APPENDIX B
Economic Impact Models

ESTIMATING TRAVEL AND TOURISM RELATED SPENDING AND EMPLOYMENT IN UTAH

SUMMARY

Estimating Traveler and Tourist spending in Utah, and the number of jobs that result from it, is an inexact science. This is because Travel and Tourism is not an industry in the traditional sense, i.e., an industry classification by which employment, wages, and output are reported and measured. Rather, it is an array of goods and services associated with the activity of travel. In the late '80's to early '90's, due to data limitations and timeliness, estimates of the Utah Travel and Tourism industry were made using proxies such as highway traffic counts, national park visitations, and national traveler surveys. As data has become better and timelier, specifically at the state level, estimates of travel and tourism spending and related employment are no longer primarily based on aggregating secondary data such as visitor counts. These techniques have given way to using employment and taxable sales and services reports to estimate the size of both the state-level and county-level travel and tourism industry, yielding what are considered to be much more reliable estimates. In addition, 2001 marked the changeover from the old Standard Industry Classification (SIC) to the North American Industrial Classification System (NAICS) for reporting industry employment and wages. This changeover has prompted the recalculation of travel and tourism related employment and spending in Utah, based on NAICs-defined industry location quotients for employment.

DEFINING THE TRAVEL AND TOURISM INDUSTRY

The single largest problem when trying to measure travel and tourism is that it is not an industry in the strict sense, but an array of goods and services associated with an activity, and which generally constitute a share of other, defined industries. That is, the share of an industry's output that goes to Travel and Tourism is difficult to determine directly on the supply side (e.g., employment and wages), since Travel and Tourism is a demand-side concept.

Moreover, when measuring the impact of travel and tourism, a major concern is to determine the "export" sector of travel and tourism; that is, the new spending that is brought to a country, state or county from non-resident visitors. Obviously, from a county perspective, money spent by a tourist from another part of Utah is no different than money spent by a visitor from another state. From a state perspective however, tourism is an export activity only when the spending is by a non-Utah resident. Likewise, international travel is a primary concern for national travel and tourism organizations. For this reason, in the past the Department of Community and Economic Development and Utah Travel Council used two different sets of data for assessing statewide versus county-based tourism.

The definition developed by the World Travel and Tourism Council is now the one generally used when assessing the size of the Travel and Tourism "industry". Travel and Tourism is defined as the "activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes." In addition, a distance component, usually between 50 and 100 miles from home, is generally added to provide a boundary for "usual environment". While this definition is intended to exclude, for example, commuting to and from work, it does include spending resulting from both business and leisure activities, regardless of the duration of the trip (less than a year). Unfortunately, it also includes activities like "shopping" trips outside one's "usual environment". Also, necessarily, this definition does not distinguish between a non-resident traveler and a Utah resident.

ESTIMATING TRAVEL AND TOURISM EMPLOYMENT

The first statewide estimates of travel and tourism-related employment were estimates based on such things as airline passengers, traffic counts on major highways around the state and national park visitation figures. Originally, the county level travel and tourism employment estimates were simply the disaggregated state estimate, shared out relatively proportionally and adjusted for differences in visitation and traffic counts, etc. Among the flaws in this approach, however, was that this estimate of travel and tourist related employment did not provide any data to distinguish between Utah residents' in-state travel, non-resident travelers, and individuals "just passing through". Consequently, it resulted in estimates for some counties that were counter-intuitive.

A new model was developed in 1995 based on an analysis of SIC employment data at the four-digit level. A list of ninety-five SIC defined travel and tourism-affected industries were selected by a workgroup of economists from the

Utah Department of Workforce Services, the Department of Community and Economic Development and the Governor's Office of Planning and Budget. Location quotients (the ratio of employment in each industry compared to the national average) were calculated for the ninety-five selected industries. Additional adjustments were made for a few industries, such as airlines, that could be considered almost completely tourism and travel dependent. In order to simplify the analysis, the ratio of travel and tourism employment (as defined by the location quotient) to total nonagricultural employment was combined as a weighted average to nineteen broader categories at the two-digit SIC codes. The county-level employment model, like the state model, was based on an analysis of SIC employment data at the four-digit level for which county level location quotients were calculated for the selected industries. Adjustments were made to compensate for any under- or over-estimating due to special local circumstances and for the industries, such as airlines, noted above.

Because significant short-term changes in the location quotients were considered unlikely, these ratios have been used to calculate tourism-related employment in subsequent years. Periodic re-calculations were planned approximately every five years. However, this consensus was reached before either the full effects of the boom economy in the 1990's or the 2002 Winter Olympics were realized.

Moreover, 2001 began the conversion from SIC based industry codes to the new NAICS. As a result, the Department of Community and Economic Development has converted the old travel and tourism SIC codes to the new NAICS coding and updated the location quotients used to determine travel and tourism related employment. Because it now seems that travel and tourism related employment and spending may fluctuate more than previously thought, and because state and national data is available on an increasingly timely basis, the hope is to update the state and county location quotients at least every other year.

In addition to the direct travel related employment figures, statewide indirect tourism employment is calculated based on the RIMS II employment multipliers for the travel and tourism related industries included in the above model. Whereas direct tourism employment represents jobs immediately created by tourism spending, indirect and induced employment represent additional employment that occurs as the initial spending spreads through the economy. Indirect and induced jobs are created as travel industry businesses purchase goods and services from local suppliers or as travel and tourism employees spend their salaries on local goods and services.

ESTIMATING TRAVELER AND TOURIST SPENDING

Previously, like the employment estimates, total statewide traveler spending was generated through a "bottom-up" model. Estimates were first made for total non-resident visitation based on airport passenger counts and vehicle traffic counts at state borders along Interstates and major highways. This estimate was then multiplied by the average stay and per-day spending derived from traveler surveys, to determine a preliminary estimate of total traveler spending. The non-resident estimate was then adjusted using visitation counts at destinations throughout the state, tax data, occupancy rates and anecdotal experience from the state's various industry partners to arrive at what was felt to be a reasonably consistent and accurate "total".

County estimates were based on the assumption that traveler spending and employment are directly proportional. That is, each additional travel related job results from an additional ($X) amount of traveler spending. Using the county-based estimates for travel related employment, percentage shares of traveler spending were calculated for each county based on the ratio of the number of travel related jobs in a given county divided by the aggregation of travel-related jobs in all counties. However, over time it has become clear that using this method presents some major problems:

- First, it treated all TTR jobs as being equal throughout the state. However, the tourism industry is not identical throughout all counties. For example, in some counties it is more "destination" tourism and others more "windshield" tourism. Thus, some counties have a relatively higher share of travel-related employment and lower share of travel-related spending than others, due to lower average wages and the purchase of lower value goods and services by travelers.
- Disaggregating the statewide estimates of traveler and tourist spending did not adequately account for in-state vs. non-resident travel; despite using airport passenger counts and vehicle traffic counts to try to make adjustments.
- Moreover, there is a great deal of inter-county travel in Utah for non-leisure activities, such as shopping and commuting to and from work that also result in "traveler" spending.
- "Snowbirds" and other part-year visitors and residents act and spend like travelers, and cannot be separated from gross estimates of traveler spending.

For these and other reasons, the original methodology was not only cumbersome but, at the county level, often misleading. This year the Department of Community and Economic Development and Division of Travel Development used county-level taxable sales and services and personal income data to arrive at both state and county level traveler spending estimates. County travel and tourism related spending was calculated from taxable sales and services, weighted by county total personal income and population to account for residents, times county share of travel and tourism related employment. This methodology is an attempt to account for in-state vs. non-resident tourist as well as inter-county travel. Statewide travel and tourism spending is the aggregate total of county spending, adjusted by an estimate of inter-county non-"leisure travel" spending derived from the county taxable sales and personal income data. The state estimate was then checked against survey-derived estimates of traveler spending in Utah.

ESTIMATING STATE AND LOCAL TAX REVENUE

Combining traveler and tourism spending patterns, derived from various surveys, and Utah's tax structure suggests that direct state and local tax collections constitute approximately 8.0% of traveler spending. Of this total, the local tax portion is estimated at some 26% and the remaining 74% is allocated to the State.

ESTIMATING NON-RESIDENTS VISITS

The methodology for computing total non-resident visitation is based on national traveler destination surveys, checked against air traffic at Salt Lake International Airport and vehicle traffic counts on the top fifteen highways and Interstates. The number of international visitors is based on recent surveys of international visitation to national parks and travel trends reported by the U.S. Department of Commerce's In-Flight Survey and other survey data.

LOCATION QUOTIENTS
Location Quotients (LQ) – state industry employment as a percent of total state non-farm employment compared to U.S. industry employment as a percent of total U.S. non-farm employment.
LQ = (Es,i/Es,Tot) / (EUS,i/EUS,Tot)
E = Employment
s = State (Utah)
i = Industry (NAICS Code)
% export related = (LQ-1) / LQ Tot = Total Travel and Tourist Related Employment

TRAVEL AND TOURIST RELATED NAICS CODES

Retail Trade:
- 441 Motor Vehicle and Parts Dealers - location quotient employment
- 442 Furniture and Home Furnishings Stores - location quotient employment
- 443 Electronics and Appliance Stores - location quotient employment
- 444 Building Material, Garden Equipment and Supplies - location quotient employment
- 445 Food and Beverage Stores - location quotient employment
- 446 Health and Personal Care Stores - location quotient employment
- 447 Gasoline Stations - location quotient employment
- 448 Clothing and Clothing Accessories Stores - location quotient employment
- 451 Sporting Goods, Hobby, Book, and Music Stores - location quotient employment
- 452 General Merchandise Stores - location quotient employment
- 453 Miscellaneous Store Retailers - location quotient employment

Transportation and Warehousing:
- 481 Air Transportation - all employment
- 482 Rail Transportation - location quotient employment
- 483 Water Transportation - location quotient employment
- 485 Transit and Ground Passenger Transportation - location quotient employment
- 487 Scenic and Sightseeing Transportation - location quotient employment
- 488 Support Activities for Transportation - location quotient employment

Real Estate and Rental and Leasing:
- 531 Real Estate - location quotient employment
- 532 Rental and Leasing Services - location quotient employment

Administrative, Support, Waste Management and Remediation Services:

561 Administrative and Support Services - all travel agencies, tour operators, convention bureaus

Health Care and Social Assistance:

621 Ambulatory Health Care Services - location quotient employment

Arts, Entertainment, and Recreation:

711 Performing Arts and Spectator Sports - location quotient employment
712 Museums, Historical Sites, and Similar Institutions - all employment
713 Amusement, Gambling, and Recreation Industries - location quotient employment

Accommodation and Food Services:

721 Accommodation - location quotient employment
722 Food Services and Drinking Places - higher of location quotient or 25% of total employment

Other Services (except Public Administration):

811 Repair and Maintenance - location quotient employment
812 Personal and Laundry Services - location quotient employment

Public Administration:

922 Justice, Public Order, and Safety Activities - location quotient employment
924 Administration of Environmental Quality Programs - location quotient employment

DATA SOURCES

The primary data sources for estimating Travel and Tourism related employment and spending are: the Utah Tax Commission, the Utah Department of Workforce Services, the National Park Service and Utah State Parks, and the Utah Department of Transportation. All data are for the calendar year and may, therefore, differ from reports which show fiscal year data. One exception is the category “skier visits.” Skier visitation numbers are generally recorded during a ski season, which begins in November of one year and continues through April or May of the following year.