An Analytical Inquiry: Do States that Ban Billboards Have Increased Tourism and Improved Economies?

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Executive Summary

iMapData has examined exhaustively the claim made by anti-billboard groups that Vermont's banning of billboards spurred in Vermont the growth of tourism expenditures and overall state growth. iMapData finds that the claim is false and misleading.

The data on which the claims rest is presented in the chart depicted below—this was taken from a widely-circulated Scenic America document.

Year	Visitors	Revenue
1976	6,800,000	\$280,000,000
1977	7,100,000	\$310,000,000
1978	7,400,000	\$420,000,000
Vermont's touris banned billboar	sm revenues rose by 50% in t ds in 1974.	he two years after the state

Scenic America's Vermont Visitors & Revenue, 1976-78

- 1. iMapData cannot find the source for the above-cited chart, nor can the Vermont Tourism Data Center or the major US Government data-collecting agencies.
- 2. Vermont's percent share of US travel expenditures is less in 1996 than in 1974, when measured by the US Travel Data Center.
- 3. iMapData developed a balanced report card methodology to score Vermont and Maine (another state that banned billboards coterminous with Vermont's ban) against: i) all states; ii) all states with populations of less than two million; iii) New Hampshire; and iv) Delaware—for the following comprehensive economic indices that measure tourism and economic growth:
 - a. Change in State Gross Product for Hotels & Lodging, 1977-1999 Report Card = C-
 - b. Change in Gross State Product for Amusement & Recreation, 1977-1999 Report Card = C-
 - c. Change in New Business Formation, 1989-1999 Report Card = F
 - d. Change in State Employment, 1977-2000 Report Card = C
 - e. Change in State Gross Product, 1977-1999 Report Card = C

An Analytical Inquiry: Do States That Ban Billboards Have Increased Tourism and Improved Economies?

iMapData has analyzed with some exhaustive rigor the oft-repeated claim, made most often by anti-billboard organizations, that states banning billboards experience—virtually immediately—increased tourism and improved overall economies.¹ This claim is false and misleading.

iMapData can find no evidence whatsoever substantiating this two-pronged claim—banning billboards increase tourism and improve economies. Conversely, iMapData has found substantial evidence that states banning billboards lag other states in greater tourism spending and—when measuring whether bans lead to greater overall state economic growth—ban and non-ban states are virtually indistinguishable from one another except on one key economic growth index (new business formations) wherein banned states lag significantly behind non-ban states.

iMapData has based these findings on a systematic survey of all relevant indices for tourism and economic growth as compiled by the Bureau of Labor Statistics (BLS), the Bureau of Economic Analysis (BEA), and the Small Business Administration (SBA). iMapData has run statistical reviews of the following key data series inventorying and correlating, state by state, where ban and non-ban states rank against each other as to tourism growth and overall economic growth:

- 1. Percent Change in Gross State Product for Hotels & Lodging, 1977 to 1999 (BEA), the key index that registers increased spending from outsiders, i. e., tourists, in a state;
- 2. Percent Change in Gross State Product for Amusement & Recreation, 1977-1999 (BEA), another key index for measuring tourism growth that is not as clean as spending on lodging because this index captures in-state spending as well;
- 3. Percent Change in New Business Formation, 1989-1998 (available dates) (SBA), a very key index for measuring the impact of increased tourism triggering new business starts and hence greater state economic growth;
- 4. Percent Change in State Employment, 1977-2000 (BLS), a broad but critical measure of overall state economic health that could be driven by many factors apart from increased or declining tourism;
- 5. Percent Change for Gross State Product for All Industries, 1977-1999 (BEA), another broad but critical measure of overall state economic health that could be driven by many factors apart from the role played by tourism.

¹Scenic America, <u>Fighting Billboard Blight: An Action Guide for Citizens and Public Officials</u>, (Scenic America: Washington, DC, 1999), Appendix 1, "Fighting Blight" p. 60.

iMapData believes that the analysis should be led by what iMapData can find as the only economic data source supporting the claim that banning billboards stimulates state tourism and state economic growth. In Scenic America's, "Fighting Economic Blight" section on "Fact & Myth," Scenic America prints the following table:²

Year	Visitors	Revenue
1976	6,800,000	\$280,000,000
1977	7,100,000	\$310,000,000
1978	7,400,000	\$420,000,000
Vermont's tourism revenu banned billboards in 1974	es rose by 50% in the two y 4.	years after the state

Scenic America's Vermont Visitors & Revenue, 1976-78

While this table portraying rapid tourism growth in Vermont, coming immediately upon the state's banning and removal of billboards, is often cited by Scenic America and many local opponents of billboards, iMapData has not been able to find the source of Scenic America's Vermont data series shown above and hence iMapData cannot examine four critical methodological areas: 1) Does the vague term "Revenue" mean "Tourism Expenditures"? Surely, the intent of the table is to imply that out-of-state visitors account for those listed amounts of new "revenue" injected into the state economy. 2) How was the data derived, what methods were used to capture and count the data, are those methods economically and statistically sound? 3) Who compiled the data, was the data collected by an impartial agency with credentialed expertise in collecting and presenting economic data? 4) Assuming the data is sound, what would similar data show for years previous to 1976 and the years post 1978? In other words, is this slender window in time sufficiently statistically significant to draw such a very sweeping conclusion?

Since iMapData was unable to locate the above cited data source, so central to the Scenic America claim, iMapData consulted with the Vermont-based, expert agency on tourism in Vermont—the Vermont Tourism Data Center. Like iMapData, the Vermont Tourism Data Center had no knowledge of the source or provenance of the "Vermont Visitors and Revenue, 1976-1978" data table. However, the expert Vermont agency provided iMapData with data relevant to tour-ism for those years and many more. This Vermont-based data conflicts sharply with the data shown in the above table and—far more important—with the anti-billboard conclusions that Scenic America draws from the table.³

²Scenic America, <u>Appendix F: Billboards and Our Economy: The Truth from the Advertising Industry</u> (Scenic America: Washington, DC, 1999), p. 60.

³Discussions with Vermont Tourism Data Center, August 31, 2001.

The Vermont Tourism Data Center believes that the most accurate tracking of tourism expenditures is captured by the U.S. Travel Center's "Travel Economic Model", which collects and correlates tourism expenditures for all 50 states and the District of Columbia. iMapData portrays below a graph, based on U.S. Travel Center Data (see Appendix A for the raw data), of tourism expenditures in Vermont, 1974 through 1996. As the reader can see, Vermont's tourism expenditures as a share of the U.S. tourism expenditures did rise from 1976 through 1978, but have tailed off steadily ever since to a point lower than 1974. iMapData's subsequent analysis of other economic indices, alluded to above, correlate this overall "lag" finding when Vermont is compared to other states.



iMapData then analyzed tourism expenditures in Vermont alone for the period 1974-1996 to see if there is any arguable connection between banning billboards in 1976 and increased tourism performance henceforth. The table on the next page captures this spending data—the raw supporting data appears in Appendix B.



As the table above shows, expenditures jumped in 1976 and then again, even more sharply this time, in 1977 (the year when the agency changed the methodology for data collection) and then jumped slightly in 1978 to a height of \$969.4 million. However, the expenditures fell in 1979 and did not recover to the 1978 level until the 1984-1986 years after which they once again fell sharply in the wake of another methodological revision. As of 1996, tourism expenditures still lag the 1986 level.

iMapData concludes from all of the U.S. Travel Center Data on Vermont tourism expenditures the following:

1) Vermont has lagged in growth of tourism expenditures since implementing the bill board ban when compared to all 50 states;

2) the growth in Vermont's tourism expenditures 1977-1978 reflect in large proportion a methodological change in how expenditure data was captured;

3) Vermont's long-run—1974 through 1996—of tourism expenditures reflects more a pattern of "bumps and lags" than growth.

These conclusions are confirmed by iMapData's subsequent analysis of the leading U.S. government economic indices that relate to tourism and state economic health.

<u>The Maine Issue:</u> The skimpiness of this data sourcing for Scenic America's description of the Vermont experience—and the correlation with the banning of billboards—raise numerous questions, all cited above. A further, and very serious, lacuna in the claim that banning billboards is good for state tourism and state economic growth is that iMapData can find no examples in antibillboard literature discussing the Maine experience which is critically relevant, especially since billboards were removed from Maine's highways almost at the same time as in Vermont (1976 versus 1978). Thus, what happened in Vermont, as claimed, should have happened in Maine—virtually sister states regionally and culturally, similar in economic size, and critically similar in their tourism dependence. The iMapData analysis, accordingly, takes as hard a look at what banning billboards might have done for Maine's tourism and economy as it might have done for Vermont's.

How iMapData Conducted the Analysis

iMapData has tried analytically to slice the issue as many ways as possible, looking at as many relevant and reputable indices as possible, and comparing Vermont and Maine to as many different clusters of states as possible. Accordingly, iMapData has contrasted both tourism growth and economic growth for Vermont and Maine against:

- 1. The US average;
- 2. All 48 states;
- 3. All small states (states with populations below 2 million);
- 4. Vermont, New Hampshire and Maine (abutting regional sister states, similar in many ways except New Hampshire has billboards);
- 5. Delaware (very close in population size and in relative dependence on tourism).

For the reader's convenience, iMapData has summarized each of its tourism and economic growth findings in the segments below, and then attached to the analysis the complete data from each of the individual economic series. The report card grades were determined by ranking the states on a curved grading scale for each economic indicator. Top ten states received an A, 11-20 received a B, 21-30 received a C, 31-40 received a D, and 41 and below received a F.

1. **Percent Change in State Gross Product for Hotels and Lodging, 1977-1999**: a key proxy for measuring the annual change in the number of tourists and their spending: Vermont and Maine very significantly lag the overall US growth average; are in the bottom half of all 48 states; are in the middle rung of all small states and outperform sister state New Hampshire. Even though Vermont's net growth is around the median, its growth rate is middle of the road at best, and Maine falls slightly above the fortieth percentile. If we compare the percent growth of Vermont and Maine to series leader New Jersey, New Jersey's growth rate is more than four times that of Vermont and Maine; Delaware's is fourteen percent more.

Report Card = C-

2. Percent Change in Gross State Product for Amusement and Recreation, 1977-1999: another good index for measuring tourism activity: Vermont is a slight notch above US average, Maine slightly below; both states in bottom half of all 48 states; both states in middle of all small states; outperform sister state New Hampshire. Even though Vermont has had slightly better growth during these years than the US as a whole, it still ranks below the fiftieth percentile. Maine ranks significantly lower than Vermont at the fortieth percentile. By contrasting Vermont's and Maine's net growth with that of series leader Mississippi, Mississippi has seen a growth rate that is more than six times that of Vermont and Maine; Delaware's is forty three percent more.

3. **Percent Change in New Business Formation, 1989-1999**: a key index that should measure how increased tourism activity triggered the growth of small service businesses: Vermont and Maine fall very far below US average; in bottom quartile of all states; Vermont and Maine both are in the bottom rung of all small states, significantly outperformed by Nevada, Idaho, and Delaware (especially when the rate of growth numbers are factored in); Vermont marginally outperforms New Hampshire, Maine marginally under performs New Hampshire. However, series leader Nevada's new business formation is more than six times that of Vermont and Maine; Delaware's is more than three times.

Report Card = F

Report Card = C-

4. **Percent Change in State Employment, 1977-2000**: a very broad index that would include tourism-related jobs: Vermont ahead of US average, Maine slightly behind; Vermont 18th in nation, Maine 26th of all 48 states; Vermont and Maine in precise middle of all small states; New Hampshire significantly outperforms Vermont and Maine in job creation. New Hampshire is slightly above the eightieth percentile, while Vermont is just above the sixtieth and Maine is just below the fiftieth percentiles. Series leader Nevada's state employment growth is more than three times Vermont and more than four times Maine. Delaware's growth is fourteen percent more than Vermont and thirty seven percent more than Maine.

Report Card = C

5. Percent Change in State Gross Product, 1977-1999, including all industries: a very broad measure of economic change that would capture tourism: Vermont outperforms US average, Maine slightly behind; Vermont 17^{th} and Maine 25^{th} of all 48 states; Vermont 4^{th} and Maine 7^{th} of all small states; New Hampshire hugely outperforms Vermont and Maine. By comparing the states in percentiles, New Hampshire is well above the ninetieth percentile, Vermont is slightly above the sixtieth and Maine is slightly below the fiftieth percentile. The series leader's, Nevada, growth is more than two times Vermont's and Maine's. Furthermore, Delaware's growth is seventeen percent more than Vermont's and thirty eight percent more than Maine. Report Card = C Conclusions from the data analysis:

On tourism-related indices, both Vermont and Maine were under performers for the periods following the removal of billboards. Most other states performed better, some far better, including same-size small states, especially Delaware. Thus it is difficult to support a claim that removal of billboards can be credited with significantly improved tourism activity and economic activity, since there does not appear to be improved tourism or tourism-related economic activity when measured against other states.

On general economic growth indices, job growth and GSP growth, Vermont and Maine outperformed most other states by a close margin but significantly under performed sister states New Hampshire and Delaware.

iMapData concludes that it is doubtful to ascribe this marginally better overall economic performance to the absence of billboards for two reasons: the relatively good performance in the broad indices is not corroborated by indices more closely linked to increased tourism activity and New Hampshire and Delaware—which significantly outperformed both Vermont and Maine in the broader indices—do have billboards.

National

1	New Jersey	1718%
2	Nevada	1320%
3	Mississippi	1300%
4	Maryland	1222%
5	Rhode Island	752%
6	Arizona	674%
7	Utah	649%
8	Connecticut	626%
9	Massachusetts	598%
10	Colorado	588%
11	Florida	583%
12	North Carolina	555%
13	Georgia	554%
14	Tennessee	551%
15	USA	543%
16	South Carolina	532%
17	Texas	498%
18	California	473%
19	New York	471%
20	Delaware	468%
21	Washington	461%
22	South Dakota	440%
23	Virginia	430%
24	Louisiana	418%
25	Vermont	412%
26	Minnesota	412%
27	Kansas	409%
28	Missouri	399%
29	Maine	381%
30	Wisconsin	356%
31	Illinois	349%
32	Kentucky	345%
33	Oregon	335%
34	New Hampshire	329%
35	Idaho .	326%
36	Pennsylvania	322%
37	New Mexico	310%
38	Alabama	301%
39	Michigan	297%
40	lowa	293%
41	Ohio	289%
42	North Dakota	287%
43	West Virginia	286%
44	Indiana	279%
45	Nebraska	266%
46	Arkansas	263%
47	Wyoming	252%
48	Montana	243%
49	Oklahoma	185%

Small States

		•
1	Nevada	1320%
2	Rhode Island	752%
3	USA	<mark>543%</mark>
4	Delaware	468%
5	South Dakota	440%
6	Vermont	412%
7	Maine	381%
8	New Hampshire	329%
9	Idaho	326%
10	New Mexico	310%
11	North Dakota	287%
12	West Virginia	286%
13	Nebraska	266%
14	Wyoming	252%
15	Montana	243%

Three States

1	Vermont	412%
2	Maine	381%
3	New Hampshire	329%

Table B: Percent ChangeGross State Product Amusement and Recreation (Continental US)1977 to 1999

Small States

National			
1	Mississippi	4067%	
2	Louisiana	1439%	
3	Arizona	1425%	
4	South Carolina	1255%	
5	Colorado	1231%	
6	North Carolina	1219%	
7	lowa	1194%	
8	Indiana	1194%	
9	Missouri	1076%	
10	North Dakota	1018%	
11	Montana	1016%	
12	Utah	964%	
13	Tennessee	931%	
14	Georgia	926%	
15	Connecticut	909%	
16	Minnesota	885%	
17	Washington	878%	
18	Idaho	852%	
19	Florida	830%	
20	Oregon	822%	
21	Texas	785%	
22	Virginia	738%	
23	South Dakota	691%	
24	New Mexico	671%	
25	California	667%	
26	Vermont	662%	
27	Wisconsin	645%	
28	USA	644%	
29	Alabama	600%	
30	Maine	583%	
31	Massachusetts	576%	
32	New Jersev	572%	
33	Illinois	548%	
34	Oklahoma	539%	
35	Maryland	537%	
36	New York	503%	
37	Wyoming	500%	
38	Kansas	491%	
39	Michigan	468%	
40	Delaware	464%	
41	Pennsylvania	460%	
42	Ohio	407%	
43	Nebraska	301%	
<u>4</u> 0	Kentucky	278%	
<u>4</u> 4	Rhode leland	3/0/0	
16	New Hampshire	2210/	
40	Arkansas	2/120/	
47	West Virginia	240% 107%	
40 20	Nevada	1/10%	
		17570	

North Dakota 1018% 1 2 Montana 1016% 3 Idaho 852% 4 South Dakota 691% 5 New Mexico 671% 6 Vermont 662% USA 644% 7 8 Maine 583% 9 Wyoming 500% 464% 10 Delaware 11 394% Nebraska 342% 12 Rhode Island 13 New Hampshire 331% West Virginia 197% 14 15 Nevada 149%

	Three States			
1	Vermont	662%		
2	Maine	583%		
3	New Hampshire	331%		

Table C: Percent ChangeNew Business Formation (Continental US)1989 to 1998

Small States

National

1	Nevada	46%
2	Idaho	38%
3	Utah	37%
4	Colorado	32%
5	Arizona	26%
6	Washington	25%
7	Delaware	24%
8	Oregon	23%
9	Montana	22%
10	Georgia	21%
11	North Carolina	21%
12	Wyoming	21%
13	New Mexico	20%
14	South Carolina	20%
15	Minnesota	19%
16	Arkansas	18%
17	Florida	18%
18	Texas	17%
19	South Dakota	17%
20	Alabama	17%
21	Tennessee	17%
22	Virginia	16%
23	Indiana	16%
24	Wisconsin	15%
25	Kentucky	14%
26	Oklahoma	14%
27	Louisiana	14%
28	Michigan	13%
29	Mississippi	13%
30	USA	13%
31	Illinois	12%
32	Maryland	12%
33	West Virginia	12%
34	Missouri	12%
35	Nebraska	11%
36	Kansas	11%
37	lowa	11%
38	Ohio	10%
39	Vermont	7%
40	North Dakota	7%
41	New Hampshire	7%
42	New Jersey	6%
43	Pennsylvania	6%
44	Maine	6%
45	California	5%
46	Massachusetts	2%
47	New York	2%
48	Rhode Island	0%
49	Connecticut	-1%

1	Nevada	46%
2	ldaho	38%
3	Delaware	24%
4	Montana	22%
5	Wyoming	21%
6	New Mexico	20%
7	South Dakota	17%
8	USA	13%
9	West Virginia	12%
10	Nebraska	11%
11	Vermont	7%
12	North Dakota	7%
13	New Hampshire	7%
14	Maine	6%
15	Rhode Island	0%

Three States

1	Vermont	7%
2	New Hampshire	7%
3	Maine	6%

Table D: Percent Change State Employment (Continental US) 1977 to 2000

New Hampshire

Nevada

ldaho

New Mexico

South Dakota

Delaware

Vermont

Nebraska North Dakota

Montana

Wyoming

Rhode Island West Virginia

USA

Maine

1

2

3

4

5

6

7

8

9 10

11

12

13

14

15

National

Small States

234%

84%

82% 79%

76%

67% 67%

58%

56%

53%

48%

47%

40% 25%

20%

1	New Hampshire	84%
2	Vermont	67%
3	Maine	56%

	National	
1	Nevada	234%
2	Arizona	178%
3	Florida	141%
4	Utah	120%
5	Colorado	109%
6	Georgia	107%
7	Washington	99%
8	Texas	92%
9	New Hampshire	84%
10	Idaho	82%
11	North Carolina	82%
12	Virginia	82%
13	New Mexico	79%
14	Delaware	76%
15	South Carolina	73%
16	Oregon	71%
17	South Dakota	67%
18	Vermont	67%
19	Minnesota	67%
20	Arkansas	67%
21	Tennessee	66%
22	California	61%
23	Kentucky	59%
24	Maryland	58%
25	USA	58%
26	Wisconsin	58%
27	Maine	56%
28	Kansas	55%
29	Nebraska	53%
30	Oklahoma	53%
31	Mississippi	51%
32	Missouri	48%
33	North Dakota	48%
34	Montana	47%
35	Indiana	42%
36	Louisiana	42%
37	New Jersev	41%
38		400/
	Ivvvomina	40%
39	Wyoming Massachusetts	40%
39 40	Massachusetts	40% 37% 37%
39 40 41	Massachusetts Iowa Michigan	40% 37% 37% 36%
39 40 41 42	Wyoming Massachusetts Iowa Michigan Ohio	40% 37% 37% 36%
39 40 41 42 43	Massachusetts Iowa Michigan Ohio	40% 37% 37% 36% 33% 32%
39 40 41 42 43 44	Wyoming Massachusetts Iowa Michigan Ohio Connecticut Illinois	40% 37% 37% 36% 33% 32% 30%
39 40 41 42 43 44 45	Wyoming Massachusetts Iowa Michigan Ohio Connecticut Illinois New York	40% 37% 37% 36% 33% 32% 30% 26%
39 40 41 42 43 44 45 46	Wyoming Massachusetts Iowa Michigan Ohio Connecticut Illinois New York Pennsylvania	40% 37% 37% 36% 33% 32% 30% 26% 25%
39 40 41 42 43 44 45 46 47	Wyoming Massachusetts Iowa Michigan Ohio Connecticut Illinois New York Pennsylvania Rhode Island	40% 37% 37% 36% 33% 32% 30% 26% 25% 25%
39 40 41 42 43 44 45 46 47 48	Wyoming Massachusetts Iowa Michigan Ohio Connecticut Illinois New York Pennsylvania Rhode Island West Virginia	40% 37% 37% 36% 33% 32% 30% 26% 25% 25% 25% 20%
39 40 41 42 43 44 45 46 47 48 49	Wyoming Massachusetts Iowa Michigan Ohio Connecticut Illinois New York Pennsylvania Rhode Island West Virginia Alabama	40% 37% 37% 36% 33% 32% 30% 26% 25% 25% 25% 20% 16%

Table E: Percent Change Gross State Product (Continental US) 1977 to 1999

National		
1	Nevada	832%
2	Arizona	647%
3	New Hampshire	596%
4	Georgia	570%
5	Florida	567%
6	Colorado	509%
7	Utah	500%
8	North Carolina	486%
9	Delaware	482%
10	Washington	482%
11	Virginia	450%
12	California	436%
13	Massachusetts	429%
14	South Carolina	427%
15	Texas	422%
16	Connecticut	415%
17	Vermont	410%
18	Tennessee	407%
19	New Jersey	396%
20	Maryland	392%
21	Oregon	391%
22	New Mexico	390%
23	Idaho	383%
24	Minnesota	377%
25	USA	370%
26	Maine	350%
27	Rhode Island	348%
28	Alabama	334%
29	Arkansas	334%
30	New York	324%
31	South Dakota	323%
32	Missouri	308%
33	Wisconsin	307%
34	Mississippi	302%
35	Kentucky	298%
36	Kansas	298%
37	Nebraska	297%
38	Illinois	286%
39	Indiana	284%
40	Pennsylvania	281%
41	Ohio	269%
42	Oklahoma	262%
43	Michigan	250%
44	Louisiana	228%
45	Montana	225%
46	lowa	224%
47	North Dakota	223%
48	Wyoming	207%
49	West Virginia	178%

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	Small States	
1	Nevada	832%
2	New Hampshire	596%
3	Delaware	482%
4	Vermont	410%
5	New Mexico	390%
6	ldaho	383%
7	USA	370%
8	Maine	350%
9	Rhode Island	348%
10	South Dakota	323%
11	Nebraska	297%
12	Montana	225%
13	North Dakota	223%
14	Wyoming	207%
15	West Virginia	178%

Three States

1	New Hampshire	596%
2	Vermont	410%
3	Maine	350%

Appendix A

U.S. Domestic Travel Expenditures 1974-1996 Based on the US Travel Data Center's Travel Economic Impact Model

Year	Vermont % Share of U.S.
1974	0.46%
1975	0.45%
1976	0.46%
1977**	0.79%
1978	0.79%
1979	0.62%
1980	0.58%
1981	0.54%
1982	0.50%
1983	0.49%
1984	0.53%
1985	0.51%
1986	0.53%
1987**	0.38%
1988	0.36%
1989	0.33%
1990	0.32%
1991	0.31%
1992	0.32%
1993	0.32%
1994	0.31%
1995	0.32%
1996	0.30%

Appendix B

U.S. Domestic Travel Expenditures 1974-1996 Based on the US Travel Data Center's Travel Economic Impact Model

Year	Vermont*
1974	\$312.10
1975	\$381.00
1976	\$501.90
1977**	\$860.90
1978	\$969.40
1979	\$879.40
1980	\$936.30
1981	\$964.00
1982	\$925.70
1983	\$963.10
1984	\$1,181.20
1985	\$1,227.70
1986	\$1,336.70
1987**	\$881.00
1988	\$933.80
1989	\$889.10
1990	\$919.10
1991	\$919.60
1992	\$969.20
1993	\$1,029.70
1994	\$1,041.10
1995	\$1,136.20
1996	\$1,167.20
	•
* \$1.0= \$	Million
** Change in Travel Economic Impact Model (TEIM)	

About iMapData, Inc. and its Principals

iMapData Inc. is a high profile provider of sophisticated Economic and Political impact information. iMapData (formerly InContext) specializes in geo-economic analysis – both hard copy and web-based interactive format – that takes either economic data (such as numbers of jobs in specific types of local businesses, or the rates of different taxes in different jurisdictions) and/or demographic data (such as income, occupation, age, race or crime data) and juxtaposes those data with local geographic areas defined by an almost infinite variety of geographic "envelopes"—e.g., by a political jurisdiction (such as a congressional district, a parliamentary district, a state assembly district or a city council district), or by an economic service jurisdiction (such as a local cable system area, a daily newspaper service area, a local gas utility service area, or a Yellow Pages market area) or by a particular local/regional market area impacted by a major entertainment/ sports event, sports facility or a major economic force/magnet (e.g., a regional airport, an interstate highway, a natural disaster).

iMapData's work is distinguished by extensive and creative uses of digital computer software for multicolor mapping and charting coupled with thirteen years of working business experience. iMapData's geo-economic analyses rely on the ageold adage that a picture is worth a thousand words. Using a revolutionary web-based platform that simplifies the delivery of high-quality GIS information, users need only a standard browser to quickly produce crisp, revealing maps and reports that customize and combine business, economic, demographic, geographic and political information. iMapData does away with complex GIS applications, expensive hardware, database acquisition and years of training. The iMapData platform has been deployed as a specialized enterprise solution, enabling our customers to distribute their data throughout the organization and make it available to senior executives.

Clients using iMapData's products include: Anheuser-Busch, the Regional Bell Operating Companies (including GTE/ Verizon), British Telecom (BT), Telecom Italia, America Online, the Federal Reserve Bank of Chicago, Federal law enforcement agencies, National Crime Insurance Bureau, Penske Corporation, International Speedway Corporation, Eli Lilly, Pharmaceutical Research & Manufacturers of America (PhRMA), Philip Morris Companies, Cellular Telephone Industry Association (CTIA), Federation Internationale de l'Automobile (Formula One), & the Motor Sports Association/ UK.

William Lilley III, Chairman, CEO and co-founder of iMapData, is a former economic historian who was a senior corporate official of CBS Inc, the media company in New York. He has served as Director of the U.S. Council on Wage and Price Stability and as Staff Director of the Budget Committee for the U.S. House of Representatives. He received his Ph.D. from Yale University, taught at Yale, and has written widely on how government policies effect local economic activity, on the economics of the professional sports business and on the socio-economic makeup of U.S. state and local political constituencies.

Laurence J. DeFranco, president and co-founder of iMapData, is an expert in the new field of geo-economics that merges the disciplines of economics, geography and computer science. He has written, testified and spoken widely on the effects of economic, regulatory, and legislative policy on businesses—especially in a geographic context. Previously he was president of Program Flow, Inc., a computer software, research and consulting firm he founded. Before that, he worked for CBS Inc. as head of the New Technologies Task Force.

Lilley and DeFranco wrote four award-winning books on U.S. state legislative government, all published by Congressional Quarterly Books in Washington, D.C.: *The Almanac of State Legislatures: Changing Patterns 1990-1997* (1998); *State Legislative Elections: Voting Patterns and Demographics* (1997); *The State Atlas of Political and Cultural Diversity* (1996); and *The Almanac of State Legislatures* (1994). They also wrote *The Economic Impact of the European Grands Prix* (Brussels: FIA, 1999); *The Sports That Make Communities Rich: An Inquiry into the Economics of Professional Sports*, published by the American Coalition for Sports Sponsorship (1997); *Impact of Retail Taxes on the Illinois-Indiana Border*, published by the Federal Reserve Bank of Chicago (1997), and *The Case of the Transient Taxpayer: How Tax-Driven Price Differentials for Commodity Goods Can Create Improbable Markets*, published by the Journal of Business Economics (1998). iMapData's maps of tax, regulatory and socio-demographic configurations, as distributed across US political jurisdictions, appear regularly in Governing Magazine.