
58 Eating and drinking places	245	82665	32	1866
591 Drug and proprietary stores	13	(D)	3	(D)
59ex.591 Miscellaneous retail stores	348	72079	199	6471

1992 Economic Census -- Taxable Service Industries: Nonemployer Statistics

Missoula County, Montana

SIC and Description	All establishments		Nonemployers	
	Number	Receipts (\$1,000)	Number	Receipts (\$1,000)
Total	3894	343371	3028	45368
70 ex 704 Hotels, houses, camps, oth	64	24374	17	430
72 Personal services	476	17647	412	5406
73 Business services	846	42993	711	8988
75 Auto repair, serv, park	214	28050	132	3555
76 Misc repair services	145	16134	105	2353
78,79,84 Amusement/rec services	325	37208	261	2426
80 Health services	429	100945	213	8559
81 Legal services	144	27734	84	2222
823,4,9 Select educational serv	144	1534	138	1055
83 Social services	435	6694	399	3096
87 ex 8733 Engineer, acct, res, mgmnt	585	37969	478	5954
89 Services, n.e.c.	87	2089	78	1324

APPENDIX B

County Business Patterns: Missoula County Montana

<http://www.census.gov/prod/3/98pubs/cbp96-28.pdf>