



Impact of Visitor Expenditures on Local Revenues

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Prepared December 1994 by

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Source: Adapted from *Tourism USA, Guidelines for Tourism Development*, The University of Missouri, Department of Recreation and Park Administration, University Extension, revised and expanded 1986, pp 56-57.

The money tourists spend in a community is the benefit which people probably recognize most readily. Other benefits might include improved recreation facilities, expanded cultural and social opportunities, and pride in one's community, but additional dollars provide the usual appeal for tourism development. These dollars benefit sectors throughout the community, including those not directly connected to tourism, such as the construction industry.

Communities contemplating development to encourage tourism can estimate the amount of money visitors will spend in their area. These estimates are useful in several ways.

- To indicate the value of tourism to a larger region.
- To show the impact on specific local economic sectors, for instance main street business, households, local governments.
- To plan new tourism attractions or facilities.
- To determine the impacts of tourism on the economy in terms of receipts, employment,

payroll, and tax revenues.

Steps to construct a custom income multiplier

1. Collect data on the volume and pattern of tourist spending. This information will come from survey data or regional use figures.
2. Estimate the percentage of sales income which remains in the area. Interviews with knowledgeable business people in each sector will provide this estimate.
3. Determine the percentage of tourist expenditures that directly increase local revenue. This is a "weighted" average of all sectors where the weights are the percent of the tourist expenditure in each sector.
4. Estimate the percentage of income that local people spend in your community.
5. Estimate the percentage of goods and services sold locally that are produced locally.
6. Multiply the percent estimated in Step 4 by the percent estimated in Step 5.
7. Subtract the percent calculated in Step 6 from 100 percent and divide the result into 100 percent.
8. Calculate the income multiplier by multiplying the result obtained in Step 7 by the percent calculated in Step 3.
9. Determine the increase in local income by multiplying total tourist expenditure by the income multiplier.

Measuring visitor expenditures

There are four methods that communities may use to collect estimates of total dollars spend by visitors to their area.

Diaries

A diary format that continuously records spending is the most accurate method for obtaining expenditure information. Diaries require minimum recall on the part of respondents, which is advantageous if highly detailed information is sought. There are two major shortcomings, however. First, recording expenses may change the tourist's spending habits and therefore bias total tourism spending estimates. Second, participation tends to be low because few vacationers welcome an additional chore. Innovative incentives might offset this problem.

Tourists with certain types of personalities may be more likely than others to keep diaries. Personality differences might also be reflected in spending behavior.

Exit interviews

Another method of gathering expenditure information is to interview people as they leave an

area. People can be asked to estimate their total expenditures for the entire visit to an area, or for only their last day there. Since fewer people will refuse to complete an exit interview, you can expect to find a more representative group of respondents with this method than with diaries. People will tend to forget many expenditures, however. They will remember better the expenses from the last day than from earlier days.

A variation on the exit interview is to interview people randomly in an attempt to reach them on each day of their visit. This reduces the bias found when interviews are concentrated on the last day of a visit, but it does not eliminate the problem of recall.

Mail surveys at home

Questionnaires may be sent to visitors at their home addresses, using a random sample derived from various registration data. This type of questionnaire typically gets a higher response rate than the diary method, but a lower response rate than exit interviews. The time lapse in mail surveys increases the tendency to underestimate actual expenses.

Surveying tourist-related business

Businesses directly affected by visitor expenditures include hotels, shops, and restaurants. Information gathered from proprietors or managers of these establishments is subject to their ability to differentiate between tourist-related sales and sales to residents.

Measurement of impact on local revenues

There are two methods to measure the impact of tourist expenditures on local revenue:

- Adapt coefficients from existing national or regional studies.
- Develop specific impact relationships for the community being studied.

There may be analysts who can assist a community with this task. There may be consultants or perhaps a council of governments, a regional development organization, a college, or Extension faculty who would welcome the opportunity to cooperate in a project of this sort. The cost of analysis may influence how the community chooses to address this need.

Use of regional or county revenue multipliers

(Note: Revenue is used here to differentiate from family income. The usual convention among economists is to speak of income multipliers, but we are talking of changes in "income" throughout the local economy, not just to families.)

Regional or county revenue multipliers provide a rough estimate of the increase in local revenue as a result of tourist related expenditures. A multiplier is a factor used to estimate the impact on local revenue from tourism sales.

Evidence indicates that in the northwestern United States local income from tourism falls within a range of 30 to 50 percent of tourist expenditures. (This should not be confused with "revenue multipliers" which are much larger.) In most areas, a \$100 tourist expenditure can be expected to increase local revenue by \$30 to \$50.

If a multiplier is not available, a ballpark estimate can be made by considering the following factors:

- The estimate will probably fall within the range of 0.3 to 0.5.
- The multiplier will tend to be at the upper end of the range if the region is urban (more self sufficient) rather than rural, and if tourists buy products which require considerable local labor in production (e.g., hotel-motel expenditures, purchase of local arts and crafts).

There may be an economic analysis office in the State government or in the business department of a university that knows of multipliers for this or a similar region. The U.S. Forest Service or Extension Service through the IMPLAN program may be able to provide the multiplier estimates for the area.

Construction of a custom multiplier

If the program is past the preliminary stage and the community already does considerable tourist business, it may make sense to develop a custom multiplier. Information required is:

- The pattern and volume of tourist expenditure in the region.
- The percentage of goods and services produced locally.
- The percentage of local revenue that is spent locally.

If a custom multiplier is the option of choice, the community will usually need to acquire outside assistance to complete the work.

Examples of visitor expenditure patterns.

The pattern and volume of tourist expenditures will be the first type of data collected in evaluating tourist impact. Of every \$100 spent by tourists in Arizona in 1984, for example, about \$26 was spent for food and beverages, another \$26 for lodging, a little more than \$23 for transportation, \$7 for entertainment, and \$15 for retail purchases. The money which accrues to local residents depends on the amount of tourist expenditures. The more money each tourist spends in the area, and the more tourists who visit, the greater the increase in local incomes.

The amount of local income created will depend on the pattern of expenditure by the tourists and on the amount of goods and services that can be provided by the local community. For example, if the expenditure is for fuel, the money quickly leaves the community to pay for the fuel, unless there is a local wholesaler, when it stays in the community longer.

Percentage of goods and services produced locally.

Also important is the extent to which different sectors within the local area purchase goods and services from each other. If the local restaurant is able to purchase food from wholesalers in the region, more of the tourist expenditure will accrue as local revenue. For sectors important to tourist trade, it is useful to estimate the percent of each purchase that is produced locally. Interviews with knowledgeable business people in each sector can provide this information.

Again, some economic analysis office in the state should be able to estimate the effect throughout the economy of money spent locally. For example, when the percentage of goods and services produced locally and the distribution of tourist expenditures were computed in one area, 32 percent of tourist expenditures went to restaurants and food stores. Of that amount, almost 59 percent went to local businesses and residents as additional revenue. As might be expected, lodging is the sector with the highest percentage of goods and services supplied locally, and thus the highest potential for generating local revenue.

Percentage of money spent locally.

Once the percentage of goods and services produced locally has been estimated and the pattern of tourist expenditure established, the amount of money coming into the local area can be calculated. If \$28.70 is spent for lodging, and if 38 percent of this sum must go to buy goods and services outside the area, then 62 percent of the money, or less than \$18, stays in the local community. (Note: We have neglected the role of taxes, which can partially flow out of the community.)

This is not the end of the matter, however. Recipients of this revenue will spend a portion for goods and services, some produced locally and some imported. The motel proprietor buys groceries at the local market and gasoline at the filling station, generating additional local revenue. These second round recipients will have less of the total money to spend than the first round recipients-those who received revenue from the initial tourist purchase-and third round recipients will have even less than second round participants.

The result of this "chain of spending" is a multiplier process whereby money spent locally is multiplied to give the total impact of the new money spent in the community.

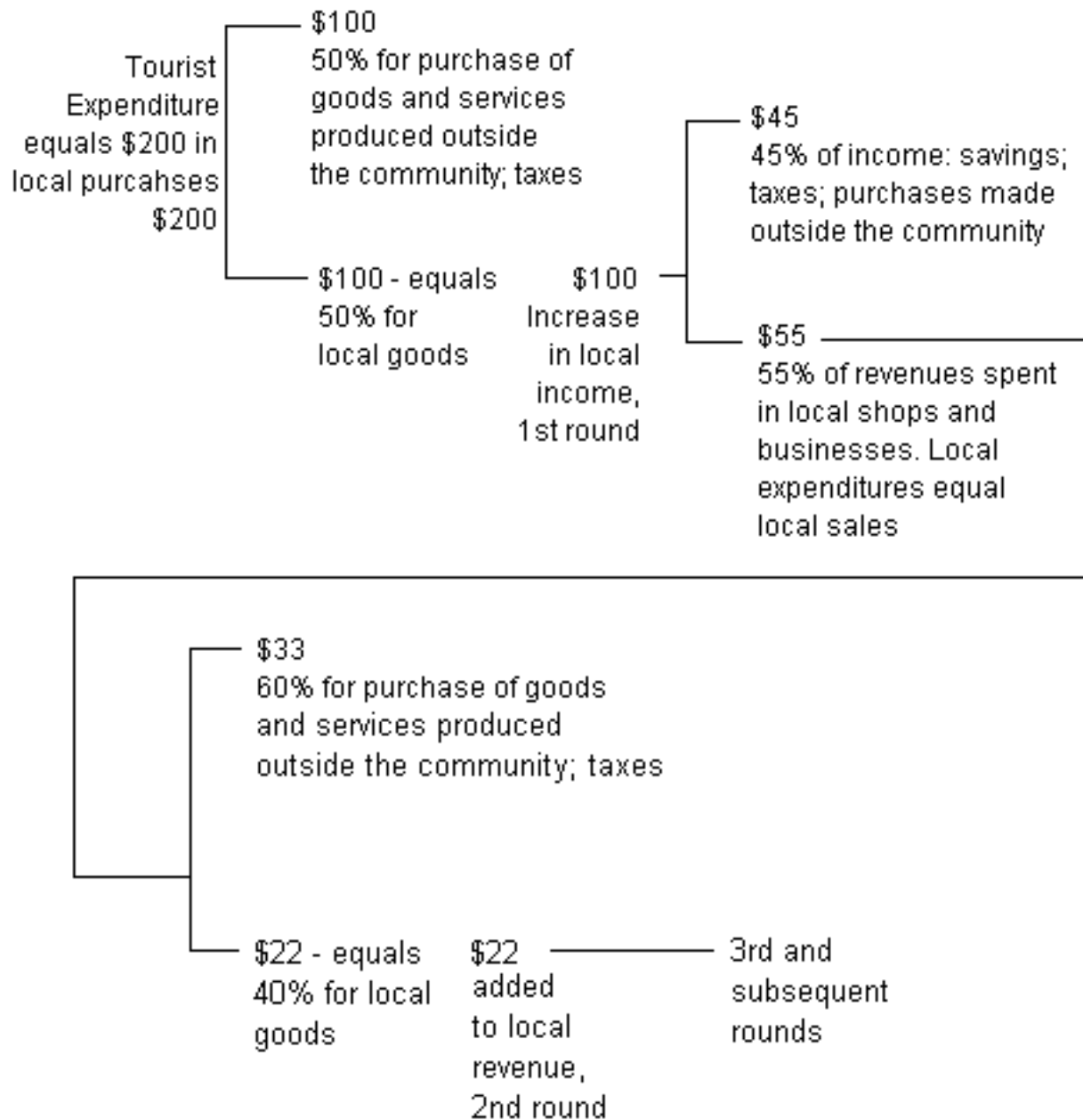
The amount of revenue generated locally in the second, third, and subsequent rounds of spending is determined by the same considerations that determined the direct impact-the proportion of money spent on local goods and services, in this case by local residents, and the percentage of these goods and services produced locally. Figure 1 takes a \$200 tourist

expenditure into the second round of spending. Taxes are treated as a payment for services performed by outsiders. \$200 in local purchases created \$100 revenue for local residents in the first round. They, in turn, spent \$55, or 55%, at local shops and businesses. The other \$45 went into savings, or taxes, or into other communities as a portion of the revenue was spent outside the community. The \$55 in local revenue adds to community business. The addition to local economic activity, however, will be less than the amount of the sales. If 40 percent of the goods and services purchased with that \$55 are produced locally, then another \$22 will be added to local revenues, which will lead to further increases in local sales and incomes.

Figure 1. An example of a \$200 Tourist expenditure on Local Revenues in Western City, U.S.A.

**First Round-Direct Impact
\$100 Increase in Local Incomes**

**Second and
Subsequent
Rounds - Indirect
Impact \$22
Increase in Local
Incomes Second
Round**



In the literature on tourism, it is not uncommon to find statements to the effect that initial expenditures by tourists are multiplied many times over as a result of subsequent rounds of spending. Such statements may be misleading. We are concerned not with the volume of sales attributable to the tourist expenditure, but with the portion of that expenditure which ends up as local income. Smaller and smaller portions of the original expenditure continue to ripple through the local economy. The multiplier accounts for the actual economic size of these smaller and smaller ripples for a more accurate estimate of the actual economic impact.

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Regional Tourism Fact Sheets

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[WREP 145](#) **MEASURING VISITOR EXPENDITURES AND THEIR IMPACT ON LOCAL INCOME**

[WREP 146](#) **ESTIMATING VISITOR DEMAND AND USAGE**

[WREP 147](#) **COST-BENEFIT ANALYSIS OF LOCAL TOURISM DEVELOPMENT**

Community leaders, or others involved with tourism-related community development, can use this series of fact sheets to lead a focused discussion on the economic benefits of tourism. Who will benefit from tourism? How many tourists will a new project bring to the community? How much will new tourists spend in your community? This series of fact sheets is designed to address these questions, which must be answered in order to realistically evaluate decisions related to local tourism development.

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