

# The Economic Significance of the California Travel Industry

*Gross State Product Industry Comparisons*

*Small Business and Rural Economic Development*

*Direct, Secondary and Total Impacts*

July 2003

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Sacramento, California

# **THE ECONOMIC SIGNIFICANCE OF THE CALIFORNIA TRAVEL INDUSTRY**

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Small Business and Rural Economic Development  
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8 July 2003

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## TABLE OF CONTENTS

<b>Table of Contents</b> .....	<b>i</b>
<b>Summary</b> .....	<b>ii</b>
<b>I. Introduction</b> .....	<b>1</b>
<b>II. Gross State Product Industry Comparison</b> .....	<b>3</b>
<b>III. Small Business and Rural Economic Development</b> .....	<b>11</b>
Earnings & Employment .....	11
Rural Economic Development.....	12
Tax Receipts.....	13
<b>IV. Secondary Impacts</b> .....	<b>15</b>
<b>Appendices</b> .....	<b>18</b>
<b>Appendix A: Regional Travel Impact Model (RTIM) Methodology</b> .....	<b>19</b>
<b>Appendix B: Gross State Product</b> .....	<b>21</b>
<b>Appendix C: U.S. Travel and Tourism Satellite Accounts</b> .....	<b>22</b>
<b>Appendix D: Export Industries</b> .....	<b>23</b>
<b>Appendix E: Travel Generated Earnings by County</b> .....	<b>25</b>
<b>Appendix F: IMPLAN Modeling System</b> .....	<b>26</b>

## SUMMARY

The California Travel and Tourism Commission seeks to establish measures of the California travel industry that better describe the industry in economic terms and help describe its role in the California economy. This study measures the Gross State Product of the travel industry and makes comparisons with other primary industries in the state. Some specific findings:

- Visitors spent \$75.8 billion in California on accommodations, food services, transportation, recreation and other retail purchases during 2002.
- This contributed to a travel industry Gross State Product (GSP) of \$37.8 billion. Of this total GSP, \$25.0 billion was paid to employees and proprietors as earned income and benefits. Another \$4.2 billion was paid to local and state government as sales and excise taxes. In addition, travel industry businesses purchased goods and services from other businesses in the state that were valued at \$13.1 billion.
- The GSP of the California travel industry compares favorably to other export-oriented industries in the state; other large industries include the electronic equipment industry, agriculture and food processing, industrial machinery, motion picture production and the manufacture of scientific and professional instruments.
- In terms of earnings, the direct impacts of \$25 billion for the California travel industry generate an additional \$21.4 billion in secondary impacts. Similarly, the 1.07 million jobs that are directly provided by the travel industry are associated with an additional 499,000 jobs in other types of businesses in the state.

The travel industry is particularly important for the small business community in the state, as well as for the state's rural areas:

- Nearly three-quarters of California travel industry employment is in businesses with fewer than 100 employees, or owned and operated by a working proprietor.
- The prominence of small businesses is particularly evident and relatively more important for the less urbanized areas of the state, where specialized lodging and resorts, restaurants and specialty shops are important visitor attractions.
- For the state's least urbanized counties, travel-generated earnings average 10% of all earnings – over four times the amount that characterizes the most urbanized counties. Such travel/recreation development complements the resource base of these locations and provides valuable diversity for many local economies.

## I. INTRODUCTION

There is little argument that the travel industry is one of the most important segments of the California economy. Locations and attractions throughout the state enjoy a national and international reputation, comprising one of the most active visitor destinations in North America. The specific role that the travel industry plays in the California economy is less clear, however. While some good data on this industry have been and are available on a regular basis, more information is necessary to better describe the travel industry in economic terms so it may be properly included in the state's ongoing policy and economic development discussions. Important audiences for this information include agency and elected officials, as well as representatives of the business community and the media.

In order to address this issue, the California Travel and Tourism Commission has been working for about five years on establishing economic measures of the California travel industry that will better describe the industry in economic terms and allow clearer comparisons with the other large industries in the state. This work is related to national and global efforts to improve procedures for representing travel and tourism from an economic perspective. The resulting figures in California amount to a Travel and Tourism Satellite Account (TTSA), a set of figures that provide a reliable economic measure of the travel industry as one component of the overall California economy.

The importance of the travel industry stems in part from its very substantial contributions of tax revenue to state and local jurisdictions, as well as its large contributions in terms of employment and earnings. Travel is also an industry for which California has valuable competitive advantages. Indeed, California is known worldwide as a travel and recreation destination, and represents one of the most valuable "brands" in the global travel industry.

Moreover, the travel industry is particularly significant because it brings money to the state. This "export" orientation, which travel shares with other significant industries such as agriculture, motion picture production and high tech manufacturing industries, provides valuable benefits to a wide variety of other businesses and their employees throughout the state.

For many years the travel industry has been described in terms of visitor spending, plus the jobs and tax receipts that this spending generates. In California, visitors spent more than \$75 billion in 2002, generating more than one million jobs and \$4.7 billion in state and local taxes.

Although these figures are very useful, unfortunately "sales" figures are not generally available for most other industries. In order to make comparisons another approach is necessary, one based on the conventions typically used to describe state and national economies. This approach is the subject of this report.

After this introduction, the report is divided into three main sections. In the first section, the Gross State Product (GSP) of the travel and tourism industry is compared with other leading export-oriented industries in the state. In the second section, we review several additional attributes of the industry that are important from a policy and economic development perspective, namely small businesses in the travel industry and the industry's contribution to economic development of less urbanized areas of the state. These discussions draw on various aspects of the analysis in section one. In the third and final section, we consider the total secondary impacts of visitor spending in terms of the earnings and employment in other businesses throughout the state.

Because of data and analysis limitations, the analysis makes use of findings from the years 2000, 2001 and 2002, always relying on the most recent that are available. Additional information is available in the report appendices.

## II. GROSS STATE PRODUCT INDUSTRY COMPARISON

### How Industries are Measured

Any reliable comparison of industries faces three initial questions. First, how is travel and tourism characterized for comparison purposes? Second, what are the appropriate criteria by which other industries should be selected for comparative purposes? And third, what is the appropriate unit of measure?

The simplest approach to first question for most industries is to rely on a commonly accepted classification system, such as Standard Industrial Classification (SIC) codes, or the newer North American Classification System (NAICS). These schemes are based on the product and/or primary technology of each business and are designed to cover all businesses in the US. For many economic analyses, they provide a sufficient basis for grouping and selecting industries for comparative purposes. Unfortunately, this is not the case for the travel industry. The travel industry is not only defined by its product or technology but also by whom it serves – travelers. The travel industry is in fact comprised of a variety of service, retail and transportation businesses. So, for comparison purposes, a detailed analysis is necessary in order to specifically measure travel-related portions of the various industries that serve travelers. This type of work is done in California by Dean Runyan Associates in the form of county-level and statewide estimates provided on an annual basis.

For an answer to the second question – What industries should the travel industry be compared to? – we use the concept of “export-oriented industries.” These are industries that primarily sell their product or service to non-resident households and businesses. Such industries, like the travel industry, bring new money into California and it’s local economies and help sustain the remaining industries in the state.<sup>1</sup>

The third question – What is the appropriate unit of measure? – is answered to a large degree by the conventions commonly used in economic analysis. Recall that the typical method for measuring the travel industry describes travel-generated sales, and the earnings, employment and tax receipts generated by those sales. Unfortunately, sales can be a misleading measure of a business or industry; and earnings, employment and tax receipts are useful but incomplete. The ideal economic measure of an industry at the state level is its Gross State Product (GSP). GSP estimates are available for major industries in a state, including California. GSP permits comparisons among industries and is consistent with the Gross Domestic Product (GDP) accounts for the national

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<sup>1</sup> The California travel industry includes California residents, out-of-state residents and international visitors. See page 27 of Appendix F for a discussion of the inclusion of visitor spending by in-state residents.

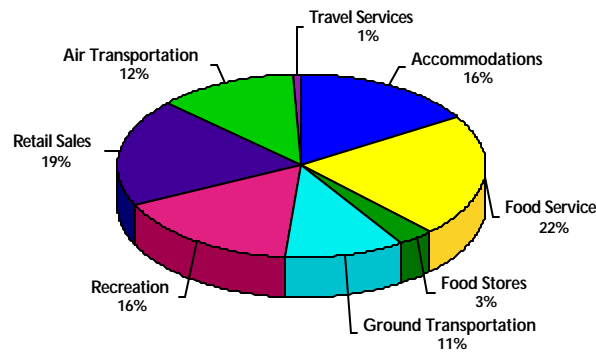
economy, as well as the emerging practice of defining the travel industry in the form of Travel and Tourism Satellite accounts (TTSA).<sup>2</sup>

### Travel Spending as a Way to Describe the Industry

The most common way of characterizing the travel industry is in terms of spending by travelers. Travel spending figures for California are prepared annually by Dean Runyan Associates and provide county-level detail as well as regional and state figures. Such figures are typically available for other states and countries as well. These spending amounts show what visitors to or through California spend while on their trip, with these expenditures distributed among a number of travel-related businesses categories.

The figures show that the travel industry in California is a very significant segment of the state's economy, and is substantial from a national perspective as well. Visitors to and through California have spent about \$75 billion annually in the state since 2000. This \$75 billion represents the trip-related expenditures of international visitors, out-of-state visitors, and California residents who travel within the state. It includes leisure and business travel and consists of spending on accommodations, food, transportation, entertainment, and other retail purchases made on the trip.<sup>3</sup>

**Trip-related Expenditures of California Visitors, 2002**



Source: Dean Runyan Associates

<sup>2</sup> See Appendices B and C for further discussions of Gross State Product and Travel and Tourism Satellite Accounts.

<sup>3</sup> Individuals who stay overnight away from home are almost always classified as visitors or travelers. Definitions of travel are more variable as to whether and to what extent day travel and extended stays at second homes should be included. The estimate of \$75 billion used here includes non-routine/non-commuting day trips of 50 miles or more one-way from home, and vacation home stays of less than 30 days. The estimate of travel spending by Dean Runyan Associates is consistent with those of other major research entities, such as the Travel Industry Association and D.K. Shifflet. It does not include other travel-related expenditures such as luggage, ski equipment or recreation vehicles. It is thus a conservative measure of travel spending that attempts to measure the expenditures made in a specific location on a specific trip. See Appendix A for further discussion of the methodology of estimating visitor spending and related impacts.

Five industries receive the bulk of these expenditures by travelers, consisting of accommodations, food and beverage service, retail sales, recreation and transportation (air and ground). Most businesses in these categories serve both visitors and local area residents, a factor that differentiates the travel industry from most other industries, as discussed below.

The proportion of sales to visitors, as compared to local area residents, varies substantially among businesses in terms of their product or services, their location and their market emphasis. Overall, however, and among the business categories used here, air transportation and accommodations sales tend to be most oriented to visitors, and retail sales the least.

The California travel industry is among the largest for any state, responsible for over 14 percent of all travel sales in the US. This proportion is based on a total US travel industry sales figure of \$430 billion in 2001, from the Travel Industry Association of America (TIA).

## **Gross State Product – Direct Output**

### *The Concept*

It is very useful to assess the value of an industry in terms of a standard measure of economic output that allows comparisons with other economic sectors and industries. For this purpose, we use a somewhat more technical but useful measure of an industry – its Gross State Product (GSP). GSP is the market value of the goods and services produced by the labor and property located in a state. GSP provides a measure of economic output that is consistent with the widely used Gross Domestic Product (GDP) accounts for the national economy. Since every industry has a GSP that is defined in a comparable manner, using GSP (sometimes referred to as value added) allows us to compare industries with respect to their size and other characteristics.

Our primary measurements focus on direct GSP, that which is associated directly with the expenditures of travelers. An additional consideration of indirect and total GSP is discussed further below.

Prior to this time, a GSP measure has not been available for the California travel industry because this industry is comprised of so many different categories of businesses that sell products and services to both visitors and local area residents. The estimate of travel industry GSP provided here includes only those sales that are made to travelers. In this regard, it is consistent with the concept of Travel and Tourism Satellite Accounts (TTSA) now produced by the US Bureau of Economic Analysis for the United States.

The GSP for an industry is always smaller than its sales because GSP measures only the “value added” of an industry and does not include the cost of certain inputs that are necessary for an industry’s production. In concept, an industry’s GSP is equal to its gross output (sales or receipts) minus its intermediate inputs (the goods and services purchased from other industries).

Alternatively, GSP can be viewed in terms of the distribution or payout of industry receipts. Some of the receipts are distributed to employees as wages and benefits. Another portion are used for investments, dividend payments, profits, taxes and other payments. These two broad categories of payments are equivalent to GSP.

Accordingly, the use of travel industry receipts to purchase goods and services from other industries is counted as GSP of those other industries, rather than in the travel industry. This is because these other goods and services were actually produced by the labor and property associated with the other industries rather than with the travel industry.

Travel industry businesses differ substantially in the extent to which they pass through their sales. For example, suppose a visitor spends \$500 on accommodations and also spends \$500 on an imported retail gift item. Most likely, the \$500 spent on accommodations will generate relatively more earnings and employment (value added) for local residents because the lodging property tends to spend much of its revenue on labor and other purchases from the local area. The imported gift item purchase, on the other hand, often produces a smaller value added because a substantial portion of the business's revenue is used to purchase the item from outside the California economy. This concept of pass-through or "leakage" is central to the extent to which sales make a contribution to value added.

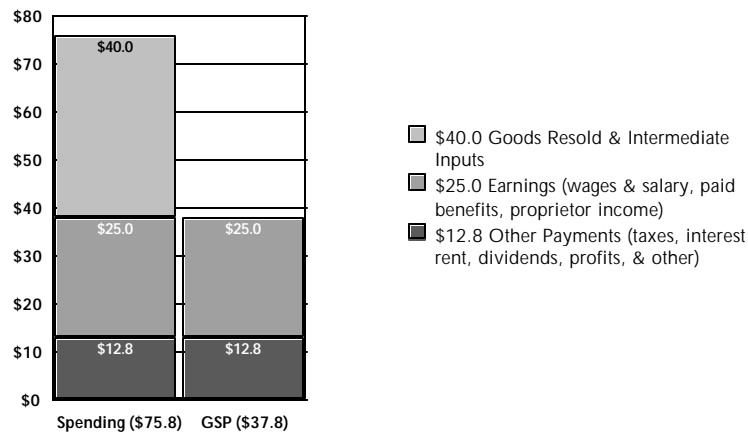
In sum, GSP provides an accounting procedure that provides a better measure of the true economic contribution of an industry than does either sales or receipts.

#### *California Travel Industry GSP*

The chart below provides an estimate of the GSP of the travel industry in 2002 in terms of the components discussed above. The GSP of the California travel industry is \$37.8 billion – approximately half of all travel spending. The remainder of the \$75 billion in purchases of travel-related goods and services is "passed through" the businesses that sell directly to travelers, and accordingly is counted as value added in those industries instead. All industries, whether manufacturing or service, share this characteristic; they vary primarily in terms of how much revenue is passed through in this manner.

## Components of California Travel Spending and Gross State Product, 2002

(Billions)



Source: Dean Runyan Associates and Minnesota Implan Group.

### Comparing Export-Oriented Industries

#### *Export Orientation of Industries*

In any comparison of industries, a primary consideration must be the criteria by which industries are defined and selected. The Standard Industrial Classification (SIC) and more recent North American Industry Classification System (NAICS) group industries primarily in terms of their core technologies or production processes. Unfortunately, this scheme is less useful for the travel industry, inasmuch as this industry is defined by whom it serves (travelers) as well as by the products or services that it sells. Indeed, this is the reason for the development of travel and tourism satellite account methodology.

The travel industry does share a characteristic with many other important California industries, however, in that it is an "export-oriented" industry. Export-oriented industries are comprised of firms that are primarily oriented to selling their products outside of the local or regional economy in which they operate. Businesses of this type tend to bring revenue into the economy, an important attribute from a public policy and an economic development perspective. Such industries characterize the "comparative advantage" of the local economy within larger regional, national and global markets. Exports are not necessarily more important than locally traded goods and services. However, diverse export-oriented industries in any economy are a source of strength – in part because they generate income that contributes to the development of other local services and amenities.

Whereas most export-oriented industries inject money into the local economy by exporting their products and services, the travel industry injects money into the

economy via visitor spending. An estimated 40 to 50 percent of all visitor spending is from out-of-state residents and international visitors.

Other export-oriented industries also sell a portion of their output within the state. For example, motion pictures are sold to viewers within California as well as through out the world – although overall, this industry is very export oriented. Similarly, California's agricultural products and its high technology manufactured goods are exported throughout the world, although some are also sold within the state.

Many other important industries in California do not have this degree of export-orientation because they focus more on sales in local and regional markets. Health care and construction, to name but two major industries, are oriented primarily to providing services for local residents and businesses. It is true that export characteristics exist in these industries also (such as when a non-resident obtains specialized health care not available in their local community, or when a construction firm is employed for a project outside the area), however this is not the typical pattern for these industries as a whole.

The travel industry is almost by definition an export-oriented industry because it generates revenue from visitor spending. Some of the businesses in the travel industry, such as hotels and airlines, are almost exclusively export-oriented. Others, such as restaurants and professional sports teams, are partially export-oriented. The estimates of spending and GSP used here include only the visitor or export-oriented components of all of the businesses that provide goods and services to travelers.

#### *Comparisons among industries*

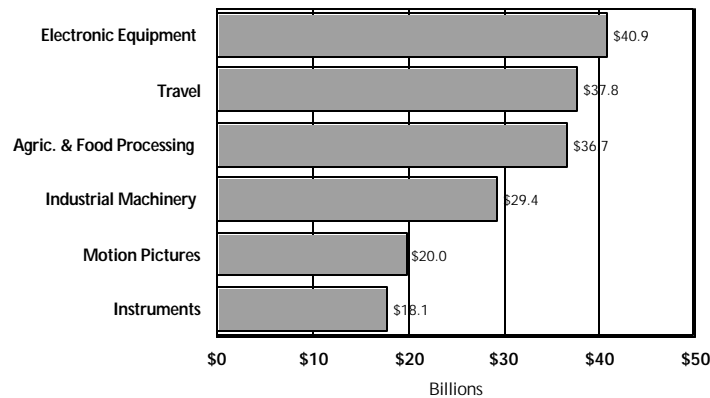
The industries selected in the chart below represent some of the major export-oriented industries in the state. The manufacturing industries included are electronic equipment, industrial machinery and instruments. The electronic equipment industry includes communications equipment, household appliances and other electric accessories. Industrial machinery includes computer and office equipment, engines, turbines and other types of machinery. Instruments include search navigation equipment, measuring and controlling devices, medical instruments and photographic equipment. Professional services, such as legal, computer and engineering services are not included because even though they may have export components, they also tend to be oriented to providing services in the metropolitan markets in which they are located.<sup>4</sup>

When we compare the travel industry to other leading export-oriented industries in terms of GSP, we see that it ranks among the largest industries in the state. This position reflects the national and global competitive advantages that California currently has as a travel and recreation destination.

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<sup>4</sup> See Appendix D for a further discussion of the export industries selected for this analysis. See also two reports prepared by the California Research Bureau, California State Library. Martha Jones, "Motion Picture Production in California," CRB 02-001 (March 2002), and Elias S. Lopez, "High Growth Industries and Highly Educated Workers in California," CRB 02-017 (November 2002).

## Gross State Product of Selected California Export Industries, 2002 (Billions)



Source: Dean Runyan Associates and Minnesota Implan Group.  
Note: SIC industry correspondence is Electronic Equipment (SIC 36); Agric. & Food Processing (SIC 01, 07, 20); Industrial Machinery (SIC 35); Motion Pictures (SIC 78); Instruments (SIC 38).

### Indirect Output

The measures of GSP reported in the previous section refer to the economic output that is *directly* attributable to the industry. It is also useful to consider *indirect* output. Measures of indirect output include a portion of the intermediate inputs that are supplied to an industry.

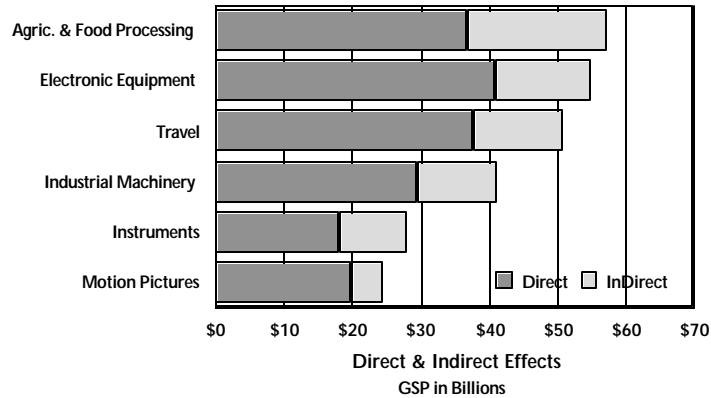
#### *The Concept*

Recall that the gap between spending and GSP discussed earlier is related to the fact that businesses purchase goods and services from other businesses. Correct accounting should allocate GSP to those firms where the resources that were actually employed to produce the product are located. Hence, we exclude the cost of an imported retail item from the retail establishment that sold it in our estimate of travel industry GSP. However, what if this item is produced by a local artisan? In this case, it would be useful to have a measure of the value of this item to include in our estimate of travel industry GSP.

#### *Comparisons among Industries Considering Direct and Indirect Output*

The chart below shows the *direct* and *indirect* value added (GSP) for the selected export-oriented industries shown earlier. The direct component is identical to the estimates provided earlier – that is, all intermediate inputs are excluded. The indirect component includes those intermediate inputs that were produced within the state of California.

**Direct and Indirect GSP of Selected Export-oriented Industries, 2002**  
(Billions)



Source: Dean Runyan Associates and Minnesota Implan Group

When indirect effects are included, travel industry GSP amounts to more than \$50 billion. Similar increments in GSP also occur to varying degrees for the other export-oriented industries. The travel industry remains among the six largest export-oriented industries in the state.<sup>5</sup>

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<sup>5</sup> It is important to note that indirect effects are usually smaller at the local level and/or for rural locations, because some of the supplier firms will tend to be located in larger metropolitan areas. Conversely, the effects are larger at the national level. See appendix F for a discussion of the methodology used to calculate indirect effects.

### III. SMALL BUSINESS AND RURAL ECONOMIC DEVELOPMENT

This section focuses on the importance of the travel industry for small businesses and for economic development in the less urbanized portions of the state. Much of the analysis is based on two of the components of GSP introduced in the preceding section: earnings and tax receipts. We estimate that together they comprise about 75 percent of travel industry GSP. Importantly, these are also components of GSP that are primarily re-spent and re-invested in California communities. We will show in this section that these benefits are particularly significant for the less urbanized areas of the state.

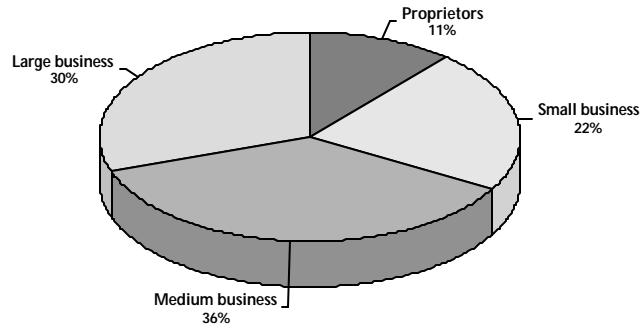
#### **Earnings & Employment**

For most industries, including the travel industry, earnings are the major component of GSP, consisting of payroll, earned benefits and proprietor income. Travel industry earnings in 2002 were approximately \$25 billion, or two-thirds of travel industry GSP.

In recent years, travel industry earnings have supported over one million jobs annually, or about 5.5% of all employment in the state. Travel spending is associated with an extensive employment base because many travel industry businesses are labor-intensive and service-related. In addition, many of these jobs provide entry-level employment opportunities for California's youth, and part-time employment for students and those with family obligations. No other industry in the state provides such a substantial proportion of such employment opportunities, and as such, the travel industry represents, to a large degree, the state's primary entry-level employer.

Another characteristic of travel industry employment is that it provides many opportunities for proprietors and the development of management skills in small business settings. While airlines and large hotels are almost synonymous with the travel industry, many travel industry jobs are actually found in small businesses, often owned and operated by proprietors. As the findings show, nearly three-quarters of travel industry employment is in businesses with fewer than 100 employees, or is a working proprietor. The prominence of small businesses is particularly evident in less urbanized areas, where bed and breakfast inns, restaurants and specialty shops are important visitor attractions.

## Travel Industry Employment by Size of Business, 2000



Source: Dean Runyan Associates, U.S. Bureau of Economic Analysis, U.S. Census Bureau County Business Patterns.

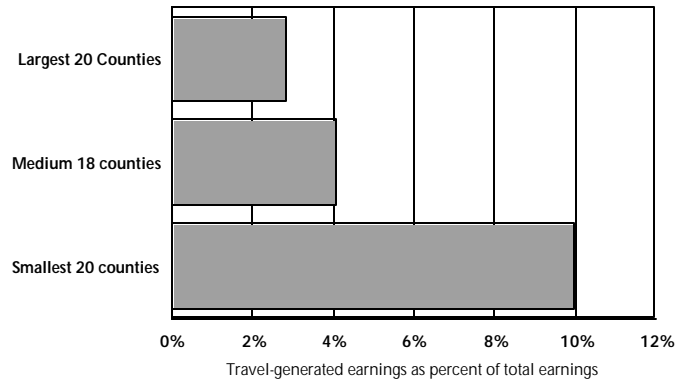
Note: Small business includes firms of less than 20 employees, Medium business includes firms of less than 100 and 20 or more employees, large business includes firms of 100 or more employees. Proprietors own and manage any size business.

### Rural Economic Development

Rural areas of California may particularly benefit from recreation and travel industry development in that they often have few other significant economic development opportunities. Such travel/recreation development is typically complementary to the resource base of these locations, and provides valuable diversity of these economies.

The findings here show that the travel industry does function to support rural economies of the state. Although the majority of the travel-related earnings and jobs in California are found in the state's large metropolitan areas, travel industry earnings and employment are actually relatively more important in many rural areas of the state. The figure shows that for the state's least urbanized counties (many of which are largely rural), travel-generated earnings average 10% of all earnings – over four times the amount that characterizes the most urbanized counties.

## Travel-generated Earnings as a Percent of Total Earnings 2000



Source: Dean Runyan Associates and U.S. Bureau of Economic Analysis.  
 Note: The total earnings reported by the Bureau of Economic Analysis for 2000 was used as a proxy for urbanization. The 20 counties with the highest reported earnings are in the Most Urbanized group. The 20 counties with the lowest reported earnings are in the Least Urbanized group. The remaining 18 counties are in the Medium group.

More detailed data, showing similar figures for each county in the state, appear in Appendix E.

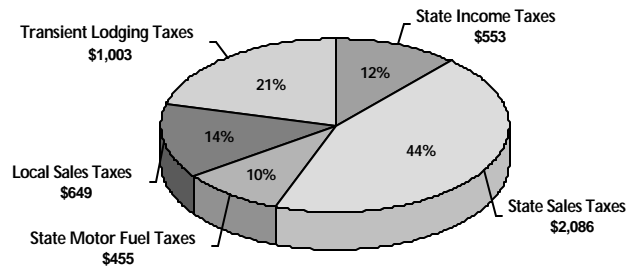
### Tax Receipts

The other main component of GSP, referred to as "other payments", includes many types of payments made by the firm: taxes, interest, dividends, rent, and profits, among others. Of particular interest are tax payments to government, in that these revenues are used to pay for public services at the state and local level.

Because the travel industry produces a large amount of taxable sales (such as purchases of accommodations, prepared food, motor fuel, other retail) this industry generates very substantial tax revenue for state and local government. Dean Runyan Associates estimates that travel-related businesses generated about \$4.2 billion in state and local sales taxes (including local transient lodging taxes and state motor fuel taxes) in 2002.<sup>6</sup> This represents about 10% of all revenue in California from local and state sales taxes. A smaller amount (about \$0.5 billion) is generated from the income taxes on travel industry employees and businesses (these income tax receipts are not included in GSP).

<sup>6</sup> The estimate of GSP also includes federal tax payments (e.g., federal excise taxes on motor fuel, airline ticket taxes) and local and state property taxes. State and Federal corporate income taxes are not included. Dean Runyan Associates does not have an estimate of property tax receipts.

## State and Local Tax Receipts Generated by Travel Spending, 2002

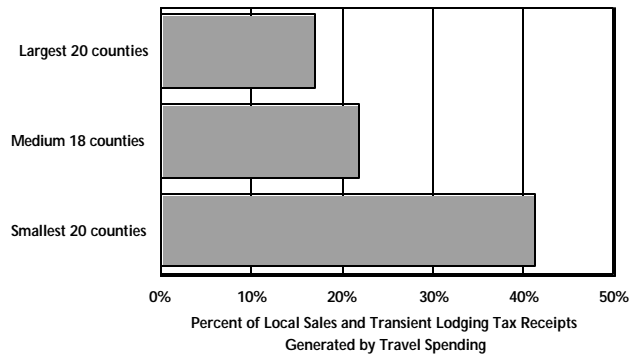


Source: Dean Runyan Associates

Note: Property taxes are not included. Income tax receipts are primarily (95%) from the personal income generated by travel spending. Income taxes are not included in GSP.

The tax contributions of travel-related businesses are particularly important for rural locations, as is indicated in the chart below. For the 20 least urbanized counties, over 40 percent all local sales tax receipts (including transient lodging taxes) are generated from travel-related sales. The proportion remains significant in the most urbanized areas however, where more than one in seven local tax receipt dollars is from a sale to a traveler.

## Travel-Generated Local Sales Tax Receipts, 2002



Source: Dean Runyan Associates and California State Board of Equalization.

Note: The total taxable sales reported by the California State Board of Equalization for 2001 was used as a proxy for urbanization. The 20 counties with the highest taxable sales are in the Most Urbanized group. The 20 counties with the lowest taxable sales are in the Least Urbanized group. The remaining 18 counties are in the Medium group.

## IV. SECONDARY IMPACTS

### The concepts

The most comprehensive way to describe the economic benefits of an industry is to consider not only its direct and indirect economic contributions, but to also include a measure of the benefits that accrue due to the impact of the re-spending of earnings by employees of the industry. The income earned by employees of the businesses in the travel industry is spent on housing, food, transportation and many other goods and services. This re-spending of earnings is sometimes referred to as *induced* effects. A particular benefit of this analysis is to describe how the travel industry provides very significant earnings and employment for a wide variety of other types of businesses throughout the state.

In this section, we analyze these effects in terms of employment and earnings only, in that induced effects are not usually aggregated with measures of the output of an industry, such as GSP. We also refer to the total *secondary* impacts that are the sum of *indirect* and *induced* impacts.<sup>7</sup> To summarize:

- **Direct** impacts represent the employment and earnings attributable to travel expenditures made directly by travelers at businesses throughout the state.
- **Indirect** impacts represent the employment and earnings associated with industries that supply goods and services to the direct businesses (i.e., those that receive money directly from travelers throughout the state).
- **Induced** impacts represent the employment and earnings that result from purchases for food, housing, transportation, recreation, and other goods and services made by travel industry employees, and the employees of the indirectly affected industries.
- **Secondary impacts** are the sum of the indirect and induced impacts.
- **Total impacts** are the sum of direct, indirect and induced impacts.

### The size of the secondary impacts

In terms of earnings, the direct impacts of \$25 billion for the California travel industry generate an additional \$21.4 billion in secondary impacts, as shown in the graphs below. Only those secondary impacts that occur within California are included.

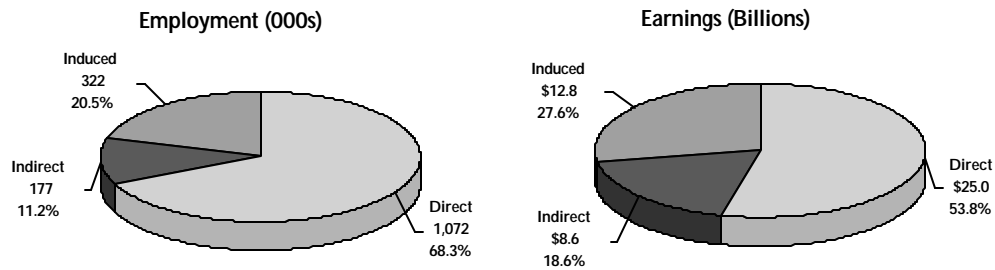
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<sup>7</sup> These secondary impacts are sometimes referred to as a “multiplier” effect. The multiplier is the ratio of the total impacts to the direct impacts. Secondary impacts or multipliers will vary substantially among different economic regions. In general, larger and more diverse economies will have larger secondary impacts or multipliers because there will be less “leakage” of indirect and induced effects. See Appendix F for further discussion, including the use of resident travel in the calculation of secondary impacts.

Similarly the 1.07 million jobs that are directly provided by the travel industry are associated with an additional 499,000 jobs in other types of businesses in the state.

Secondary impacts can vary substantially from locality to locality. Those local communities that have relatively large travel-related sectors will generally have more significant secondary impacts as well. Some rural locations, because they have relatively limited business and resident service sectors, have more difficulty capturing these secondary impacts, which may “leak” to nearby urbanized areas.

### Total Impacts of Travel Industry, 2002



Source: Dean Runyan Associates and Minnesota Implan Group.  
Total Impacts include Direct and Secondary (Indirect and Induced)

### Businesses that benefit from secondary impacts

California businesses in a number of categories benefit from the state’s travel industry when travel industry businesses make purchases for the goods and services that they need to operate. In addition, travel industry employees make purchases throughout the California economy, providing additional business income.

The figures below summarize the distribution of these additional employment and earnings benefits. The first shows, in light gray, the additional employment in other segments of the California economy that stems from the direct employment (in dark gray) in the California travel industry. The following figure shows a similar finding for earnings.

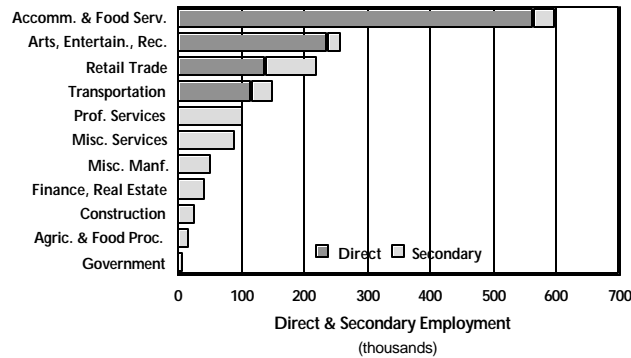
The bulk of the secondary employment and earnings are in the following business categories:

- **Professional Services** (103,000 jobs and \$4.8 billion earnings). Legal, medical, educational and other professional services are utilized by travel businesses (indirect effect) and by employees of these firms (induced effect).
- **Retail Trade** (82,000 jobs and \$3.2 billion earnings). Employees of travel-related businesses spend a portion of their earnings on food, clothing and other household goods from local businesses.

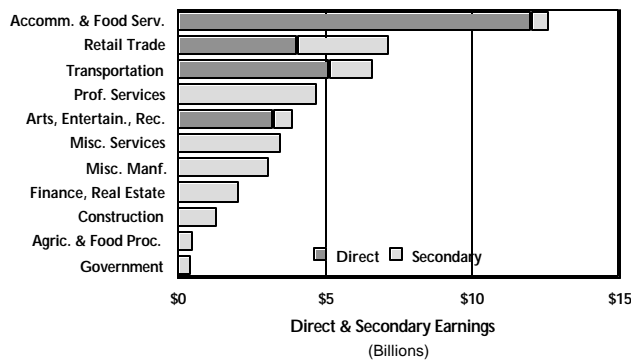
- **Miscellaneous Services** (91,000 jobs and \$3.6 billion earnings). Employees of travel-related businesses purchase services from various providers, such as dry cleaners and repair shops. Similarly, travel businesses utilize a number of service providers, such as laundry, maintenance and business services.
- **Construction** (27,000 jobs and \$1.4 billion earnings). Employees and businesses spend their earnings and income on a variety of maintenance and new construction activities. (Note: This estimate does not include major construction projects, such as a new hotel, financed by other means.)
- **Finance, Real Estate** (43,000 jobs and \$2.1 billion earnings). Employees and businesses use the services of financial institutions, insurers and real estate firms.

Thus, the economic benefits of the travel industry spread throughout the California business community, supporting in particular those businesses that provide financial, professional, construction and real estate services to primary travel industry firms.

### Direct and Secondary Travel Generated Employment, California 2002



### Direct and Secondary Travel Generated Earnings, California 2002



Source: Dean Runyan Associates and Minnesota Implan Group.  
 Note: Secondary Impacts include Indirect and Induced effects at state level.

## APPENDICES

## REGIONAL TRAVEL IMPACT MODEL (RTIM) METHODOLOGY

The Regional Travel Impact Model (RTIM) provides estimates of the direct impact of visitor spending at the state, regional and county level.<sup>8</sup> The initial impact of visitor spending is used to calculate the earnings, employment and tax receipts associated with this spending. The basic procedure is described in the following three sections. The direct estimates of the RTIM can also be used as inputs for the analysis of secondary impacts and Gross State Product, also described below.

### VISITOR SPENDING

Spending estimates are derived from two types of data: (1) the visitor spending patterns of specific types of visitors, and (2) the amount or volume of visitation associated with each visitor category. The types or categories of visitors typically include: hotel/motel guests, campers, overnight guests in unpaid private homes of friends and relatives, overnight stays in vacation or second homes, and day trips (non-routine travel of at least 50 miles one-way from home). The spending patterns refer to the average amounts spent on specific commodities, including accommodations, food service, groceries, ground transportation, entertainment, and other retail purchases. The average daily spending patterns of these different types of visitors are estimated from available survey data on a state, regional and/or urban-rural basis. The visitation estimates are derived from a variety of sources, including room tax data, camping attendance data, visitor survey data, and census housing data. The resulting calculations provide detailed county level estimates of visitor spending for specific commodities. The estimates are typically reported on an annual basis.

### EARNINGS, EMPLOYMENT, TAX RECEIPTS

The detailed spending estimates are used to estimate the related earnings, employment and tax receipts for each commodity or business category. The earnings attributable to visitor spending on specific commodities are derived from payroll-receipts ratios and output-compensation ratios.<sup>9</sup> Earnings include payroll, other earned benefits and proprietor income. Employment is estimated from the average annual earnings for each

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<sup>8</sup> The county is typically the smallest geographic unit of analysis. Sub-county estimates can also be provided if adequate data is available. In some cases, data may be insufficient for detailed county impacts.

<sup>9</sup> The initial visitor spending or sales estimates are adjusted by removing all excise tax collections by the business. Payroll-receipts ratios are calculated from the Economic Census, reported every five years by the U.S. Census bureau. Output-compensation ratios are estimated from the U.S. Bureau of Economic Analysis and other proprietary input-output models.

job associated with a particular commodity. State and local tax receipts are estimated by applying the appropriate sales and income tax rates to sales and earnings. Property tax collections are usually not estimated due to data limitations.

### **VALIDITY CHECKS**

Travel-generated earnings, employment and tax receipts are estimated from visitor spending, rather than from industry and government data per se. Published government data on industry employment, earnings and taxable sales by business type are used to evaluate and, where necessary, refine the travel-generated estimates at the county and regional level.

### **SECONDARY IMPACTS**

The previously discussed estimates of visitor spending and travel-generated earnings, employment and tax receipts refer to *direct* impacts only. *Secondary* impacts include geographically bounded *indirect* and *induced* impacts. **Indirect** impacts represent the purchases of goods and services by **firms** within a defined geographic area that are attributable to the purchases of visitors. **Induced** impacts represent the purchases of goods and services (also geographically bounded) by **employees** that are attributable to the earnings generated by visitor spending. Estimates of these secondary impacts (typically reported as earnings, employment and tax receipts) are prepared by Dean Runyan Associates by using the direct estimates of travel-generated earnings and employment as input data for use with other input-output models.<sup>10</sup>

### **VALUE ADDED (GROSS STATE PRODUCT)**

The value added of a business or industry includes payments to employees (earnings) and the other payments of a firm (including taxes, dividends, interest, rent, profits) that represent the economic contribution of the business or industry, exclusive of the goods and services bought from the suppliers that actually produced them. Dean Runyan Associates provides estimates of the value added generated by visitor spending that is consistent with the U.S. Bureau of Economic Analysis's Gross State Product accounting.

### **DATA REQUIREMENTS**

The data used for an analysis of travel impacts depends to some extent on the jurisdiction of study (in particular, tax structures are variable). In general, visitor survey data is obtained from a survey research firm that specializes in the travel industry.<sup>11</sup> Most of the other data used in the RTIM is available from federal, state and local government agencies. Other industry data (including lodging industry, private campground, gaming) is also used, as is appropriate.

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<sup>10</sup> Dean Runyan Associates currently uses the Minnesota Implan Group model.

<sup>11</sup> Dean Runyan Associates also has experience with survey research and has conducted its own surveys, particularly at the local level.

**GROSS STATE PRODUCT**

The GSP estimates prepared by the U.S. Bureau of Economic Analysis (BEA) for each of the fifty states are presented in a slightly different manner than the GSP estimates prepared for this report. The BEA uses three components of GSP: (1) compensation of employees, (2) indirect business tax and nontax liability and (3) property-type income. This report uses two components (1) earnings, and (2) other payments. These components are compared below. The total value of GSP is equivalent in both cases. The concept of earnings was used in this analysis primarily because our estimate of travel-generated earnings does not distinguish between wages and salaries, other paid benefits and proprietor income. The concept of earnings is used by the BEA in its estimates of Local Area Personal Income.<sup>12</sup>

**Components of GSP**

<i>Bureau of Economic Analysis</i>	<i>Dean Runyan Associates</i>
<b>Compensation of employees</b>	<b>Earnings</b>
wages and salary	wages and salary
other paid benefits	other paid benefits
	proprietor income
<b>Property-type income</b>	<b>Other Payments</b>
proprietor income	corporate profits
corporate profits	rental income
rental income	net interest
net interest	capital consumption allowances
capital consumption allowances	business transfer payments
business transfer payments	Indirect business tax and nontax liability
<b>Indirect business tax and nontax liability</b>	

<sup>12</sup> See Sharon D. Panek and George K. Downey, "Gross State Product by Industry, 1998-2000," SURVEY OF CURRENT BUSINESS 82 (June 2002): 57-77.

### U.S. TRAVEL AND TOURISM SATELLITE ACCOUNTS

The Bureau of Economic Analysis (BEA)<sup>13</sup> has developed a travel and tourism satellite account framework (TTSA) to analyze the U.S. travel and tourism industry in a systematic and consistent way that links travel expenditures to the industries that produce tourism goods and services. The TTSA framework is directly related to the U.S. national economic accounts that provide economic measures of all the industries that produce goods and services in the United States.

Travel demand is defined as the travel-related expenditures made by visitors before, during, and immediately after each trip taken, and consists of business travel and travel by government employees, U.S. resident household travel, and travel in the United States by nonresidents (international visitors). The definitions, framework and estimating methods used for the U.S. TTSA's follow, as closely as is practicable, the guidelines for similar travel satellite accounts that were developed by the World Tourism Organization (WTO) and the Organization for Economic Co-operation and Development (OECD).

Travel Satellite Account frameworks may also include measures such as Consumer Durables (expenditures for recreation equipment and vehicles), Capital Investment (investments made by travel and tourism providers and government agencies to provide facilities, equipment and infrastructure to visitors), Non-Visitor Exports (consumer goods exported for the ultimate sale to visitors in other locations or capital goods exported for use by industry service providers), and Government Expenditures (expenditures made by agencies and departments on behalf of visitors or the community-at-large in order to promote or develop tourism). The BEA has also developed other satellite accounts to measure various components of other industries such as transportation services, environment and mineral resources, and research and development.

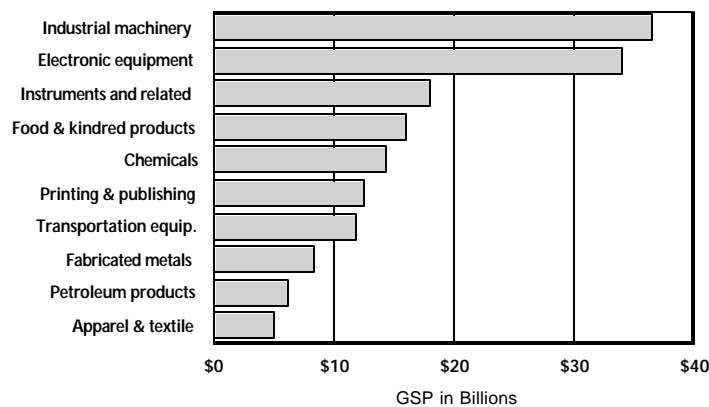
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<sup>12</sup> The TTSA's were developed by the Bureau of Economic Analysis with the support of the Tourism Industries Office of the International Trade Administration, U.S. Department of Commerce. For an overview of the 1996 and 1997 TTSA's, see David I. Kess and Sumiye Okubo, "U.S. Travel and Tourism Satellite Accounts for 1996 and 1997," SURVEY OF CURRENT BUSINESS 80 (July 2000): 8-24.

EXPORT INDUSTRIES

This appendix provides some additional detail with respect to the selection of “export-oriented” industries by showing how the industries selected for comparison purposes compare to other important manufacturing industries in the state. The graph below shows Gross State Product for the top ten manufacturing industries in California as reported by the U.S. Bureau of Economic Analysis for the year 2000.<sup>14</sup> The top four industries shown here are included in the analysis in the body of the report. Food and Kindred Products, a manufacturing industry that appears here, is part of the Agriculture and Food Products category used for comparison purposes in the body of the report. Other industries that appear here, such as Chemical and Printing and Publishing, are significant but are smaller than the other industries selected for comparison purposes.

Gross State Product of California's Top Ten Manufacturing Industries, 2000



Source: Dean Runyan Associates and U.S. Bureau of Economic Analysis.

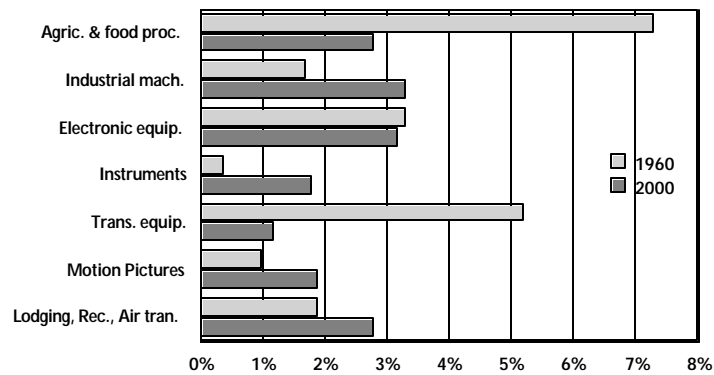
In addition, is it useful to review a few of the changes that have occurred in the California economy over the past few decades—changes that have dramatically altered the relative significance of certain industries in the state. The following chart provides a comparison of the earnings generated for selected industries in 1960 and 2000. (Industry GSP estimates from BEA are not available prior to 1977.) These findings show the dramatic decline of both Agriculture and Transportation Equipment relative to other

<sup>14</sup> These industries are based on 2 digit SIC codes. The data was downloaded from the BEA website in January 2003.

industries in the state. While the percentage of earnings derived from Agriculture and Food Processing has declined, the decline should be understood as a reflection of the diversification of the California economy. The size of this sector of the economy is still significant. The transportation industry is included to illustrate the relative decline of the aerospace industry in the state (about 65 percent of that industry was aerospace and missile defense in 2002). For purposes of comparison, the definition of Agriculture and Food processing is identical to that used earlier in this report (farms, agricultural services, and food and kindred products manufacturing).

The group including Lodging, Air Transportation and Recreation is used here as a proxy for the travel industry, in that travel industry earnings estimates for 1960 are not available. This group of industries has grown significantly during this period as a proportion of the state economy, as have Industrial Machinery, Instruments and Motion Pictures.

### Industry Earnings as Percent of Total California Earnings, 1960 and 2000



Industry Earnings as Percent of Total California Earnings  
 Source: Dean Runyan Associates and U.S. Bureau of Economic Analysis.

The export businesses most notable for their absence in this analysis are information technology companies engaged in software production and Internet services. (Computer hardware is included in Industrial machinery.) Unfortunately, reliable economic data (such as GSP) is not readily available on these relatively new industries.

## TRAVEL GENERATED EARNINGS BY COUNTY

## Travel-Generated Earnings as Percent of Total Earnings, 2000

Counties ranked by Percent Travel-Generated

County	Earnings (\$000)		Percent Travel	County	Earnings (\$000)		Percent Travel
	Total	Travel			Total	Travel	
Mono	235	116	49.4%	Santa Barbara	8,615	371	4.3%
Mariposa	189	84	44.7%	Madera	1,405	56	4.0%
Alpine	27	11	39.0%	Glenn	311	12	3.9%
Trinity	108	22	20.2%	San Bernardino	23,078	870	3.8%
Inyo	274	47	17.1%	Colusa	327	11	3.4%
Sierra	49	8	16.9%	Santa Cruz	5,294	177	3.3%
Calaveras	364	58	15.9%	Sonoma	9,835	308	3.1%
Lake	519	69	13.3%	Shasta	2,546	79	3.1%
Plumas	316	40	12.6%	San Benito	744	21	2.9%
El Dorado	2,142	241	11.2%	Orange	75,904	2,118	2.8%
Tuolumne	614	66	10.8%	Marin	7,301	190	2.6%
Del Norte	301	28	9.3%	Los Angeles	226,589	5,519	2.4%
Mendocino	1,287	98	7.6%	Ventura	15,227	360	2.4%
Napa	2,908	221	7.6%	Solano	5,420	127	2.3%
Siskiyou	566	42	7.5%	Kern	9,994	231	2.3%
Monterey	8,393	627	7.5%	Yuba	848	18	2.2%
San Luis Obispo	4,174	306	7.3%	Sacramento	28,729	582	2.0%
Riverside	19,722	1,439	7.3%	Tulare	4,894	96	2.0%
Amador	438	28	6.5%	Alameda	41,085	803	2.0%
Nevada	1,319	79	6.0%	Butte	2,663	52	1.9%
Modoc	110	7	5.9%	Kings	1,540	30	1.9%
San Mateo	33,242	1,701	5.1%	Fresno	12,100	204	1.7%
Placer	5,184	265	5.1%	Merced	2,425	40	1.7%
Lassen	403	19	4.7%	Yolo	3,869	60	1.5%
San Francisco	47,381	2,106	4.4%	Sutter	1,109	15	1.4%
Humboldt	1,887	83	4.4%	San Joaquin	8,347	110	1.3%
San Diego	67,835	2,958	4.4%	Stanislaus	6,502	84	1.3%
Tehama	596	26	4.3%	Santa Clara	95,336	1,202	1.3%
Imperial	1,878	81	4.3%	Contra Costa	20,729	252	1.2%

Source: Dean Runyan Associates and U.S. Bureau of Economic Analysis.

Note: California total earnings for 2000 were \$825 million. Travel-generated earnings were \$25 million (3%).

## IMPLAN MODELING SYSTEM<sup>15</sup>

IMPLAN is a widely used, nationally recognized economic impact model, first developed by the U.S. Forest Service, to estimate the economic activity associated with a sale of a good or service. This methodology has been packaged, along with the necessary data files, as IMPLAN Pro by the Minnesota IMPLAN Group, Inc. (MIG) of Stillwater, Minnesota, and is the basis for the indirect and secondary impacts described in this report. Some of the conventions used by IMPLAN follow.

### DATABASE COMPONENTS

The IMPLAN databases consist of two major parts: 1) national -level matrices and tables and 2) economic and physical data at the county and/or state level. The national matrices are combined with regional data to create a statewide model, which reflects local conditions.

The following IMPLAN data was used to estimate indirect and secondary impacts:

1. Industry Output
2. Employment
3. Value Added (includes earnings)

**Industry Output** represents the dollar value of an industry's total production. The data is derived from a number of sources including Bureau of Census economic censuses and the BLS employment projections.

**Employment** is listed as a single number of jobs for each industry. The data is derived from ES202 employment security data supplemented by county business patterns and Regional Economic Information System (REIS) data. Employment estimates include both full-time and part-time workers.

**Value Added** includes employee compensation, proprietor income, other property type income, and indirect business taxes. Employee compensation includes the total payroll costs (including benefits) of each industry in the region. Proprietary income consists of payments received by self-employed individuals (includes private business owners, doctors and lawyers). Other property type income consists of payments from rents, royalties, dividends and interest. Indirect business taxes consist primarily of excise and sales taxes paid by individuals to businesses.

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<sup>15</sup>Minnesota IMPLAN Group, Inc., "Micro IMPLAN Users Guide", version 91 -F, March 1994.

## **MARGINS**

Margins represent the difference between producer and purchaser prices. Producer prices are the prices an industry receives for its production of goods or services. Purchaser prices are a sales price and may include a retail markup, wholesale markup or transportation costs, in addition to the price paid for production. To estimate indirect and secondary impacts, purchaser prices for retail goods were subdivided using margins to split a purchase (sales) price into the appropriate producer values and assign each value to the correct industry. Margins do not apply to service businesses such as lodging and eating and drinking establishments where the service is produced at the same time as it is purchased.

## **TRADE FLOWS**

Trade flows describe the movement of goods and services between a defined region and the outside world (imports and exports into and out of the study region). Regional Purchase Coefficients (RPC's) represent the portion of local demand purchased from local producers for each commodity. RPC's were used to estimate how much of the local production of a commodity will be used to supply local demand and how much will be exported from the region. IMPLAN software automatically generates RPC's for each commodity with a set of econometrically based equations.

## **INDIRECT AND SECONDARY IMPACTS**

Indirect impacts are driven by final demand met by industries either directly (by supplying goods and services to consumers) or indirectly (by supplying goods and services to other industries). Each industry that produces goods and services generates demands for additional goods and services. These other producers, in turn, purchase goods and services. These indirect purchases (indirect effects) continue until "leakage" from the state (imports, wages, profits, etc.) stop the cycle.

Secondary impacts include the indirect impacts and also take into account the impact of the income and expenditures of households employed in both the direct and indirect businesses within the travel-related industries (i.e., induced effect).

## **DATA AND ANALYSIS CONVENTIONS**

The California analysis makes use of a data set representing California for 2000. All secondary impact amounts expressed in 2000 dollars were adjusted to 2002 dollars using IMPLAN deflators based on the U.S. Bureau of Labor Statistics' Consumer Price Index.

## **VISITOR SPENDING BY IN-STATE RESIDENTS**

The statewide estimate of direct and secondary impacts is based on total visitor spending (state residents, non-residents, and international visitors). Economists sometimes argue that the inclusion of in-state residents results in an overestimate of economic impacts. This is because travel spending by residents may merely substitute for, or displace, expenditures on other goods or services that also generate direct and secondary economic impacts. To the extent that economic impacts generated by the in-state travel spending of residents functions in this fashion, it should be distinguished from spending

by out-of-state and international visitors, which generates economic impacts *at the level of the state* that would not otherwise be present.

There are essentially two reasons for including spending by in-state residents in the direct and secondary impact estimates provided here. First, all export-oriented industries sell a portion of their products to in-state households and businesses. Any comparison of industries would thus require that these in-state sales be excluded from the secondary impacts. While such estimates might be feasible, the adjustments might in some ways result in an underestimate of the secondary impacts *at the local level*. This leads to the second, more fundamental reason for not excluding in-state residents when estimating the economic impacts of travel spending.

Essentially, travel is a behavioral concept rather than a geographic one. Travel is defined by length of distance from home (usually at least 50 miles one-way), trip purpose (non routine), and/or the use of an overnight accommodation away from home. Whether this involves crossing a state boundary is arbitrary from the perspective of travel, even if not so for the purpose of maintaining economic accounts. The operators of tourist attractions in local communities are generally less interested in visitor origin than in the revenue that they generate for their businesses. In terms of the economic impacts at the *local* level, the distinction between in-state residents, out-of-state residents and international visitors is not relevant.<sup>16</sup> It is for this reason that most state level travel impact estimates include in-state resident visitor spending. In essence, these state level travel impact estimates really represent an aggregation of smaller geographic units, such as counties or regions.<sup>17</sup>

How, then, should the direct and secondary impact estimates be interpreted? At the state level, they should be interpreted as describing the size or magnitude of the "travel industry." This interpretation applies to other industries as well. The question of how much economic output would be lost within the state from a reduction in travel spending is a different issue, as is the case for other industries.

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<sup>16</sup> The same is true of other industries, such as agriculture. From the perspective of the local economy, it makes little difference whether agricultural products are exported to another country, another state or another region of the same state.

<sup>17</sup> It is for this reason that it is also not appropriate to compare the secondary impacts of different states because the size of these secondary impacts are partly a function of the size of the state economy. Larger states will have larger secondary impacts. Furthermore, excluding in-state travel spending does not solve the problem. Because large states, such as Texas, have high proportions of in-state visitor spending, while small states, such as Rhode Island, have low proportions of in-state visitor spending, we would not be measuring the same behavior in the two states if we chose to exclude in-state visitor spending.