

**SPECIAL REPORT BY FLORIDA TAXWATCH CENTER FOR TOURISM**  
**THE IMPACT OF TOURISM ON FLORIDA’S ECONOMY:**  
**TELLING THE FULL STORY**

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**Introduction**

In 2000, Florida TaxWatch produced a study for Visit Florida entitled, *The Benefits and Costs of Tourism To Florida*. This *Special Report* is an update of that study undertaken at the request of the Center for Tourism’s Steering Committee. As with the previous *Report*, this study analyzes the impact of tourism on Florida’s economy and, by implication, on the quality of life of all Floridians. Additionally, it analyzes an important emerging issue—the relationship between Florida’s tourism and high-tech sectors of the state’s economy.

The *Report* examines some of the traditional benefits and costs associated with tourism but, as was the case three years ago, current data suitable for a comprehensive benefit-cost analysis—especially cost data—are not available. Needless to say, traffic congestion, health care needs and costs, public safety and other such issues are all part of the daily existence of Floridians and residents of many other states. The extent to which these costs are exacerbated by tourists visiting the state is difficult to isolate. On the other hand, a recent Florida household government benefits and tax burden study undertaken for Florida TaxWatch by Drs. Keith G. Baker and Craig E. Reese shows that tourists in Florida consume/use far less than do Florida residents in a variety of government service arenas. For example, the cost-to-government side of the equation is decidedly weighted against individual Florida resident households and favors Florida tourists when it comes to the consumption/use of state/local prisons, Medicaid, public schools and post-secondary colleges and universities.<sup>1</sup>

Even if suitable benefit-cost data were available, Florida TaxWatch would opt to do an economic analysis of tourism’s impact on Florida’s economy rather than a benefit-cost analysis. This is because the static and dynamic economic impact analyses done herein hold much more promise as an analytical tool than would traditional benefit-cost analysis. As noted in the previous study, there are serious methodological limitations associated with traditional benefit-cost analysis that limit its objectivity and relevancy as an analysis tool.<sup>2</sup>

Two fundamental questions are examined in this *Special Report*: How does Florida tourism fare today and what does the future hold in store for it? Recent data indicate that 75.6 million visitors came to Florida in 2002 (Table 1). This is 21.1 million more than arrived in 1998 (the last year for which data were available in the 2000 report), 6.2 million more than visited the state in 2001, and 2.9 million more than came in 2000.

**Table 1**  
**Visitors To Florida**

	1998	1999	2000	2001	2002
<b>Total Visitors</b>	48,698,736	58,864,000	72,723,000	69,464,000	75,627,000

Source: Visit Florida, *1998 & 2002 Florida Visitor Study*.

<sup>1</sup> Keith B. Baker & Craig E. Reese, *Florida Household ‘Government Benefits and Tax Burden*, (Tallahassee: Florida TaxWatch, 1996).

<sup>2</sup> See Appendix A for a brief discussion of some of the limitations of benefit-cost analysis.

Table 2 shows three forecasts—an Optimistic Estimate, a Median Estimate and a Pessimistic Estimate—and Chart 1 both the historical and forecasted numbers of tourists visiting Florida between 1976 and 2013. At first blush, the projected 22% growth between from 2002 to 2010 and the 31% cumulative growth projected over the entire decade may seem high. However, these Median Estimates are based on a conservative 2.5% annual growth rate for total number of Florida tourists. It is a likely projection, other things being equal, for a number of reasons. The historic growth rate between 1993 and 2002 is more than one and one-half the decade forecast and the projected growth rate tracks closely, both with forecasted United States and Florida Gross Regional Products (GRPs) and personal income projections.<sup>3</sup>

**Table 2**  
**Forecast Numbers of Tourists Visiting Florida by Year**  
**2003-2013**

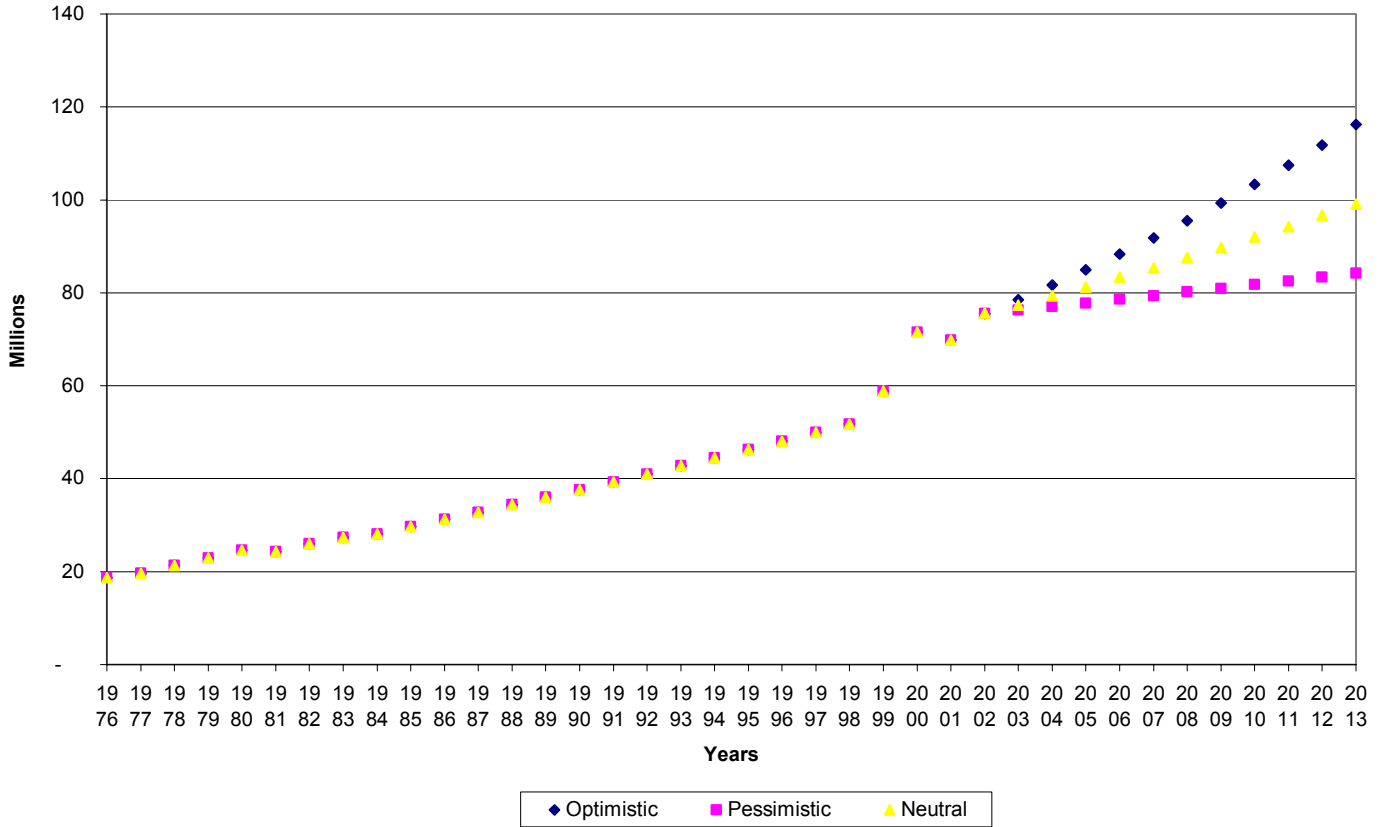
Year	Optimistic	Pessimistic	Median
2003	78,520,000	76,255,000	77,387,500
2004	81,660,800	77,017,550	79,322,188
2005	84,927,232	77,787,726	81,305,242
2006	88,324,321	78,565,603	83,337,873
2007	91,857,294	79,351,259	85,421,320
2008	95,531,586	80,144,771	87,556,853
2009	99,352,849	80,946,219	89,745,774
2010	103,326,963	81,755,681	91,989,419
2011	107,460,042	82,573,238	94,289,154
2012	111,758,444	83,398,970	96,646,383
2013	116,228,781	84,232,960	99,062,543

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<sup>3</sup> See Appendix B for these comparative projections.

CHART 1

Historic and Forecast Numbers of FLORIDA tourists Visiting the State by Year  
1976-2013



Source: Historic Data, Visit Florida and CEFA, FSU; Forecast Data, CEFA, FSU

**Median estimates, annual Florida visitors number: 75,627,000 (as of 2002)\***

- 91,989,419 (as of 2010)
- 99,062,543 (as of 2013)

**The number of travelers in 2010 and 2013 is estimated to increase by 22% and 31%, respectively, as compared to 2002.**

\* Source: Visit Florida, <http://www.visitflorida.org/index.cfm?fla=web&webpageid=96>

Needless to say, the question of Florida tourism’s future is subject to conflicting speculation in the post-9/11 era. There is the prospect, on the one hand, that the nation’s and Florida’s economy will fully recover from the recent recession and economic dislocations of 9/11 and from the Afghanistan incursion and war in Iraq. But there also is the nagging prospect—some very notable experts say, very likely—that future disruptive acts of terrorism, or even the possibility of them, could keep Florida’s and the nation’s economy in perpetual disequilibrium.

A recent study released by Visit Florida<sup>4</sup> reviews nine hypothetical tourism impact scenarios, ranging in impact from mild, to medium to severe, that could result from events triggering further economic dislocations should there not be significant supplemental marketing intervention to attract visitors back to Florida. The scenario chosen by Visit Florida that is most likely to occur is projected to result in 30% losses in visitor volume, tourist expenditures and state sales tax revenue for 90 days following an outbreak of hostilities and/or terrorism. However, should there be a \$20 million marketing intervention, Visit Florida estimates that a resulting economic loss of \$231 million could be offset by 26% (\$60 million).<sup>5</sup>

Additionally, many other unforeseen events and consequences from unpredictable human behavior, for example, even by the major players in the tourism industry, could substantially alter any projections made under the classic *ceteris paribus* (other things being equal) forecasting assumption. It is difficult to determine whether these players will opt to expand proportionally (or exceedingly) to meet the demands of the population growth forecasted in this *Special Report* or conclude that Florida tourism will have reached a point of diminishing returns on any such future investments to expand. Time will tell, but it is important that all the players involved, and all Floridians, take these forecasted growth patterns into account until such time as they are subject to correction by emerging developments. Whatever its future, the future growth of the Florida tourist population requires constant monitoring and vigilant review.

Contrary to some assertions to the contrary, recent Research by Florida TaxWatch's Center for a Competitive Florida on how to best modernize Florida's Tax System<sup>6</sup> concludes that Florida's sales and use tax—approximately 20 percent of it is exported to Florida tourists—has proven to be a resilient revenue producer during times of economic downturn. Thus, barring further catastrophic events at home and abroad or other disruptions to Florida's and the nation's economies, the prospect for Florida and the nation's economies and the ability of tourism to significantly grow—both in the near- and long-term—appears to be very good. Working under the assumption that any such economic disruptions will not be perpetual or long-lived in their negative economic impacts, this update of the 2000 study reveals that tourism will continue to be an increasingly vital component of the engine that drives Florida's economy.

## **Static, Partial Analysis of Florida Tourism**

Studies historically have taken into account only the direct, short-term impacts that tourism has on Florida's economy. Such descriptive "snapshots" provide useful insights regarding the current state of tourism and its direct impact on Florida's economy, but they artificially freeze in time both the economy and tourism's relationship to it. To overcome these limitations, this study incorporates econometric tools that analyze dynamic as well as static data, thereby taking into account direct, induced and indirect economic impacts that tourism's "imported funds" have on Florida's economy. The induced tourism effects are the economic effects resulting from the "re-spending" of wages, that is, new employees having money to spend as a result of Florida tourism. The indirect effects include induced plus intermediate effects that result from the purchase of intermediate goods.

The next several sections highlight the direct, static impacts that tourism has on Floridians' employment, personal and business income, and on the tax revenue that tourism generates to help finance public and private infrastructure, cultural, recreational and entertainment activities. These clearly are resources that could not be supported at current levels by the state's resident economy alone.

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<sup>4</sup> Visit Florida Tourism Marketing 2003 Contingency Plan, March 13, 2003.

<sup>5</sup> See Florida TaxWatch Center for Tourism *Briefings*: "20 Million Needed Now to Bring Back Florida Tourism!" (April 2001) and "Bold Actions are Needed to Get Air Tourists Back to Florida!" (October 2001).

<sup>6</sup> *Joint Report of the Florida TaxWatch Cost Savings Task Force and the Center for a Competitive Florida Task Force on Tax System Modernization*, March 2003.

**Floridians’ Employment.** While not officially designated an industry, the tourism sector of Florida’s economy contributes significant employment opportunities to Floridians. Increased employment has always been regarded as one of the primary benefits of tourism,<sup>7</sup> and Table 4 shows that total travel-related employment increased by 8.7 % between 1998 and 2001. Between 2000 and 2001 the increase was only 4.4 %, reflecting the impinging recession and 9/11.<sup>8</sup> Between 2001 and 2002 (individual categories not available) direct travel-related employment decreased from 889,600 to 889,000, indicating that tourism had not yet recovered the robustness it enjoyed pre-recession 2001 and pre-9/11. Nonetheless, the static, near-term benchmarks of Florida’s total travel-related employment indicate that tourism continues to make an important contribution to Florida’s economy in the near-term.

**Table 4**  
**Tourism’s Contribution to Travel-Related Employment**

<b>Employment Category</b>	<b>1998</b>	<b>2000</b>	<b>2001</b>	<b>% Change 1998-2001</b>	<b>% Change 2000-2001</b>
<b>Air Transportation</b>	72,900	77,600	76,600	+5.1	-1.3
<b>Eating and Drinking Establishments</b>	452,300	459,700	476,900	+5.4	3.7
<b>Hotels and Lodging</b>	150,300	158,200	156,700	+4.3	-0.9
<b>Amusement and Recreation</b>	143,200	156,800	159,900	+11.7	+2.0
<b>Total Travel-Related Employment</b>	818,700	852,300	889,600	+8.7	+4.4
<b>Total Non-Agricultural Employment</b>	6,677,300	7,080,600	7,197,800	+7.8	+1.7
<b>Total Tourism-related Employment as a Percentage of All Non-Agricultural Employment</b>	12.3%	12.0%	12.1%	-0.2	-0.1

Source: Visit Florida, 1998-2001 Visit Florida Study.

**Spending and State Consumption Taxes.** By far, the most important tax levied on the expenditures of Florida tourists (as well as residents) is the general sales and use tax, which accounts for over 70 percent of the consumption taxes paid by both groups. Other high tourist consumption tax sources include: gasoline, beverages and cigarettes.

In 2002, the tourism and recreational activities of Florida residents generated \$51,127.6 billion in taxable (sales and use tax) transactions as compared to \$41,380.4 billion in 1998. This is \$9.5 billion more than in 1998. Whereas taxable sales from tourism and recreational activities were down by \$168.9 million in 2001 due to the recession and 9/11, by 2002 they were again up, by \$193 million. Table 3 shows by sales category those portions of taxable sales most influenced by tourism between 1998 and 2001.

<sup>7</sup> Mathieson, A. & Wall, G. (1996). *Tourism: Economic and Social Impacts*. Essex, U.K.: Longman, Group Limited.

<sup>8</sup> *Year-in-Brief: Visitors to Florida in 2002*, FLA USA Visit Florida.

**Table 3**  
**Sales Tax Revenues From Tourism**

<b>Sales Category</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>Restaurants / Lunchrooms</b>	\$15,907,967,271	\$16,722,327,478	\$18,884,078,229	\$19,549,925,733
<b>Tavern, Nightclubs</b>	1,952,239,802	2,044,330,605	\$2,344,209,913	\$2,383,841,909
<b>Jewelry, Leather</b>	2,699,794,198	2,592,468,935	\$2,448,514,205	\$2,118,646,104
<b>Hotels, Apartment House, etc</b>	9,547,855,820	10,128,645,419	\$12,179,196,602	\$11,721,811,499
<b>Cigar Stands, Tobacco Supplies</b>	76,824,306	81,370,648	\$101,471,762	\$110,028,761
<b>Photographers, Photo Supplies</b>	921,684,554	911,835,339	\$937,458,933	\$877,047,206
<b>Gift, Card, Novelty Shops</b>	1,887,652,715	1,983,059,405	\$2,114,007,268	\$2,128,466,445
<b>Newsstands</b>	61,715,751	54,013,581	\$57,321,553	\$46,742,070
<b>Admissions</b>	4,630,029,658	4,201,528,747	\$5,981,456,235	\$5,740,987,453
<b>Holiday Season Vendors</b>	11,604,154	12,081,401	\$14,104,601	\$16,451,066
<b>Rental of Tangible Property</b>	3,639,652,440	4,031,937,111	\$5,449,917,863	\$5,641,259,038
<b>Parking Lots, Boat Dockings</b>	313,358,273	335,805,838	\$422,711,837	\$430,908,694
<b>TOTAL</b>	<b>\$41,380,387,942</b>	<b>\$43,099,404,507</b>	<b>\$50,934,449,001</b>	<b>\$50,766,115,978</b>

Source: Florida Department of Revenue, Office of Trax Research Data as reported in *Visit Florida, 1998 & 2001 Visit Florida Studies*.

Clearly, an important benefit of tourism to the residents of the state of Florida is its contribution to tax revenues. Insofar as this contribution exceeds the additional government expenditures required to service tourists, it represents a source of revenue to the state other than taxes levied on Florida residents. This permits a higher level of government services to be enjoyed by Florida's residents than would be possible without tourism or a lower level of taxes to be paid by Florida residents. In effect, as noted earlier, a substantial portion of the cost of government services is *exported* to tourists.

The Florida Department of Revenue (DOR) in 2001-2002 collected \$15.9 billion from sales/transactions (consumption taxes)—82.0% of a total of \$19.4 billion in state general revenues collected (including \$3.5 billion derived from income, wealth and other taxes). An advantage of consumption taxes is that they are levied on

consumption expenditures in our state regardless of the residency of the purchaser. Thus, tourists pay some portion—generally about 20%—of these taxes.

The gas tax revenue generated annually by visitors to Florida is substantial. Working under the assumption (for approximation purposes) that all resident driving is in-state, Visit Florida estimates that non-resident driver demand for gasoline in calendar year 2001 was 756,255,235 gallons (9.8% of the resident demand of 6,956,190,765 gallons).<sup>9</sup> Using this non-resident gasoline usage estimate and the statewide weighted average gas tax rate (state and local) of 28.2 cents (19.7 cents state and 8.5 cents average local), this translates to non-residents generating about \$2.174 billion in taxes in calendar year 2001 (\$151 per vehicle).

**Investments in Transportation.** It is generally acknowledged that tourism creates increased congestion on Florida's state/local streets and highways. Whereas problems of transportation congestion are highly visible to many Florida residents, especially in the more densely populated areas of the state, there are long-term, transportation-related employment benefits (far beyond construction-period jobs) realized by Florida residents from state and local investments in transportation that are not always recognized or fully appreciated. Clearly, some of the investments resulting in better streets and highways utilized by Florida residents throughout the year would not have been necessary nor exist were it not for the seasonal, peak-load traffic attributable to tourists.

The most important and comprehensive measure of return on transportation investments is the related benefits received by transportation users, namely time-savings, lower vehicle operating costs, and improved safety. As Florida TaxWatch reported in its 2000 *Report*, research conducted by the Center for Urban Transportation Research at the University of South Florida showed that for each \$1.00 invested in state and local roads just to maintain current conditions, user benefits total \$2.86. Absent tourism-specific data, it is not possible to isolate the portion of those benefits attributable to tourism-related improvements. However, these are benefits that flow to every part of the economy, creating improved productivity and business competitiveness, higher real wages, and stronger overall economic expansion. Focusing on increased transportation-related business productivity, recent research shows that each \$1.00 invested in capital improvements to transportation facilities results in annual growth of \$0.35 in Florida's Gross State Product—a rate of return of 35 percent. A significant but indeterminate amount of these benefits clearly are attributable to Florida tourism.

**Florida Air and Auto Tourists.** Table 4 shows that the total number of visitors to Florida between 1998 and 2002 increased from 44.8 million to 75.6 million, despite decreasing by 8.3 million between 2000 and 2001. Most notable is the relative decrease in the number of air to auto visitors beginning in 2001. The ratio of air to auto visitors has been falling since 1998. Whereas air visitors exceeded auto visitors in 2000 by 3.5 million, by 2001 that number had decreased to 160,000. By 2002, primarily due to 9/11 and the 2000-02 recession in the aftermath of the 98-99 boom, the situation had reversed, the total number of visitors traveling by auto exceeding those traveling by air by 3.5 million.

Whether this apparent reversal will continue is unclear. Much depends on whether economic difficulties will continue to plague the airline industry. Several carriers have recently declared bankruptcy and others remain in an economic quagmire and may. It also is uncertain the extent which there will be timely federal bailouts of the airline industry, should that be necessary in order to keep it afloat. Faced with these uncertainties, two alternative scenarios are presented in this *Special Report*. The first, Scenario A, depicts a projection based on the recent evolving reversal of air to auto travelers visiting Florida, and the second, Scenario B, projects a return to the pre-9/11 air-dominated Florida visitor trend.

Either scenario is a plausible facsimile of what the future could hold for the ratio of air-to-auto based tourists

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<sup>9</sup> FLA USA Visit Florida, *Visitor Demand for Passenger Vehicle Gasoline* PowerPoint presentation, 2003.

visiting Florida. These two alternative scenarios are used in this *Special* Report to establish the range of likely travel options for the purpose of evaluating the likely spending and economic impact of each. In both scenarios the conservative annual 2.5% growth rate for total Florida tourists is held constant with different spending patterns reflected in final spending projections.

Scenario A: Air-to-Auto Ratio Trend Reversal. Table 4 and Chart 2 show that, auto-travelers will increasingly dominate the numbers, well into the future. Taking into account air-to-car visitor comparisons by regions within the state (Table 5), approximately ten million more visitors arrived by air than by car during 2002 in select regions of the state. This occurred predominately in the northern regions, which tend to draw more auto than air visitors from neighboring states than do other, more distant regions of the state. The Air-to-Auto Reversal scenario bears watching from a tourism strategic marketing and economic perspective.

**Table 4**  
**Florida Air and Auto Tourists, 1998-2002**

*Source:* Visit Florida, 1998-2002 Visit Florida Study

	1998	1999	2000	2001	2002
Air-Auto Ratio	1.25	1.193	1.102	1.16	0.9113
Air Visitors	27,082,875	32,017,000	38,122,000	37,312,000	36,059,000
Auto Visitors	21,615,861	26,847,000	34,601,000	32,152,000	39,567,000
Total Visitors	48,698,736	58,864,000	72,723,000	69,464,000	75,627,000

**Table 5**  
**Florida Air and Auto Tourists by Region, 2002**

**Tourist breakdown by region and transportation**

	Air Visitors	Auto Visitors	Total Visitors
Central	11,406,144	10,979,152	22,385,296
South East	10,339,029	4,029,911	14,368,940
Central West	5,579,257	5,159,635	10,738,892
North West	1,087,357	7,307,129	8,394,486
South West	3,468,262	2,959,948	6,428,210
Central East	2,131,248	4,145,710	6,276,958
North East	1,746,082	3,396,486	5,142,568
North Central	301,621	1,589,029	1,890,650
Total Visitors	36,059,000	39,567,000	75,626,000

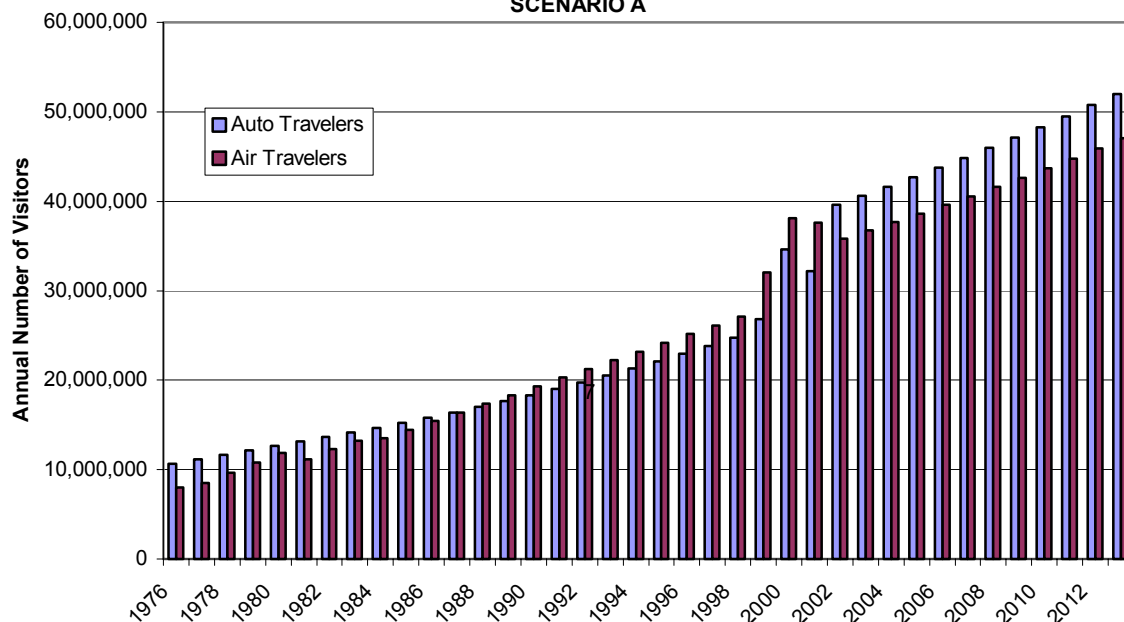
*Source:* Visit Florida

Chart 2 is based on three econometric projections of that growth through 2013: an Optimistic View, a Pessimistic View and a Median View. The Optimistic View estimates a long-term growth rate of 4.0% annually



following 2002; the Pessimistic View estimates a 1.0% annual growth rate; and the Median View estimates a more modest annual growth rate of 2.5 % after 2002. The Median View, graphically portrayed here, is used as the most likely of the three alternatives. Accordingly, other things being equal, as noted earlier, Florida tourism is expected to steadily grow by 22% between 2002 and 2010, by 31% over the entire decade.

**CHART 2**  
**HISTORIC AND MEDIAN FORECAST NUMBER OF FLORIDA AIR AND AUTO TOURISTS, 1976-**  
**2013**  
**SCENARIO A**



\* Estimates of growth post in 2002 are set at a long run annual modest growth rate of 2.5% annually after 2002

\*\* In July 1999 Visit Florida adopted a new tourists estimation method

Source: Historic Data, Visit Florida; forecast Data, CEFA, FSU

**Three Alternative Projections:**

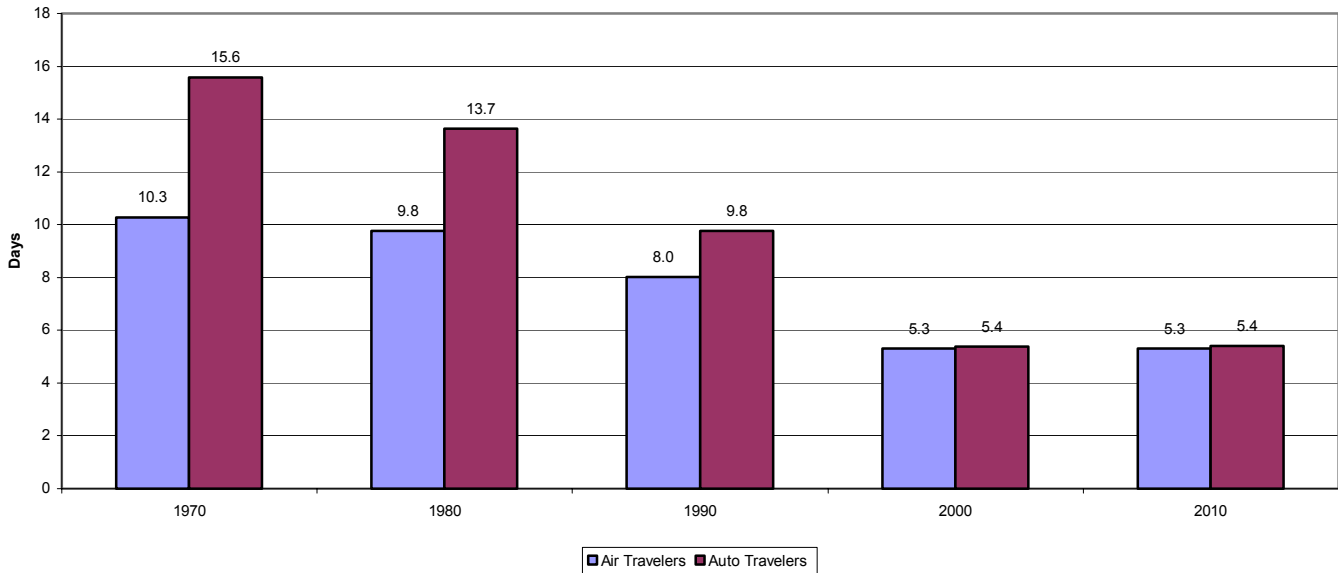
- ✓ **Median View - Annual growth rate of 2.5% after 2002**
- **Optimistic View- Annual growth rate of 4.0% after 2002**
- **Pessimistic View- Annual growth rate of 1.0% after 2002**

Scenario A: Length of Florida Tourist Visits, Annual Tourist Spending Per Capita and The Median View of Total Florida Tourist Expenditures. The reversal in numbers of air to auto tourists is very significant should it hold because, as Chart 3 shows, auto and increasingly air tourists are spending less time during their visits to

Florida. Moreover, as Tables 5 and 6 show, while air travelers (2001 data) on average spend 0.1 fewer nights in the state than auto travelers, they spend significantly more per person while here—\$159.30 per day as compared to \$95.60 per day, respectfully.

**Chart 3**

**Length of Stay**



Source: Visit Florida and CEFA

**TABLE 5**

<b>Air Travelers</b>	
Average per person	
Expenditures per day:	\$159.30
Transportation	\$57.70
Food	\$32.50
Room	\$27.50
Shopping	\$17.60
Entertainment	\$17.90
Misc.	\$6.20
Average length of stay:	5.3 nights

**TABLE 6**

<b>Auto Travelers</b>	
Average per person	
Expenditures per day:	\$95.60
Transportation	\$14.30
Food	\$21.00
Room	\$23.50
Shopping	\$16.40
Entertainment	\$16.00
Misc.	\$4.40
Average length of stay:	5.4 nights

In  
tourist

Source: Visit Florida. 2001 Florida Visitors Study

1998,

spending exceeded \$43.0 billion. Utilizing the data generated by the average per-day expenditures and length of stay by air and auto tourists (Tables 5 and 6 and Charts 2 and 3), it is estimated that total tourist spending, which exceeded \$50 billion in 2002, will steadily increase over the next decade, [fix below-get 2002 total expenditure by tourists to do this]by 50%, 227%, and 340%, respectively. Table 7 and Chart 4 delineate this median estimate by major expenditure categories and Chart 5 by the relative expenditure contributions by air and auto tourists.

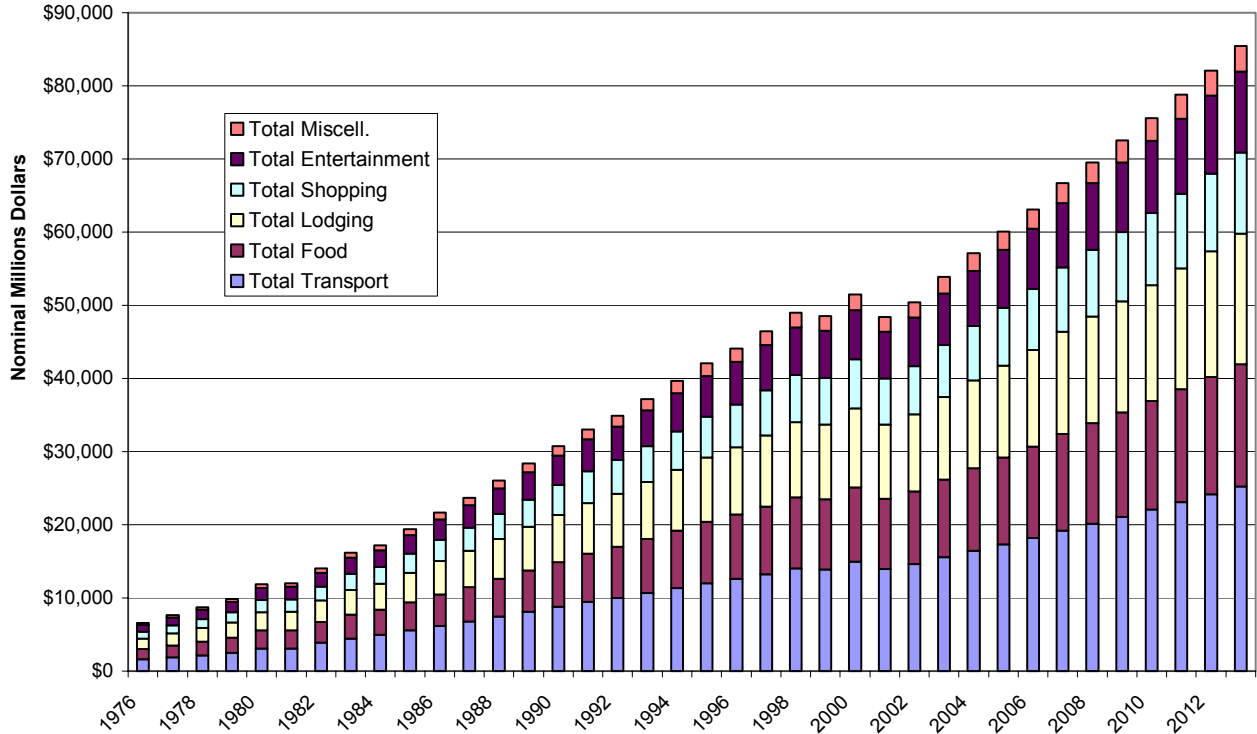
**TABLE 7**

Millions Dollars	Transportation	Food	Lodging	Shopping	Entertainment	Misc.
1976	\$1,642	\$1,383	\$1,391	\$926	\$934	\$280
1980	\$3,108	\$2,452	\$2,503	\$1,637	\$1,648	\$500
1990	\$8,788	\$6,115	\$6,445	\$4,062	\$4,071	\$1,275
2000	\$14,868	\$10,009	\$10,643	\$6,638	\$6,644	\$2,099
2010	\$22,067	\$14,868	\$15,805	\$9,861	\$9,870	\$3,118
2013	\$25,232	\$16,711	\$17,848	\$11,075	\$11,0077	\$3,515

Source: Historic Data, Visit Florida and CEFA, FSU; Forecast Data, CEFA, FSU

**CHART 4**

**Annual Tourist Spending by Expenditure Category, 1976-2013**



Source: Center for Economic Forecasting and Analysis, FSU and Florida TaxWatch

Source: Historic Data, Visit Florida and CEFA, FSU; Forecast Data, CEFA, FSU

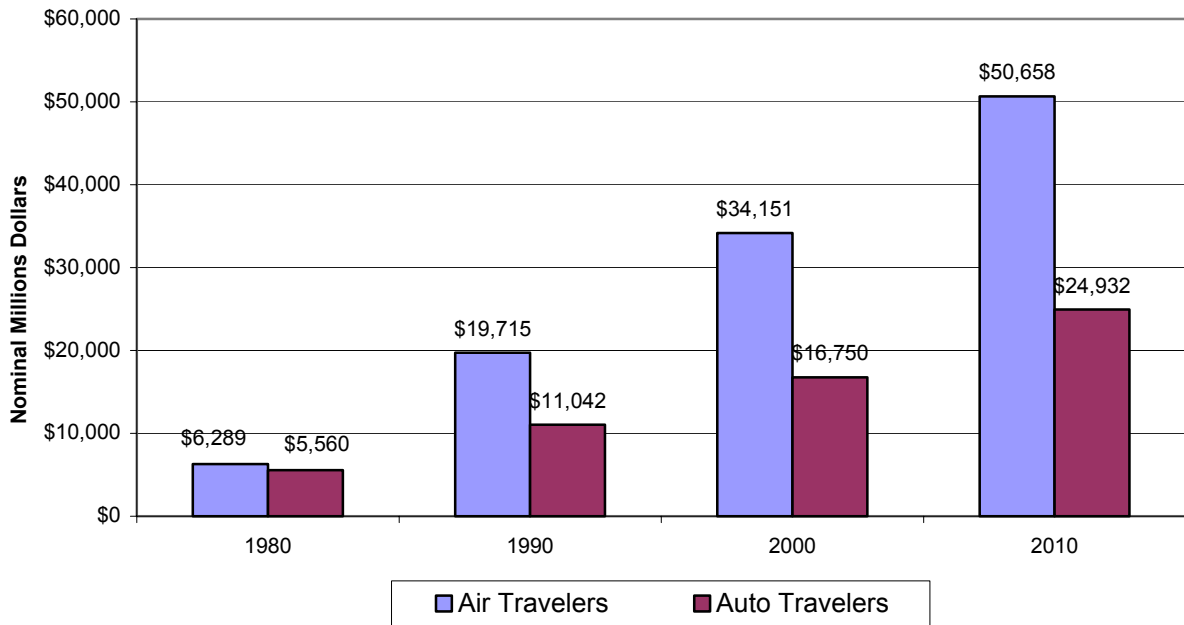
▪ **Estimates of Total Expenditures**

- ✓ \$50,380,000,000 (as of 2002)\*
- ✓ \$75,590,000,000 (as of 2010)
- ✓ \$85,458,000,000 (as of 2013)
- ✓ **Traveler expenditures for 2010 and 2013 estimated to increase by 33% and 70%, comparing to 2002 respectively.**

\* Source: Visit Florida and CEFA, FSU

**CHART 5**

### FLORIDA Tourist Expenditures, Historic and Forecast Trends: Median View



Source: Historic Data, Visit Florida and CEFA, FSU; Forecast Data, CEFA, FSU

- **Estimates of Total FLORIDA Tourist Expenditures Trends (Millions Nominal Dollars)**

- ✓ **Air Travelers**

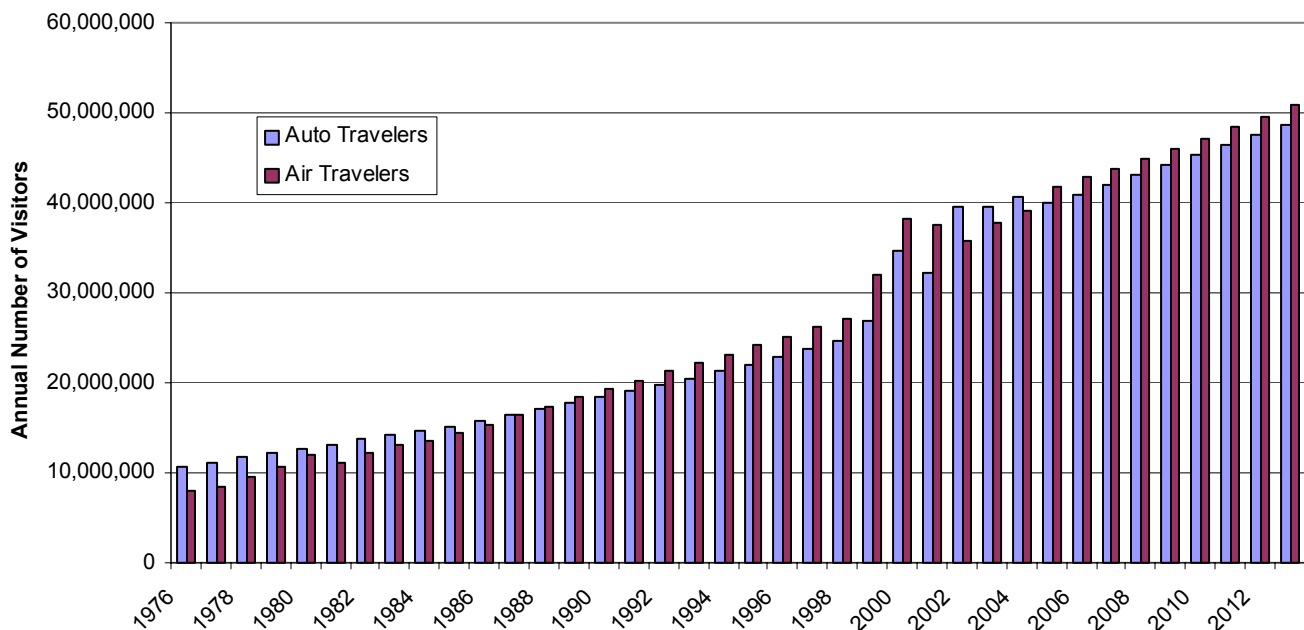
- \$50,658,000,000 (as of 2010)
    - \$80,916,000,000 (as of 2020)

- \$124,149,000,000 (as of 2030)
- ✓ **Auto Travelers**
  - \$24,932,000,000 (as of 2010)
  - \$33,584,000,000 (as of 2020)
  - \$47,263,000,000 (as of 2030)
- ✓ **Air Travelers' expenditures in 2000 are more than double those of auto travelers; also the gap between the two is expected to increase.**
- ✓ **This trend is predicated on past decades' trend continuing where auto travelers continue to increase but stay shorter periods and spend fewer dollars in Florida.**

Scenario B: Air-to-Auto Ratio Trend Continuity. Chart 6 shows econometric projections (Median View) through 2013 for numbers of Florida Air and Auto Tourists under Scenario B which posits that the historical trend prior to 9/11 will continue well into the future, barring further economic dislocations of major magnitude. Table 8 and Chart 8 delineate this median estimate by major expenditure categories and Chart 10 by the relative expenditure contributions by air and auto tourists.

### CHART 7

**Historic and Forecast Number of FLORIDA Air and Auto Tourists Scenario B**



\* Estimates of growth post in 2002 are set at a long run annual modest growth rate of 2.5% annually after 2002

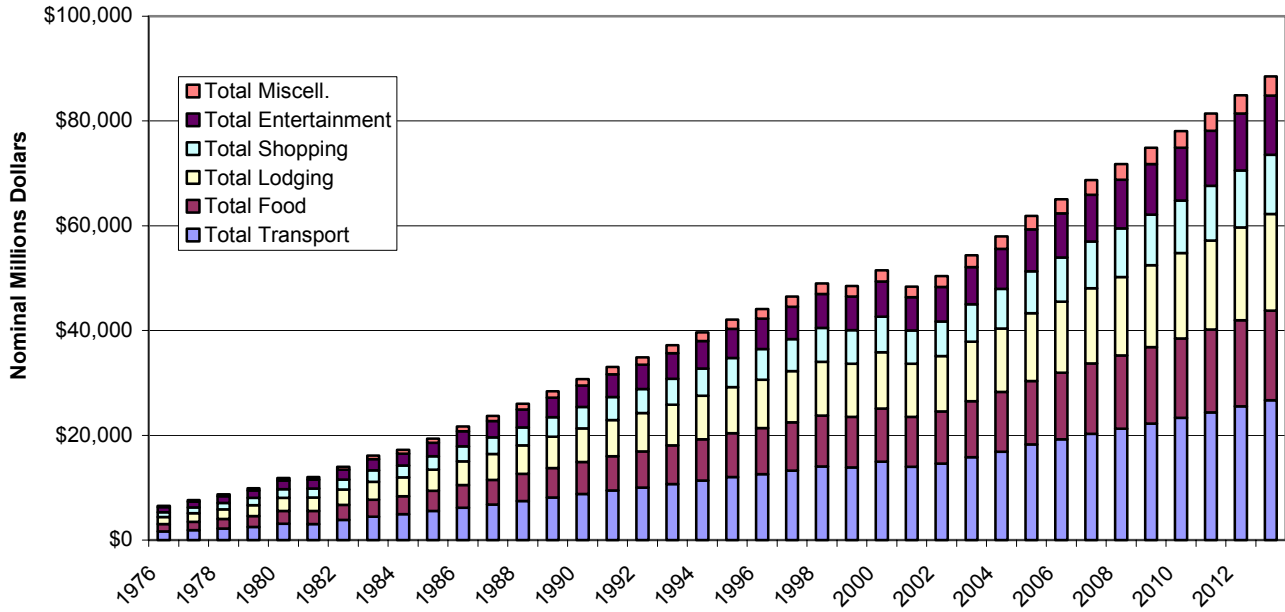
\*\* In July 1999 Visit Florida adopted a new tourists estimation method

Source: Historic Data, Visit Florida; forecast Data, CEFA, FSU

Scenario B: The Median View of Total Florida Tourist Expenditures. As noted earlier, in 1998, tourist spending exceeded \$43.0 billion. Utilizing data generated by the average per-day expenditures and length of stay by air and auto tourists (Generated under Scenario B assumptions regarding the ratio of Florida air to auto tourists) Charts 9 and 10 and Table 8 show greater total tourist spending than occurred under Scenario A due to Florida Air tourists continuing to out number auto tourists and spending more per capita while visiting the state.

**Chart 9**

**Annual FLORIDA Tourists' Expenditures by Category**



**Source: Historic Data, Visit Florida and CEFA, FSU; Forecast Data, CEFA, FSU**

**Table 8**

Millions Dollars	Transportation	Food	Lodging	Shopping	Entertainment	Miscell.
1976	\$1,642	\$1,383	\$1,391	\$926	\$934	\$280
1980	\$3,108	\$2,452	\$2,503	\$1,637	\$1,648	\$500
1990	\$8,788	\$6,115	\$6,445	\$4,062	\$4,071	\$1,275
2000	\$14,955	\$10,152	\$10,770	\$6,736	\$6,744	\$2,126
2010	\$23,310	\$15,185	\$16,292	\$10,056	\$10,051	\$3,204

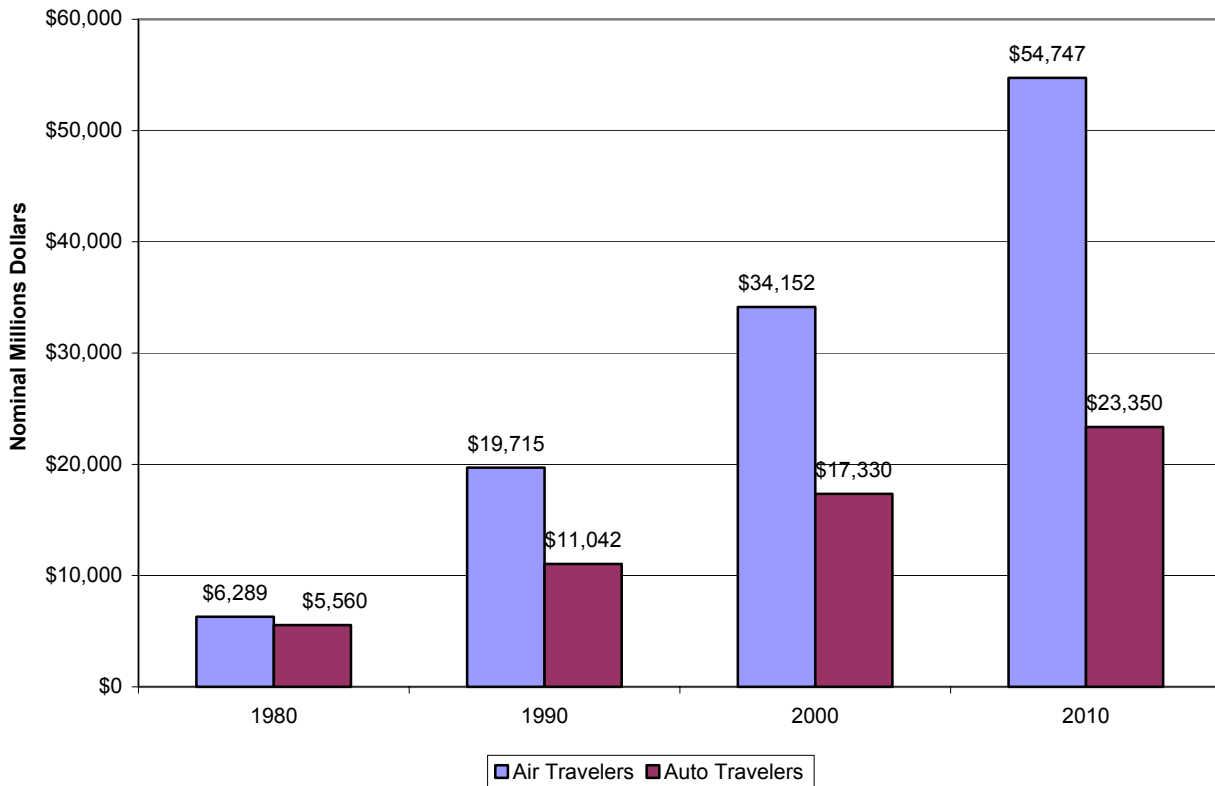
Historic Florida CEFA, Forecast Data, CEFA, F

Source: Data, Visit and FSU;



**Chart 10**

**FLORIDA Tourist Expenditures, Historic and Air Tourist Dominated Forecast Trends: Median View**



Florida TaxWatch’s Center for Florida Tourism thus finds ample evidence, other things being equal, in the static analysis portion of this update of the 2000 study that Florida tourism, notwithstanding the negative economic fallout from the recession and trauma from the tragedy of 9/11, should continue to grow and positively influence the state’s economy and the lives of all Floridians. Of course, “other things” are not always equal, and a terrorism attack or sporadic future attacks in Florida or other states would undo any rosy prediction about the future of Florida tourism or, for that matter, the economy of the nation-at-large.

## **Dynamic and Static Econometric Analysis of**

## Tourism's Impact On Florida's Economy

As noted at the outset in this *Special Report*, Florida's total economy benefits both directly and indirectly from tourism. The indirect/induced benefits are substantial, albeit not as self-evident nor as widely understood as the direct benefits. Unless the former benefits are fully taken into account, only a partial analysis results, and a more complete story about tourism's economic impact on Florida's economy cannot be told. The indirect/induced impacts result from a "multiplier" effect on the other components of Florida's economy, and contribute to Florida's Gross State Product beyond the impacts of direct benefits. To capture tourism's additional indirect/induced benefits and feedback effects over time, the Center employed a dynamic scoring model—the REMI (Regional Economic Models, Inc.) model. The REMI model captures the ongoing and prospective dynamics of tourism's overall impact on Florida's economy. For comparative analysis purposes, a more conservative annual econometric model—IMPLAN—also was employed in this study.<sup>10</sup>

**The Economic Impact of Florida Tourism on High-Tech: 201011.** Although high-tech today comprises less than 8 percent of Florida's total gross state output, this is a sector that bears watching. It is becoming of increasing importance to Florida's economy because it includes a plethora of potential high-growth industries—electronics, high-tech electronics manufacturing, software and computer-related services, telecommunications, data processing and information services, and biomedical, to name a few.<sup>12</sup> Just as capital- and machinery-intensive industries (*viz.* autos, chemicals, and steel) drove economic growth in the 1950s and 1960s, high-tech firms are perceived by many to be the growth engines of the new economy.<sup>13</sup>

Increasingly Florida tourism is becoming important to high-tech. The IMPLAN model indicates (Table 9) that tourist expenditures in Florida will create 29,346 high-tech related jobs in 2010 through their combined indirect impacts (15,450 jobs) and induced impacts (13,896). Consequently, Florida tourist expenditures are projected to produce \$2.1 million in the form of total wages and salaries paid by the high-tech industry to workers, profits, indirect business taxes, and interest. In 2010, they additionally are expected to be contributing \$3.4 billion in output (Gross State Product=total goods and services produced in the state) through their indirect and induced impacts. Table 10 shows this as equating to 2.0% of 1.4 billion total tourist-generated jobs, 3.3% of \$63.1 billion in total tourist-generated wages, and 3.3% of \$102.8 billion in total tourist-generated output.

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10 See Appendix C for a comparative discussion of the REMI and IMPLAN models-

11 See Appendix E for a listing of the individual high-tech industry categories and the related induced and indirect impacts that Florida tourism has relative to the numbers of jobs in each category.

12 The definition/classification of high-tech in this report is derived from a composite of job classifications identified in the American Electronics Association's "High-Tech" Companies Code and the Florida High-Tech 2001 Corporate Guide Report. Appendix D includes both listings.

13 Atkinson, Robert D. and Gottlieb, Paul D. 2001. *The Metropolitan New Economy Index*, Progressive Policy Institute.

**Table 9**

<b>IMPLAN Median 2010</b>	<b>All dollar values are in 2000\$</b>		
	<b>TOTAL</b>	<b>Indirect</b>	<b>Induced</b>
<b>High-Tech Employment</b>	29,346*	15,450	13,896
<b>High-Tech Wages</b>	\$2,091,930,509	\$1,211,189,930	\$880,740,579
<b>Output (Gross State Product)</b>	\$3,379,402,828	\$1,855,528,436	\$1,523,874,392

Source: CEFA, FSU

**Table 10**

<b>IMPLAN Median 2010</b>	<b>All dollar values are in 2000\$</b>		
	<b>TOTAL(A)</b>	<b>High-Tech(B)</b>	<b>B/A</b>
<b>Tourism-Generated Employment</b>	1,499,475	29,346	2.0%
<b>Tourism-Generated Wages</b>	\$63,088,628,277	\$2,091,930,509	3.3%
<b>Tourism-Generated Output (Gross State Product)</b>	\$102,830,377,135	\$3,379,402,828	3.3%

Source: CEFA, FSU

Table 11 shows that five high-tech industry sectors will account for 93 percent of the jobs generated by tourist expenditures in 2010. Heading the list are 12,538 jobs in the computer and data processing service industry. These jobs in computer and data processing represent 43 percent of the high-tech employment that is anticipated to be generated by tourist expenditures. The IMPLAN model estimates show 6,504 tourism-generated jobs (22 percent) being in the medical and health services high-tech sector, and 4,818 jobs (16 percent) in high-tech communications. These three industries represent 81 percent of all high-tech jobs generated by Florida tourist expenditures. It is anticipated additionally that 2,287 high-tech jobs (8 percent) will be generated by tourist expenditures in research and development and 1,286 jobs (4 percent) in architectural engineering.

Table 11

Industry	Jobs	Industry	Wages	Industry	Output
Computer and Data processing	12,538 (43%)	Computer and Data processing	\$917.8 (44%)	Communications	\$1,197.5 (35%)
Medical and Health services	6,504 (22%)	Communications	\$660.2 (32%)	Computer and Data processing	\$1,113.6 (33%)
Communications	4,818 (16%)	Medical and Health services	\$220.2 (11%)	Medical and Health services	\$373.1 (11%)
<b>Subtotal</b>	<b>23,860 (81%)</b>	<b>Subtotal</b>	<b>\$1,798.2 (87%)</b>	<b>Subtotal</b>	<b>\$2,684.2 (79%)</b>
Research & Development	2,287 (8%)	Research & Development	\$79.3 (4%)	Research & Development	\$141.2 (4%)
Architectural Engineering	1,286 (4%)	Architectural Engineering	\$54.8 (3%)	Architectural Engineering	\$120.9 (3%)
<b>Subtotal</b>	<b>27,433 (93%)</b>	<b>Subtotal</b>	<b>\$1,932.3 (94%)</b>	<b>Subtotal</b>	<b>\$2,946.3 (86%)</b>
Other	1913 (7%)	Other	\$159.6 (8%)	Other	\$433.1 (13%)

Source: CEFA, FSU

IMPLAN projections reveal that Florida tourist expenditures will generate \$917.8 million (44 percent) in wages and \$1,113.6 million (33 percent) in output that is associated with computer and data processing and \$220.2 million (11 percent) and \$373.1 million (11 percent), in wages and output, respectively, in the medical and health services arena. In Communications, tourist expenditures are projected to generate \$660.2 million (32 percent) and \$1,197.5 million (35 percent), respectively, in wages and output.

Tourism-generated research and development, in 2010, is projected to account for 2,287 tourism-generated jobs (8%), \$79.3 million (4%) in wages and \$141.2 million in output. Architectural engineering is expected to have 1,286 (4%) jobs, \$54.8 million (3%) in wages and \$120.9 million (3%) in output, all attributable to tourist expenditures. Remaining industries should have 1,913 (7%) in jobs and generate \$159.6 million in wages and \$433.1 million (13%) in output as a result of Florida tourist expenditures.

**Total Indirect/Induced Effects of Tourism on Florida Economy.** The multiplier effect thus generates additional employment opportunities for Floridians. While direct travel-related employment in Florida in 2002 was 889,000 jobs, the REMI model projects the number of jobs that are directly associated with Florida tourism plus the indirect/induced tourism-related jobs to be 1.2 million by 2003, and as Table 12 shows, it projects 1.8 million jobs to be directly and indirectly associated with Florida tourism by 2010. The more conservative IMPLAN projection shows a lesser number of tourism and tourism-related jobs by 2010—1.5 million.

**Table 12**  
**REMI/IMPLAN Median Estimates of Tourism-Induced Effects**

<b>Two Models Median Estimates, 2010</b>	<b>IMPLAN</b>	<b>REMI</b>
Employment	1,499,475	1,815,000
Wages	\$63,088,628,277	\$86,945,230,766
Average Wage Rate	\$42,074	\$47,904
Output (GSP)	\$102,830,377,135	\$135,730,082,783

Source: CEFA, FSU

The estimated wages that both models attribute to tourism (indirectly and directly) by 2010 are substantial—\$87.0 billion (REMI) and \$63.1 billion (IMPLAN), respectfully. Likewise, the average wage rate is projected to be a robust \$47,904 (REMI) and \$42,074 (IMPLAN) by 2010. Output (Gross State Product) from Florida tourism is projected to be \$135.8 billion (REMI) and \$102.8 billion (IMPLAN) by 2010.

The average wage projections are higher than conventional wisdom would dictate because of the forecasting models' relative dynamic scoring abilities. The average wage figures, in addition to including jobs that are directly associated with tourism, also include the wages of industries with the largest tourism-related employment impacts.<sup>14</sup> These are industries that are highly dependent on tourism and tourist expenditures. For example the REMI model shows there to be 121,000 such jobs in construction, 589,000 in retail trade and 545,291 in services. These three industry sectors account for 115,091 more jobs than existed in 2000 in these three tourism-related industries.<sup>15</sup>

Chart 11 reveals the projected cumulative economic impact of Florida tourism on tourist-related jobs over the ten-year period, 2003 through 2012. Since these are dynamic measures and cumulative over the period, care must be taken in interpreting the data. On average, over the ten-year period, employment in tourist related jobs is estimated to be 1.4 million per year (IMPLAN) and approximately 1.8 million per year (REMI), respectively. The result of estimates by both the REMI and IMPLAN models, based on the same cumulative annual average over the ten-year period, are shown (net present value in 2000 dollars) in Table 13 and Chart 12 for earnings and output (Gross State Product).

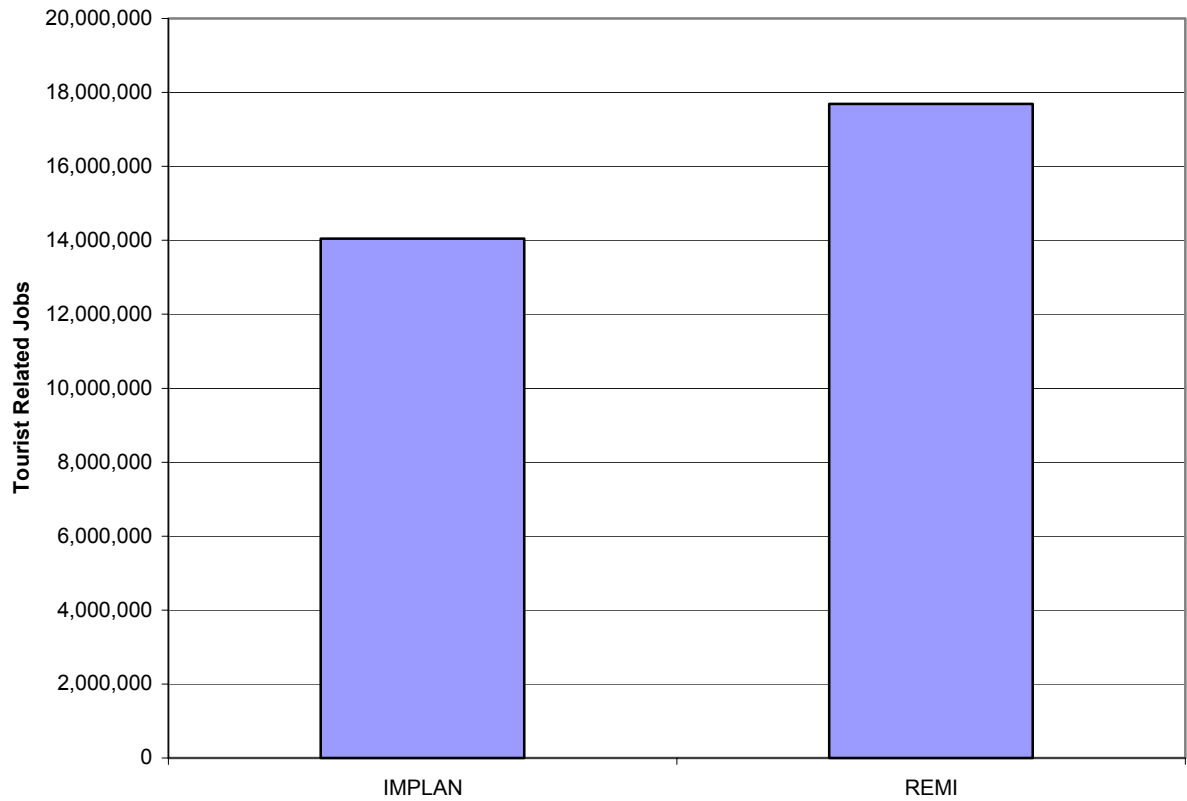
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14 A listing of the industry sectors included in the IMPLAN analysis is presented in Appendix F.

15 A listing of the industry sectors included in the REMI analysis is presented in Appendix G.

## CHART 11

**Ten-Year Comparison of IMPLAN and REMI Florida Tourist Economic Impacts  
(2003 through 2012)**



Source: Center for Economic Forecasting and Analysis, FSU

**Table 13**  
**NET PRESENT VALUE Ten-Year Comparison of IMPLAN**  
**and REMI Florida Tourist Economic Impacts (2003 through 2012)\***

	IMPLAN	REMI
Wages	\$589,825,887,634	\$814,161,184,174
Output	\$961,079,452,079	\$1,293,681,408,803

\*2000 dollars

## Chart 12

**NET PRESENT VALUE Ten-Year Comparison of IMPLAN and REMI Florida Tourist Economic Impacts on Wages and Output (Gross State Product), 2003 through 2012**



Source: Center for Economic Forecasting and Analysis, FSU and Florida TaxWatch, 2003

### The Economic Impact of Florida Tourism on State Government Revenues

Economic activity generates tax revenues through the purchase of goods by consumers, corporate profits and other transactions. Table 14 shows that tourism and travel-related activities are expected to generate between \$10.6 billion (IMPLAN) and \$12.3 billion (REMI) General State Tax Revenues through 2010 as a function of direct and indirect earnings.

**TABLE 14**

Model	2010 State General Tax Revenues
<b>REMI</b>	\$12,320,000,000
<b>IMPLAN*</b>	\$10,651,513,557

Source: Florida TaxWatch REMI and IMPLAN Analysis Results, August 2000

\*Based on a projection of state revenue dollars per \$1 million of Output

[Note: The economic projections presented in this section are based upon data that do not directly take into

account the effects (if any) that the recent increase in gasoline and airline fuel costs may have on travel and tourism.]

## Florida Tourism Costs

It is generally understood that tourism is not without “costs.” If timely data—cost data in particular—were available for analysis purposes, the relevant question to examine at this point would be whether the benefits noted above are equal to, outweigh, or are less than the costs associated with tourism. Earlier in this report it was noted that tourism provides Floridians with economic benefits that probably would not be available were it not for tourism. More employment opportunities, higher paying jobs, a shifting of a portion of the state’s tax burden to tourists, enhanced economic output overall, etc. accrue to Floridians from the tourist industry, but, needless to say, are not always acknowledged nor appreciated. Notwithstanding the noted limitations of cost data, the following sections discuss some of the cost factors associated with tourism.

**Seasonality of Employment.** An unintended consequence of tourism is the uncertainty of continuous, year-round employment in the tourism sector of the economy. There are seasonal fluctuations in the demand for services and stresses imposed on residents by the presence of a substantial seasonal inflow of non-residents.<sup>16</sup> The seasonal fluctuation in demand for tourist services causes seasonal fluctuations in the industry’s demand for labor as well as seasonal demands for a variety of goods and services; *e.g.*, gasoline, food, etc. Nonetheless, while certain occupations are more affected by the seasonality factor than others, Florida’s total unemployment rate generally proved to be stronger between 1998 and 2002 than did the U.S. unemployment rate (Table 15).

**TABLE 15**  
**Unemployment Rate**

Year	Florida	U.S
1998	4.3	4.5
1999	4.0	4.2
2000	3.6	4.0
2001	4.8	4.7
2002	5.5	5.8

Source: U.S. Department of Labor, Bureau of Labor Statistics

## Table 16

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<sup>16</sup> It should be noted that seasonal employment can also be a benefit to those who do not want full-time work, such as students.



**Public Safety.** Historically, there have been conflicting perceptions that tourism contributes to crime or, on the other hand, that tourism is a function of crime (e.g., crime chases away tourists). There are several intuitive—and logic-based explanations for this. First, the tourist population, like society as a whole, may include individuals with criminal intentions. Thus, the more tourists there are, the more criminals there will be in the population. Though small in numbers, any criminal elements among the tourist population may be active while in the state, but, to what extent, it is difficult to ascertain. Second, tourists carry valuable personal property with them while visiting the state; thus they may provide additional targets for criminals. Third, the population density in tourist-frequented areas increases dramatically during the tourist seasons, enhancing the “opportunity” for criminal activity in those areas.<sup>17</sup>

Although there is some evidence that the crime rate increases during the tourist season, in general, between 1989 and 2001, Florida’s crime rate dramatically decreased while tourism notably increased (Table 16). Notwithstanding the inconclusiveness regarding the extent that crime justifiably can be assigned to tourists, the declining crime rate may account in part for why a Marketing Metrics poll of Floridians (commissioned by Visit Florida) showed an impressive 66.0 percent of respondents not associating tourism with crime. This is good news for Florida tourism and related industries.

**Crime Rate Down, Tourism Up 1989 - 2001**

Year	Crime Rate per 100,000	Tourists (in Millions)
1989	1,137	38.7
1990	1,221	41.0
1991	1,199	39.6
1992	1,200	40.5
1993	1,189	41.0
1994	1,137	39.9
1995	1,062	40.9
1996	1,050	43.0
1997	1,025	45.9
1998	931	48.7
1999	841	51.4
2000	801	72.7
2001	798	69.8

Source: FDLE Uniform Crime Report Data and CEFA, FSU

**TABLE 17**

State	Highway Miles 2000
Texas	301,035
California	168,076
Illinois	138,372
Kansas	134,582
Minnesota	132,250
Missouri	123,039
Michigan	121,979
Pennsylvania	119,642
Ohio	116,964
Florida	116,649

Source: U.S. Census Bureau, *Statistical Abstract of the United States: 2002*.

**Transportation.** Florida tourism is heavily dependent on a strong transportation system; visitors will return only if they can count on safe, convenient and efficient travel into and out of Florida. Half of Florida’s visitors arrive by air and the other half by highway.

As tourism continues to grow, it assists in exacting a heavy price in terms of “unmet need” on Florida’s transportation system. Although Florida increased highway miles by 2077 miles between 1997 and 2000 (latest data reported in the Center’s 2000 *Report*), the state still ranks 10<sup>th</sup> in the nation in its number of highway miles (Table 17).

17 Trager, K. (1990). *The Impact of Fiscal Year 1998-89 Out-of-State Tourism on the Florida Economy*. Tallahassee, FL: The Florida Legislature’s Joint Legislative Management Committee.

Failure to

Urban Area	Annual Congestion Cost per Person - 2002
Ft. Lauderdale-Hollywood-Pompano	\$520
Jacksonville	\$285
Miami-Hialeah	\$600
Orlando	\$575
Tampa-St. Petersburg-Clearwater	\$380
National Average	\$505

meet state

transportation needs could jeopardize Florida’s economic momentum and attractive quality of life. The problem is especially acute in the following areas:

□ **Highways** - Over the next decade, demand (vehicle miles traveled) is expected to continue outpacing supply (new roads or additional lanes) by almost a six-to-one margin. The Center for Urban Transportation Research (CUTR) reported in 1998 that failure to preserve the current quality of service on our roads would result in an average annual increase of \$219 for every licensed driver—the cost of longer delays, more crashes, and higher vehicle upkeep.

□ **Seaports** – Florida’s 14 deepwater ports generate over \$25 billion annually in economic activity and create over 300,000 jobs, producing state and local tax revenues in excess of \$600 million annually. Yet they face serious and immediate road and rail access needs and capacity shortages totaling several billions. Although seaports are primarily utilized for the transportation of goods, the rapidly growing cruise line industry will also be affected.

□ **Airports** - Despite downward national trends, Florida’s air traffic demands are growing, and the state faces an estimated \$6 billion in airport capacity improvement needs over the next decade. A majority of Florida airports are operating near capacity, with traffic delays costing airlines millions of dollars per year—costs that are passed on to the traveler. Without aviation system improvements, those costs are projected to nearly quadruple over the next decade, to over \$473 million per year.

**Traffic Congestion.** As pointed out earlier, over-crowded roads have long been a complaint of Floridians as is true of many other states’ residents. It is commonly acknowledged that a substantial majority of Floridians perceive tourism as creating traffic congestion. Either driving their own cars to visit Florida, or renting cars when arriving by air, the additional drivers on Florida’s roads do cause increased congestion. However, before blame can be objectively assigned as to the cause of traffic congestion, the question must be asked, *Are there a traffic problem per se, other things being equal?* Moreover, how does Florida traffic congestion compare to that in other parts of the country and to the nation-as-a-whole in terms of congestion costs? Table 18 shows the annual (2002) congestion cost (delay and fuel cost) per driver in selected urbanized areas in Florida as compared to the national average congestion costs associated with over 70 urbanized areas.

**Table 18**

Source: Texas Transportation Institute, College Station, Texas; *2002 Urban*

Florida's 2002 congestion cost per driver fits well within the national average, especially when compared to that of most urbanized areas in other states. While it cannot be denied that tourists add to Florida's traffic congestion, the average cost per driver in Florida is not much different from other urban areas. In addition, the Census Bureau in its Statistical Abstract of the United States: 1999 reported that the average travel time to work for Floridians was 21.8 minutes (1990), while the national average was 22.4 minutes. This is a nominal negative effect of Florida tourism as compared to the national average.

***The Environment.*** As reported by Florida TaxWatch in the 2000 study, tourism's impacts typically are generally grouped into three categories: economic, socio-cultural, and environmental/ecological.<sup>18</sup> Although the effect of tourism development on the environment has been studied, economic analyses of costs have been difficult to ascertain. Assessments of economic impacts usually are context-specific and, therefore, are not suitable for data analysis which seeks to generalize costs (or benefits); e.g., the risk of methodologically committing the so-called ecological fallacy.

For example, studies of the potential costs and benefits of greenways and trails are very site-specific and lacking in their generalizeability. They typically subject data analysis to a variety of notable ecological, human and cultural benefits (*viz*, improving and maintaining native biodiversity, protection of endangered/threatened species, reduced fragmentation of habitat, maintenance/protection of the hydrologic system, reduction/avoidance of air and water pollution, improved physical health and fitness, opportunities for education, opportunities for scientific research, intergenerational benefits of non-use, increased community pride, aesthetic beauty, time-savings, etc.). It is also common practice for important cost considerations (*viz*, spread of disease/fire, invasions of exotics, increased hybridization, increased predation and soil erosion, barriers to biological movement, increased noise, lessened privacy, increased crime, increased traffic, etc.) to be taken into account, but again, site specifically rather than generally.

However, it would be practically imprecise, theoretically tenuous and methodologically unacceptable to extrapolate such site-specific results to the larger, more generalized Florida context. Evaluations of site-specific attributes of the costs (or benefits) of open space cannot without grave difficulty and prohibitive expense take into account the full range of impacts attributable to open space and, their results consequently would be skewed and misleading. Jered B. Carr, *et al.* concur in their attempt to understand the benefits and costs of the conservation corridors associated with greenways and trails, pointing out that a boiler-plate of the costs and benefits outlined by other studies is inappropriate and leads to flawed and misleading evaluations.<sup>19</sup>

The EPA Model. Travel, tourism and recreation are important to Florida and the nation's quality of life and economy. Because environmental protection plays an essential role in sustaining travel, tourism and recreation resources, the U.S. Environmental Protection Agency (EPA) has developed a model for assessing the economic impacts of travel and tourism and for identifying and assessing the interrelationships among the environment, recreation and economic health, and to educate industry, governments and recreation participants about these links.

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18 Lindberg, K. and Johnson, R.L. (1997). "The Economic Values of Tourism's Social Impacts," *Annals of Tourism Research* 24, (1), 90-116 and *Assessing the Impact of Greenways and Trails*, Center for International Public Management, (undated article).

19 Lindberg, K. & Johnson, R. L. (1997). The Economic Values of Tourism's Social Impacts. *Annals of Tourism Research* 24, (1), 90-116.

The travel and tourism industry (inclusive of recreational activities) is actually comprised of numerous sectors dispersed throughout the economy. The industry is most often defined by its share of the economic outputs (and environmental impacts) of many supply sectors, including but not limited to transportation, communications, power, wholesale and retail trade, hospitality, manufacturing and construction. Considerable work has been completed to date on the impacts of each of the supply sectors.

The approach that EPA has taken is considerably more inclusive because it accounts for the impacts of the supply sectors as well as the impacts of the activities themselves. EPA has identified activity-based subsectors that provide a better understanding of relatively small segments of the industry that may have similar economic and environmental impacts. Considering the industry in this way also allows a careful examination of the drivers and barriers that influence environmental protection decisions within particular subsectors. For each activity subsector, direct impacts are assessed for the associated travel, lodging, meals, and the activities themselves.

Subsectors initially analyzed are:

- |                                                     |                                                      |
|-----------------------------------------------------|------------------------------------------------------|
| <input type="checkbox"/> boating                    | <input type="checkbox"/> amusement/theme parks       |
| <input type="checkbox"/> urban/cultural attractions | <input type="checkbox"/> casino gambling             |
| <input type="checkbox"/> hunting                    | <input type="checkbox"/> conferences and conventions |
| <input type="checkbox"/> skiing and snowboarding    | <input type="checkbox"/> waterside activities        |
| <input type="checkbox"/> golfing                    | <input type="checkbox"/> fishing                     |

The model uses economic and environmental indicators to assess the direct impacts of each subsector. In its current state, the model uses one economic indicator—expenditures on tourism and recreation and seven environmental indicators—water use, energy use, air emissions (carbon monoxide, NOx, and hydrocarbons), solid waste generation, wastewater generation, greenhouse gas emissions and acres of land use. These indicators are used alone and in combination with other subsector-specific data, such as participation rates, to provide as much useful information as possible.

The model can be used to examine individual subsectors by, for example, establishing baselines, emissions reduction goals, and measures of progress. It can also be used to compare across subsectors. For example, the model can be used to determine which aspects (travel to a site, staying at the site, the activity itself, etc.) of a particular recreational activity have the most and least environmental and economic impacts. Thus, the model is a tool that can help EPA and the industry prioritize and focus attention on the issues of greatest concern.

Because it includes a limited set of environmental indicators and only direct impacts, the current model has a somewhat restricted view of the sustainability issues associated with each subsector. Nevertheless, it could become a powerful tool in EPA efforts to examine the travel and the tourism industry and to identify areas for cooperative programs or improving environmental performance. Eventually, the model can be augmented with additional indicators of sustainability to enhance its value.

### **Conclusion: The Full Story of Tourism’s Economic Positive Impact Must be Told**

**[Additional narrative relative to data received on 10/16 will be added to the final Draft]**

This *Special Report* update by Florida TaxWatch’s Center for Tourism shows there to be significant direct and nondirect benefits to Floridians from tourism, despite the vicissitudes of the recent recession, 9/11, the Afghanistan incursion and the Iraqi War. It projects as well that significant state tax revenues continue to be

generated from travel and tourism activities in Florida as a function of direct and indirect earnings. Notwithstanding the current frustrations by Floridians and across the nation as a result of shrinking employment opportunities due to the current tight labor market, this study's upbeat projections for increasing employment earning opportunities in tourism and tourism-related jobs through the year 2010 (net present value in 1999 dollars) are encouraging and should be reassuring to current residents, prospective in-migrating citizen-taxpayers and both current and prospective Florida businesses.

The significance of this *Report's* finding that Florida's total economy benefits dynamically from the indirect and induced impacts of tourism as well as directly from tourism should not be discounted by resident populations, future residents or public policy-makers at the state and local levels. There is reason for celebration because currently 1.2 million jobs are associated directly and indirectly with Florida tourism and, projections show, other things being equal, that, by 2010, 1.8 million of the jobs in Florida (entry-level through executive-level) will be thus associated. Tourism, therefore, is a major, if not the major, employer in Florida, and resident populations need to recognize the substantial contribution that Florida tourists make to their own socioeconomic well-being.

Florida policy-makers and citizens alike should not take the positive contributions that tourism makes to Florida's economy for granted. Nor should they be oblivious to the costs associated with this major economic force in the state's economy. But it is critically important that a concerted effort be made to assure that both the public and Florida's lawmakers be fully—not just partially—informed as to the significant contributions that tourism makes to Florida's economy and the quality of life of all Floridians. This requires that a sizeable effort be made to assure that the best attainable data be secured and continuously updated for analysis, decision- and policy-making purposes. It will take a dedicated effort on the part of the state to assure that this happens and that the results are published and widely disseminated in a timely manner.

Special Acknowledgment to Florida State University's Center for Economic Forecasting and Analysis and to Tim Lynch, Ph.D., Director, Julie Harrington, Ph.D., Deputy Director and Douglas Lee, Ph.D. Candidate for doing the econometric modeling for this *Special Report*.

This *Special Report* was written by Keith G. Baker, Ph.D.,

Senior Vice President and Chief Operating Officer, Florida TaxWatch Research Institute, Inc.

Steve L. Evans, Chairman; Dominic M. Calabro, President, Publisher and Editor

<http://www.floridatxwatch.org>

## Appendix A

Textbooks on cost-benefit analysis typically call for the calculation of *all* costs and *all* benefits of tourism's impact. However, in the real world of cost-benefit analysis, it is possible to calculate only those costs and benefits that are capable of being taken into account; *e.g.*, those benefits and costs for which data are available.<sup>20</sup> It was anticipated, and acknowledged in the research design of this study, that some of the costs and some of the benefits of tourism's impact on the quality of life in Florida may be unaccountable due to several potentially uncontrollable factors: inaccurate or incomplete data; research cost-related and time-based limitations should data not be readily available; the incomparability of cost versus benefit measures for the purpose of juxtaposing benefits and costs; and thereby disabling the calculation of net benefits or net costs.

In addition to being a relatively data-intensive form of analysis, cost and benefit data can be very context-specific. Thus, any conclusions generated by the application of one's cost-benefit methodology often are only very narrowly applicable to a single case or to time-specific incidences or effects. In the latter case, in order to be useful, cost-benefit data must be current.

TaxWatch's search for timely, Florida-specific cost-benefit tourism data reveals that tourism studies and related data collection efforts by-and-large have been directed more toward the benefit rather than the cost side of the cost-benefit equation. There appear to be three major reasons for this imbalance of data coverage.<sup>21</sup> First, benefit-related economic impacts are relatively easy to measure whereas physical and social cost-related impacts, particularly the latter, are difficult to subject to numerical measurement because they are difficult to quantify.

Second, relatively explicit data are required to measure the economic costs and benefits of tourism; tourism employment and tax-related revenue data, etc. are more easily collected than those related to cost-consequences.

Third, an historical emphasis on the economic and related benefits of tourism may reflect a widely and deeply held belief or bias among tourism advocates that tourism, other things being equal, yields a considerable return on investment and per force is a positive net influence in providing jobs and improving the prosperity of all citizen taxpayers overall. Conversely, these purported benefits may not be perceived by Florida residents because of the lack of widely disseminated information in the media.

Optimally, but subject to the availability of data, a cost-benefit analysis of Florida tourism would assign quantitative values (discrete indexes and/or dollar measures) to the benefits/costs of Florida tourism on the quality of life in Florida. Ideally, costs and benefits would also be adjusted to reflect the time-value of money, multiplier effects and other macroeconomic cost/benefit impacts of Florida tourism on the quality of life in Florida.

Florida TaxWatch's search for tourism cost-benefit data reveals that, while tourism benefits are *visible* in the form of jobs, earnings, business output and tax revenues, explicit data with which to measure tourism costs are relatively *invisible* or indistinguishable from other cost-related impacts. This is because they tend to meld with and are difficult to separate (for analysis purposes) from more general social and quality-of-life aspects of Florida residents. Traffic congestion, health care needs and costs, public safety and other such issues are all part of the daily existence of Floridians. To what extent these are increased by tourists to the state is difficult to isolate. On the other hand, a recent Florida household government benefits and tax burden study done for Florida TaxWatch by Drs. Keith G. Baker and Craig E. Reese shows that Florida tourists consume/use far less than do Florida residents in a variety of government services arenas. For example, the cost-to-government side of the

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20 Meier, K. (1984). The Limits of Benefit-Cost Analysis. In Decision-Making in the Public Sector. Lloyd Nigro, Editor. (New York: Marcel Dekker) pp. 43-64.

21 Mathieson, A. & Wall, G. (1996). Tourism: Economic and Social Impacts. Essex, U.K.: Longman, Group Limited.

equation is decidedly weighted against individual Florida resident households and favors Florida tourists when it comes to the consumption/use of state/local prisons, Medicaid, public schools and post-secondary colleges and universities, and Aid to Families with Dependent Children.<sup>22</sup>

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<sup>22</sup> *Ibid.*

## Appendix 4

### 1. Historic Data

<b>REMI Historical FL Gross Regional Product</b>	
1980-1990	<b>4.6%</b>
1990-2002	<b>3.5%</b>
1980-2002	<b>3.9%</b>

Source: REMI

<b>Historical Changes of Numbers of FL Tourists</b>	
1980-1990	<b>4.4%</b>
1990-2002	<b>6.0%</b>
1980-2002	<b>5.3%</b>

Source: Visit Florida & Florida Statistical Abstract

### 2. Forecast Data

<b>US Gross Domestic Product Forecast</b>	
2001-2012	<b>3.0%</b>

Source: Florida Legislature, Office of Economic & Demographic Research

<b>FL Personal Income Forecast</b>	
2001-2012	<b>4.8%</b>

Source: Florida Legislature, Office of Economic & Demographic Research

<b>REMI Forecast FL Gross Regional Product</b>	
2001-2012	<b>2.6%</b>
2001-2015	<b>2.4%</b>
2001-2020	<b>2.2%</b>
2001-2030	<b>2.0%</b>
2001-2035	<b>2.0%</b>

Source: REMI



## Appendix C

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### REMI and IMPLAN Models

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The REMI model was developed by Regional Economic Models, Inc. of Amherst, Massachusetts (Treyz and Shao 1992). The REMI model specifies commodity-trade and personal-income flows between the regions. Production is categorized into 49 non-farm private industries (primarily at the two-digit S.I.C. level), three government sectors, and the farm sector. Economic relationships are given by an industry-based input-output component combined with an econometric component. Also, the model is dynamic, which allows it to be used for forecasting in addition to use as an impact model.

IMPLAN, an input-output model, was developed by the Forest Service of the U.S. Department of Agriculture (U.S. Forest Service 1989). For this study, the 1997 IMPLAN version is used. The greatest level of disaggregation of the model is 528 sectors. However, the industries that do not exist in the region are automatically eliminated during user construction of the model. In addition, industries of the IMPLAN model can be aggregated into desired categories. Therefore, the industries of the IMPLAN model are aggregated to match the industry classifications of the REMI model. Also, IMPLAN uses an industry-based technology to derive its input-output coefficients. Finally, IMPLAN is a static model and cannot trace the time path of economic impacts or be readily used for forecasting as REMI can.

**REMI Model.** The REMI model, as Bolton (1985) states in his review of econometric models, "is a world apart in complexity, reliance on inter-industry linkages, and modeling philosophy" from other econometric models. The REMI model is more than an econometric model, though. It may better be described as an eclectic model that links an input-output model to an econometric model. If the econometric responses are suppressed, the model collapses to an input-output model. The econometric specifications are derived from economic theories that are generally neoclassical in nature. The notion of regional equilibrium is central to the model's long-term portrait of regional economic growth.

Although a detailed description of the model is impossible within the scope of the present study, an outline of the basic structure facilitates the evaluation of model performance. Conceptually, the model consists of five basic blocks: (1) output, (2) labor and capital demands, (3) population and labor supply, (4) wages, prices, and profits, and (5) market shares.

REMI uses three sources of employment and wage and salary data: the Bureau of Economic Analysis (BEA) employment, wage, and personal income series, ES-202 establishment employment and wage and salary data, and County Business Patterns (CBP) data published by the Bureau of the Census. The BEA data are annual averages and are reported at the two-digit level for states and at the one-digit level for counties. The ES-202 data, the foundation for the BEA data, are collected monthly in conjunction with the unemployment insurance program at the two-digit level for counties and states, and they are the foundation for the BEA data. CBP data are collected in conjunction with the Social Security programming in March of each year.

Output measures are based on regional employment data, the BEA Gross State Product series, and national output-to-employment ratios. REMI begins by applying the national output-to-employee ratio to employment by industry. This application is adjusted by regional differences in labor intensity and total factor productivity. Regional differences in labor intensity are given by the industry production function and the unit factor costs. Total factor productivity calculations depend on industry value added in production reported in real U.S. dollars by BEA and on adjustments by REMI to the BEA numbers.

**IMPLAN Model.** In contrast to REMI, IMPLAN is exclusively an input-output model. It is non-survey based, and its structure typifies that of input-output models found in the regional science literature. Similar to REMI, IMPLAN assumes a uniform national production technology and uses the regional purchase coefficient approach to regionalize the technical coefficients.

The model generates two types of multipliers: Type I multipliers and what IMPLAN refers to as Type III multipliers. The difference between IMPLAN's Type I and Type III multipliers is an induced consumption effect. Their Type III multiplier differs from the standard Type II multiplier because the consumption function is nonlinear, that is, the marginal propensity to consume is not constant, decreasing as income in the region rises. Population completely responds to employment changes and drives consumer spending. Multipliers are generated for employment, output, value added, personal income, and total income.

Similar to REMI, IMPLAN builds its data from top to bottom. National data serve as control totals for state data. In turn, state data serve as control totals for county data. The primary sources of employment and earnings data are County Business Patterns data and BEA data. Furthermore, IMPLAN's procedure for fining in suppressions in the 1997 model parallels REMI's, except the S-202 data set is not a primary source of data for counties.

IMPLAN estimates output at the state level by using value added reported by BEA as proxies to allocate U.S. total gross output. Also, IMPLAN allocates state total gross output to counties based on county employment earnings. The use of the BEA Gross State Product series for states, and implicit assumption of uniform value added-to-earnings ratios across counties within a state, parallels REMI's procedure. However, because of REMI's neoclassical production function, differential labor costs cause REMI's labor intensities to differ across states and counties. In addition, REMI adjusts real value added in U.S. dollars reported by BEA for differences in regional unit factor costs.<sup>23</sup>

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<sup>23</sup> Adapted from *Dan S. Rickman and R. Keith Schwer, @REMI AND IMPLAN Models: The Case of Southern Nevada,*@

## **APPENDIX D**

## **APPENDIX E**

## **APPENDIX F**

## **APPENDIX G**

### **Appendix H**

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### **List of Websites Used**

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WEB SITE ADDRESS	ORGANIZATION OR UNIVERSITY
<a href="http://www.msu.edu/course/prr/840/econimpact/">http://www.msu.edu/course/prr/840/econimpact/</a>	Michigan State University Impact Page
<a href="http://home.att.net/~bartlnet/tour.html">http://home.att.net/~bartlnet/tour.html</a>	Top 50 state Tourism sites
<a href="http://gocalif.ca.gov/">http://gocalif.ca.gov/</a>	California Tourism
<a href="http://www.dra-research.com/">http://www.dra-research.com/</a>	Dean Runyan Associates
<a href="http://www.dot.state.fl.us/moreDOT/phone.htm">http://www.dot.state.fl.us/moreDOT/phone.htm</a>	FDOT Phone book page
<a href="http://www.epa.gov/ispd/define.htm">http://www.epa.gov/ispd/define.htm</a>	EPA Impacts of Tourism
<a href="http://www.forestry.umt.edu/itrr/">http://www.forestry.umt.edu/itrr/</a>	University Of Montana
<a href="http://www.tourism.unm.edu/">http://www.tourism.unm.edu/</a>	University of Minnesota
<a href="http://tourism.tr.msu.edu/">http://tourism.tr.msu.edu/</a>	Michigan State University
<a href="http://www.123world.com/">http://www.123world.com/</a>	Tourist Info site
<a href="http://www.panynj.gov/aviation/jfkaboutframe.html">http://www.panynj.gov/aviation/jfkaboutframe.html</a>	JFK Airport info
<a href="http://www.ttra.com/">http://www.ttra.com/</a>	Travel & Tourism Research Assn
<a href="http://www.world-tourism.org/">http://www.world-tourism.org/</a>	World Tourism Organization
<a href="http://www.tourismstatistics.com/">http://www.tourismstatistics.com/</a>	Tourism Stats on the Web
<a href="http://www.co.broward.fl.us/sunny.htm">http://www.co.broward.fl.us/sunny.htm</a>	Ft. Lauderdale Visitors
<a href="http://www.facvb.org/">http://www.facvb.org/</a>	Florida Visitors Bureaus
<a href="http://www.fishkind.com/">http://www.fishkind.com/</a>	Fishkind & Associates
<a href="http://www.miami-airport.com/">http://www.miami-airport.com/</a>	Miami International Airport

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## Other Sources Referenced

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IMPLAN Professional, (Version 1.1) will be used for this analysis. IMPLAN (Impact Analysis for Planning) was originally developed by the U.S. Department of Agriculture's Forest Service in cooperation with the Federal Emergency Management Agency and the U.S. Department of Interior's Bureau of Land Management to assist the Forest Service in land and resource management planning. The software has been upgraded and is presently sold and maintained by the Minnesota IMPLAN Group, Inc.

Minnesota IMPLAN Group, Inc. 1997 (Feb). IMPLAN Professional User's, Analysis and Data Guide. Stillwater, MN: MIG.

REMI, Regional Economic Models, Inc., Treyz, George, I., President, Amherst, Mass.

Applicable assumptions are described in the IMPLAN Users, Analysis and Data Guide, pages 87,88.

U.S. Department of Commerce, Bureau of Economic Analysis, November 1998.