

Spending on Travel: Fun with Numbers

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Haven't you always wondered why they have chicken, liver, and fish flavored cat food but not mouse flavored cat food? That same sort of bewilderment struck me when I read the recent Surface Transportation Policy Project Special Report titled *Transportation Costs and the American Dream* (Special Report from STPP, July 2002, www.transact.org). There in living color, was a summary of household spending on transportation that showed my place of residence, Tampa, Florida in the number one rank for the highest share of household expenditures for transportation of 28 metropolitan areas.

As a previous Dallas resident, I could understand the \$10,516 in Dallas quit well – egomobiles are expensive. But the \$6,683 in Milwaukee is near the bottom of the list? It must be they all rely on their rail system. Oops, -- they don't have a rail system. As a Wisconsin native, I knew they stayed home watching the Packers, drinking beer, and eating brats – choosing the finer things in life to spend their resources on. Table 1, from the STPP report, shows Atlanta, Boston, and Baltimore all clustered at the low end with spending from \$6,342 to \$6,577 -- it must be the similarity in urban form and character.

Table 1. Household Spending on Transportation by Metropolitan Area (2000-2001)

Rank (% Trans.)		Transportation Expenditures	Transportation as % of Total Expenditures	Housing + Transportation Expenditures	Housing + Transportation as % of Total Expenditures
1	Tampa	\$9,292	24.6%	\$21,250	56.4%
2	Phoenix	\$8,910	21.7%	\$22,271	54.3%
3	Dallas-Fort Worth	\$10,516	21.0%	\$26,035	51.9%
4	San Diego	\$9,161	20.8%	\$25,633	58.3%
5	Cleveland	\$8,202	20.7%	\$21,346	54.0%
6	Houston	\$9,566	20.1%	\$24,157	50.8%
7	Seattle	\$9,372	19.9%	\$25,153	53.4%
8	Pittsburgh	\$7,715	19.9%	\$19,121	49.3%
9	Cincinnati	\$8,166	19.7%	\$21,367	51.7%
10	St. Louis	\$8,043	19.1%	\$20,278	48.2%
11	Denver	\$8,458	18.9%	\$24,545	54.7%
12	Detroit	\$8,093	18.7%	\$22,467	51.8%
13	Kansas City	\$7,445	18.4%	\$20,285	50.1%
14	Miami	\$7,469	18.3%	\$22,448	55.1%
15	Anchorage	\$9,773	18.2%	\$26,835	50.0%
16	Los Angeles	\$8,104	17.9%	\$25,210	55.7%
17	Minneapolis-St. Paul	\$9,176	17.9%	\$25,002	48.7%
18	Chicago	\$8,189	17.4%	\$25,126	53.4%
19	Atlanta	\$6,577	17.3%	\$20,800	54.7%
20	Philadelphia	\$6,606	17.1%	\$20,308	52.7%
21	San Francisco	\$9,492	16.9%	\$30,369	54.1%
22	Baltimore	\$6,405	16.9%	\$19,482	51.3%
23	Boston	\$6,342	16.8%	\$20,096	53.2%
24	Milwaukee	\$6,683	16.6%	\$20,133	50.1%
25	Portland	\$6,917	16.2%	\$21,977	51.4%
26	Washington, DC	\$7,647	15.9%	\$25,620	53.2%
27	Honolulu	\$6,523	15.2%	\$20,426	47.5%
28	New York	\$7,295	15.1%	\$25,188	52.2%
United States		\$7,633	19.3%	\$20,644	52.2%

Source: Bureau of Labor Statistics, Consumer Expenditures Survey 2000-2001.

Recovering from the initial shock and awe, additional reflection and data mining were carried out to more fully understand the implications.

The other major aspect of investment in transportation is investment of time. Travelers spend time and money on mobility and generally both have intrinsic value and are in scarce supply. The STPP findings

were appended with data on the time travelers spent on all local travel in each urban area (2001 National Household Travel Survey). Data was not available for a few urban areas and the Baltimore-Washington area could not be disaggregated.

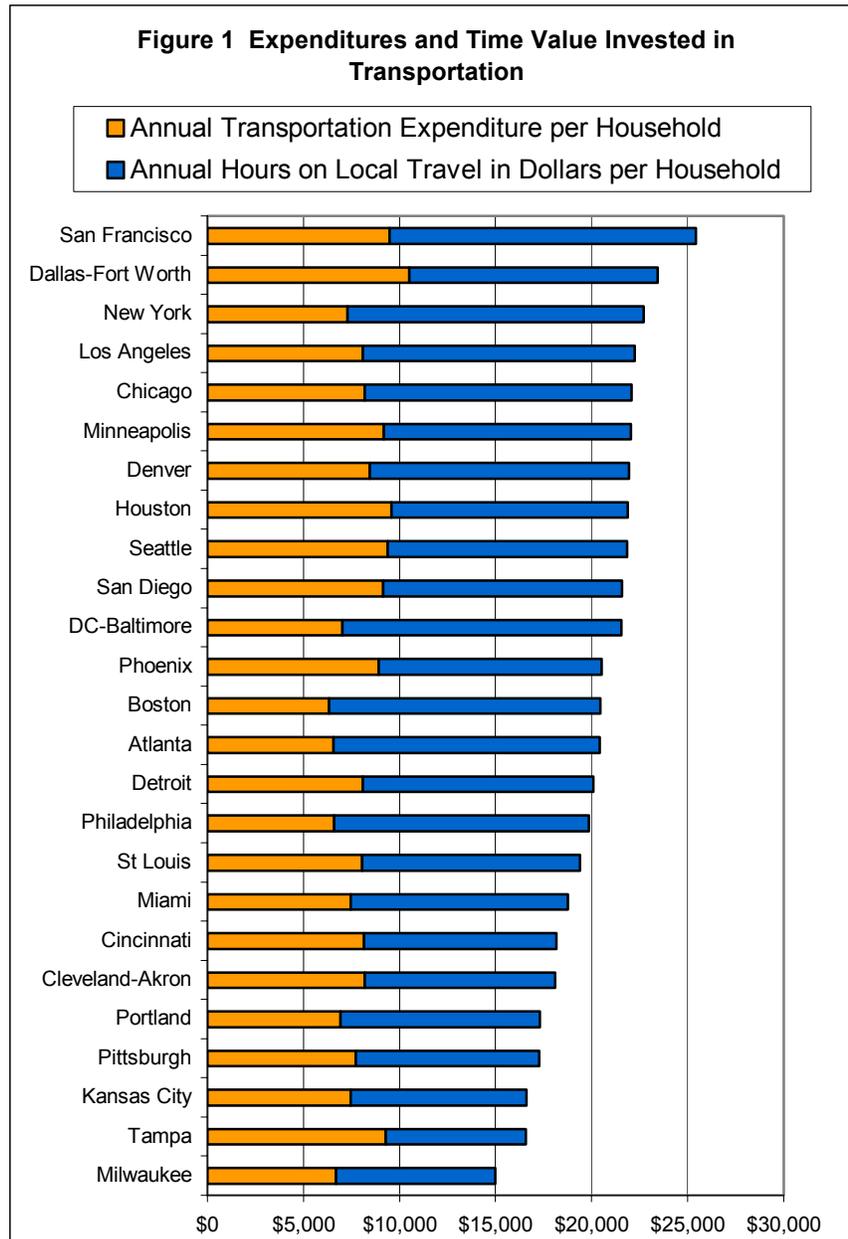
The rankings shift dramatically when the value of time spent on local travel is included. Figure 1 shows the dollar values of spending and travel time where travel time is valued at half the hourly prevailing local average income/wage rate. Tampa, among the highest spending cities for direct costs, is the national laggard in time value spent in local travel. This flips Tampa's rank from highest for spending as a share of expenditures to 24th out of 25 when ranked in terms of total spending. I feel richer already.

Those Milwaukee folks are unique. They don't spend much money on their vehicles, plus they don't spend much time in them either. San Franciscans spend a lot of time and money on travel. Is it congestion or the fact that greater use of non-auto modes tends to increase the time spent traveling as bike, walk and transit modes are considerably slower on average than auto travel? The twin cities of Atlanta and Boston, have virtually identical spending levels for both time and money. Often, but not always, low costs in one area were partially offset by high costs in the other.

While one may choose to value time differently than was done for Figure 1, including the value of travel time changes the results of an analysis of urban area transportation spending. Perhaps urban transportation planner pilgrimages should be shifting to visit Milwaukee, Tampa and Kansas City, the urban areas with the lowest total transportation spending?

The Bureau of Labor Statistics transportation

spending measure is not all transportation spending. This measure captures direct spending that the respondent knows is spent on transportation but indirect spending, the predominant share of spending for public transit and a growing share for other modes, is not well captured. This BLS method would capture spending on fares for transit but not capture local general funds, sales taxes, property taxes or other fees and taxes that support public transportation. Analysis of National Transit Data indicates that in some urban areas the public revenues used to support transit reach levels of several hundred dollars per household per year. Locations like New York and San Francisco, with intensive transit services, spend over \$400 per person per year in support of transit. A transit agency funded by a one percent sales tax



might be expected to generate several hundred dollars per household in revenues not attributed, in the BLS survey, to transportation spending.

Transit, while more highly dependent on non-user fees than roadways, is not alone. Impact fees, general funds and other revenues often end up contributing to the cost of roadway travel and would not be captured by the BLS methods. For those rare folks that actually park a car in their garage, the rent/mortgage and property tax costs for vehicle garaging are not captured either. Then again, if we amortize the costs of owning the garage over the bikes parked there, the cost of bike travel just went through the roof.

Transportation Policy Implications – In speaking to the variation in the share of income spent on transportation, the STPP report says,

Much of the variation is due to the development patterns that characterize a metropolitan area, and the availability of public transportation and other alternatives like carpooling and walkable retail areas. While the sample size is too small to allow rigorous statistical analysis, a quick glance at the list of metro areas shows that in many sprawling areas, families spend a much larger share of their household budgets on transportation than in more compact, transit or pedestrian-oriented areas.

Perhaps it is time for the rigorous statistical analysis. Everything from data definitions and quality to boundary definitions to defining costs plays a role in the findings and the conclusions one can draw from reviewing this data. A host of factors including the age profile and household structure of the population and the regulatory environment and culture influencing auto ownership play a role in the relative rankings. At a minimum, non-local travel spending should be factored out, both public and private spending for transportation should be counted, multiyear spending data should be used, and some value of travel time should be included in the analysis.

The STPP reported also noted “The growth of transportation expenditures closely followed the drop in transit use and the emergence of sprawl development.” Indeed, while the temporal correlation is true, the growth trend in transportation expenditures is also correlated with a host of other factors. Interestingly, not mentioned in the STPP report, there is also a correlation between the growth in transportation spending and women joining the work force, real income growth, increased auto licensure rates, declining poverty levels, reduced crime, increased immigration and a host of other traits that may have more to do with the desire and ability Americans have had to travel more. One need not do more than look at a nearby parking lot to realize that much of our transportation spending is driven by personal choice and desires not functional necessity or desires to minimize transportation spending. Americans are choosing to spend more time and money on travel.

Understanding transportation’s true costs and the public’s willingness to pay - be it in time, money, safety or other quality of life tradeoffs, should be an important research priority. Decisions on how to simultaneously provide high quality mobility while preserving other quality of life characteristics requires a rich understanding of what factors are driving transportation demand and costs. Spending on transportation is a function of what people have to spend on transportation and what people choose to spend on transportation. The greater our understanding of this the better our transportation decisions will be.

Now off to buy some mouse flavored cat food.

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