



STATE OF WASHINGTON  
DEPARTMENT OF COMMUNITY,  
TRADE AND ECONOMIC DEVELOPMENT

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# The Economic Significance of the Washington State Travel Industry

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## EXECUTIVE SUMMARY

Travel and tourism is an important economic activity in Washington State. Spending by visitors generates sales in lodging, food service, recreation, transportation, and retail businesses – the “travel industry.” The state of Washington has a direct stake in the health of this industry as evidenced by the policy and marketing support it provides and the significance of the benefits that accrue to businesses and residents throughout the state. This report compares the travel industry with some of the other major industries in the state of Washington that are also of interest as a matter of economic development policy.

- The travel industry ranks among the leading export-oriented industries in Washington in terms of its contribution to Washington Gross State Product (GSP). Travel industry GSP was \$4.8 billion in 2003. Of the leading industries with which the travel industry was compared, only the Software industry had a significantly higher impact (\$13.2 billion). The other industries with which the travel industry was compared were aerospace (\$5.7 billion), computer/electronics manufacturing (\$2.5 billion), agriculture and food processing (\$5.6 billion), and forestry and wood products (\$3.9 billion).
- A high proportion of travel industry GSP is comprised of payments to employees (78 percent). This is higher than any of the other industries compared in this report except aerospace. The travel industry generates a large number of entry-level positions and opportunities for small business ownership in relation to its overall Gross State Product.
- The travel industry also generates a high proportion of tax revenue in relation to its Gross State Product (11 percent). None of the other industries is comparable with respect to taxes. Furthermore, visitors pay most of these taxes and many of the benefits directly accrue to local governments.
- The growth of the travel industry has historically been strong and relatively stable. Among the industries compared, only the payroll of the software industry grew at a greater rate from 1991 to 2003. The travel industry also exhibited the most stable growth over this period.
- The travel industry also generates secondary impacts. These impacts result from purchases of inputs by travel industry firms from other businesses in the state, and the expenditures of travel industry employees on goods and services for personal consumption. These secondary impacts are equivalent to an additional \$5.2 billion of GSP – 1.1 times as great as the direct impact of visitor spending. These secondary impacts do not include many other significant impacts, such as the manufacture of consumer durables and non-durables that are travel-related, or the value of construction and real estate transactions for visitor-related facilities.

## THE WASHINGTON STATE TRAVEL INDUSTRY

Travel and tourism is an important economic activity in Washington State, manifested as overseas and domestic travel to the greater Seattle urban corridor, and travel to other areas of the state for a wide variety of activities and events. The economic benefits that accrue from travel-related expenditures are primarily in lodging, food service, recreation, transportation, and retail businesses. The state of Washington has a direct stake in the health of this industry as evidenced by the policy and marketing support it provides and the significance of the benefits that accrue to businesses and residents throughout the state.

This report compares the travel industry with some of the other major industries in the state that are also of interest as a matter of economic development policy. The motivation of this comparison is not to rank industries in terms of their importance, nor to evaluate the implementation of public policy with respect to these industries. Rather, the objective of this report is principally to document the importance of the travel industry as a tool of the economic development in Washington State.

This report will discuss the travel industry as an “export-oriented industry.” It will compare the travel industry to several other major export-oriented industries in the state. The analysis of these industries will focus initially on the wages paid to employees. The report will then provide estimates of gross state product – a more comprehensive measure of economic output. The report will conclude with a discussion of secondary impacts. Numerous appendices on various topics are also included.

### **ECONOMIC DEVELOPMENT AND THE TRAVEL INDUSTRY.**

The travel industry is often promoted as an economic development tool for several reasons.

- First, travel is an “export” industry that injects money into local economies. In this respect, it is similar to firms and industries that sell manufactured products in other geographic markets. However, a local travel industry accomplishes this through spending by visitors on locally produced services.
- Second, because the travel industry is service-oriented and labor intensive, it generates many employment opportunities relative to investments in physical capital. The travel industry provides a large number of entry-level positions, as well as opportunities for small business proprietors.
- Third, the promotion of visitor amenities can have other beneficial effects in a community. Many of the same attributes that draw visitors to a community (e.g., recreation facilities, cultural events, attractive downtowns) can also enhance the “quality of life” for residents.

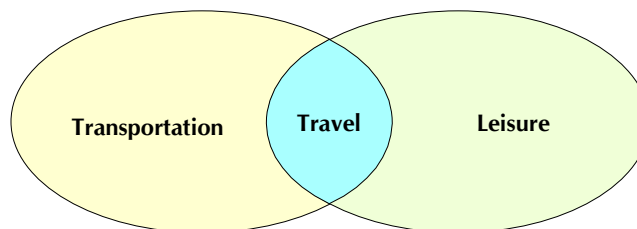
Because of these attributes, the travel industry can be an important component of a local and regional economic development strategy. Obviously, the exact role of the travel industry in any economic development strategy should be influenced by local labor market conditions and the nature of the visitor market.

### **TRAVEL AS AN EXPORT-ORIENTED INDUSTRY**

As noted, the travel industry is often promoted as an economic development strategy because it is an export-oriented industry – it injects money into a local economy. 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. Such industries characterize the “comparative advantage” of the local economy within larger regional, national, and global markets.

When considering the travel industry as an export-oriented industry, it is useful to distinguish between two types of businesses – those that provide leisure goods and services (primarily arts, entertainment, recreation, accommodations, and food services, along with some retail), and those that provide transportation services (primarily air and ground transportation). When leisure commodities (e.g., a hotel room) are sold to visitors, the income generated can usually be attributed to a particular destination. In general, the proceeds of this sale (most notably in the form of earnings for local residents) benefit the local economy.

### **The Travel Industry**



In the case of transportation services, however, the economic impacts are often more broadly distributed because transportation provides a link between a resident market and a visitor destination. For this reason, the actual destination-specific impacts of the purchase of transportation services by visitors are more difficult to assess. Where should the transportation impacts be allocated for a visitor that travels by air from Chicago to Seattle? Suppose that visitor rents a car in Seattle and drives to the North Olympic Peninsula? The issue of measuring the economic impact of travel in such cases is irrelevant if the geographic unit includes the origin and destination of the visitor. However, where the geographic boundary does not include the point of origin, the

answer is less clear. In this report, we will conceptualize and measure the export-orientation of the travel industry as follows:<sup>1</sup>

- Travel is conceptualized as an export-oriented industry at two levels. First, at the level of specific destinations, the impacts of travel include all economic output related to the sale of leisure goods and service to visitors, as discussed above. Second, at the level of the state, travel impacts include the sum of these destination-specific impacts relating to leisure, and all transportation-related expenditures on travel. *Local travel industries are dependent on a larger transportation infrastructure.*
- Travel will be defined as a trip that involves an overnight stay away from home, or a non-routine day trip of at least 50 miles from the traveler's permanent residence. The purpose of travel can be leisure or business. The traveler may be a resident of Washington, another state, or another country.
- Travel expenditures include all trip-related sales on leisure goods and services and transportation within Washington. This includes the visitor-related sales of enterprises in accommodations, food services, recreation, transportation, and retail. In the case of air travel, this expenditure includes the price of a one-way fare to Washington. It does not include the return trip to the visitor's place of residence. The purchases of durable goods used for multiple trips are not included. These more general travel-related purchases include a wide variety of durable goods where purchases are at least partially motivated by travel intentions. This includes photographic equipment, recreation equipment, and transportation equipment (including motor vehicles).
- The travel-related expenditures of Washington State residents on air transportation and travel arrangement services are also included, even though a portion of these expenditures is for outbound travel. This follows the convention of measuring travel industry impacts where spending and employment impacts are allocated to the location in which they occur. (For example, some of the travel spending of Los Angeles residents visiting Washington will similarly be allocated to California.) Furthermore, the availability of transportation and travel services for residents is in part a function of the existence and magnitude of incoming travel.

*To summarize: The travel industry in Washington is export-oriented both from the perspective of leisure-related businesses at specific local destinations and at the state level from the additional impacts of the larger statewide transportation network that supports travel. In this paper, the travel industry is defined as the aggregate of the travel-related sales of leisure businesses and transportation businesses in the state.*

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<sup>1</sup> The measurement of the travel industry in this report is identical to that reported in the annual travel impact studies prepared by Dean Runyan Associates for the Washington State Department of Community, Trade and Economic Development.

## COMPARING EXPORT-ORIENTED INDUSTRIES

The table on page 5 shows the total annual payroll of the primary NAICS industry sectors in Washington State during 2003.<sup>2</sup> Our ultimate interest is in deriving a list of major export-oriented industries. For this reason, the various manufacturing industries within the broader manufacturing sector are shown separately. Manufacturing industries are almost always export-oriented from the perspective of the regional economy because manufacturing firms produce goods that are either themselves sold in other geographic markets, or are used as inputs by other manufacturing firms whose output is, in turn, sold in other markets.

Conversely, there are other sectors that are not *primarily* export-oriented. This would include construction, retail trade, public administration, and most services. While it is true that some industries (e.g., health care, professional services) may have substantial export components, this is usually a result of the advantages of scale derived from their location in urban markets.

For the purposes of this analysis, we have defined six major export-oriented industries in Washington State. Industry detail is shown on page 6 and is summarized below.

- **Aerospace.** This includes, of course, the Boeing Corporation as well as other firms that produce component parts for aerospace products.
- **Computer.** This industry includes establishments that manufacture computers, communications equipment, and similar products and components that utilize integrated circuits. This industry does *not* include electrical equipment and appliances.
- **Food.** The food group encompasses parts of three major industry categories: agriculture, food manufacturing or processing, and beer and wine production.
- **Software.** This industry includes the Microsoft Corporation as well as other establishments that design, develop and/or publish computer software.
- **Travel.** A portion of leisure, retail, transportation, and travel services.
- **Wood.** This group also encompasses parts of several distinct industries: forestry (a component of agriculture), wood product manufacturing, pulp and paper mills, and furniture manufacturing.

Two of these industry groups (Food and Wood) are based on combinations of industries that have close supplier relationships. Food processing is closely related to primary agricultural production. Similarly, wood products are closely related to logging. While food processing and wood products do not require inputs from Washington State businesses, the evolution and competitive advantage of these manufacturing industries rests in part on their proximity to these inputs. For this reason, it is appropriate to consider the larger group of industries as one major export-oriented industry group.

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<sup>2</sup> NAICS refers to the North American Industry Classification System.

## Washington State Industry Payrolls Covered Employees, 2003\*

Industries	Annual Payroll (\$Million)	Percent of Total
Total, all industries**	\$103,538	
NAICS 11 Agriculture, forestry, fishing and hunting	\$1,587	1.5%
NAICS 21 Mining	\$144	0.1%
NAICS 22 Utilities	\$260	0.3%
NAICS 23 Construction	\$5,674	5.5%
NAICS 31-33 Manufacturing***	\$13,251	12.8%
NAICS 311 Food manufacturing	\$1,153	1.1%
NAICS 312 Beverage and tobacco product manufacturing	\$152	0.1%
NAICS 321 Wood product manufacturing	\$640	0.6%
NAICS 322 Paper manufacturing	\$727	0.7%
NAICS 323 Printing and related support activities	\$312	0.3%
NAICS 324 Petroleum and coal products manufacturing	\$190	0.2%
NAICS 325 Chemical manufacturing	\$366	0.4%
NAICS 326 Plastics and rubber products manufacturing	\$330	0.3%
NAICS 327 Nonmetallic mineral product manufacturing	\$338	0.3%
NAICS 331 Primary metal manufacturing	\$256	0.2%
NAICS 332 Fabricated metal product manufacturing	\$595	0.6%
NAICS 333 Machinery manufacturing	\$516	0.5%
NAICS 334 Computer and electronic product manufacturing	\$1,458	1.4%
NAICS 335 Electrical equipment and appliance mfg.	\$192	0.2%
NAICS 336 Transportation equipment manufacturing	\$5,225	5.0%
NAICS 337 Furniture and related product manufacturing	\$236	0.2%
NAICS 339 Miscellaneous manufacturing	\$400	0.4%
NAICS 42 Wholesale trade	\$5,477	5.3%
NAICS 44-45 Retail trade	\$7,798	7.5%
NAICS 48-49 Transportation and warehousing	\$3,125	3.0%
NAICS 51 Information	\$9,476	9.2%
NAICS 52 Finance and insurance	\$5,898	5.7%
NAICS 53 Real estate and rental and leasing	\$1,390	1.3%
NAICS 54 Professional and technical services	\$7,357	7.1%
NAICS 55 Management of companies and enterprises	\$2,247	2.2%
NAICS 56 Administrative and waste services	\$3,994	3.9%
NAICS 61 Educational services	\$764	0.7%
NAICS 62 Health care and social assistance	\$8,851	8.5%
NAICS 71-72 Leisure and Hospitality	\$3,844	3.7%
NAICS 81 Other services, except public administration	\$2,324	2.2%
NAICS 92 Public administration	\$7,283	7.0%

Source: Bureau of Labor Statistics, Covered Employment & Wages.

\*Payroll of employees covered by unemployment insurance. Payroll does not include proprietor income and other earned benefits.

\*\*Total, all industries includes all private and government covered employment. All other industries except public administration refer to private industry employment only.

\*\*\*Other manufacturing industries included in this total but not listed separately are NAICS 313 Textile mills, NAICS 314 Textile product mills, NAICS 315 Apparel manufacturing, and NAICS 316 Leather and allied product manufacturing.

**Selected Washington State Export-Oriented Industries**  
2003 Annual Payroll

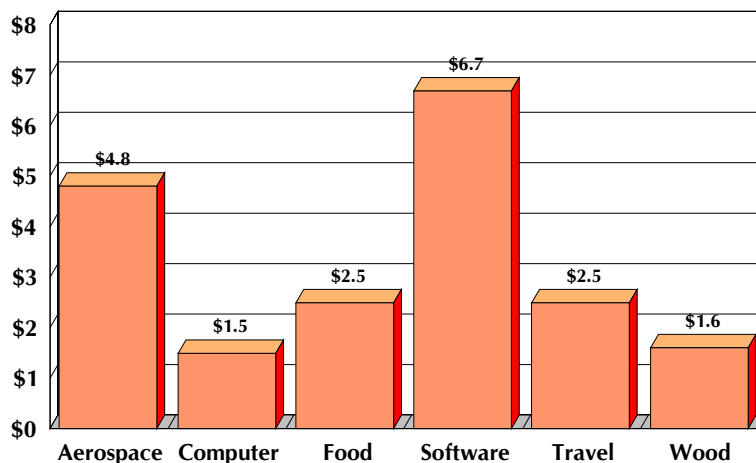
	Annual Payroll (\$Million)	Percent of Total
<b>Aerospace</b>		
NAICS 3364 Aerospace product and parts manufacturing	<b>\$4,795</b>	<b>4.6%</b>
<b>Computer</b>		
NAICS 334 Computer and electronic product manufacturing	<b>\$1,458</b>	<b>1.4%</b>
<b>Food</b>		
Food Group Total	<b>\$2,501</b>	<b>2.4%</b>
NAICS 111 Crop production	\$792	
NAICS 112 Animal production	\$136	
NAICS 1141 Fishing	\$137	
NAICS 1151 Support activities for crop production	\$221	
NAICS 1152 Support activities for animal production	\$10	
NAICS 311 Food manufacturing	\$1,153	
NAICS 31212 Breweries	\$24	
NAICS 31213 Wineries	\$28	
<b>Software</b>		
NAICS 5112 Software publishers	<b>\$6,723</b>	<b>6.5%</b>
<b>Travel*</b>		
Travel Total	<b>\$2,548</b>	<b>2.5%</b>
NAICS 71-72 Leisure Industries (part)	\$1,436	
NAICS 44-45 Retail Trade (part)	\$260	
Visitor Transportation	\$313	
Other	\$539	
<b>Wood</b>		
Wood Group Total	<b>\$1,641</b>	<b>1.6%</b>
NAICS 113 Forestry and logging	\$256	
NAICS 1153 Support activities for forestry	\$34	
NAICS 321 Wood product manufacturing	\$640	
NAICS 3221 Pulp, paper, and paperboard mills	\$475	
NAICS 337 Furniture and related product manufacturing	\$236	

Source: Bureau of Labor Statistics (Covered Employment and Wages) and Dean Runyan Associates.

\*Visitor Transportation includes payroll generated by visitor spending for air transportation, auto rentals, and other ground transportation. Other includes all other passenger air travel and travel arrangement services. See Appendix E for more detail.

The 2003 payrolls of these industries are displayed graphically below. Together, these six export-oriented industries comprise nineteen percent of all wages in Washington State.

### Export-Oriented Industries, Washington State Annual Payroll in \$ Billions, 2003



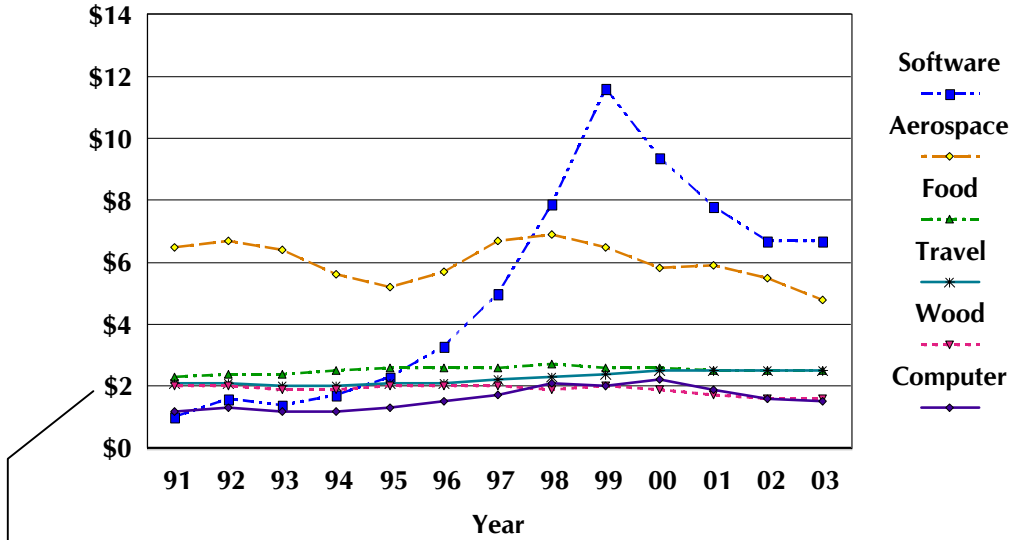
Source: Bureau of Labor Statistics Covered Employment & Wages, Dean Runyan Associates

Note: NAICS industries included in these categories are listed in the preceding table.

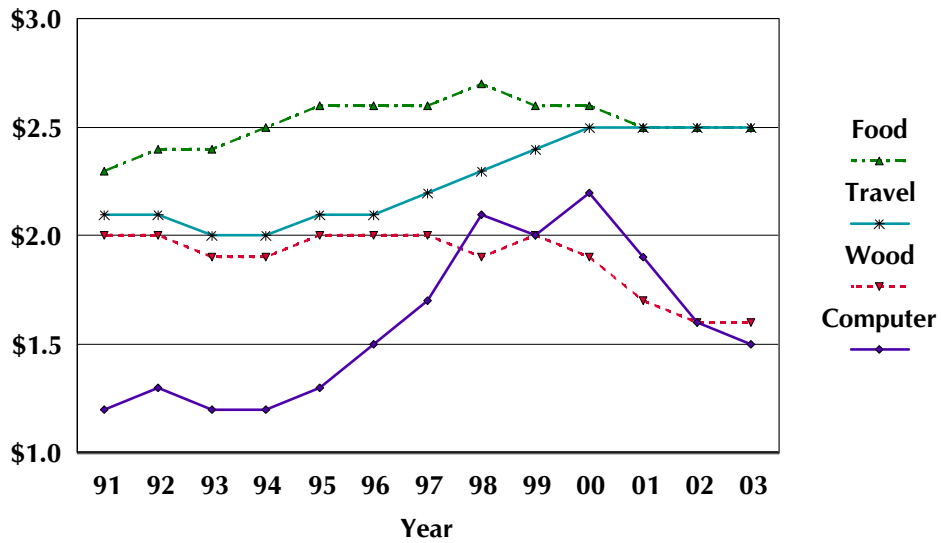
The growth of industry payroll is also of interest. These trends are shown graphically on the following page. All data are presented in constant (2003) dollars. Not surprisingly, the software industry has exhibited the strongest overall growth in payroll during this period – clearly following the fortunes of the technology sector. The aerospace industry has been the most cyclical and has experienced a decline in payroll of 26 percent (when adjusted for inflation).<sup>3</sup> The four other industries (computer, food, travel and wood) are displayed separately in order to better differentiate their growth patterns. The growth pattern of the computer industry is similar to that of software – strong growth during the last half of the 1990’s followed by a period of retraction with the bursting of the dot-com bubble. Notably, food and travel have exhibited the most consistent growth over this time period.

<sup>3</sup> The analogous percentages for the other industries are computer (+20%), food (+7%), software (+591%), travel (+24%), and wood (-18%). These percentages reflect the change in total annual payroll from 1991 to 2003 in constant (2003) dollars.

### Export-Oriented Industries, Washington State Annual Payroll in \$ Billions, 1991-2003 Constant (2003) Dollars



*Data in bottom graph differs only in scale.*



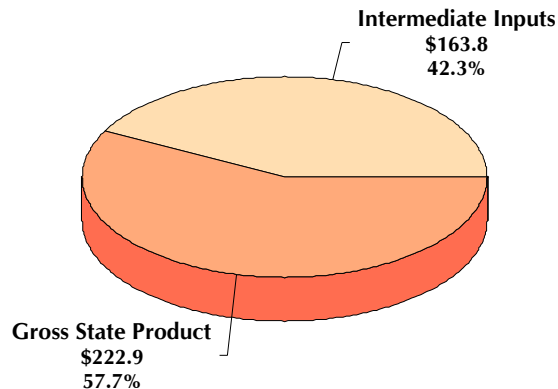
Source: Bureau of Labor Statistics Covered Employment & Wages & Consumer Price Index, Dean Runyan Associates.  
Note: NAICS industries included in these categories are listed in preceding table. Constant dollars estimated with CPI-U for West Region.

## GROSS STATE PRODUCT: THE CONCEPT

A more comprehensive comparison of export-oriented industries can be made on the basis of Gross State Product. Gross State Product (also referred to as value-added) includes the contribution of labor and capital to economic output. It is thus a broader, more comprehensive measure of an industry's economic output than wages alone. Furthermore, industry and state gross product are comparable to the U.S. Gross Domestic Product, generally considered the best single measure of the performance of the total economy.

In concept, GSP is equal to gross output (sales or receipts) minus intermediate inputs (the goods and services purchased from other industries). GSP is always smaller than output or sales because GSP measures only the "value added" of an industry and does not include the cost of the inputs that are also necessary to produce a good or service. The relationship between output and gross state product for the entire economy of Washington is shown below. In this chart, output represents the final sales of approximately seventy different industries in the state.<sup>4</sup> Because some of these sales will actually be used as intermediate inputs by other industries, output is an overestimate of the true value of the products and services produced in the economy.

**Total Output (Sales) in Washington State, 2001**  
(\$ Billions)

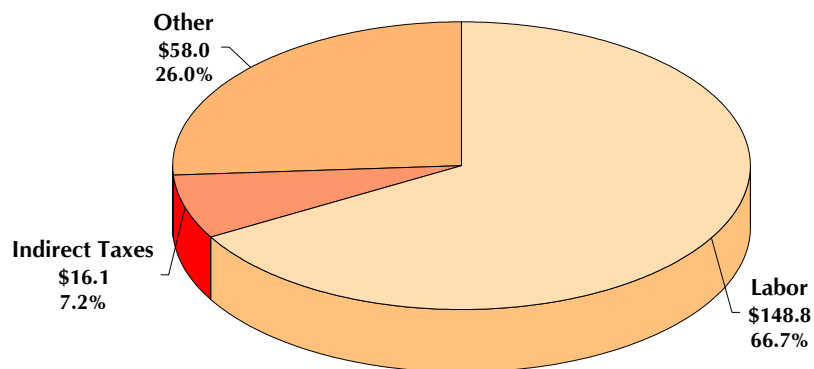


Source: Dean Runyan Associates, Bureau of Economic Analysis, and Minnesota Implan Group.  
Total Output or Sales = \$386.7 Billion.

<sup>4</sup> See Appendix C for relationship between travel spending and travel industry GSP.

Gross State Product can also be viewed in terms of the distribution or payout of industry receipts, exclusive of those paid to other firms for intermediate inputs. Some of the receipts are distributed to labor as wages, benefits, and proprietor income. Some receipts are paid to government as indirect taxes. These taxes are called “indirect” because most of them are actually paid by consumers in the form of sales or excise taxes.<sup>5</sup> Another portion of receipts are paid out as dividends, interest, and other miscellaneous payments, or retained by the firm. The sum of these three broad categories of payments equals Gross State Product.

**Components of Washington Gross State Product, 2001**  
\$ Billions



Source: Dean Runyan Associates, Bureau of Economic Analysis, and Minnesota Implan Group. Additional detail in appendix.

### **GROSS STATE PRODUCT OF SELECTED EXPORT INDUSTRIES**

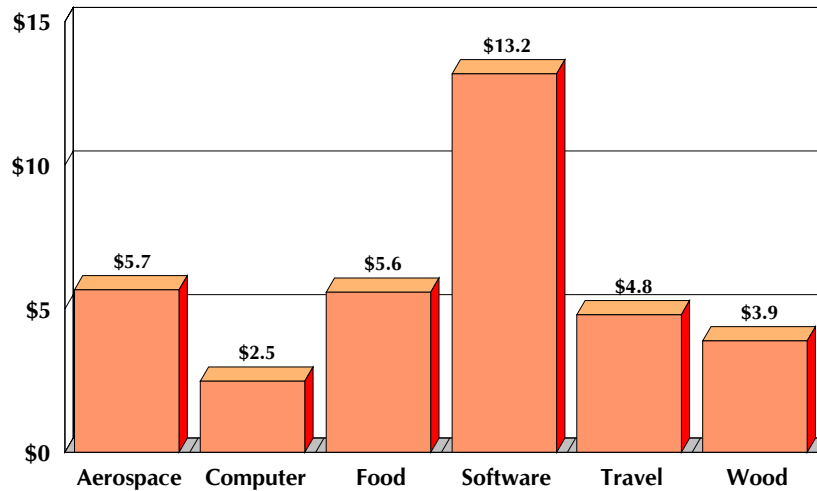
Estimates of Gross State Product for the six selected export-oriented industries are shown on the following page. The relationship among the six industries with respect to GSP is similar to the relationship of their payrolls. This is as expected in that wages typically account for about one-half of an industry’s GSP.<sup>6</sup> There are exceptions, however. The GSP of the Aerospace industry is less relative to other industries than is its payroll. In recent years, labor income has comprised almost all of the aerospace industry’s GSP. The components of GSP for the six industries is shown in the bottom graph on page 11.

<sup>5</sup> Other taxes included here are property taxes, business franchise taxes, and other fees. Income taxes are not included, because they are paid out of profits.

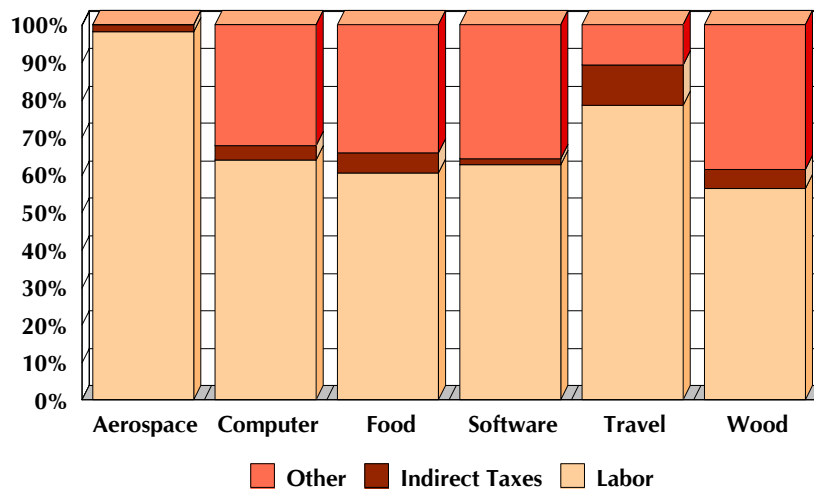
<sup>6</sup> Payroll or wages comprise the majority of payments to labor. Also included are paid benefits, employer contributions to social insurance, and proprietor income.

This graph is also notable with respect to the travel industry. The travel industry stands out in that it has the highest proportion of indirect taxes (11 percent) and the second highest proportion of labor income (78 percent) in relation to GSP. The remaining component of GSP (which includes interest payments, dividends, depreciation, and profits) is relatively low (11 percent) compared to all of the other industries except aerospace.

**Gross State Product  
Washington Export-oriented Industries, 2003e**



**Components of Gross State Product  
Washington Export-oriented Industries, 2003e**



Source: Bureau of Labor Statistics, Dean Runyan Associates, and Minnesota Implan Group.  
 Note: Estimates for 2003e based on 2001 Input-Output data of Minnesota Implan Group and 2003 payroll data from Bureau of Labor Statistics.

Given that the travel industry is conceived of as an economic development tool for local communities, this is an important result. It indicates that the economic output produced by the travel industry is likely to accrue to the local communities in which the industry is located. This is because, first, payments to individuals in the form of employee compensation and proprietor income are more likely to be spent in the community where those employees work than are other payments, such as interest, dividends, rent, and depreciation allowances. This is consistent with the fact that the travel industry is relatively labor intensive and is comprised of many small businesses and proprietorships. Second, the indirect business taxes that are a component of Gross State Product are largely excise taxes (local, state and federal) that are paid by consumers at the point of sale. This is especially true of the travel industry, where visitor spending includes room taxes, sales taxes, and motor fuel taxes.<sup>7</sup> Some of these excise taxes are levied by local jurisdictions, some are levied by the state and indirectly support local services. In any case, visitors, rather than local residents, pay all of these excise taxes.

*To summarize, the Gross State Product of the travel industry is comparable to other leading export-oriented industries in the state (with the exception of software).*

*Furthermore, a high proportion of the travel industry's business receipts are paid in the form of earnings and indirect taxes (paid by visitors) to local and state government. All of these payments directly benefit local communities.*

## **RELATED IMPACTS**

To this point, our analysis of export-oriented industries has focused only on "direct" impacts. Direct impacts, whether expressed as wages, employment, value-added (or gross product), or output (or sales) refer to the final sale of a group of products and services. Many industry analyses, including those of the travel industry, report various additional impacts that are related to the direct impact. The different types of related impacts are described below.<sup>8</sup>

### **Ancillary Impacts**

In some cases, firms that supply inputs or other related market activities are included in impact studies. For example, economic impacts of the airline industry typically include the visitor expenditures of travelers and the production of airplanes. Economic impacts of the outdoor recreation industry usually include expenditures on recreation fees, travel, and equipment.

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<sup>7</sup> Dean Runyan Associates estimate of local and state taxes (not including property taxes) is higher than the Implan estimate. Based on an analysis of hotel and sales taxes, the Implan estimate is probably too conservative. It is not adjusted here, however, in order to maintain comparability among the industries and other components of GSP.

<sup>8</sup> All related impacts should be interpreted cautiously. This is because most economic resources have alternative uses. For example, a firm that stops selling to a given Washington industry may find alternative markets. Similarly, workers that lose employment in one industry may find employment elsewhere. Related impacts illustrate economic interrelationships, not the "size" of the core industry.

Similarly, a broader definition of the travel industry might include the following:<sup>9</sup>

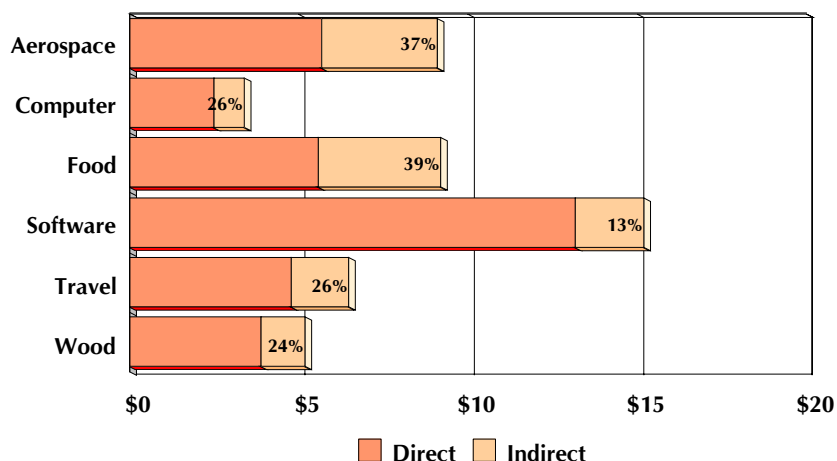
- The manufacture of consumer non-durables that are purchased by visitors on trips (e.g., gifts, motor fuel, food products).
- The manufacture of consumer durables that are used for travel over the course of multiple trips (e.g., luggage, recreational vehicles, photographic equipment).
- Construction and real estate transactions for visitor-related facilities.
- Public investments in visitor-related infrastructure.

The analysis contained in this report does not consider these ancillary relationships apart from the initial definition of the six primary export-oriented industries. In the case of travel, this is motivated by the desire to focus on the local economic impacts of travel. Were such ancillary economic transactions included, the economic impact of the larger travel industry would be considerably greater.

### Indirect Impacts

Indirect impacts refer to the intermediate inputs used to produce the final product or service, providing that those inputs are themselves produced within the designated geographic area (Washington State). These indirect impacts are typically determined by an input-output model that describes the purchasing patterns of industries. For example, local restaurants may purchase wine from Washington State wineries. In this analysis, the indirect impacts of the six export-oriented industries are reported, as estimated from an Implan Input-Output model.<sup>10</sup>

**Direct and Indirect Gross State Product, 2003e  
Washington Export-Oriented Industries**



Source: Dean Runyan Associates and Minnesota Implan Group.

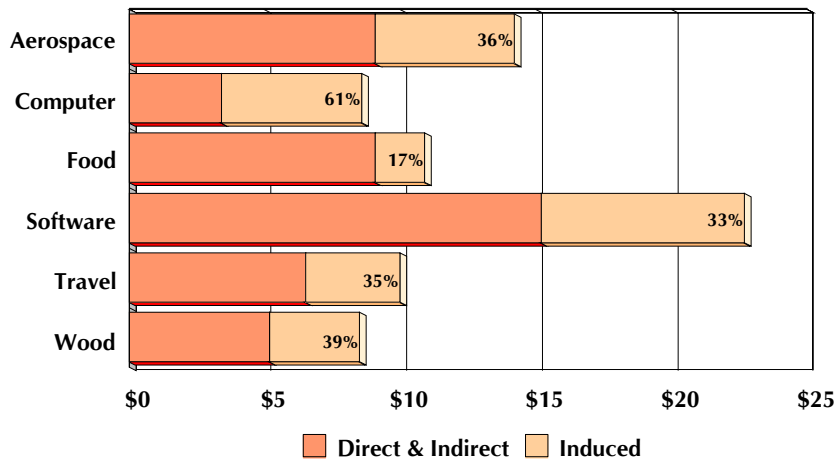
<sup>9</sup> The question of what should be included in the travel industry is also central to definitions of Travel and Tourism Satellite Accounts. See Appendix B.

<sup>10</sup> See Appendix D.

## Induced Impacts

Induced impacts refer to the purchase of goods and services by *employees* that are attributable to direct and indirect impacts. These induced impacts are derived from economic data that describe the purchasing patterns of households. For example, employees of all the designated export-oriented industries will spend their income on food, household durables, health care, and so on. In this analysis, these induced impacts of the six export-oriented industries are also estimated from an Implan model.

**Direct, Indirect and Induced Gross State Product, 2003e  
Washington Export-Oriented Industries**



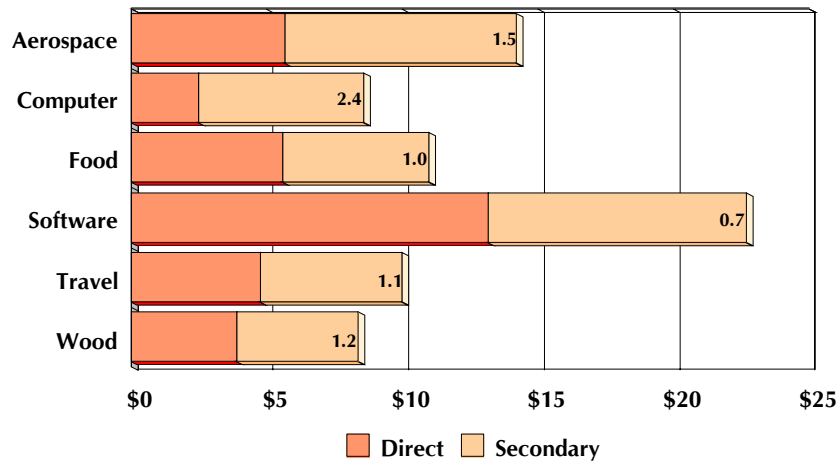
Source: Dean Runyan Associates and Minnesota Implan Group.

Note: Induced impacts reflect spending of employees in direct and indirect industries.

## Secondary Impacts

The sum of indirect and induced impacts is sometimes referred to as the secondary impact. These secondary impacts are typically as great as the direct impact alone. For example, the direct GSP of the travel industry is \$4.8 billion; the indirect GSP is \$1.7 billion, and the induced GSP is \$3.5 billion. The total (direct, indirect and induced) GSP for travel is 2.1 times greater than direct GSP. This is equivalent to a multiplier of 1.1. The analogous multipliers for the other industries are shown in the bar graph.

## Direct and Secondary Impacts, 2003e Washington Export-Oriented Industries



Source: Dean Runyan Associates and Minnesota Implan Group.

Note: Secondary impact equals sum of indirect and induced impacts. Combined secondary multiplier indicated in bar. A multiplier of 1.1 for Travel indicates that the sum of the indirect and induced effects is equal to the direct effects multiplied by 1.1.

### IMPLICATIONS

The travel industry ranks among the leading export-oriented industries in Washington State in terms of its contribution to Gross State Product. Only the Software industry has a significantly higher impact. Additional advantages of the travel industry include:

- The travel industry is labor-intensive. It generates a large number of entry-level positions and opportunities for small business ownership.
- The travel industry generates a high proportion of tax revenue in relation to its Gross State Product. Visitors pay most of these taxes and local governments receive many of the benefits.
- The growth of the travel industry has historically been positive and relatively stable. This is likely to continue given the demand for leisure as household earnings rise.

All of this suggests that the travel industry can be a cost-effective economic development strategy for local communities when resources are effectively targeted. This targeting should proceed on the basis of local labor market conditions, existing and potential visitor markets, and other economic development objectives.



## **APPENDICES**

**Appendix A: Regional Travel Impact Model (RTIM) Methodology**

**Appendix B: U.S. Travel and Tourism Satellite Accounts**

**Appendix C: Travel Spending and Travel Industry Gross State Product**

**Appendix D: IMPLAN Modeling System**

**Appendix E: Travel Impact Industries Matched to 1997 NAICS**

## **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>11</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>12</sup> Earnings include payroll, other earned benefits and proprietor income. Employment is estimated from the average annual earnings for each 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.

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<sup>11</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>12</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.

## 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>13</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>14</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>13</sup> Dean Runyan Associates currently uses the Minnesota Implan Group model.

<sup>14</sup> Longwoods International provides the visitor survey data for Washington.

## U.S. TRAVEL AND TOURISM SATELLITE ACCOUNTS

The Bureau of Economic Analysis (BEA)<sup>15</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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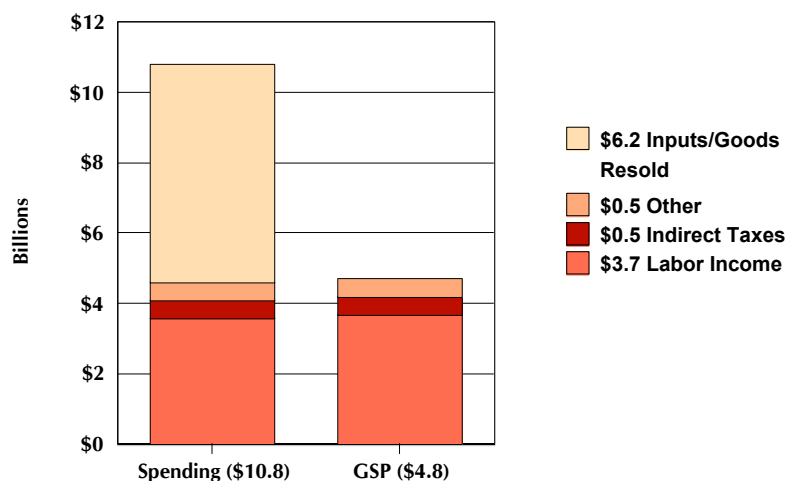
<sup>12</sup> The TTSA's were developed by the Bureau of Economic Analysis with the support of the Tourism Industries Office of the International Trade Administration, U.S. Department of Commerce. For an overview of the 1996 and 1997 TTSA's, see David I. Kess and Sumiye Okubo, "U.S. Travel and Tourism Satellite Accounts for 1996 and 1997," SURVEY OF CURRENT BUSINESS 80 (July 2000): 8-24.

## TRAVEL SPENDING AND TRAVEL INDUSTRY GROSS STATE PRODUCT

Estimates of travel spending and travel industry Gross State Product are shown in the chart below.<sup>16</sup> About 44 percent of all travel spending in Washington is attributed to the production of travel businesses, or GSP. The remaining 66 percent is attributed to intermediate inputs and goods resold at retail. Intermediate inputs cover a range of goods and services that are purchased by travel industry businesses for the purpose of creating a product or service for the traveler. For example, lodging establishments purchase cable television services. Restaurants purchase food and beverages from vendors. In both cases, these inputs are classified as the GSP of other industries. In addition, travel spending occurs at many retail establishments where the goods purchased from the retailer are purchased as finished goods from suppliers. These resold goods are also counted as products of other industries. This would include motor fuel, groceries, and most of the commodities sold at retail establishments.

These estimates of travel spending include only trip related expenditures on leisure commodities and transportation. The estimates do not include spending on travel related consumer durables such as luggage, photographic equipment, recreation equipments, boats and recreation vehicles, or other motor vehicles.

### Washington Travel Spending and Gross State Product, 2003



Source: Dean Runyan Associates and Minnesota Implan Group.

<sup>16</sup> The estimates for labor income are somewhat higher than the earnings estimates reported by Dean Runyan Associates because labor income includes the social insurance payments of employers. The tax payments reported here were estimated by the Implan model. They are somewhat lower than the tax payments estimated by Dean Runyan Associates. They were not adjusted in order to maintain comparability with the other estimates of GSP and its components in this report. Other includes dividends, interest, rent payments, and profits.

## **IMPLAN MODELING SYSTEM<sup>17</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 Bureau of Labor Statistics (BLS) employment projections.

**Employment** is listed as a single number of jobs for each industry. The data is derived from BLS Covered Employment and Wage 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>17</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, 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).

## **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>18</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>19</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>18</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>19</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 California, 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.

**Travel Impact Industries Matched to 1997 NAICS**

<b>Travel Impact Industry</b>	<b>NAICS Industry* (code)</b>
Accommodation & Food Services	Accommodation (721) Food Services and Drinking Places (722) Residential Property Managers (531311)
Arts, Entertainment & Recreation	Performing Arts, Spectator Sports (711) Museums (712) Amusement, Gambling (713) Scenic and Sightseeing Transportation (487) Miscellaneous Industries (see note**)
Retail	Food & Beverage Stores (445) Gasoline Stations (447) Clothing and Clothing Accessories Stores (448) Sporting Goods, Hobby, Book, and Music Stores (451) General Merchandise Stores (452) Miscellaneous Store Retailers (453)
Ground Transportation	Interurban and rural bus transportation (4852) Taxi and Limousine Service (4853) Charter Bus Industry (4855) Passenger Car Rental (532111) Parking Lots and Garages (812930)
Air Transportation	Scheduled Air Passenger Transportation (481111) Support Activities for Air Transportation (4881)
Travel Arrangement Services	Travel Arrangement and Reservation Services (5615)

Note: Travel Impact Industry is comprised of parts of the the corresponding industries.

\*Government enterprizes (e.g., park systems) are included in this classification.

\*\*Includes parts of industries in other sectors (e.g., accommodation, charter bus).