

THE ECONOMIC IMPACTS OF MEXICAN VISITORS TO ARIZONA: 2001

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EXECUTIVE SUMMARY

Mexican visitors are the largest component of day-trip visits to Arizona. In 2001, over 23 million of Mexican visitors came to Arizona in 10.49 million parties. Almost exclusively (over 99 percent), Mexican visitors come from the neighboring state of Sonora.

This is the third study since 1977-78 that in a systematic way measures economic impacts of Mexican visitors' spending to the economy of Arizona. It is based on a year-long survey of Mexican visitors returning from Arizona at six border ports of entry (San Luis, Lukeville, Sasabe, Nogales, Naco and Douglas) and two international airports in Phoenix and Tucson during 2001. With minor modifications the study replicates the research methodology applied in the last study of 1991 impacts, and thus allows for comparison of amounts and geographical distribution of spending between the two periods.

Reasons for visiting

The primary reason for visit is shopping, which accounts for 72 percent of all visitor parties. Work is the primary reason for 14 percent of all visitor parties, while visiting family is the primary reason for 8 percent. Other reasons are vacation, medical, business and personal, accounting between less than 1 percent and 3 percent of visitor parties.

In comparison with the 1991 study, shopping as the primary reason for visiting has increased only slightly from 70.8 percent.

Total expenditures and average per party spending

During 2001, Mexican visitors to Arizona spent an estimated \$962.9 million. Out of that amount \$399 million was spent at Arizona's department stores and other clothing and ware stores, and \$239.7 million at grocery stores. These two categories account for about two-thirds of all expenditures.

In comparison with the 1991 study, the 2001 expenditures represent a 44.1 percent increase in visitor spending (from \$668.2 million). Data suggest that Mexican visitors' spending increased in department and grocery stores, restaurants, gasoline stations, and particularly in air travel and car rental services, although the last two categories account for a relatively small portion of total spending (5.9 percent). The total spending for medical-related services declined in comparison with 1991 study.

On average, a visitor party spends \$91.7 in Arizona, although there are substantial differences by mode of travel. Pedestrians spend on average \$39 per party, compared to

\$99 per party for visitors entering by motor vehicles and \$1,317 per visitor party traveling by air.

In comparison with 1991, per party expenditures declined by 8.1 percent, except for visitors entering through Phoenix, San Luis and Sasabe.

Geographic distribution of expenditures

The highest portion of all expenditures (about 31 percent or \$301.6 million) is spent in Pima County. Santa Cruz County receives about 25 percent, followed by Yuma County (20 percent), Maricopa County (13 percent) and Cochise County (10 percent).

In comparison with the 1991 study, Santa Cruz County has lost its first place to Pima County, while Maricopa County experienced the largest percentage increase in expenditures from \$16.4 million in 1991 to \$128.6 million in 2001. Both Cochise County and Santa Cruz County experienced a decline in Mexican visitors' spending.

Job and wage impacts in Arizona

Mexican visitors' spending in Arizona generates close to 35,200 jobs and over \$628.4 million in wages. These figures include direct jobs and associated wages in retail establishments, eating and drinking places and other sectors directly serving Mexican visitors, as well as jobs and wages generated as these moneys are re-spent in the local economy.

In comparison with 1991 study, about 12,800 more direct jobs in Arizona are related to Mexican visitors' spending in 2001. Total direct wage impact increased by 184 percent. These results in part, however, reflect more detailed and updated models used in 2001 study.

The largest job impact is generated in Pima County where close to 9,600 jobs depend on Mexican visitors' spending. In Santa Cruz County and Yuma County Mexican visitors' spending generates over 8,900 and 7,200 jobs respectively. About 3,550 jobs in Cochise County and another 3,160 jobs in Maricopa County depend on Mexican visitors' spending.

Total sales impact

Mexican visitors' spending generates a total of \$1.584 billion in sales. This amount includes direct expenditures of \$962.9 million and the ripple effect as these moneys were respent in the local economy.

The largest economic impact of Mexican visitors' spending occurred in Pima County with 33 percent of the total sales impact. Santa Cruz County received 23 percent of the total sales impact, followed by Yuma County (19 percent), Maricopa County (15 percent) and Cochise County (10 percent).

Because of pronounced differences among Arizona counties, Mexican visitors' related sales have very different importance in the overall local sales. The percent of taxable sales that are related to Mexican visitors' spending range from as high as 47.3 percent in Santa Cruz County to as low as 0.5 percent in Maricopa County.

In comparison with the 1991 study, Pima County appears as the major recipient of Mexican visitors' spending and associated economic impacts. In 1991, the three border counties – Santa Cruz, Yuma and Cochise – received more than 80 percent of total expenditures by Mexican visitors. By 2001, their combined share of total sales declined to 62 percent.

Impact of extension of the border zone to 75-mile (including Tucson)

Of all visitors to Tucson, only 12.2 percent did not have the I-94 document; that is, they took advantage of the extension of 75-mile border zone. Data also suggest that those visitors tend to come from more than 50 miles south of the border with Sonora, have lower incomes, and spend less per party than visitors with the I-94.

Other findings

Except for shifts in geographical distribution of spending and associated economic impacts from border counties toward Tucson/Pima County and Phoenix/Maricopa County, the general pattern of Mexican visitors' spending has remained mostly unchanged. The predominant primary reason for visits remains shopping, and generally short (daily) trips prevail. Familial ties play the most important source of information, and the activities during visits are limited to only a few attractions.

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Alberta H. Charney and Vera K. Pavlakovich-Kochi
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LIST OF SPONSORS

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Bronze: Contributors of \$150 or more

Pima Heart Physicians
Viscount Suite Hotel

I. INTRODUCTION

Travel and tourism are an important industry in the Arizona economy and undoubtedly, Mexican visitors are the largest component of day-trip visitors to Arizona. The contribution of Mexican visitors' spending to the economy of Arizona has long been recognized, although data to demonstrate the extent of that importance are not readily available. Tourism is a difficult industry to study, because tourism and tourism expenditures are inextricable from the economic activity of Arizona residents. For example, most tourism activity occurs in the retail and service industries and there is substantial data for these industries. However, none of the traditional sources of data, e.g., the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, the U.S. Department of Labor, decompose services and trade economic activity into activity generated by US residents vs. non-U.S. residents. Therefore, special studies have had to be conducted periodically to assess travel and tourism.

In 1977-78, DeGennaro and Richey (1978) conducted the first study of the economic impact of Mexican Visitors to the Arizona Economy. They estimated that Mexican visitors spent more than \$315 million in 1977-78 in the Arizona economy. This study was updated and expanded by Hopkins (1992) for calendar year 1991. In this study, Mexican visitors to Arizona were estimated to have spent \$688.3 million, generated 12,407 jobs and \$142.9 million in wages for Arizonans. In another study, Pavlakovich and Kim (1991) focused only on the maquiladora industry in Sonora's border towns and estimated that maquila employees alone spent directly about \$33.6 million in Arizona in 1989, accounting for between 6.1 and 10.6 percent of total monthly retail sales in Arizona's border communities. More recently, Pavlakovich, Charney, Vias and Weister (1997) have estimated that about \$41 million was spent in Arizona's stores by Sonora and Sinaloa's growers and their families in 1995-96, generating 918 jobs, \$10.3 million in wages and total sales of \$88.6 million.

A study of overnight visitors to Pima County was conducted by Charney and Leones (1997). They focused on overnight visitors because this category of visitors could be identified by at randomly selected hotels and at randomly selected homes of Pima County residents. They estimated for 1995-96 that total overnight visitors spent \$909 million in Pima County. By limiting the definition of 'visitors' to overnight visitors, this study did not capture the economic impact of the day-trip visitor. Undoubtedly the largest component of the day-trip visitor to Arizona is the Mexican visitor. With six Arizona cities and towns located on the border with Mexico, there are very close economic and familial ties between Arizona and Mexico. The ties are so close that a set of indicators have even been developed to measure the activity of the "border region" (Pavlakovich-Kochi and Sonnett, 2001).

This study is designed to update the last comprehensive study conducted in 1991. Since then a number of major events took place that might have affected the volume, geography and expenditure pattern of Mexican visitors to Arizona. First of all, the North American Free Trade Agreement (NAFTA) was inaugurated in 1994 to gradually eliminate import tariffs between the United States and Mexico (and Canada) during a period of 15 years. Under NAFTA, many U.S. products, including a variety of consumer goods, have become available in Mexico, and thus presumably diminished the need for some cross-border outshopping by Mexican visitors.

Another event that profoundly affected Mexican visitors was the 1994-95 peso devaluation, which reduced the average purchasing power of Mexican residents by 40 percent. Experience with previous devaluations has shown that it takes several years before the purchasing power of the general population approximates the previous level, if at all.

The last decade has seen continuous expansion of the maquiladora sector in Sonora's border cities (Nogales, San Luis and Agua Prieta), as well as in Sonora's interior cities (Hermosillo, Guaymas and Ciudad Obregon). Although a majority of employees receive minimum wages, there has been a growing percentage of Mexican nationals among technical and administrative positions. It is expected that maquiladora employees continue to constitute an important component of cross-border shoppers in Arizona's border communities.

The last decade also has been marked by increasing cross-border cooperation between Arizona and Sonora, traditionally the major source of Mexican visitors to Arizona. In 1993, under the auspices of the Arizona-Mexico Commission and its sister organization, Comisión Sonora-Arizona, a binational strategic economic development project was initiated (Pavlovich-Kochi and Sonnett, 2001) with a major goal to promote economic linkages by facilitating movement of goods, services, people and information between the two states. Although a direct contribution of these new developments on the flows of visitors from Sonora is difficult to assess, there is no doubt that this increased government-supported cooperation has provided a new impetus for cross-border business interactions. Furthermore, this increased awareness of opportunities from a closer cooperation within the NAFTA framework has spun a number of local and regional initiatives, such as the City of Tucson's Mexico Trade Office. The recent extension of Arizona's "border zone" to 75 miles to include Tucson exemplifies an increased interest in encouraging more visitors from Mexico, and Sonora in particular, to come and do business in Arizona.

The Immigration and Naturalization Service (INS) of the U.S. Department of Justice provides data on border crossings at Arizona's six border ports of entry (BPOE). Data are reported for "aliens," which is interchangeably used with "non-U.S. citizens." Although it is assumed that a majority of alien crossers are residents of Sonora, in this part of the study we will continue to use the INS terminology.

Table 1 shows the number of aliens crossing the US-Mexico border from 1977 through 2001. Border crossings of non-US citizens have increased 16.5 percent since 1991, although there have been occasional year-to-year decreases during the decade. The Immigration and Naturalization Service (INS) data show a 10.7 percent decline between 2000 and 2001. This decline is due to a combination of factors. First, the 2001 recession in the US was mirrored by a recession in Mexico. Mexico's Indicator of Industrial Activity showed declines from February 2001 through January 2002. Mexico's Overall Index of Economic Activity showed very low growth rates during the first four months of 2001, followed by negative growth from May through January 2002 (Mexican System of National Accounts, obtained from The Conference Board Mexico Business Cycle Indicators). Mexico's recession was further impacted by the events of September 11, 2001, which was evidenced by comparatively larger declines in both the Index of Industrial Activity and the Overall Index of Economic Activity during September of 2001. Border crossings in late 2001 may have also been impacted by the change in visa formats.

Mexican residents not getting the new visa cards before September 30, 2001 would not have been able to cross until at least they met with INS officials and filed new paperwork.

Table 1

Alien Border Crossings at Six Arizona Border Ports of Entry*

Year	Alien Border Crossings	Annual Percent Change	Year	Alien Border Crossings	Annual Percent Change
1977	13,314,500		1990	20,821,800	1.97
1978	14,393,600	8.10	1991	19,648,799	-5.63
1979	15,004,800	4.25	1992	17,947,288	-8.66
1980	16,229,700	8.16	1993	18,845,883	5.01
1981	17,542,700	8.09	1994	23,198,614	23.10
1982	16,840,100	-4.01	1995	22,347,355	-3.67
1983	14,734,500	-12.50	1996	21,614,258	-3.28
1984	15,368,100	4.30	1997	23,241,839	7.53
1985	14,097,300	-8.27	1998	23,965,361	3.11
1986	14,417,000	2.27	1999	24,318,630	1.47
1987	14,667,000	1.73	2000	25,651,566	5.48
1988	17,438,900	18.90	2001	22,899,843	-10.73
1989	20,419,400	17.09			

*The border cities include Douglas, Lukeville, Naco, Nogales, San Luis and Sasabe.

Source: U.S. Department of Justice, Immigration and Naturalization Service.
 Unpublished Data

This study measures the impacts of the Mexican visitors on the economy of Arizona in 2001. It provides a) estimates of the total economic impact of Mexican visitors on the Arizona economy and its counties, b) estimates of total direct expenditures of Mexican visitors to Arizona, c) estimates of visitor spending, by type of expenditure and by party, and d) visitor profiles of Mexican visitors both by port of entry and by destination city/county. This study also e) collects data regarding Mexican visitor activity in Tucson that was not included in the previous study, f) estimates day-trip Mexican visitor expenditures and trip patterns, and examines the impact on Tucson of the 75 mile border zone.

II. RESEARCH DESIGN

Mexican visitors were surveyed as they exited at all six ports of entry/exit along the Arizona US-Mexico border and at Arizona's two major commercial airports. Surveys were administered via interviews by bilingual University of Arizona students throughout the 2001 calendar year.

The sampling schedule (Table 2) used in this study follows closely to that used in the 1992 study, with the addition of trips to the Phoenix International Sky Harbor Airport.

Table 2

Quarterly Sampling Schedule			
Week	Trip 1	Trip 2	Trip 3
1	Nogales	Lukeville	
2	Nogales	Douglas	Tucson Airport
3	Nogales	Naco	
4	Nogales	San Luis	Phoenix Airport
5	Nogales	Sasabe	
6	Nogales	Douglas	Tucson Airport
7	Nogales	Lukeville	
8	Nogales	San Luis	Phoenix Airport
9	Nogales	Naco	
10	Nogales	Douglas	Tucson Airport
11	Nogales	Sasabe	
12	Nogales	San Luis	Phoenix Airport

Copies of the survey in both English and Spanish are in the Appendix. The survey is very close to that used in the 1992 study. Two types of questions were added, however. The first set asks questions designed to identify activities and patterns of Mexican visitors who visit Tucson. A second set of questions was designed to assess the effect of expanding the border zone to 75 miles. Initially, there was a question that asked each visitor if they had an I-94 Visa. Many of the respondents (even those that had one) did not immediately recognize the term 'I-94.' To solve this problem, the question was changed to ask if they had the type of visa that would permit them to travel to Phoenix. A 'yes' answer to this question is equivalent to having an I-94 Visa.

The survey sample size is 2,612. Table 3 shows the sample decomposed by port and by mode of travel.

In this study, no attempt was made to stratify the sample to match actual border crossings by aliens at each port of entry. Rather, the traditional survey method is used: visitation data is analyzed by port, and weighted across ports according to border crossing data obtained from secondary sources. This is comparable to conducting a perfectly designed stratified sample.

Determining weights to use for the study was straightforward, except for pedestrian border crossers. The INS provides data for border crossings, by port of entry, for both US citizens and aliens. This data is provided for each port of entry along the US-Mexico border and at international airports. Airport data is provided specifically for flights departing Mexico and

landing at major airports in Arizona. Table 4 summarizes border crossing figures from the INS for 2001.

Table 3

Port of Entry	Transportation Mode			Total
	Motor Vehicle	Pedestrian	Air	
Douglas	304	75	0	379
Lukeville	89	13	0	102
Naco	95	0	0	95
Nogales	918	46	0	964
San Luis	746	29	0	775
Sasabe	13	6	0	19
Tucson	0	0	156	156
Phoenix	0	0	122	122
Total	2,165	169	278	2,612

Table 4

Summary of Entrants into Arizona from Mexico

Border Crossing Figures for six Arizona Cities 2001

	Total	U.S. Citizens	Aliens	Aliens	
				Aliens as % of Crossings	by Port as % of all Aliens
Douglas	5,994,636	2,390,011	3,604,625	60.13%	15.64%
Lukeville	1,366,866	1,003,968	362,898	26.55%	1.57%
Naco	1,041,503	215,628	825,875	79.30%	3.58%
Nogales	14,088,506	2,845,166	11,243,340	79.81%	48.77%
San Luis	8,684,818	1,895,443	6,789,375	78.18%	29.45%
Sasabe	96,225	22,495	73,730	76.62%	0.32%

Air Passenger Arrivals from Mexico at Arizona Airports 2001

	Total	U.S. Citizens	Aliens	Aliens	
				Aliens as % of Crossings	by Port as % of all Aliens
Tucson International Airport	30,470	14,775	15,695	51.51%	0.07%
Phoenix Sky Harbor Int'l Airport	476,893	340,623	136,270	28.57%	0.59%
Totals	31,779,917	8,728,109	23,051,808	72.54%	100.00%

Source: Immigration and Naturalization Service, Unpublished Data

The U.S. Customs Service also provides data on the number of individuals crossing the border into the US through the six border towns in Arizona. They also provide data on the number of vehicles crossing the border, disaggregated by mode of travel (trucks, trains, buses, passengers and other vehicles). However, the U.S. Customs Service does not decompose their

estimates of border crossers into alien vs. U.S. citizen crossings, so their data were not useful for the present study.

In addition to the INS border crossing data shown in Table 4, the INS provided separate data on the number of pedestrians crossing at each port. It is necessary to separate pedestrian traffic from persons in vehicles because pedestrians tend to have smaller party sizes and spend less per visit. Unfortunately, the INS does not collect the pedestrian data separately for U.S. citizens and aliens. Therefore, the assumption was made that the ratio of U.S. citizen pedestrians to alien pedestrians is the same as the ratio of all U.S. citizen crossings to all alien crossings, by port. Discussions with individuals at INS indicated that this assumption is reasonable.

Table 5
Computation of Alien Parties and the % of Parties Used to Weight Data, by Ports

		Aliens ¹	Persons/ Party ²	Alien Parties	% Parties across Ports
Douglas	Passengers	3,154,840	1.87	1,688,506	0.1609
	Pedestrians	449,785	1.47	306,672	0.0292
Lukeville	Passengers	330,524	2.53	130,741	0.0125
	Pedestrians	32,374	2.54	12,753	0.0012
Naco	Passengers	753,436	2.32	325,347	0.0310
	Pedestrians	72,439	2.32	31,280	0.0030
Nogales	Passengers	8,070,410	2.38	3,392,233	0.3232
	Pedestrians	3,172,930	2.13	1,489,334	0.1419
San Luis	Passengers	4,311,154	2.47	1,748,842	0.1666
	Pedestrians	2,478,221	2.00	1,239,111	0.1181
Sasabe	Passengers	71,873	1.85	38,931	0.0037
	Pedestrians	1,857	1.50	1,238	0.0001
Tucson International Airport		15,695	1.93	8,134	0.0008
Phoenix Sky Harbor Int'l Airport		136,270	1.67	81,495	0.0078
Totals		23,051,808	2.20	10,494,618	1.0000

¹Source: Immigration and Naturalization Service

²Source: Computed from survey results.

Final weights used in the study combine survey results on party size with the INS data for alien crossings and the alien portion of pedestrians. This is necessary because the survey was conducted as *per party* interviews at ports of entry/exit. Therefore, numbers of alien border

crossings had to be converted to number of parties prior to developing the weights used to convert sample survey results to estimates of all Mexican visitors entering Arizona.

To compute the final weights used in the study, the number of aliens reported by the INS, by port, by mode (pedestrians vs. passengers), were divided by the corresponding party size computed from survey results to estimate the total number of parties. The first column in Table 5 repeats the INS data on alien border crossings, disaggregated by mode, and the second column reports the persons per party figures obtained from the survey. The number of alien parties is computed in the third column. The shares of total parties, across ports, by mode, are used to weight survey results.

In this study, visitors were interviewed as they exit the US at Arizona ports. Some travel survey studies have collected data as visitors enter a region, requiring visitors to project their travel expenditures. However, exit interviews are considered a more accurate form of data collection. The INS data used to calculate the weights used this study report the number of entrants to the US, rather than the number of out-bound Mexican visitors. It is conceivable that Mexican visitors enter the US through one port and leave through a different port, particularly for visitors arriving by air. To examine the extent of this problem, each party interviewed in the study was asked where they entered the US. Very few reported that they entered at a different port than where they were exiting (Table 6). Only 0.3% of exiting Mexican visitors report entering at a different US ports, an inconsequential percentage. Therefore, INS entry data can be used to weight survey data across ports, with little loss of accuracy.

Table 6
Relationship between Entry and Exit Port

Port of Entry	Parties Interviewed	% Entering and Exiting Through Same Port
Douglas	379	100.0
Lukeville	102	98.0
Naco	95	97.0
Nogales	964	99.9
San Luis	775	99.7
Sasabe	19	94.7
Tucson	156	100.0
Phoenix	122	100.0
Total	2,612	99.7

Another concern was whether there were significant numbers of aliens crossing the border who were not from Mexico. Discussions with INS and with marketing personnel at both airports indicated that this was also an inconsequential issue.

III. MEXICAN VISITOR PARTY PROFILES

Mexican visitor parties consist of 2.20 persons per party, including 1.55 adults, 0.24 adolescents and 0.41 children (Table 7). Almost 56 percent of all Mexican visitor parties are headed by males. There are some surprising variations in party size, composition of parties, and the percent headed by males across ports of entry. Visitors entering through Lukeville have the largest party size (2.53 persons) and visitors entering at the Phoenix Sky Harbor International Airport have the smallest party size (1.67 persons). Males head 72 percent of the parties at the Phoenix airport, but only 45.7 percent of those entering at Lukeville.

Table 7
Party Size and Percent Headed by Males,
By Age Group, by Port

Port	Adults	Adolescents	Children	% Headed	
				Total	by Males
Douglas	1.42	0.22	0.15	1.81	54.1%
Lukeville	1.78	0.34	0.41	2.53	45.7%
Naco	1.58	0.26	0.47	2.32	47.4%
Nogales	1.55	0.26	0.49	2.30	54.1%
San Luis	1.62	0.23	0.46	2.32	60.2%
Sasabe	1.53	0.16	0.15	1.84	61.3%
Phoenix	1.43	0.15	0.10	1.67	72.1%
Tucson	1.45	0.35	0.13	1.93	51.3%
All Ports	1.55	0.24	0.41	2.20	55.9%

Table 8
Age Distribution, by Port of Entry

Port	Age Groups (Percent of Row Total)						SUM	
	18 or under	19-25	26-35	36-45	46-59	60 or older		
Douglas		4.18	6.59	28.40	24.81	29.43	6.59	100
Lukeville		0.00	9.90	29.35	50.17	5.80	4.78	100
Naco		0.00	0.00	21.05	52.63	26.32	0.00	100
Nogales		0.61	10.59	30.45	38.65	16.68	3.03	100
San Luis		1.35	5.56	29.04	46.18	16.54	1.11	100
Sasabe		0.51	0.00	31.16	37.69	30.82	0.00	100
Phoenix		1.64	13.11	24.59	34.43	22.95	3.28	100
Tucson		0.00	12.82	29.49	19.23	38.46	0.00	100
All Ports		1.48	7.78	29.50	39.10	19.11	3.02	100

The bulk of Mexican visitor parties entering Arizona have party heads aged between 26 and 59. The largest number of parties is aged 36-45 (39.10 percent). The portion of visitor parties headed by persons aged 60 or older is 3 percent and very few adolescent parties (headed

by persons 18 or under) enter the U.S. (1.48 percent). Parties entering through the port of Douglas are the most likely to be headed by adolescents (4.18 percent) and the most likely to be headed by persons 60 or older (6.59 percent).

Using data from Table 5 above, the number of Mexican visitor parties arriving by each mode of travel (motor vehicle, pedestrian, and air) are summarized in Table 9. Almost 70 percent of all Mexican visitor parties arrive in Arizona by motor vehicle and almost 30 percent walk across the border at one of the six U.S.-Mexico ports of entry along the Arizona border. Less than 1 percent (0.85 percent) of all parties fly into Arizona. Sasabe has the lowest percentage of parties walking across the border (97.94 percent drive across). The three cities with the highest percentages of pedestrian crossings are those ports with relatively large cities on the Sonoran side of the border: Douglas, Nogales, and San Luis.

Table 9

Mexican Visitor Parties, by Mode of Transportation, by Port of Entry

Mode	Number of Parties, by Mode				Percent of Parties, by Mode			
	Motor Vehicle	Pedestrian	Air	Total Parties	Motor Vehicle	Pedestrian	Air	Total Parties
Douglas	1,688,506	306,672	0	1,995,178	84.63	15.37	0.00	100
Lukeville	130,741	12,753	0	143,494	91.11	8.89	0.00	100
Naco	325,347	31,280	0	356,628	91.23	8.77	0.00	100
Nogales	3,392,233	1,489,334	0	4,881,567	69.49	30.51	0.00	100
San Luis	1,748,842	1,239,111	0	2,987,953	58.53	41.47	0.00	100
Sasabe	38,931	1,238	0	40,169	96.92	3.08	0.00	100
Tucson	0	0	8,134	8,134	0.00	0.00	100.00	100
Phoenix	0	0	81,495	81,495	0.00	0.00	100.00	100
Total	7,324,600	3,080,388	89,629	10,494,618	69.79	29.35	0.85	100

Over 96 percent of all Mexican visitors are day-trip visitors. In Table 10, day-trip visitors are designated as spending zero nights. The survey asked visitors ‘How many days were you in the U.S.?’ This question, while seemingly clear, resulted in different interpretations of what constituted a ‘day.’ Persons who entered and exited on the same day responded that they spent a ‘day’ in the U.S. Similarly, persons who spent one night in the U.S. responded that they spent a ‘day’ in the U.S. To resolve this confusion, data coding changed the definition of length of stay from number of ‘days’ to number of ‘nights.’ Then the number of nights was computed by subtracting the date of entry from the date of exit from the U.S. Using this scheme, all day-trip visitors spent ‘0’ nights.

Less than 4 percent of all Mexican visitor parties spent one or more nights in Arizona (Table 10). Air travelers are the exception of course. The majority of air travelers spent 3-7 days in Arizona and over 19 percent spent 8 or more days. Only 6.83 percent of air travelers are ‘day-trip’ visitors.

Table 10**Length of Stay in Arizona, by Mode**

Nights in Arizona	(Percent of Column Total)			
	Motor			All Modes
	Vehicle	Pedestrian	Air	
0	96.90	96.78	6.83	96.10
1	1.02	0.03	8.94	0.80
2	1.28	3.19	13.38	1.94
3-7	0.70	0.00	51.50	0.93
8 or more	0.10	0.00	19.34	0.24
Total	100.00	100.00	100.00	100.00

Similar results are shown in Table 11, which gives the frequency of nights spent in Arizona, by Port of Entry. The two airport entries show a majority of visitors spending 3-7 days with most of the other ports have mostly day-trip visitors. The exception is the Sasabe port; only 77.39 percent of its visitors are day-trip visitors; rather, 7.54 percent spend 1 night in Arizona and 15.08 percent spend 2 nights. The populations of both Sasabe, Arizona and Sasabe, Sonora are small. The visitors entering through Sasabe tend to come from further inside Mexico than the immediate border community, with the result that they spend more time on their trips.

Table 11**Frequency of Nights Spent in Arizona, by Port of Entry**

	Nights Spent in Arizona					Sum
	0	1	2	3-7	8 or more	
Douglas	100.00	0.00	0.00	0.00	0.00	100
Lukeville	95.22	4.78	0.00	0.00	0.00	100
Naco	100.00	0.00	0.00	0.00	0.00	100
Nogales	94.22	1.21	3.51	0.91	0.15	100
San Luis	99.06	0.24	0.47	0.24	0.00	100
Sasabe	77.63	7.46	14.91	0.00	0.00	100
Phoenix	6.56	9.84	13.11	50.82	19.67	100
Tucson	9.62	0.00	16.03	58.33	16.03	100

Of the 3.9 percent of all Mexican visitors that spend the night in Arizona, over 78 percent stay in hotels and almost 21 percent stay with friends or family (Table 12). The very small share that stays in 'other' accommodations stay in a house, but it is not known if the 'house' is rented or owned by the Mexican visitor.

Tables 13 and 14 show the income distribution of Mexican visitors, by mode, and by port, respectively. The income categories for these tables were based on the 1991 Mexican Visitor Study. Between 1991 and 2001, Mexico introduced 'new' pesos, each worth 1,000 of the 'old' pesos. Therefore, we used income categories similar to those used in the 1991 study, but

divided them by 1,000. In addition, to allow for inflation and increases in real income of Mexican residents, the top income category was added.

Table 12
Overnight Visitor Type of Accommodation

Type of Accommodation	Percent of Column
Hotel	78.31
Friends/Family	20.65
Other	1.04
Total	100.00

Table 13
Monthly Income Distribution, by Mode of Transportation
(Percent of Column Total)

Mode	Income Categories (Pesos)						Sum
	1000 or Less	1,000-2,000	2,000-5,000	5,000-10,000	10,000-20,000	20,000+	
Motor Vehicle	0.73	2.53	26.62	38.00	17.26	14.85	100
Pedestrian	1.12	11.11	34.79	28.15	21.70	3.13	100
Air	3.44	1.72	3.72	9.74	26.40	54.99	100
All Modes	0.87	5.01	28.80	34.90	18.63	11.79	100

The income distribution of Mexican visitors, by mode, is shown in Table 13. Most Mexican visitors have monthly household incomes between 2,000 and 10,000 pesos (63.7 percent). The largest portion of monthly household income falls between 5,000 and 10,000 pesos (34.9 percent). It is not surprising that air travelers have the highest incomes (54.99 percent have incomes over 20,000 pesos per month). Less than 20 percent of all air travelers have incomes less than 10,000 pesos per month. Pedestrians show the lowest incomes of the three modes, as expected. The highest frequency of pedestrians' incomes is in the 2,000-5,000 peso category (34.79 percent). Approximately 3 percent of pedestrians have monthly incomes over 20,000 pesos. The income distribution of visitors entering the U.S. in motor vehicles closely resembles the overall income distribution because almost 75 percent of Mexican visitors enter Arizona using this mode.

Table 14**Monthly Income Distribution, by Port of Entry**

(Percent of Column Total)

Port of Entry	Income Categories (Pesos)						Sum
	1000 or Less	1,000- 2,000	2,000- 5,000	5,000- 10,000	10,000- 20,000	20,000+	
Douglas	0.00	2.44	31.79	54.49	7.05	4.23	100
Lukeville	0.00	4.67	66.52	26.09	2.72	0.00	100
Naco	0.00	5.26	68.42	21.05	5.26	0.00	100
Nogales	1.71	7.65	33.03	33.73	15.63	8.26	100
San Luis	0.16	2.81	13.49	27.39	32.91	23.24	100
Sasabe	0.51	0.00	22.88	31.36	30.33	14.91	100
Phoenix	3.78	1.89	3.77	9.43	26.42	54.72	100
Tucson	0.00	0.00	3.21	12.82	26.28	57.69	100
All Visitors	0.87	5.01	28.80	34.90	18.63	11.79	100

The monthly income distributions of Mexican visitors in Table 14 show some interesting differences across ports of entry. In particular, visitors entering through San Luis have the highest income distribution among the six US-Mexico border ports of entry. Over 23 percent of all visitors entering through San Luis have household incomes in the highest bracket (20,000+ pesos per year). Douglas, Lukeville and Naco have visitors with the lowest incomes. Only 2.72 percent of visitors entering through Lukeville, 5.26 percent of visitors entering through Naco, and 11.28 percent of visitors entering through Douglas have incomes over 10,000 pesos per month.

Among all visitor parties, 72.28 percent enter Arizona for the primary purpose of shopping (Table 15). Among pedestrians, 83.41 percent cross the border to shop and 68.06 percent of motor vehicle passengers come to shop. Work is the second reason for crossing the border. Overall, 14.41 percent of all visitor parties enter Arizona to work, and workers represent 17 percent of all parties that enter Arizona by motor vehicle. Air travelers, representing less than 1 percent of all visitor parties, enter Arizona for a variety of reasons: 29.21 percent visit family, 20.53 enter on business, 18.73 come to the U.S. to vacation, 10.77 come to shop, and 6.99 percent come for personal reasons.

Table 15**Reason for Visit, by Mode of Travel**

(Percentages of Row Total)

Mode	Reason for Visit								Sum
	Visit Family	Vacation	Shopping	Medical	Business	Personal	Work	Other	
Motor Vehicle	8.51	2.45	68.42	0.28	1.66	0.93	17.00	0.75	100
Pedestrian	5.33	2.18	83.41	0.00	0.63	0.01	8.44	0.01	100
Air	29.21	18.73	10.77	2.93	20.53	6.99	4.96	5.87	100
Total	7.76	2.51	72.28	0.22	1.52	0.72	14.41	0.58	100

Table 16**Reason for Visit, by Port of Entry**

(Percentages of Row Total)

	Reason for Visit								
	Visit Family	Vacation	Shopping	Medical	Business	Personal	Work	Other	Sum
Douglas	6.80	0.00	70.56	0.00	0.96	0.00	21.39	0.29	100
Lukeville	10.92	0.00	84.30	0.00	0.00	0.00	4.78	0.00	100
Naco	5.00	0.00	85.00	0.00	5.00	0.00	5.00	0.00	100
Nogales	7.92	4.34	75.00	0.22	1.49	0.60	9.47	0.97	100
San Luis	7.67	1.17	68.81	0.31	0.86	1.33	19.77	0.08	100
Sasabe	7.97	1.03	67.61	0.00	14.91	0.51	7.46	0.51	100
Phoenix	27.42	19.35	9.68	3.23	22.58	6.45	4.84	6.45	100
Tucson	47.20	12.42	21.74	0.00	0.00	12.42	6.21	0.00	100
Total	7.76	2.51	72.28	0.22	1.52	0.72	14.41	0.58	100

Reason for visit varies substantially by port (Table 16). Douglas and San Luis have the highest percentages of visitor parties entering Arizona to work (21.39 and 19.77 percent, respectively). In contrast, only 9.47 percent of visitor parties entering through Nogales enter to work. The overwhelming stated reason for entering the U.S. at Lukeville, Naco and Nogales was to shop (84.30, 85.00, and 75.0 percent, respectively). Interestingly, the highest percent of visitors crossing at the U.S.-Mexico border that come for ‘business,’ enter through Sasabe. Sasabe is a small port and few of the visitors entering through Sasabe come from the border community of Sasabe, Sonora. Note the distinction between visiting for ‘business’ and visiting for ‘work.’ Visiting for ‘work’ is related to coming into the U.S. because they have a job in the U.S. Visiting for ‘business’ is coming for a business trip, such as a conference, meeting with clients, or coming to make purchases for a business back in Mexico.

Table 17**Reason for Visit, by Length of Stay**

(Percentages of Row Total)

	Reason for Visit								
	Visit Family	Vacation	Shopping	Medical	Business	Personal	Work	Other	Sum
Length of Stay									
Overnight Stay	23.22	7.82	55.19	0.64	6.30	2.58	2.42	1.83	100
Day Trip	7.09	2.30	73.00	0.20	1.33	0.64	14.91	0.53	100
Total	7.76	2.51	72.28	0.22	1.52	0.72	14.41	0.58	100

The reason for visit determines, in part, length of stay (Table 17). Shopping represents 72.28 of the reasons for trip given by day trip visitors, followed by work (14.41). Shopping is the reason given by only 55.19 percent of the overnight visitor parties, followed by 23.22 percent who gave ‘visit family’ as reason for trip.

The computed number of nights spent, by mode, by reason for visit, are presented in Table 18. At first, this table can be confusing to interpret because it reports ‘number of nights,’ rather than ‘number of days.’ For example, the number of nights spent by all parties visiting family, is 0.23 nights. This means that most family visits are day trips (0 nights) and that, on average, parties spend 0.23 nights. Pedestrians make almost all day trips, but occasionally they make an overnight stay for the primary reason for shopping. Air travelers spend the most nights in Arizona if they are visiting family or on vacation (7.67 and 7.62 nights, respectively). However, shopping and medical purposes also result in relatively long stays (6.66 and 5.95 nights). Note that air passengers who don’t declare a specific reason (the ‘other’ category), spend 21.45 nights, on average, in Arizona. Please note that if a visitor, such as an air traveler, is simply passing through, the number of nights spent in Arizona is ‘0.’

Table 18
Number of Nights, by Reason for Visit, by Mode
 (number of nights)

Mode	Reason for Visit							
	Visit Family	Vacation	Shopping	Medical	Business	Personal	Work	Other
Motor Vehicle	0.23	0.19	0.04	0.00	0.19	0.04	0.13	0.04
Pedestrian	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
Air	7.67	7.62	6.66	5.95	4.45	3.77	3.42	21.45
All Parties	0.23	0.23	0.11	0.07	0.23	0.10	0.12	0.28

Table 19 provides a breakdown of primary household occupations, by mode. Classifying the respondents’ stated occupation proved to be difficult. In particular, when asked for their occupation, they gave a mix of occupation and employment industry. For example, they may say factory worker, but not say what type of job within the factory they held. Or, they may have said ‘supervisor,’ but did not indicate what they supervised or in what type of industry they worked. Similarly, a respondent may have said ‘city worker,’ but not stated their actual occupation. Therefore, when classifying respondents’ occupations, a mix of occupation and industry classifications had to be used. Note that the occupations in this table are not necessarily the occupation of the head of the visitor party. Rather, this is the primary occupation of the household represented by the visitor party. Thus, if a housewife was visiting Arizona with her children, the primary occupation of the household would be that of her spouse.

Air travelers were most likely to be professionals, proprietors, or skilled workers. Pedestrians were predominantly factory or unskilled workers, while those entering by motor vehicle were most likely to be unskilled workers.

Table 19**Primary Household Occupations, by Mode of Transportation**

(Percent of Column Total)

	Motor Vehicle	Pedestrian	Air	All Modes
Professional	9.43	6.62	25.99	9.07
Proprietor	3.57	0.00	19.77	2.87
Clerical	1.81	8.59	3.95	3.38
Skilled Worker	15.42	13.76	9.88	14.79
Unskilled Worker	37.67	21.10	8.49	34.64
Student	0.76	0.00	5.93	0.64
Education	3.69	6.75	5.93	4.33
Trade	11.72	1.88	7.91	8.95
Services	3.38	8.39	3.95	4.49
Factory	6.75	31.09	4.25	12.20
Government	3.80	0.00	1.98	2.79
Retired	1.88	0.00	1.98	1.38
Other	0.11	1.81	0.00	0.47
Total	100	100	100	100

IV. TOTAL EXPENDITURES AND PER PARTY EXPENDITURES

Table 20 presents total direct expenditures of Mexican visitors to Arizona, by port of entry, for 1977-78, 1991, and the current study year, 2001. Total estimated direct expenditures by Mexican visitors to Arizona in 2001 was \$962.9 million, an increase of 44.1 percent over estimated expenditures in 1991. Total expenditures did not increase for all ports of entry. In particular, total visitor expenditures for parties entering through Douglas, Lukeville, Naco and Tucson showed declines in total expenditures. The percent change in expenditures of Mexican visitors entering Phoenix was enormous (13,785 percent change), but represents a relatively small share of total direct expenditures in Arizona (approximately 12 percent). Nogales and San Luis, the two largest ports of entry, have shown very strong growth in direct expenditures since 1991 (46.2 and 48.2 percent, respectively). To understand the source of these increases and declines, expenditures are decomposed into change in the number of parties and change in the expenditures per party in the following two tables (Tables 21 and 22).

Table 20
Total Direct Expenditures of Mexican Visitors in Arizona
1977-78 vs. 1991 vs. 2001 by Port of Entry

Port of Entry	(Millions of Dollars)			Percent
	1977-78	1991	2001	Change 1991-2001
Douglas	26.1	140.9	98.8	-29.9
Lukeville	7.3	17.7	13.8	-21.9
Naco	6.7	31.0	30.8	-0.5
Nogales	168.8	343.8	502.5	46.2
San Luis	99.0	131.1	194.2	48.2
Sasabe	0.8	0.5	4.7	831.7
Phoenix	2.0	0.8	111.1	13,785.3
Tucson	4.7	22.6	6.9	-69.3
Total	315.3	668.2	962.9	44.1

The Tucson International Airport has lost substantial traffic from Mexico to Phoenix Sky Harbor International Airport (Table 21). The number of parties flying from Mexico directly to Tucson declined by 59.1 percent, while the number of parties flying to Phoenix has increased 11,542 percent. Thus, most of the change in total direct expenditures for Phoenix and Tucson is associated with the change in parties flying to those airports. A small portion of the 21.9 percent decline in total expenditures of Mexican visitors entering through Lukeville is associated with a decline in visitor parties (-6.0 percent in visitor parties). Douglas, on the other hand, had an increase in visitor parties of 59.5 percent between 1991 and 2001, meaning that the decline in total expenditures of visitors entering this port is due to substantial declines in per party expenditures.

Overall, the number of Mexican visitor parties increased 52.2 percent since 1991, compared to a 44.1 percent increase for total expenditures. This difference in growth rates means there had to be an overall decrease in per party expenditures between 1991 and 2001.

Table 21

Mexican Visitor Parties to Arizona
 1977-78 vs. 1991 vs. 2001 by Port of Entry

Port of Entry	(Thousands of Parties)			Percent
	1977-78	1991	2001	Change
Douglas	713.6	1,251.1	1,995.2	59.5
Lukeville	131.8	152.7	143.5	-6.0
Naco	228.9	238.0	356.6	49.8
Nogales	2,892.4	2,821.0	4,881.6	73.0
San Luis	2,333.9	2,405.6	2,988.0	24.2
Sasabe	25.4	6.7	40.2	499.5
Phoenix	2.9	0.7	81.5	11,542.1
Tucson	7.3	19.9	8.1	-59.1
Total	6,336.2	6,895.7	10,494.6	52.2

Table 22 shows a decline in per party expenditures of Mexican visitor of 8.1 percent. Average per party expenditures declined for visitors entering all ports except San Luis, Sasabe and Phoenix. Phoenix's strong growth in per party expenditures is due, in large part, to the capture of business travelers and vacationers that used to fly into Tucson. Visitors entering through Sasabe are spending more per party, but very few parties pass through Sasabe so this increase has a very small impact on total Mexican visitor spending in Arizona. San Luis' increase of 19.3 percent in per party expenditures, combined with a 24.2 percent increase in Mexican visitor parties, results in total expenditures for travelers entering San Luis of 48.2 percent.

Table 22

Mexican Per Party Expenditures in Arizona
 1977-78 vs. 1991 vs. 2001 by Port of Entry

Port of Entry	(Dollars)			Percent
	1977-78	1991	2001	Change
Douglas	36.63	112.64	49.51	-56.0
Lukeville	55.57	115.80	96.39	-16.8
Naco	29.16	130.34	86.47	-33.7
Nogales	58.37	121.86	102.94	-15.5
San Luis	42.41	54.50	65.01	19.3
Sasabe	29.73	68.05	115.97	70.4
Phoenix	674.04	1,164.11	1,363.06	17.1
Tucson	639.68	1,135.24	851.76	-25.0
Total	49.77	99.82	91.75	-8.1

Lower per party expenditures for Tucson are explained largely by the change in reason for visit since 1991. Business travelers and persons coming for medical purposes now by-pass Tucson and fly directly to Phoenix. Phoenix has the advantage for these travelers both in terms

of the number of flights into Phoenix from Mexico and, sometimes, ticket price. Thus, the traveler that flies into Tucson is most likely to visit family, shop, vacation, or to come for personal reasons (see Table 16 above). This type of traveler spends less than those traveling on business or for medical purposes.

The declines in per party expenditures for visitors entering through Douglas and Nogales are a concern because a) the declines in per party expenditures are substantial (-56.0 and -15.5 percent for Douglas and Nogales, respectively, and b) Nogales and Douglas are the largest and 3rd largest ports of entry. Part of the decline in per party expenditures for Douglas and Nogales may be artificial due to differences in methods used in the 1991 and 2001 study. In particular, in the 1991 study, the sample was stratified to closely approximate the number of visitors entering each port, without regard to whether they crossed in a motor vehicle or on foot. Implicitly, pedestrian and motor vehicle passenger visitors were weighted according to how many happened to be interviewed in the 1991 study. In this study, the total number of parties, by port and by mode, were estimated and used as weights to generalize the survey results to the INS border crossing data. In particular, in this study, an estimated 15.4 percent of visitor parties entering through Douglas were pedestrians, so the Douglas estimates for per party visitor expenditures are a weighted average of pedestrian and motor vehicle passenger per party visitor expenditures. In the 1991 study, no pedestrians were surveyed, so the 1991 Douglas per party expenditure figure represented only visitors that crossed by motor vehicle. Similarly, pedestrians represented 22.6 percent of Nogales' surveyed parties in 1991, but pedestrian parties make up 30.5 percent of estimated parties in the present study. Per party expenditures for pedestrians is substantially less than per party expenditures of persons traveling by motor vehicle (see Table 24 below), so under-weighting pedestrian parties resulted in artificially high per party expenditures for Douglas and Nogales in the 1991 study.

A second reason per party expenditure parties could have declined since 1991 is that the survey year of this study (2001) was, unfortunately, a recession year in both the U.S. and Mexico. And third, it is possible that Mexican residents make more frequent trips to the U.S. but spend somewhat less on each trip.

Table 23 presents expenditure, by category for 1991 and 2001. Department store purchases make up by far the largest expenditure category, representing 41.4 percent of all Mexican visitor expenditures. Food purchases make up the second largest category (34.4 percent), which is comprised mostly of grocery purchases (24.0 percent of the total) and restaurant purchases (9.5 percent of the total). Transportation-related expenditures represent 13.4 percent of the total, with gasoline and auto-related expenses representing more than half of this category. Total estimated expenditures on medical-related categories declined 70.9 percent since 1991 and total business expenditures declined by 58.5 percent.

Again, a portion of the decline in expenditures on medical and business-related expenditures may be artificial and due to the under-weighting of pedestrians in the 1991 study. Per party expenditures for pedestrians on medical categories was zero in this study. In addition, pedestrian per party expenditures on business-related expenditures was only \$2.07 per party. Under-weighting pedestrians in 1991 would have resulted in artificially high expenditures for medical and business-related categories. The under-weighting of pedestrians in 1991 would also

have artificially increased all expenditure categories that are higher for motor vehicle passenger parties than pedestrian parties, which is virtually every category (see Table 24). Thus the percent growth in expenditures between 1991 and 2001 may be understated in this study.

Table 23
Expenditure per Category, 1991 vs. 2001

Expenditure Type	(Thousands of Dollars)		% of	Percent
	1991	2001	Total	Change
Lodging	12,934	12,096	1.3	-6.5
Total Food	173,971	331,498	34.4	90.5
Restaurants	28,788	91,782	9.5	218.8
Groceries	145,183	239,717	24.9	65.1
Total Transportation	24,627	128,739	13.4	422.8
Gasoline or Auto	20,987	72,515	7.5	245.5
Air Travel	2,969	42,918	4.5	1,345.5
Car Rental	671	13,306	1.4	1,883.1
Department Stores	222,312	399,086	41.4	79.5
Total Medical	24,105	7,012	0.7	-70.9
Doctors	15,745	2,449	0.3	-84.4
Hospitals	5,205	3,611	0.4	-30.6
Medicine	3,155	953	0.1	-69.8
Total Business	148,238	61,480	6.4	-58.5
All Other	82,069	22,958	2.4	-72.0
Total	688,256	962,870	100.0	39.9

Both per party expenditures and expenditures, by category, differ substantially by mode of travel (Tables 24 and 25). Pedestrians spend an average of \$39.31 per party, compared to \$98.56 per party for visitors entering by motor vehicles and \$1,316.65 for visitors traveling by air. Pedestrians spend most of their money on groceries and in department stores (approximately 80 percent). Parties traveling by motor vehicle spend most of their money in department stores (\$45.75 per party), with a lesser amount on groceries (\$24.95 per party). They spend \$9.34 in restaurants and \$10.40 on transportation, mostly on gasoline and auto-related expenditures. Air travelers, representing less than one percent of total parties, spend most of their money on transportation (\$509.37), followed by spending at department stores (\$316.63), on business (\$205.25), and on food (\$125.50) and lodging (\$125.50).

Per party expenditures vary both by mode and by reason for visit (Table 25). Per party expenditures range from \$13.00 for a pedestrian traveling for business in Arizona to \$2,050 for an air passenger visiting Arizona for medical reasons. Overall, Mexican visitors who come to Arizona spend the most if they are here for medical reasons. This category, however, represents a small portion of overall expenditures because less than one-quarter of 1 percent of all visitor parties entered for medical purposes. The reader should not confuse the per party expenditures of Table 25 with the per party expenditures reported in Table 24 showing expenditure categories

by mode. Table 24 shows average expenditures across all parties, disaggregated by mode. Table 25 shows expenditures per party, by reason for visit. For example, pedestrians who give shopping as their primary reason for visit spends \$41.37 per visit, as shown in Table 25, but pedestrians on average spend only \$39.31 because the latter figure includes expenditures by all pedestrian parties, some of which spent less than \$41.39. There were no pedestrian visitor parties that gave their primary reason for visit as ‘medical,’ thus the ‘non-applicable’ in that category in Table 25. The ‘0’ in the ‘other’ category for pedestrians indicates pedestrians who gave ‘other’ as their reason for visit, but who spent nothing in Arizona on their visit.

Table 24
Per Party Expenditures, by Category, by Mode
(Dollars per Party)

Categories	Mode		
	Motor Vehicle	Pedestrian	Air
Lodging	1.19	0.00	37.65
Total Food	34.17	22.59	125.50
Restaurants	9.30	3.98	125.50
Groceries	24.88	18.61	0.00
Total Transportation	10.37	1.35	509.37
Gasoline or Auto	8.77	1.35	13.17
Air Travel	0.00	0.00	478.84
Car Rental	1.60	0.00	17.36
Department Stores	45.11	12.76	316.63
Total Medical	0.86	0.00	7.38
Doctors	0.24	0.00	7.38
Hospitals	0.49	0.00	0.00
Medicine	0.13	0.00	0.00
Total Business	5.00	2.07	205.24
All Other	1.55	0.55	110.41
Total	98.56	39.31	1,316.65

It is interesting to analyze total expenditures, by income group. Table 26 shows that per-party spending ranges from \$38.24 for parties with household incomes between 1,000 and 2,000 pesos to \$238.58 per visitor party earning over 20,000 pesos per year. Parties in households earning over 20,000 pesos per year represent only 12.20 percent of total visiting parties, but they represent over one-third (33.08 percent) of total spending in Arizona by Mexican visitors. Similarly, parties earning less than 5,000 pesos per year constitute approximately one-third of visitor parties (34.14 percent, the sum of the three lowest income groups) but represent less than 19 percent of total expenditures in Arizona.

Table 25**Per Party Expenditures, by Reason for Visit, by Mode
(number of nights)**

Mode	Reason for Visit							
	Visit Family	Vacation	Shopping	Medical	Business	Personal	Work	Other
Motor Vehicle	70.18	101.52	114.05	144.93	128.29	36.92	68.48	41.36
Pedestrian	50.44	27.49	41.37	N.A.	13.00	20.00	22.28	0.00
Air	1,368.83	1,368.50	1,817.59	2,050.00	1,732.61	580.74	378.80	1,137.50
All Parties	75.53	102.00	107.49	174.65	144.39	46.24	57.72	54.28

N.A. is non-applicable.

Table 26**Spending per Party, Total Spending, by Monthly Income Group**

	Income Group (Pesos)						Sum
	1000 or Less	1,000- 2,000	2,000- 5,000	5,000- 10,000	10,000- 20,000	Over 20,000	
Per Party Expenditures \$	47.341	38.24	55.74	74.75	127.41	238.58	N.A.
Percent of Total Parties (% of Row Total)	0.78	4.87	28.49	34.89	18.77	12.20	100
Percent of Total Expenditures (% of Row Total)	0.69	1.97	15.93	25.59	22.73	33.08	100

N.A. is Not Applicable

Table 27 demonstrates that per party expenditures increase with distance traveled. Visitors traveling more than 500 miles spend \$568.51 per party while those traveling 50 or few miles spend \$77.87 per party. This table also demonstrates that fewer parties visit Arizona the further they have to travel. Less than one percent of all visitor parties to Arizona travel more than 500 miles, while over 94 percent of all parties travel less than 50 miles. Although parties traveling more than 500 miles represent only 0.69 percent of parties, they represent 8.53 percent of total spending in Arizona of Mexican visitors. The 94.01 percent of visitors traveling 50 or fewer miles to the border spend 76.34 percent of total spending.

Table 27**Spending per Party, Total Spending, by Distance Traveled**

	Distance Traveled (Miles)				Sum
	50 or Fewer	51-200	201-500	More than 500	
Per Party Expenditures \$	77.87	262.85	399.47	568.51	N.A.
Percent of Total Parties (% of Row Total)	94.07	2.77	2.47	0.69	100
Percent of Total Expenditures (% of Row Total)	76.34	10.34	4.78	8.53	100

N.A. is Not Applicable

Table 28**Spending per Party, Total Spending, Day Trip vs. Overnight Visitors**

	Day Trip Visitors	Overnight Visitors	Sum
Per Party Expenditures \$	72.72	220.71	N.A.
Percent of Total Parties (% of Row Total)	96.14	3.86	100
Percent of Total Expenditures (% of Row Total)	89.15	10.85	100

N.A. is Not Applicable

An analysis of per party expenditures, number of parties and total expenditures for day trip visitors also shows the importance of the higher income, longer-stay visitor (Table 28). Overnight visitor parties (1 or more nights) spend an average of \$220.71 per trip while day trip visitors spend an average of \$72.72 per party per trip. Thus, although overnight visitors represent only 3.86 percent of all visitor parties, they represent almost 11 percent of all Mexican visitor expenditures in Arizona.

Table 29 shows the seasonality of Mexican Visitors' travel to Arizona. The first column shows the total number of aliens entering Arizona, by port, by month, as reported by the INS. Average party size was computed, by month, from survey data, and used to convert total aliens, by month, to total parties. Total expenditures and expenditures per party are also presented, by month. December has the highest number of border crossings (aliens), the largest number of parties, and the most expenditures. In December, over a million parties enter Arizona and each of those parties spend over \$150 per party, on average, for a total of almost \$159 million in expenditures. The weakest months for Mexican visitor travel to Arizona are September and October. September and October have the fewest border crossings, the fewest visitor parties, and the lowest expenditures of all months. This finding is not surprising given the events of September 11, 2001 and the fact that the format of the border crossing cards changed in September 2001. It is not possible to tell from the data how much of the reduced visitation and spending is due to normal seasonality or to the other extraordinary occurrences.

The remaining nine months are difficult to categorize. Unexpectedly, May had the highest per party expenditure of all months except December. A possible explanation for this is that there are three holidays during May in Mexico: Teacher's Day, Mother's Day, and Cinco de Mayo. In addition, May is the month in which employers pay 'utilidades' to their employees. These payments are a form of profit sharing, required by law in Mexico.

Table 29
Seasonality of Mexican Visitors' Travel to Arizona

	Total Aliens^a	% Across Months	Average Party Size	Total Parties	% Across Months	Total Expenditures	% Across Months	\$ Per Party, By Month
January	2,008,684	8.71	2.20	913,286	8.70	90,749,231	9.42	99.37
February	2,043,426	8.86	2.12	962,411	9.17	85,670,208	8.90	89.02
March	2,225,163	9.65	2.32	958,079	9.13	76,369,897	7.93	79.71
April	2,034,679	8.83	2.23	911,660	8.69	76,192,344	7.91	83.58
May	1,900,663	8.25	2.18	872,401	8.31	95,740,164	9.94	109.74
June	1,873,772	8.13	2.20	852,181	8.12	71,155,563	7.39	83.50
July	1,770,867	7.68	2.26	782,021	7.45	72,085,683	7.49	92.18
August	1,854,247	8.04	2.29	808,200	7.70	62,426,498	6.48	77.24
September	1,562,097	6.78	2.25	692,793	6.60	45,485,345	4.72	65.65
October	1,457,364	6.32	1.92	757,179	7.21	50,161,396	5.21	66.25
November	1,995,684	8.66	2.15	928,266	8.85	77,937,009	8.09	83.96
December	2,325,162	10.09	2.20	1,056,140	10.06	158,896,868	16.50	150.45
Total	23,051,808	100	2.20	10,494,617	100	962,870,204	100	91.75

^a INS Data

V. GEOGRAPHIC DISTRIBUTION OF EXPENDITURES IN ARIZONA

Table 30 provides information on where Mexican visitors spend their money within Arizona and provides a comparison between the 1991 study results and the present study results. Note that this table differs from all the previous results presented by port. Data presented by port is a summary of the characteristics and spending of persons who enter through each of the ports. In Table 30, the data is presented according to where the expenditures were stated to have occurred. In 1991, Santa Cruz County had the highest share of expenditures of Mexican visitors. In the present study, the highest portion of expenditures goes to Pima County. Pima receives almost one-third of all Mexican visitor expenditures. Mexican visitor expenditures in Pima County are estimated to have increased by almost 178 percent since 1991. The largest percent increase in expenditures occurred for Maricopa County (683 percent increase), due predominantly to the large increase in flights from Mexico to the Phoenix Sky Harbor International Airport.

Table 30
Expenditures by County and City, 1991 and 2001

County	1991 Expenditures (Thousands of Dollars)	2001 Expenditures (Thousands of Dollars)	Percent Change 1991-2001	2001 Percent of Total Expend.	2001 City Visitor Parties ^a	2001 % of City Visitor Parties	2001 \$ Per City Visitor Party
Cochise	164,263	96,753	-41.10	10.0	2,167,994	20.5	44.63
Maricopa	16,419	128,634	683.44	13.4	142,164	1.3	904.83
Pima	108,506	301,598	177.96	31.3	1,499,085	14.2	201.19
Santa Cruz	268,470	243,738	-9.21	25.3	3,510,958	33.2	69.42
Yuma	130,598	191,158	46.37	19.9	2,849,109	26.9	67.09
Other Counties Outside Arizona	0	990	N.A.	0.1	8,369 401,313	0.1 3.8	118.35
Total	688,256	962,870	39.90	100.0	10,578,992	100	91.02
City							
Douglas	141,631	79,423	-43.92	8.2	1,845,212	17.4	43.04
Nogales	268,470	243,738	-9.21	25.3	3,510,958	33.2	69.42
Phoenix	16,419	128,599	683.23	13.4	139,820	1.3	919.74
San Luis	61,960	67,104	8.30	7.0	1,645,647	15.6	40.78
Tucson	98,760	292,395	196.07	30.4	1,365,824	12.9	214.08
Yuma	68,637	123,772	80.33	12.9	1,201,118	11.4	103.05
Other Cities	32,379	27,841	-14.02	2.9	807,258 63,155	7.6 0.6	34.49
Total	688,256	962,870	39.90	100.0	10,578,992	100	91.02

^a City Visitor Parties include visits of a party to more than one city.

Thus City Visitor Parties exceeds Total Visitor Parties shown in other tables.

N.A. is not applicable.

Cochise and Santa Cruz Counties showed declines between the 1991 and 2001 study. This is due predominantly to the decline in per party expenditures for Douglas and Nogales, discussed above. This is consistent with the declines in expenditures shown for Douglas and Nogales shown in the lower half of Table 30. Note that the expenditures provided for major cities coincide closely with the corresponding county figures. For example, Maricopa County is estimated to have received 128.6 million dollars of Mexican visitor dollars and Phoenix is estimated to have received almost all of that. This does not mean that these expenditures occurred within the city limits of the City of Phoenix. The typical Mexican visitor doesn't know where the city limits of Phoenix are. So when they say they spent money in 'Phoenix,' it means they spent it somewhere in the urbanized area surrounding the City of Phoenix. The reason that not all expenditures in Maricopa County occur in 'Phoenix' is that a few visitors specified some other area within Maricopa County.

Similarly, expenditures in 'Tucson' represent the bulk of expenditures in Pima County. The difference between Pima County and Tucson is that other Pima County destinations were mentioned, e.g., Ajo, Sasabe, and Lukeville. When the analysis on what visitors to Tucson did and where they shopped is presented, a breakdown of the 'Tucson' expenditures will be examined.

Note that the number of 'parties' to each of the destination cities is defined differently in Table 30 than in earlier tables. Also note that total number of 'parties' is slightly larger in Table 30 than previously reported. The reason for this is that some parties visited more than one Arizona city. When examining the geographic distribution of where expenditures occur, these parties have to be counted for each city they visited. Thus, the number of 'city parties,' as they are referred to as in Table 30, exceeds the total number of parties reported in Table 5.

VI. ORIGIN OF VISITORS AND MONTHLY INCOME BY PLACE OF RESIDENCE

Table 31 provides a list of the states and cities from which Mexican visitors originate. Over 99 percent of all Mexican visitors to Arizona are from the State of Sonora. Small percentages of visitors originate in Baja (0.45 percent) and Sinaloa (0.26 percent).

The Mexico border cities of Nogales, San Luis Rio Colorado, and Agua Prieta generate the bulk of visitors to the U. S. State of Arizona. Nogales contributes more than half (56.48 percent) of all the Mexican visitors to Arizona, San Luis Rio Colorado contributes 25.47 percent, and Agua Prieta accounts for 10.45 percent. Hermosillo and Magdalena are the two non-border cities that originate the most visitors (2.62 and 1.33 of visitor parties, respectively).

Figure 1. Map of Mexico



Source: UT Library Online, University of Texas at Austin

Figure 2. Map of Sonora, Mexico



Source: Gobierno del Estado de Sonora

Visitors from Sinaloa, by far, have the highest incomes. Almost 84 percent of all Sinaloa visitors have monthly incomes over 20,000 pesos. One would expect that visitors from near-border cities would have lower income distributions than visitors that have to travel longer distances to the border. Generally, this pattern holds. Visitors from Nogales and Douglas have relatively low income distributions (27.6 and 12.8 percent, respectively, have incomes over 10,000 pesos per month) compared to say, Huatabampo or Hermosillo, where visitors have to

have the resources to get to the border (66.6 and 59.1 percent, respectively have incomes over 10,000 pesos per month). However, visitors from San Luis Rio Colorado, a Mexican border city, have a surprisingly high income distribution, with over 60 percent of visitors earning over 10,000 pesos per month.

Table 31
Origin of Visitors and Monthly Income by Place of Residence

State in Mexico	Percent of Visitor Parties	Income Category						SUM
		1000 or Less	1000- 2000	2000- 5000	5000- 10,000	10,000- 20,000	Over 20,000	
		(Percent of Row Total)						
Baja	0.45	0.0	0.0	7.7	23.0	46.4	23.0	100
Sonora	99.02	1.0	2.8	24.4	36.2	19.3	16.3	100
Sinaloa	0.26	0.0	0.0	0.0	13.0	3.4	83.6	100
SUM	0.28	0.6	17.6	12.6	20.6	6.1	42.4	100
	100.00							
City in Mexico								
Agua Prieta	10.45	0.0	1.9	28.0	57.3	8.0	4.8	100
Caborca	0.27	0.0	0.0	24.9	0.0	49.7	25.4	100
Guaymas	0.14	0.0	0.0	97.7	0.0	0.0	2.3	100
Hermosillo	2.62	0.1	0.0	23.0	17.8	33.2	25.9	100
Huatabampo	0.20	0.0	0.0	0.0	33.3	33.3	33.3	100
Magdalena	1.33	5.0	0.0	15.0	40.0	25.0	15.1	100
Mexicali	0.31	0.0	0.0	0.0	22.2	55.6	22.2	100
Naco	0.28	0.0	0.0	37.5	50.0	12.5	0.0	100
Nogales	56.48	1.5	3.4	29.0	38.5	17.7	9.9	100
Ciudad Obregon	0.62	0.0	5.7	67.3	4.7	0.0	22.3	100
San Luis R.C.	25.47	0.3	2.1	11.9	25.1	26.7	34.0	100
Santa Ana	0.33	0.0	20.0	0.0	59.9	0.0	20.2	100
Sonoyta	0.32	0.0	7.7	71.4	17.6	3.3	0.0	100
Other Cities	1.19	0.2	7.5	13.3	27.0	7.1	44.7	100
SUM	100.00							

VII. PROFILES OF VISITORS TO SIX ARIZONA CITIES

Visitor profiles are developed in this section for six major destination cities in Arizona. Reasons vary substantially across destination cities. Visitors to both Phoenix and Tucson show much stronger family ties to their visitors than other destination cities, with 19.6 percent of visitors to Phoenix and 14.2 percent of visitors to Tucson giving ‘visit family’ as their primary reason for their visit.

Shopping is the primary reason for the visit for between 71.4 and 76.9 percent of Mexican visitors to all destination cities except Phoenix. For visitors to Phoenix, shopping is less important, representing 38.2 percent of the reasons for visiting that metro area. Business, visiting family and vacation are much more important reasons given by Mexican visitors to Phoenix than any other destination city. Work is cited as the primary reason for relatively high percentages of visitors to destination cities located along the border: Douglas, San Luis, Yuma, and to a lesser extent, Nogales.

Table 32
Reason for Visit, by Destination City

	(Percent of Row Total)								
	Visit								
	Family	Vacation	Shopping	Medical	Business	Personal	Work	Other	SUM
Douglas	4.3	0.0	71.4	0.0	1.1	0.0	22.9	0.3	100
Nogales	5.1	3.9	75.9	0.2	1.4	0.8	11.5	1.2	100
Phoenix	19.6	13.5	38.2	1.8	17.4	5.1	1.8	2.6	100
Tucson	14.2	4.7	76.9	0.3	0.8	0.1	2.8	0.3	100
San Luis	6.5	0.9	71.8	0.0	0.4	1.3	19.1	0.1	100
Yuma	8.0	1.2	72.9	1.0	1.7	1.2	14.0	0.0	100

Table 33 presents the number of parties visiting each destination city, party size, and length of stay. Tucson’s 1.366 million visitor parties come in relatively large parties, with 2.66 persons per party. This is somewhat surprising, given that the average party size entering Arizona through Nogales is 2.30 (Table 7). When Mexican visitors stop at the border cities of Douglas, Nogales, and San Luis, visitor parties are relatively small (1.80, 2.18, 2.05, respectively). But when they come further inland, to Tucson and Yuma, it represents more of a family trip to many Mexican visitors and this is reflected in the larger party sizes for these non-border cities. Because relatively high numbers of visitors to Phoenix are on business or vacation, compared to other destination cities, their party size is smaller than, for example, Tucson.

The longer the trip and the more expensive the trip, the longer the visitor party is expected to stay at the destination city. This is shown clearly in Table 33. Almost 88 percent of visitors to Phoenix spend at least one night in Phoenix and the average length of stay is 5.53 nights. Over 16 percent of visitors to Tucson spend at least one night in Tucson and the average length of stay for all Tucson visitors is 0.44 nights. Again, this can be difficult to interpret because it is in ‘nights’ and not ‘days.’ The 0.44 means that those 16 percent of Mexican visitor

parties who spend the night, they spend approximately 2.75 nights here. The rest of Mexican visitor parties are day trippers, who do stay overnight in Tucson.

Table 33
Party Characteristics and Length of Stay, by Destination City

	Number of Parties	Party Size	Average Length of Stay (nights)	Percent Stayed 1 Night or More
Douglas	1,845,212	1.80	0.00	0.00
Nogales	3,510,957	2.18	0.01	0.84
Phoenix	139,820	2.11	5.53	87.72
Tucson	1,365,824	2.66	0.44	16.12
San Luis	1,645,647	2.05	0.00	0.00
Yuma	1,201,118	2.62	0.03	1.37

Table 34 presents the cities of origin for the visiting parties to each of the six Arizona destination cities. It is not surprising that the bulk of Mexican visitors to Arizona come from the State of Sonora. Between 98.8 and 99.0 of all Mexican visitor parties to Douglas, Nogales, Tucson, San Luis and Yuma come from the State of Sonora. Because a majority of Phoenix' Mexican visitor parties fly into Phoenix, Phoenix receives visitors from all parts of Mexico. Only 53.46 percent of Phoenix visitors are from Sonora.

For the three Arizona cities closest to the border: Douglas, Nogales, and San Luis, very high percentages (95.11 to 98.3 percent) of their visitors are from the Mexico city immediately across the border: Agua Prieta, Nogales, and San Luis R.C., respectively. As distance is increased, the percentage coming from the closest border city diminishes. Only 88.13 percent of Yuma visitors are from San Luis R.C. As the distance increases, this percentage diminishes further; only 78.58 percent of Tucson's visitor parties are from Nogales. For Phoenix, the border communities of Nogales and San Luis combined comprise only 18.28 percent of visitor parties.

Generally, expenditures per party are related to the distance traveled. Visitors from Mexican cities located the farthest from the border tend spend the most per party. Distance decreases the number of trips this party will make, but it tends to increase the amount spent when they do make a trip. Visitors to Douglas from Agua Prieta spend 43.16 per party, but visitors from Esqueda spend \$49.89. Visitors to Nogales from Nogales, Mexico, spend \$64.53 per trip, but visitors from Hermosillo spend \$96.20, visitors from Caborca spend \$335.27, and visitors from Magdalena spend \$189.59 per trip. Similarly, visitors to Phoenix from Nogales and San Luis spend \$280.30 and \$248.33, respectively, but visitors from farther distances tend to spend over \$1,000 per trip. There are exceptions to this general rule, of course, but spending per party and distance traveled are clearly related in Table 34.

In Table 35, expenditures are broken down by categories for each of the six Arizona destination cities. Visitors to the three border counties of Cochise, Santa Cruz and Yuma

Table 34**Visitor Party Cities of Origins, Percent of Parties, Percent of Expenditures, and Expenditures per Party for each Destination City**

U. S. City of Destination	Mexico State of Origin	Percent of Parties Across States	Mexico Cities of Origin	Percent of Parties Across Cities	Percent of Expenditures Across Cities	Per Party Expenditures (\$)
Douglas						
	Sonora	98.89	Agua Prieta	98.22	98.84	43.16
	Sinaloa	1.11	Navajoa	1.11	0.39	14.97
	Other	0.00	Esqueda	0.67	0.77	49.89
			Other	0.00	0.00	N.A.
Nogales						
	Sonora	99.87	Nogales	95.11	88.41	64.53
	Nayarit	0.11	Magdalena	1.70	4.65	189.59
	Other	0.02	Hermosillo	1.60	2.21	96.20
			Caborca	0.43	2.05	335.27
			Santa Ana	0.43	0.61	98.97
			Huatabampo	0.21	0.56	183.10
			Other	0.53	1.51	197.51
Phoenix						
	Sonora	52.46	Hermosillo	16.06	19.11	1,094.30
	Jalisco	15.07	Nogales	13.24	4.03	280.30
	Sinaloa	8.701	Guadalajara	11.93	17.36	1,337.87
	Nayarit	8.036	Mazatlan	8.12	6.33	716.75
	Chihuahua	6.027	Tepic	7.96	14.32	1,655.26
	Federal District	5.186	Chihuahua	5.97	7.75	1,195.08
	Other	4.52	Mexico City	5.63	5.00	816.11
			San Luis	5.04	1.36	248.33
			Puerto Penasco	4.91	1.74	325.93
			Other	21.14	30.19	1,313.20
Tucson						
	Sonora	98.89	Nogales	78.58	59.76	162.80
	Sinaloa	0.56	Hermosillo	5.50	12.79	498.16
	Other	0.55	Ciudad Obregon	4.60	4.58	213.17
			Agua Prieta	4.11	6.65	346.38
			Sonoyta	1.56	1.78	245.12
			Naco	1.39	3.08	475.04
			Other	4.26	11.35	570.38
San Luis						
	Sonora	99.00	San Luis R.C.	98.29	96.65	40.10
	Baja	1.00	Mexicali	0.71	1.99	114.00
	Other	0.00	Other	1.00	1.36	55.55
Yuma						
	Sonora	98.82	San Luis R.C.	88.13	95.01	111.09
	Baja	1.173	Sonoyta	10.69	3.28	31.60
	Other	0.007	Mexicali	0.78	0.85	112.28
			Other	0.39	0.86	225.45

spend relatively large percentages of their total spending on groceries (51.0, 40.9 and 26.8 percent, respectively). The portion spent on restaurants is relatively uniform across counties, ranging from 7.9 percent of total expenditures of Pima County visitors to 16.8 percent of expenditures of Cochise county visitors.

Airfare is significant only in Maricopa County (29.5 percent), although car rental represents 4 percent of expenditures in Pima County. Gasoline and automobile-related expenditures range from a low of 3.6 percent of visitor expenditures for Maricopa County to a high of 13.2 percent for Cochise County.

Table 35
Percent of Expenditures, by Category, for Five Major Destination Counties

	County				
	Cochise	Maricopa	Pima	Santa Cruz	Yuma
Lodging	0.0	3.7	2.0	0.6	0.0
Food					
Restaurants	16.8	10.4	7.9	8.3	10.1
Groceries	51.0	0.3	14.1	40.9	26.8
Transportation					
Gasoline & Auto	13.2	3.6	8.0	6.7	8.2
Airfare	0.0	29.5	1.7	0.2	0.0
Car Rental	0.0	1.0	4.0	0.0	0.0
Department Stores	17.6	29.4	53.9	38.0	48.8
Medical					
Hospitals/Clinics	0.0	0.2	0.1	0.1	1.9
Doctors	0.0	0.1	0.0	0.0	0.7
Medicine	0.0	0.1	0.1	0.2	0.1
Business	0.2	14.9	4.3	4.8	2.7
Other	1.1	6.8	3.9	0.2	0.7
SUM	100.0	100.0	100.0	100.0	100.0

Department stores, which include major non-mall stores, such as Target, Wal-Mart, K-Mart and Super K-Mart, are important components of spending in all counties, but especially for Pima County. Almost 54 percent of all Mexican visitor expenditures in Pima County are at department stores. For Cochise, Santa Cruz and Yuma Counties, visitors coming to shop are purchasing a mix of groceries and department store items; for Pima County, visitors coming to shop are predominantly shopping at department stores.

Medical-related expenditures represent a small percentage of overall spending. In Yuma County, medical expenditures are 2.7 percent of total expenditures, but in the other counties it is less than 0.4 percent. Business expenditures are highest for visitors to Maricopa County. These expenditures include both purchases and attendance at conferences.

VIII. TOTAL ECONOMIC IMPACTS OF MEXICAN VISITORS ON ARIZONA AND FIVE COUNTIES

To estimate the effect of Mexican visitor spending on the overall economy of the Tucson area, an input-output, or interindustry, model of five counties and the state of Arizona were used. Input-output models are used to estimate multipliers, or what are known as direct, indirect and induced impacts. In this case, the direct effects are sales (output), income, and employment generated directly by the dollars spent by Mexican visitors, e.g., restaurant sales, jobs and income. Indirect impacts are the sales, income and employment that result from other firms in the local economy selling to the restaurants, such as food distributors. Induced effects are the sales, income and employment created as workers in the first two categories spend their wages and salaries locally. Total impacts are the sum of the direct, indirect, and induced effects.

The input-output model used in this analysis is called IMPLAN (Input-Output Model for Planning and Analysis). Originally designed by the U.S. Forest Service, IMPLAN was further developed at the University of Minnesota and a private firm is currently maintaining the model and updating the data sets necessary to run the model. In this study, the 1999 IMPLAN model was used to estimate economic impacts. The model provides a snapshot of a county's economy at one point in time. The impacts it estimates are medium-run impacts (impacts that might be expected to occur within five years of the shock of the economy). There are separate IMPLAN models for the State of Arizona and each of the five counties impacted the most by Mexican visitor spending: Cochise, Maricopa, Pima, Santa Cruz, and Yuma. For the state model, IMPLAN breaks the region's economy into 528 sectors with the most detail in manufacturing and less detail in service-oriented sectors. IMPLAN models for relatively small counties, such as Santa Cruz and Cochise, have fewer than 528 sectors.

Direct economic impacts, by county, are reported in Table 36. In total, Mexican visitor spending of almost \$963 million creates 25,102 direct jobs and pays almost \$406 million in direct wages to Arizona workers. Direct impacts vary across counties, from 2,077 jobs in Maricopa County to 7,343 jobs in Santa Cruz County. Note that direct impacts, by city, are the same as total expenditures provided in Table 30. Indirect and induced impacts for cities cannot be computed.

The size of the direct job impact in an individual county depends on the mix of expenditures in that county and the wages in that county. In Table 36, these differences can be observed by comparing Maricopa and Cochise counties. Maricopa County is the largest metropolitan area in the state, containing the cities of Phoenix, Scottsdale, Mesa, Glendale, and many others. Maricopa County has the highest wage rates in the state. Cochise County is a border county with a mix of relatively small cities, such as Sierra Vista, Wilcox, and Douglas. The wage rates in this comparatively rural county are substantially lower than those in Maricopa County. The consequence of the large difference in wage rates is that a million dollars of direct spending in Cochise County generates more direct jobs than a million dollars of direct spending in Maricopa County. The \$96.7 million of direct spending in Cochise generates more jobs than the \$128.8 million spent in Maricopa County.

Table 36**Direct Economic Impacts, by County, and for Arizona**

County	Direct Spending (Thousands of \$)	Direct Jobs (Jobs)	Direct income (Thousands of \$)
Cochise	96,753	2,822	43,754
Maricopa	128,634	2,077	49,777
Pima	301,598	7,038	122,008
Santa Cruz	243,738	7,343	108,451
Yuma	191,158	5,794	81,491
Other Counties	990	29	352
SUM	962,871	25,102	405,834
Arizona	962,871	25,102	405,834

Table 37**Total Economic Impacts, by County, and for Arizona**

County	Total Output (Thousands of \$)	Total Jobs (Jobs)	Total Income (Thousands of \$)
Cochise	140,148	3,551	57,527
Maricopa	210,951	3,162	79,931
Pima	474,053	9,589	181,211
Santa Cruz	338,298	8,981	137,705
Yuma	281,265	7,237	110,663
Other Counties	1,470	37	498
SUM	1,446,186	32,558	567,534
Arizona	1,584,155	35,179	628,418

Total economic impacts are reported in Table 37. The \$962.9 million in direct Mexican visitor spending in Arizona ‘multiplies’ to a total sales impact of \$1.58 billion, 35,179 jobs, and \$628 million in income.

Again, economic impacts vary across counties. Each county has a different expenditure mix and different multipliers so the impacts are not proportional to the distribution of the original sales. Note that, although Santa Cruz County had the largest direct sales of the five counties, Pima County has the highest total impact of the five counties. The reason for this is that multipliers tend to increase with the size of a region. The size of a multiplier depends on two factors: the extent of interindustry linkages within the region and the amount of leakage from the region at each round of spending. Interindustry linkages have to do with how much businesses purchase from one another within the local economy. Generally, these linkages are much

stronger for large metropolitan areas or states than they are for small counties. Leakage refers to what portion of dollars spent by consumers is retained in the community for the next round of spending. The smaller the county or region, the larger the leakage, and therefore, the smaller the multiplier.

Note that the total economic impacts for Arizona exceed the sum of the economic impacts for the counties. This is due to the fact that the models used in this analysis are non-interactive; rather, they are free-standing separate county and state models. When economic activity occurs within a county, a county economic impact model will only assess the additional economic activity generated within that county. But, in fact, there are ‘spillover’ impacts that accrue to other counties within the state. Generally these spillover impacts accrue to more urbanized counties within the state, such as Pima County or Maricopa County. For example, when jobs and wages are created in Cochise County, persons in Cochise County put more money into their local banks, which pay workers who also put their money into local banks. Usually, the banks that are located in smaller regions have their headquarters and central offices located elsewhere. In this state, bank headquarters may be located in Pima County, but are most likely located in Maricopa County. Thus, in addition to the impact on the banks in Cochise County, small impacts are felt in Pima and Maricopa Counties that are not captured by any of the free-standing county models. Similar spillovers occur for most other sectors, e.g., retailing, service stations, services.

IX. MEXICAN VISITOR SPENDING AS A PERCENT OF TAXABLE SALES, BY COUNTY, AND REVENUE IMPACTS FOR PIMA COUNTY

Table 38 shows the percent of taxable sales in each county that is attributable to Mexican visitor spending. In this table, Mexican visitor spending, by county, is compared to Arizona Department of Revenue taxable sales figures. In order to make this comparison, several steps had to be taken to be sure the two sets of numbers are compatible. First, gasoline sales are removed from the Mexican visitor spending. Gasoline sales are taxable under the fuel tax, but they are not taxable under the ‘sales tax’ of Arizona. Second, each expenditure category was multiplied by a percentage that represents the portion that is taxable in Arizona. For example, medically-related expenditures (doctors, medicine and hospitals) and groceries are not taxable in Arizona. ‘Car maintenance’ is a mix between automotive parts and labor. In Arizona, the labor portion of maintenance expenditures is not taxable, so it is assumed that 65 percent of this category is taxable. The category, ‘business expenditures’ may include some items for resale in Mexico, so it is assumed that only 80 percent of that category is taxable. In addition, a small adjustment was made for expenditures at casinos in Pima County because those are not taxable by the state of Arizona (attraction attendance will be discussed in a later section).

When all adjustments were made, the resulting ‘taxable’ Mexican visitor expenditures were compared to total taxable sales in each county, reported by the Arizona Department of Revenue. In Maricopa County, Mexican visitor spending represents approximately one-half percent of total taxable sales. This relatively low percentage is not surprising, given the distance 250 mile distance between Maricopa County and the U.S.-Mexico border and given the extremely large size of the Maricopa County economy.

In contrast, ‘taxable’ Mexican visitor spending represents 47.3 percent of the sales tax base of Santa Cruz County. Clearly, this county is very dependent on the spending of Mexican residents. Mexican visitor spending represents 12.4 percent of Yuma’s sales tax base, 5.9 percent of Cochise County’s tax base and 3.8 percent of Pima County’s tax base.

Table 38
Mexican Visitor Spending as a Percent of Taxable Sales by County

	Percent of Taxable Sales Attributable to Mexican Visitors
Cochise	5.9
Maricopa	0.5
Pima	3.8
Santa Cruz	47.3
Yuma	12.4

In addition to computing the percentages of taxable sales in each county attributable to Mexican visitors, more complete revenue impacts are computed for Pima County. Revenue impacts associated with Mexican visitors are computed using the Pima County Tax Revenue Model. This model is an extensive spreadsheet that embodies: state and local tax rates; state to local revenue-sharing formulas; current and recent tax collections from a variety of revenue sources for the city, county and state; parameters derived from economic theory and analysis; and state, county and local economic characteristics, such as population, employment, and income. By inputting Mexican visitor expenditures and total wages generated by those expenditures, the revenue model computes several categories that accrue to the State of Arizona, Pima County and the City of Tucson governments. The model does not calculate revenues that accrue to local school districts or local special districts. A detailed description of the Pima County revenue model is available from the authors.

The model computes both direct and induced revenue impacts. Direct revenue impacts are revenues paid by the Mexican visitors when they make purchases. While direct revenues are generated by the industry being analyzed, induced revenues are generated when local income is spent in the county. When an industry hires workers, the payroll is spent and taxes are paid in the form of income taxes, sales taxes, property taxes, vehicle license taxes, etc. In addition, when a basic industry (such as restaurants that sell to Mexican residents) expands, the output and work force of other industries that sell to the basic industry also expand. Workers in these technically linked industries also spend their money in the community and generate revenues. These revenues associated with the total change in wages affected by tourism are ‘induced’ revenues.

Before revenues could be computed, the ‘taxable’ Mexican visitor expenditures that occur in Pima County had to be further disaggregated into those that occur in the City of Tucson, those that occur in other Pima County cities, and those that occur out in the county. This allocation was made by using information obtained by the survey on where Mexican visitors shopped and what attractions they attended in Pima County. This type of marketing information is discussed in more detail in a later section.

Revenues generated by Mexican visitor spending is in Table 39. The State of Arizona receives over \$10.8 million directly from their spending. Pima County receives \$1.73 million, the City of Tucson receives almost \$4.05 million, and other incorporated areas in Pima County receive \$262,000. The largest direct revenue sources for all levels of government are associated with the city sales tax and the state sales tax, which is also shared with Pima County and cities within Pima County. Smaller amounts of revenues are generated by HURF (the Highway User Revenue Fund), the county’s hotel/motel tax and the city’s bed tax.

Induced revenues, generated through employee spending are also presented in Table 39. The State of Arizona receives \$8.6 million in induced revenues from Mexican visitor spending, while Pima County receives \$2.1 million and the City of Tucson receives \$1.896 million. Other incorporated cities within Pima County receive approximately \$123,000.

In total, Mexican visitor spending generates \$29.6 million in revenues to the State of Arizona, Pima County, the City of Tucson and other incorporated areas in Pima County. Of this

amount, the state receives almost 66 percent, the City of Tucson receives 20 percent, Pima County receives 13 percent and other incorporated areas receive a little over 1 percent.

Table 39
Pima County Revenue Impacts of Mexican Visitor Spending

Government	Direct Revenues	Induced Revenues	Total Revenues
	(Thousands of dollars)		
State of Arizona	10,888	8,622	19,510
Pima County	1,730	2,103	3,833
City of Tucson	4,045	1,896	5,940
Other Cities in Pima	262	123	384
TOTAL	16,924	12,744	29,668

X. MARKETING INFORMATION ABOUT VISITORS TO PIMA COUNTY AND TUCSON

Over 85 percent of all parties to Pima County are day trip visitors (Table 40). Day trip visitors spend over \$235.7 million in Pima County, which is 78.2 percent of all Mexican visitor spending in the county. The numbers are similar for Tucson. Recall that ‘Tucson’ does not refer to the City of Tucson; rather it refers to the general Tucson metropolitan area and only excludes non-Tucson cities in Pima County that are specifically mentioned by Mexican visitors, e.g., Ajo, Lukeville, Sasabe.

Table 40

**Day Trip Parties and Day Trip Visitor Expenditures:
Tucson and Pima County**

	Pima County	Tucson
Number of Day Trip Parties	1,278,861	1,145,599
% of Total Parties	85.3%	83.9%
Expenditures by Day Trip Visitors	235,767,663	226,572,989
% of Total Expenditures	78.2%	77.5%

Table 41 shows where Mexican visitors shopped. Interestingly, the 76.24 percent that visited one or more malls is almost identical with the percent of visitors that gave ‘shopping’ as their primary reason for visiting Tucson (76.9 percent in Table 32). This means that almost every party that came to Tucson to shop visited at least one mall. The most popular mall for Mexican visitors is the Tucson Mall, with 68.91 percent of all Mexican visitors shopping there. Since 76.24 of all Mexican visitors went to one or more malls, 90 percent of all Mexican visitors who come to Tucson for the primary reason of shopping, visit Tucson Mall. Because the sum of the percentages that visit specific malls (e.g., Park Place, Tucson Mall) is 136.57, the survey figures imply that Mexican visitors who come to shop visit an average of 1.79 malls. In addition to mall shopping, substantial numbers of visitors went to non-Mall stores, particularly Target, Super K-Mart/K-Mart, Ross, Mervyn’s, and Home Depot.

Table 42 presents survey results relating to what attractions were attended by Mexican visitors. More than 25 percent of all Mexican visitors went to Casino of the Sun and almost 21 percent went to Desert Diamond Casino. When the survey results are combined, 33.4 percent of all Mexican visitor parties went to one casino or the other and some went to both. Although one-third of all Mexican visitors went to a casino, they spent relatively little at the casinos. In the table that decomposes Pima County expenditures into categories (Table 34), casino spending would appear either in the ‘other’ category or the ‘restaurant’ category. A separate analysis was conducted in which ‘restaurant’ expenditures and ‘other’ expenditures were computed for visitor parties that stated that they went to one or more casinos. This analysis indicates that casino visitors spent, at most, \$6.9 million at casino restaurants and \$4.0 million in ‘other’ expenditures. These figures represent a maximum because these estimates represent all restaurant and ‘other’ expenditures by visitor parties that stated that they visited casinos. However, these visitors could

also have eaten at non-casino restaurants and spent money on other non-casino items. Even if all \$10.9 million is attributed to casinos, it represents only 3.61 percent of all Mexican visitor expenditures in Pima County. Thus, although one-third of Mexican visitor parties go to the casino, less than 3.61 percent of Mexican visitor spending is at the casinos. In the revenue analysis, it was assumed that half of the \$10.9 million was non-taxable casino expenditures.

Table 41
Where Mexican Visitors to Tucson Shopped

Malls	
One or more Malls	76.24
Park Place	38.69
Tucson Mall	68.91
Foothills Mall	22.03
El Con Mall	6.94
Non-Mall Stores	
Mervyn's	4.39
Best Buy	1.35
Ross	6.43
Target	11.25
Home Depot	4.32
Grainger's	0.81
Super K-Mart/K-Mart	9.97
Costco	2.45
Wal-Mart	0.54
Other	2.91

In addition to visiting casinos, 5.18 percent of Mexican visitors mentioned that they visited the University. Unfortunately, there is no way of knowing what they do at the University, e.g., visit friends/relatives attending the University, visit one of the attractions on campus. Beyond casinos and the University of Arizona, the Arizona-Sonora Desert Museum, Old Tucson Studios, and Reid Park Zoo are the three most popular attractions for Mexican visitors, receiving 3.52, 3.49 and 2.53 percent of visitor parties, respectively.

The question regarding how/where Mexican visitors “found out about the attractions that the Tucson area has to offer” had a very low response rate (approximately 40 percent). It seemed as though respondents had difficulty answering because most felt that they had ‘always known’ about Tucson. Of the 40 percent of visitors that responded to this question, over 84 percent said they learned of Tucson from friends or family and 8 percent didn’t remember or didn’t know where they learned about Tucson (Table 43). Periodicals, television, and radio announcements were noted by 2.4, 2.4 and 1.4 percent of visitors, respectively. Although visitors were asked to identify which periodical, which television station, and which radio channel, few identified the particular source of the information. No specific radio stations were mentioned, but the television station Telemundo was mentioned. Responses who said they learned about attractions in Tucson

in ‘other’ ways included reading billboards, passing by Tucson, and learning from people at work.

Table 42
Tucson Attractions Attended by Mexican Visitors

Tucson Attraction	Percent of Visitor Parties
Casino of the Sun	25.52
Desert Diamond Casino	20.94
University of Arizona	5.18
Arizona-Sonora Desert Museum	3.52
Old Tucson Studios	3.49
Reid Park Zoo	2.53
Mt. Lemmon	0.54
A Mountain	0.39
Sabino Canyon	0.27
Tucson Mountain Park	0.27
Biosphere 2	0.27
Pima Air and Space Museum	0.27
Tucson Botanical Gardens	0.27
Colossal Cave	0.02
Catalina State Park	0.00
Davis-Monthan AFB	0.00
Downtown Arts District	0.00
Fort Lowell Museum	0.00
Kitt Peak	0.00
Saguaro National Park	0.00
San Xavier Mission	0.00
Titan Missile Museum	0.00
Tohono-Chul Park	0.00
Tucson Convention Center	0.00

Table 43
How Mexican Visitors Learned About Tucson

Friends of Family	84.45
Don't Remember or Don't Know	7.90
Periodical	2.40
Television	2.40
Radio Announcement	1.43
Magazine Article	0.71
Previously Lived in Tucson	0.71
Travel Guide	0.00

XI. ANALYSIS OF VISITORS WITH AND WITHOUT I-94 VISAS

Beginning in December 1999, the border zone was extended from 25 to 75 miles, effectively making the Tucson area a border town. Mexican residents could travel to Tucson on the same 'laser visas' they had used to travel to Nogales, Douglas and San Luis. As of that date, they did not have to obtain the higher-level I-94 visa to travel to Tucson. Initially, the survey questionnaire asked whether Mexican visitors had an I-94 visa. It quickly became clear that the I-94 terminology was not familiar to border crossers, so the question was changed to ask whether or not they had the type of visa that would allow them to travel to Phoenix. This revised way of asking the question was well understood.

Almost 80 percent of all Mexican visitors to Arizona have an I-94 visa (Table 44). Obviously, all visitors that enter Arizona by plane have an I-94 visa. The percentages of visitors with I-94 visas vary across U.S.-Mexico border points of entry. Sasabe has the lowest percentage of visitors with I-94 visas (60.18 percent) and Naco has the highest percent of visitors with an I-94 visa (89.47 percent).

Table 44
Portion of Mexican Visitors with I-94 Visas, by Port

Port of Entry	Percent with I-94 Visas
Nogales	79.00
Douglas	73.54
Lukeville	73.04
Naco	89.47
San Luis	84.14
Sasabe	60.16
Phoenix	100.00
Tucson	100.00
All Ports	79.80

Table 45 compares the percent of visitors with an I-94 visa who travel to Tucson with the percent of visitors who do not have an I-94 visa, by port. Of those with an I-94 visa, 14.64 percent visit Tucson. Of those without an I-94 visa, only 6.68 percent travel to Tucson. This result suggests that persons without I-94 visas are either unaware of the INS change which permits them to travel as far as Tucson or that parties who do not have an I-94 visa are inherently different than those with an I-94 visa. Further analysis will compare income distributions of those with and without I-94 visas and will examine how much each group spends in an attempt to understand why higher percentages of parties who do not have an I-94 visa don't visit Tucson.

Table 45**Percent of Mexican Visitors With and Without I-94 Visas Who Visited Tucson**

Port of Entry	Percent of Parties With I-94 Visa Who Visited Tucson	Percent of Parties Without I-94 Visa Who Visited Tucson
Nogales	27.98	14.07
Douglas	15.54	10.82
Lukeville	3.76	0.00
Naco	11.76	0.00
San Luis	20.12	0.00
Sasabe	11.99	0.00
Phoenix	5.00	N.A.
Tucson	90.38	N.A.
All Ports	14.64	6.68

N.A. means Not Applicable

Monthly incomes of Mexican visitors are substantially lower for those without I-94 visas than for those with I-94 visas (Table 46). Over 43 percent of visitors with an I-94 visa have monthly incomes over \$10,000 pesos per month compared to only 24 percent of those without an I-94 visa. Similarly, less than 26 percent of visitors with an I-94 visa have monthly incomes less than 5,000 pesos, but almost 40 percent of visitors without an I-94 visa have incomes below 5,000 pesos.

Table 46**Monthly Income Distribution of Mexican Visitors With and Without I-94 Visas (Percent of Row Totals)**

	Income Groups (in Pesos)						SUM
	Less than 1,000	1000- 2,000	2,000- 5,000	5,000- 10,000	10,000- 20,000	Over 20,000	
With I-94 Visa	0.80	1.98	23.08	30.71	20.25	23.18	100
Without I-94 Visa	0.67	6.04	33.19	35.89	13.78	10.44	100

The relative income distributions between parties with and without the I-94 visa suggest that the price of I-94 visas may be a factor in who has and who does not have an I-94. Similarly,

the lower income distribution also explains at least part of why a lower portion of persons without the I-94 travel to Tucson than persons with the I-94. The friction of distance is harder to overcome for individuals with comparatively low incomes.

Of all Mexican visitor parties to Tucson, 87.83 percent have their I-94 visa and 12.17 percent do not. Expenditures per party are lower for visitors without the I-94 visa than for visitors with the I-94 visa, which is consistent with relatively lower incomes for visitors without the I-94. Visitors without I-94 visas represent 9.80 percent of total expenditures to Tucson.

Table 47
Parties, Expenditures, and Per Party Expenditures
of Visitors to Tucson, With and Without an I-94 Visa

	With I-94 Visa	Without I-94 Visa	Sum
Percent of Parties	87.83	12.17	100
Percent of Expenditures	90.20	9.80	100
Per Party Expenditures (\$)	215.86	169.19	N.A.

N.A. means Not Applicable.

In addition to the income characteristics of parties with and without an I-94 visa, the length of trip was also examined. It was extremely interesting to learn that virtually all visitor parties to Tucson, who traveled without an I-94 visa, came from more than 50 miles beyond the U.S.-Mexico border. In other words, the entire 9.8 percent of expenditures in Tucson made by parties without an I-94 visa traveled from areas within Mexico further than 50 miles from the border. Conversely, every Mexican visitor party that visited Tucson from cities and towns close the U.S.-Mexico border (50 or fewer miles from the border) had an I-94 visa.

Apparently, there is a convenience factor involved in obtaining the I-94 for parties that do not reside near the border. Because of the distance these parties have to travel to get to the U.S.-Mexico border, they would be expected to make fewer trips. Because they would be expected to make fewer trips, having the I-94 visa is more expensive (both in terms of time and money) on a per trip basis. Obtaining an I-94 visa could be onerous for low-income individuals that live more than 50 miles from the border. Conversely, it is convenient for persons living within 50 miles of the border to make numerous trips into Arizona, so having the type of visa that lets them travel anywhere in the state is worthwhile.

Tables 44 through 47 describe how much parties with and without I-94 visas spend and provide income distributions for each group. Table 48 presents the results of questions relating to a) whether or not the visitor party made more trips in 2000 than in 1999, b) the city visited in the additional trips, c) how many more trips they made in 2000 than in 1999, d)

and how much more they spent per year in 2000 than in 1999 as a result of the increased trips. The purpose of these questions was to assess the impact of the increase in the border zone from 25 to 75 miles, but the low response rates reduce their usefulness in making inferences from the responses. One reason for this was the complexity of the questions. In early 2001, in the beginning of the year of the survey, these questions ask visitors to compare the number of trips and spending during the previous year with the number of trips and spending during the year before that. By the end of the 2001 survey year, the questions are essentially asking them to compare their visits and spending two years ago with visits and spending three years ago. As a result, the response rate substantially diminished for these comparative questions.

Table 48
Estimated Impact of the 75-Mile Border Zone on Tucson

	With I-94 Visa	Without I-94 Visa
Estimated Number of Parties to Tucson	1,089,928	275,896
Number in sample that responded to question about whether they make more trips	2,355	152
Percent of respondents who say they make more trips	5.11	18.24
Percent of those who make more trips who report where they went	76.60	48.19
Percent of those who say where they went who report number of previous/current trips	79.00	66.33
Previous number of trips per year	10.01	3.42
Current number of trips per year	23.03	5.91
Previous expenditures per year (\$)	218.86	269.80
Current expenditures per year (\$)	600.76	604.84
Difference in expenditures per year (\$)		335.04

Relatively small shares of visitors reported that they make additional trips (Table 48). Among visitors with I-94 visas, 5.11 percent reported making more trips in 2000 than in 1999, compared to 18.24 percent of visitors without I-94 visas. Following this question, the response rates substantially diminished. Following down the column for visitors who did not have I-94 visas, of the 18.24 percent who responded to whether they made more trips, only 48.19 percent stated where they went on those increased trips. Of these, virtually all indicated their additional trips were to Tucson. Of that 48.19 percent, only 66.33 percent indicated the previous and current number of trips and the previous and current spending per year.

The diminishing response rates as more and more specific information is requested make it risky to generalize to the whole sample. For example, if each of the percentages are applied to the total sample (152) of parties that did not have I-94 visas, there are only 9 parties left to use to estimate the increase in spending from 1999 to 2000. If one were to multiply a) the difference in dollar amounts reported (\$335) times b) the percent of parties reporting that they made additional trips following the change in the border zone (18.24 percent), and c) the total estimated number of parties to Tucson that do not have I-94 visas (275,896 parties), an estimate of \$16.86 million is obtained. This figure can be interpreted as an estimate of increased expenditures in Tucson made by individuals as a result of the increase in the border zone to 75 miles. The \$16.86 million figure is approximately 5.77 percent of the 2001 estimated Mexican visitor expenditures in Tucson. Recall however, that this estimate is based on extremely low response rates to these questions.

XII. SUMMARY AND CONCLUSIONS

The results of this study demonstrate the economic importance of Mexican visitor spending to Arizona's economy. More than 25,000 wage and salary jobs in Arizona at eating and drinking establishments, retail establishments and other spending-related sectors are directly attributable to Mexican visitor spending. Through local purchases of supplies by businesses and the spending of income derived from visitor-related jobs, the visitors generate another 10,000 jobs in Arizona in 2001. These jobs account for more than \$628 million in income in the state and \$1.584 billion in sales.

The largest economic impact of Mexican visitor spending occurred in Pima County. A large county that includes Tucson and extends all the way to the U.S.-Mexico border, Pima receives 29 percent of the total job impact, 33 percent of the total sales impact, and 32 percent of the total income impact. Santa Cruz County, the border county that contains Nogales, the largest port of entry into Arizona, receives the second-largest share of the total impact: 28 percent of total jobs, 23 percent of total sales, and 24 percent of total income. Yuma County receives 22 percent of jobs, 19 percent of total sales, and 18 percent of total income; Maricopa County receives 10 percent of the jobs, 15 percent of total sales, and 14 percent of total income; Cochise County receives 11 percent of the jobs, 10 percent of total sales, and 10 percent of total income.

Mexican visitor spending represents a staggering 47.3 percent of total taxable sales in Santa Cruz County. Mexican visitor spending represents 12.4 percent of taxable sales in Yuma County, 5.9 percent in Cochise County, 3.8 percent in Pima County, and 0.5 percent in Maricopa County. The larger the county, in terms of population and income, and the further away the county is from the border, the smaller the share of total taxable sales attributable to Mexican visitor spending.

Over 23 million Mexican visitors come to Arizona in 10.49 million parties. They come in parties of 2.20 persons that include 1.55 adults, 0.24 adolescents, and 0.41 children. Almost 70 percent of all visitor parties enter via motor vehicle across the U.S.-Mexico border and over 29 percent walk across. Less than one percent of all Mexican visitor parties to Arizona fly into the state.

Over 96 percent of all Mexican visitor parties are day-trip visitors; less than 4 percent spend one or more nights in Arizona. Approximately 0.8 percent spend one night, 1.94 percent spend two nights, and 1.17 percent spend more than 3 nights. Of the relatively few who spend one or more nights in Arizona, 78.31 percent stay in hotels and 20.65 percent spend the night with family and friends.

The primary reason for visit is shopping, which accounts for 72.28 percent of all visitor parties. Work was cited as the primary reason for visit by 14.41 percent of all visitor parties and visiting family was cited by 7.76 percent of all parties. Other reasons, such as vacation, medical, business, personal and other represented between 2.51 percent and 0.22 percent of primary reasons for their visits.

Over 99 percent of Mexican visitor parties come from the State of Sonora in Mexico. More than 56 percent of those come from Nogales, Sonora, 25.47 come from San Luis Rio Colorado, 10.45 percent come from Agua Prieta, and 2.62 percent come from Hermosillo. The remainder comes from 20 or more other cities scattered mostly through Sonora, but also from Sinaloa and Baja, California.

Marketing information for visitors to Pima County indicate that day trip visitors from Mexico represent 85.3 percent of all visitor parties and 78.2 percent of all expenditures. This means that day trip visitors spend \$235.7 million dollars in Pima County. Over 76 percent of all Mexican visitor parties visit one or more malls in Pima County. Almost 69 percent of all visitor parties visit Tucson Mall, 38.69 visit Park Mall, 22.03 percent visit the Foothills Mall and 6.94 percent visit El Con Mall. Construction activities at El Con Mall during 2001 may attribute to the relatively low rate of visitation.

One-third of all Mexican visitor parties to Pima County visit one or the other of the two casinos in Pima County, but these visits represent less than 3.6 percent of total Mexican visitor spending in Pima County. Only 3.52 percent of Mexican visitor parties go to the Arizona-Sonora Desert Museum, 3.49 percent visit Old Tucson Studios, and 2.53 percent visit Reid Park Zoo. Most of the remaining attractions in Tucson were not visited at all by Mexican visitors or had extremely low visitation rates. The bulk of visitors learn about Tucson from friends and family. Combined, these results suggest that additional marketing efforts may be useful to both attract visitors to Tucson and to provide information on attractions in Tucson, which may keep the Mexican visitor here for a longer period of time.

Separate analysis for Pima County indicates that Mexican visitor spending in that county alone generates almost \$30 million in revenues that accrue to the state government, Pima County government, the City of Tucson and other incorporated cities within the county. Of this \$30 million, \$16.9 million are revenues generated at the time Mexican visitors spend their money in Tucson. The remaining \$12.7 million is in induced revenues, or revenues that are generated as workers, who are directly or indirectly related to Mexican visitor spending, earn and spend in the community. The State of Arizona receives almost 66 percent of the \$30 million in revenues, Pima County receives 13 percent, the City of Tucson receives 20 percent, and other incorporated areas receive a little over 1 percent.

Almost 80 percent of all Mexican visitor parties had an I-94 visa, which would permit them to travel deep into the U.S. The other 20 percent do not have an I-94 visa, which permits them to travel 75 miles beyond the U.S.-Mexico border. Parties without I-94 visas have lower incomes than parties with I-94 visas, suggesting that the price of the visa may be an issue for some families. Of all visitors to Tucson, 12.17 percent do not have an I-94 visa. They spend \$169.19 per party, which is lower than the \$215.86 spent by parties with I-94 visas. Parties without an I-94 visa accounted for 9.80 percent of all spending in Tucson. An interesting finding was that all visitors to Tucson who did not have an I-94 visa came from more than 50 miles beyond the U.S.-Mexico border. Conversely, virtually all Mexican visitors to Tucson that come from within 50 miles of the U.S.-Mexico border have their I-94 visas. These results suggest that for lower income families that live further than 50 miles from the border, the I-94 visa is expensive on a per trip basis, given that the frequency of trips decreases with distance.

It is interesting to contrast the Mexican visitor with other tourists to Pima County. Mexican visitors come primarily to shop, so their visits are short (mostly day trips) and focused (they do relatively little else other than shop). In contrast, other visitors to Tucson spend between 4.8 nights for hotel visitors to 7.8 nights for visitors to private homes. These other visitors to Tucson come primarily for business, leisure, or a mix of business and leisure, and they attend many of the attractions in and around Tucson. In order to increase Mexican visitor spending, marketing efforts should focus on how to convert some of our day trip Mexican shoppers into overnight tourists.

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APPENDIX. Survey Instrument, English Version

Name _____ Day _____ Time _____ City _____ Port of Exit _____

Study of Mexican Visitors to Arizona

Car _____ Pedestrian _____ Air _____

Good (morning, evening, night). My name is _____ and I am a student at the University of Arizona and we are doing a study about the mexican visitors in Arizona. This information is completely confidential and we are not related with any border of the United States or Mexico. Would you mind telling me:

1. Are you a permanent resident of Mexico? Yes _____ No _____ (If no, say thanks and this ends the interview)

2. Where in Mexico do you reside?

City (or closest city) _____ State _____

3. How many people travel with you ? (Only ask if answer is not obvious)

Children _____ Adolescents _____ Adults _____ Total _____

(Determine the sex of the primary person) _____ Male _____ Female

4. How old is he/she? _____

18 años o menos _____ 26-35 _____ 46-59 _____

19-25 _____ 36-45 _____ 60 años ó más _____

5. What is the purpose of the visit? (Circule la razón principal)

Is there any other reason? (Mark those that apply)

- | | | |
|----------------------------------|----------------------------------|-----------------|
| a. Visit family or friends _____ | d. Health or Medical visit _____ | g. Work _____ |
| b. Vacation or pasttime _____ | e. Business _____ | h. Others _____ |
| c. Shopping _____ | f. Personal Reasons _____ | |

6. When and where did you enter? Date _____ Place _____

(Days) _____

If the time is more then one day, Where did you stay?

_____ family/friends/relatives
 _____ hotel/motel
 _____ other _____

7. What cities did you visit in Arizona or anywhere else and how many days did you spend in each city? (Put the number of days in each city. The total number of days should be the same as question 6)

Ajo _____	Douglas _____	Naco _____	San Luis _____	Tucson _____
Benson _____	Flagstaff _____	Nogales _____	Sasabe _____	Yuma _____
Bisbee _____	Lukeville _____	Phoenix Area _____	Sierra Vista _____	Otro: _____

Outside of Arizona: _____

8. How much did you spend, including all charges, in Arizona on this trip?
 (In dollars.) \$ _____ (In pesos) \$ _____

9. During your stay in (name of places in question 7) how much did you spend....(If the total in question 11 is in dollars the following should be in dollars, if in pesos the following should be in pesos)

City	_____	_____	_____	_____
Lodging	\$ _____	\$ _____	\$ _____	\$ _____
Food				
Restaurants	\$ _____	\$ _____	\$ _____	\$ _____
Groceries	\$ _____	\$ _____	\$ _____	\$ _____
Transportation				
Gasoline	\$ _____	\$ _____	\$ _____	\$ _____
Auto spending	\$ _____	\$ _____	\$ _____	\$ _____
Flight	\$ _____	\$ _____	\$ _____	\$ _____
Auto Rental	\$ _____	\$ _____	\$ _____	\$ _____
Department stores				
Type	_____	_____	_____	_____
Cost	\$ _____	\$ _____	\$ _____	\$ _____
Health and Medicine				
Hospitals/Clinics	\$ _____	\$ _____	\$ _____	\$ _____
Doctors/Dentists	\$ _____	\$ _____	\$ _____	\$ _____
Medicines	\$ _____	\$ _____	\$ _____	\$ _____
Business				
Type	_____	_____	_____	_____
Cost	\$ _____	\$ _____	\$ _____	\$ _____
Other Spending				
Type*	_____	_____	_____	_____
Cost	\$ _____	\$ _____	\$ _____	\$ _____
Type	_____	_____	_____	_____
Cost	\$ _____	\$ _____	\$ _____	\$ _____

*Entertainment, gifts, souvenirs, pasttimes, etc.

10. Aproximately, how many trips do you make a year? _____

(Mark the number of times you visit each city per year)

Ajo _____	Douglas _____	Naco _____	San Luis _____	Tucson _____
Benson _____	Flagstaff _____	Nogales _____	Sasabe _____	Yuma _____
Bisbee _____	Lukeville _____	Phoenix Area _____	Sierra Vista _____	Otro _____

11. Do you have the I-94 Visa? _____ Yes _____ No

12. Have you increased the number of trips to Tucson or to any other place in Arizona since December 8th of 1999, when the border zone was extended to 75 miles?

_____ Yes _____ No

If yes:

What cities?	_____ Tucson	_____ Sierra Vista	_____ Other _____
Average of trips before December 8th, 1999	_____ Tucson	_____ Sierra Vista	_____ Other _____
Average trips after Dec. 8, 1999	_____ Tucson	_____ Sierra Vista	_____ Other _____

13. Do you consider that you have spent more in Tucson or in any other part of Arizona since December 8th, 1999, when they extended the border zone to 75 miles?

_____ Yes _____ No

If Yes:

Which cities? _____ Tucson _____ Sierra Vista _____ Other _____

Average spending before Dec. 8, 1999 _____ Tucson _____ Sierra Vista _____ Other _____

Average spending after Dec. 8, 1999 _____ Tucson _____ Sierra Vista _____ Other _____

14. If you visit Tucson, Where do you buy? _____ Malls _____ No Malls

if yes, which mall(s).

_____ Park Place _____ Tucson Mall _____ Foothills Mall _____ El Con Mall

_____ No malls

_____ Mervyn's _____ Target _____ Super K-Mart/K-Mart

_____ Best Buy _____ Home Depot _____ Costco

_____ Ross _____ Grainger's

15. If you visit Tucson, which attractions do you attend?

_____ Arizona-Sonora Desert Museum	_____ Davis-Monthan AFB	_____ Saguaro National Park
_____ Titan Missile Museum	_____ Sabino Canyon	_____ Fort Lowell Museum
_____ San Xavier Mission	_____ Tucson Mountain Park	_____ Pima Air and Space Mus.
_____ Colossal Cave	_____ Biosfera 2	_____ Catalina State Park
_____ Downtown Arts District	_____ A-Mountain	_____ Tucson Convention Center
_____ Tohono-Chul Park	_____ Mount Lemmon	_____ Tucson Botanical Gardens
_____ Reid Park Zoo	_____ Kitt Peak	_____ University of Arizona
_____ Old Tucson Studios	_____ Desert Diamond Casino	_____ Casino of the Sun
_____ Other (specify) _____		

16. How did you find out about the attractions that the Tucson area has to offer?

(Mark those that apply)

_____ Don't remember or not sure

_____ Friends or Family

_____ Newspaper..... Which one? _____

_____ Magazine Article..... Which one? _____

_____ Radio Ad... Which one? _____

_____ Television..... Which station? _____

_____ Guide

_____ Lived in Tucson before

_____ Other

17. What is the occupation of the two main people that live in the house ?

1) _____ 2) _____

18. What is the monthly income per house?(in pesos)?

_____ \$500 pesos or less	_____ \$5,000 – 10,000 pesos
_____ \$500 – 1,000 pesos	_____ \$10,000 – 20,000 pesos
_____ \$1,000 – 2,000 pesos	_____ \$20,000 or more
_____ \$2,000 – 5,000 pesos	

APPENDIX. Survey Instrument, Spanish Version

Nombre _____ Día _____ Hora _____ Ciudad _____ Puerta de Salida _____

ESTUDIO ACERCA DE LOS VISITANTES MEXICANOS A ARIZONA

Auto

Caminante

Aire

Buenos (días, tardes, noches). Mi nombre es _____ y soy un estudiante de la Universidad de Arizona y estamos haciendo un estudio acerca de los visitantes mexicanos hacia Arizona. Esta información es completamente confidencial y no estamos relacionados con ninguna aduana de Estados Unidos o México. Me podría decir:

1. ¿ Es usted residente(s) permanente de México? Si _____ No _____ (Si no, dar las gracias y termina aquí la entrevista)

2. ¿ Dónde reside permanentemente usted en México?

Ciudad (o ciudad más cercana) _____ Estado _____

3. ¿ Cuánta gente viaja con usted ? (Preguntar solamente si la respuesta no es obvia)

Niños _____ Adolescentes _____ Adultos _____ Total _____

(Determine el sexo de la persona principal) _____ Masculino _____ Femenino

4. ¿Cuál es su edad? _____

18 años o menos _____ 26-35 _____ 46-59 _____
19-25 _____ 36-45 _____ 60 años ó más _____

5. ¿Cuál es el propósito principal de su visita a Arizona? (Circule la razón principal)

¿Hay alguna otra razón? (Señale las que se aplican)

a. Visita a amigos o familiares _____ d. Salud o Visita Médica _____ g. Trabajo _____
b. Vacaciones o Pasatiempo _____ e. Negocios _____ h. Otros _____
c. Compras _____ f. Asuntos Personales _____

6. ¿ Cuándo y por dónde entró usted a Arizona? Fecha _____ Lugar _____

(Días transcurridos) _____

Sí el tiempo transcurrido es mayor que un día, ¿Con quién se hospedó usted?

_____ familia/amigos/parientes
_____ hotel/motel
_____ otro _____

7. ¿Qué ciudades visitó usted en Arizona o en cualquier otra parte y cuántos días pasó usted en cada lugar?
(Ponga el número de días de estancia en cada ciudad. El total de días debe ser igual que el de la pregunta 6)

Ajo _____ Douglas _____ Naco _____ San Luis _____ Tucson _____
Benson _____ Flagstaff _____ Nogales _____ Sasabe _____ Yuma _____
Bisbee _____ Lukeville _____ Phoenix Area _____ Sierra Vista _____ Otro: _____
Afuera de Arizona: _____

8. ¿Cuánto gastó, incluyendo todos los cargos, en Arizona durante éste viaje?
 (En dólares.) \$ _____ (En pesos) \$ _____

9. Durante su estancia en (nombre de lugares según la pregunta 7) , ¿cuánto gastó en...
 (Sí el total de gastos en la pregunta 11 es en dólares, lo siguiente debe ser en dólares; si es en pesos, lo siguiente debe ser en pesos)

Ciudad	_____	_____	_____	_____
Estancia	\$ _____	\$ _____	\$ _____	\$ _____
Alimentos				
Restaurantes	\$ _____	\$ _____	\$ _____	\$ _____
Abarrotes	\$ _____	\$ _____	\$ _____	\$ _____
Transportación				
Gasolina	\$ _____	\$ _____	\$ _____	\$ _____
Gastos del auto	\$ _____	\$ _____	\$ _____	\$ _____
Vuelo	\$ _____	\$ _____	\$ _____	\$ _____
Renta de auto	\$ _____	\$ _____	\$ _____	\$ _____
Tiendas Departamentales				
Tipo	_____	_____	_____	_____
Costo	\$ _____	\$ _____	\$ _____	\$ _____
Medicina y Salud				
Hospitales/Clínicas	\$ _____	\$ _____	\$ _____	\$ _____
Doctores/Dentistas	\$ _____	\$ _____	\$ _____	\$ _____
Medicinas	\$ _____	\$ _____	\$ _____	\$ _____
Negocios				
Tipo	_____	_____	_____	_____
Costo	\$ _____	\$ _____	\$ _____	\$ _____
Otros Gastos				
Tipo*	_____	_____	_____	_____
Costo	\$ _____	\$ _____	\$ _____	\$ _____
Tipo	_____	_____	_____	_____
Costo	\$ _____	\$ _____	\$ _____	\$ _____

*Entretenimiento, regalos, recuerdos, pasatiempos, etc.

10. Aproximadamente ¿ cuántos viajes hace usted durante cada año? _____
 (Señale el número de veces que visita cada ciudad por año)

Ajo _____	Douglas _____	Naco _____	San Luis _____	Tucson _____
Benson _____	Flagstaff _____	Nogales _____	Sasabe _____	Yuma _____
BISBEE _____	LUKEVILLE _____	PHOENIX AREA _____	SIERRA VISTA _____	OTRO _____

12. ¿ Usted tiene la Visa I-94? _____ Si _____ No

12. ¿Usted ha incrementado su número de viajes hacia Tucson o hacia alguna otra parte de Arizona desde el 8 de diciembre de 1999, cuando se extendió la zona fronteriza a 75 millas?

_____ Si _____ No

Si es afirmativo:

¿Qué ciudades? _____ Tucson _____ Sierra Vista _____ Otro _____

Promedio de viajes antes del 8 de diciembre de 1999

_____ Tucson _____ Sierra Vista _____ Otro _____

Promedio de viajes después del 8 de dic. De 1999

_____ Tucson _____ Sierra Vista _____ Otro _____

13. ¿ Usted considera que a gastado más en Tucson u otra parte de Arizona desde el 8 de diciembre de 1999, cuando ellos extendieron la zona fronteriza hasta 75 millas?

Si No

Si es afirmativo:

¿Cuáles ciudades? Tucson Sierra Vista Otro

Promedio de consumo antes del 8 de dic. de 1999 Tucson Sierra Vista Otro

Promedio de consumo después del 8 de dic. De 1999 Tucson Sierra Vista Otro

14. Si usted visita Tucson, ¿dónde compra usted? Malls No Malls

si es afirmativo, entonces cual(es) mall(s).

Park Place Tucson Mall Foothills Mall El Con Mall

No malls

Mervyn's

Target

Super K-Mart/K-Mart

Best Buy

Home Depot

Costco

Ross

Grainger's

15. Si usted visita Tucson, ¿cuáles atracciones usted acude?

<input type="checkbox"/> Arizona-Sonora Desert Museum	<input type="checkbox"/> Davis-Monthan AFB	<input type="checkbox"/> Saguaro National Park
<input type="checkbox"/> Titan Missile Museum	<input type="checkbox"/> Sabino Canyon	<input type="checkbox"/> Fort Lowell Museum
<input type="checkbox"/> San Xavier Mission	<input type="checkbox"/> Tucson Mountain Park	<input type="checkbox"/> Pima Air and Space Mus.
<input type="checkbox"/> Colossal Cave	<input type="checkbox"/> Biosfera 2	<input type="checkbox"/> Catalina State Park
<input type="checkbox"/> Downtown Arts District	<input type="checkbox"/> A-Mountain	<input type="checkbox"/> Tucson Convention Center
<input type="checkbox"/> Tohono-Chul Park	<input type="checkbox"/> Mount Lemmon	<input type="checkbox"/> Tucson Botanical Gardens
<input type="checkbox"/> Reid Park Zoo	<input type="checkbox"/> Kitt Peak	<input type="checkbox"/> University of Arizona
<input type="checkbox"/> Old Tucson Studios	<input type="checkbox"/> Desert Diamond Casino	<input type="checkbox"/> Casino of the Sun
<input type="checkbox"/> Otro (especifique) _____		

16. ¿Cómo supo de las atracciones que el área de Tucson ofrece?

(Señale todas las que correspondan)

No se acuerda o no está seguro

Amigos o familia

Periódico..... ¿Cuál? _____

Artículos de Revistas..... ¿Cuál? _____

Anuncios de Radio... ¿Cuál estación? _____

Televisión..... ¿Cuál estación? _____

Guía

Vivió usted antes en Tucson

Otro

17. ¿Cuál es la ocupacion de las dos personas que mantienen la casa? 1) _____ 2) _____

18. ¿Cuál es el ingreso mensual por casa?(en pesos)?

\$500 pesos o menos

\$5,000 – 10,000 pesos

\$500 – 1,000 pesos

\$10,000 – 20,000 pesos

\$1,000 – 2,000 pesos

\$20,000 o más

\$2,000 – 5,000 pesos