

## Time to End State & Local Highway Subsidies

State and local subsidies to highway users averaged 1.9¢ per vehicle mile in 2018, according to [data](#) recently released by the Federal Highway Administration. The average vehicle on the road has about 1.67 occupants, so subsidies per passenger mile average 1.2 cents.

By far the majority of these subsidies were at the local level. While exact calculations are not possible, I estimate state subsidies averaged 0.3 cents per vehicle mile while local subsidies averaged 4.4 cents per vehicle mile.

These numbers are calculated from [Highway Statistics](#), an annual report that the federal government has published since [at least 1946](#). The government has also published [summary reports](#) with some data tables going back as far as 1900.

### Calculating Highway Subsidies

Highway finance data can be confusing, with some revenues coming from investment interest, bond proceeds, and intergovernmental payments. To calculate subsidies, I use a simple formula: First, I total the funds spent on roads that do not come from user fees, including general fund appropriations, property taxes, and what the tables call “miscellaneous.” These are found in tables [SF-3](#) for the states and [LGF-1](#) for local governments.

Second, I deduct from this total the user fees (gas taxes, tolls, and vehicle registration fees) that are diverted to transit or general funds. These are found in tables [SDF](#) for the states and [LDF](#) for local governments. The difference is the net subsidy. To get subsidies per vehicle mile, divide the total state and local subsidies by the vehicle miles of travel by state as shown in table [VM-2](#).

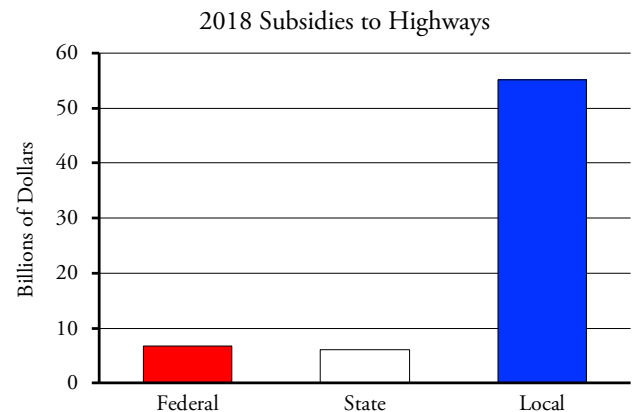
Unfortunately, [Highway Statistics](#) doesn't estimate vehicle miles by state or local roads, but table [HM-80](#) shows the number of miles of roads that are owned by the states broken down by freeways, major and minor arterials, major and minor collectors, and local roads, the same categories used in table VM-2. The states own only about 19 percent of the roads in the country, but the roads they own include most freeways and other major arterials that get most of the traffic.

If we assume that a mile of state road in any category (such as minor collector) gets as many vehicle miles as a local road in that same category, then it turns out that 61 percent of driving is on the 19 percent of roads owned by the states. This assumption may underestimate the use of state roads, but it allows a reasonable first approximation of the apportionment of subsidies to state and local roads.

### Federal Subsidies

Unlike the Federal Transit Administration, which publishes the National Transit Database all at once, the Federal Highway Administration trickles out the tables in [Highway Statistics](#) a few at a time. It hasn't yet issued table HF-10, which is needed to calculate federal subsidies to highways.

In fact, it hasn't even formally issued table HF-10 for 2017. However, the agency sent me a [preliminary edition](#) of this table, which indicated that federal subsidies were negative—that is, diversions of user fees to non-highway uses exceeded general funds spent on roads. That is misleading as [HF-10 for 2016](#) listed a whopping \$56.6 billion in general fund appropriations to roads, which were meant to cover all the years between 2016 and 2020, or \$11.3 billion per year.



*Most highway subsidies are from local governments. Federal subsidies estimated based on 2017 numbers.*

Deducting that from the amounts shown in the 2017

### Data for Subsidy Calculations

	State Diversions	Local Diversions	State Non-User Fees	Local Non-User Fees
Alabama	62,817	0	478,549	256,545
Alaska	208	0	479,045	193,510
Arizona	192,203	0	937,691	551,915
Arkansas	45,051	0	551,396	768,696
California	2,564,486	84,306	1,109,824	6,078,264
Colorado	218,468	43,464	635,593	1,213,426
Connecticut	735,064	0	516,527	40,000
Delaware	52,246	0	752,103	53,288
Dist. of Col.	75,208	0	0	0
Florida	1,550,171	18,130	2,243,505	3,078,536
Georgia	283,886	0	755,189	940,381
Hawaii	21,472	0	2,454	99,576
Idaho	45,858	0	71,661	222,390
Illinois	813,196	0	928,781	2,340,169
Indiana	52,058	0	306,594	982,919
Iowa	62,250	0	84,792	301,460
Kansas	456,053	0	458,515	861,880
Kentucky	209,506	0	272,742	318,091
Louisiana	82,932	0	40,220	301,361
Maine	38,786	0	79,153	313,391
Maryland	1,571,656	0	557,656	1,863,294
Mass.	1,062,175	482	411,482	1,321,621
Michigan	282,182	0	503,909	1,827,988
Minnesota	1,482,328	0	615,486	2,502,849
Mississippi	64,816	0	58,417	374,764
Missouri	12,394	0	445,144	865,776
Montana	229,188	0	61,755	360,525
Nebraska	15,657	0	418,130	712,450
Nevada	13,178	0	162,823	643,053
New Hamp.	26,517	0	57,451	192,551
New Jersey	905,327	0	1,493,984	1,867,897
New Mexico	194,058	0	111,927	398,407
New York	1,571,178	731,627	3,410,183	4,526,182
N. Carolina	333,537	0	1,039,435	708,710
N. Dakota	30,678	0	11,463	381,249
Ohio	125,621	0	684,322	1,657,803
Oklahoma	869,158	0	1,058,907	531,679
Oregon	93,641	0	112,984	898,723
Pennsy.	2,022,667	0	1,396,659	3,748,943
Rh. Island	117,873	0	113,576	59,586
S. Carolina	149,262	0	152,593	537,394
S. Dakota	18,232	0	159,403	301,509
Tennessee	307,069	0	69,998	314,367
Texas	6,864,467	12,011	4,433,717	4,841,608
Utah	37,160	0	660,334	357,940
Vermont	124,085	0	78,024	138,762
Virginia	531,520	5,221	2,771,286	440,991
Washington	143,382	35	869,278	2,015,670
West Virginia	3,603	0	64,600	418,653
Wisconsin	231,439	0	280,644	1,898,645
Wyoming	54,219	0	79,223	346,209
Total	27,050,186	895,276	33,072,848	55,971,596

*Subsidies equal non-user fees spent on roads minus diversions of user fees spent on non-highway programs. Click [here](#) to download a spreadsheet with complete calculations.*

### State & Local Subsidies Per Vehicle Mile

State	State VMT	Local VMT	State ¢/VMT	Local ¢/VMT
Alabama	38,590	32,577	1.1	0.8
Alaska	3,869	1,619	12.4	12.0
Arizona	33,138	33,006	2.2	1.7
Arkansas	26,353	10,323	1.9	7.4
California	190,770	158,025	-0.8	3.8
Colorado	33,063	20,891	1.3	5.6
Connecticut	23,403	8,193	-0.9	0.5
Delaware	9,768	412	7.2	12.9
Dist. of Col.	3,385	306	-2.2	0.0
Florida	121,818	99,998	0.6	3.1
Georgia	76,039	55,417	0.6	1.7
Hawaii	5,934	4,953	-0.3	2.0
Idaho	9,579	8,130	0.3	2.7
Illinois	61,737	46,218	0.2	5.1
Indiana	37,421	44,108	0.7	2.2
Iowa	20,846	12,436	0.1	2.4
Kansas	16,354	15,836	0.0	5.4
Kentucky	41,910	7,634	0.2	4.2
Louisiana	41,096	8,950	-0.1	3.4
Maine	11,743	3,041	0.3	10.3
Maryland	38,037	21,739	-2.7	8.6
Mass.	33,860	32,912	-1.9	4.0
Michigan	53,023	49,374	0.4	3.7
Minnesota	34,784	25,655	-2.5	9.8
Mississippi	23,670	17,060	0.0	2.2
Missouri	51,325	25,270	0.8	3.4
Montana	8,779	3,921	-1.9	9.2
Nebraska	13,358	7,616	3.0	9.4
Nevada	14,000	14,319	1.1	4.5
New Hamp.	8,788	4,989	0.4	3.9
New Jersey	30,645	46,894	1.9	4.0
New Mexico	17,425	9,863	-0.5	4.0
New York	61,179	62,332	3.0	6.1
N. Carolina	106,557	14,570	0.7	4.9
N. Dakota	6,087	3,769	-0.3	10.1
Ohio	70,313	44,161	0.8	3.8
Oklahoma	23,935	21,498	0.8	2.5
Oregon	22,211	14,638	0.1	6.1
Pennsy.	74,841	27,269	-0.8	13.7
Rh. Island	6,221	1,788	-0.1	3.3
S. Carolina	52,194	4,607	0.0	11.7
S. Dakota	6,537	3,183	2.2	9.5
Tennessee	55,203	26,118	-0.4	1.2
Texas	201,559	80,479	-1.2	6.0
Utah	21,790	10,279	2.9	3.5
Vermont	4,695	2,651	-1.0	5.2
Virginia	66,523	18,813	3.4	2.3
Washington	34,438	27,929	2.1	7.2
West Virginia	17,614	1,833	0.3	22.8
Wisconsin	38,103	27,782	0.1	6.8
Wyoming	6,764	3,674	0.4	9.4
Total	1,985,848	1,254,478	0.3	4.4

*Divide vehicle miles into the subsidies from the previous table to get the subsidies per vehicle mile. Divide again by 1.67 to get subsidies per passenger mile.*

table results in total net federal subsidies to roads in 2017 of \$6.8 billion, or about 0.2 cents per vehicle mile. Since 2018 funds are allocated under the same law as in 2017, it is likely that 2018 numbers will be about the same.

### Passenger & Freight Subsidies

“Vehicles,” of course, include both cars and trucks. In addition to moving 5.2 trillion passenger miles in 2018 (counting light vehicles, motorcycles, and buses from table [VM-1](#)), highways moved more than 2.0 trillion ton-miles of freight. Unfortunately, the latest data on ton-miles is from 2017, but 2018 numbers should be about the same or slightly greater.

In a [previous policy brief](#), I used the amount people actually spend driving and shipping goods by highway to calculate that one passenger mile is equal in value to 1.39 ton-miles. Based on this, about 78 percent of highway subsidies are attributable to passengers and 22 percent are attributable to freight. This would mean that nationwide subsidies average about 1.0 cents per passenger mile and 0.75 cents per ton-mile.

### Subsidies by State

At the state level, the biggest subsidies are in Alaska, which happily funds its most of its infrastructure out of revenues collected from oil wells rather than user fees. The low population also means that people drive fewer vehicle miles on state roads than any other state. The result is a subsidy of 12.4 cents per vehicle mile. Subsidies in Delaware are 7.2 cents per vehicle mile, and they are a little more than 3 cents per vehicle mile in Nebraska, New York, and Virginia. All other states are less than 3 cents.

Subsidies are actually negative in 17 states, which means those states are guilty of diverting a significant amount of user fees to transit and other purposes. The worst offender is Texas, which in 2018 spent almost two-thirds of its gas taxes and vehicle registration fees, a total of \$6.9 billion, on non-highway purposes, much of it for education. Next is California, which spent \$2.6 billion on non-highway programs, mostly transit. Pennsylvania diverted \$2.0 billion; Florida, Maryland, Minnesota, and New York about \$1.5 billion; and Massachusetts about a billion.

Most cities and counties don't collect fees from highway users, and the portions of state and federal user fees that the states share with local governments are inadequate to maintain local roads and streets, which make up the bulk of the nation's road miles. As a result, the vast majority of highway subsidies are at the local level: about \$55 billion in 2018 compared with \$6 billion state and less than \$7 billion federal (based on 2017 numbers).

Local subsidies in West Virginia were 23 cents per vehicle mile, and subsidies in 11 other states were between 9 and 14 cents per mile. Yet local governments in two very different states—Alabama and Connecticut—managed to get by with subsidies of less than a penny per vehicle mile,

and 10 other states were less than 3 cents per mile. Most of the rest were under 5 cents per mile.

Some people point out that property taxes, which pay about a third of local subsidies, are not really a subsidy because property owners benefit by getting access to the roads and streets near their homes or businesses. While that may be valid, property taxes don't provide the major benefits of user fees, which are insuring that fees are proportional to use; that the fees give users signals about the costs of what they are using; and they give producers signals regarding investment needs.

To create a better user-fee-driven system, the states should revamp their roadway finance systems to render these subsidies unnecessary. Yet even the largest subsidies are small compared with subsidies to transit, which in 2018 averaged more than \$1 per passenger mile.

### Transit's Share of Travel

Another recently posted *Highway Statistics* table is [HM-72](#), which indicates the number of miles of driving in each of 493 urbanized areas. By multiplying miles of driving by 1.67 to get passenger miles, this can be compared with passenger miles of transit usage from the National Transit Database to calculate transit's share of motorized travel in each urban area (see table on next page).

That share is highest in New York, of course, where transit carried 11.3 percent of motorized travel. Second was San Francisco-Oakland at 5.4 percent. No other urban area was higher than 4 percent and only five areas, Chicago, Washington, Seattle, Honolulu, and State College, Pennsylvania, were higher than 3 percent.

(Actually, one small urban area, Hanford, California, supposedly has 13 percent of its passenger miles carried by transit. That's because [CalVans](#), which runs rural vanpools throughout the state of California, is headquartered in Hanford, though the vanpools themselves are elsewhere.)

Nationwide, 1.6 percent of urban motorized travel is by transit. Of course, 43 percent of that takes place in just one urban area; subtract New York and transit carries less than 1 percent of urban motorized travel.

When all travel is counted, the 53.7 billion passenger miles carried by urban transit is a rounding error compared with the 5.2 trillion passenger miles and 2.0 trillion ton-miles of freight carried on the highways. Transit passenger miles are declining while highway travel and shipping is growing, and growing or shrinking, transit subsidies per passenger mile are a hundred times as great as highway subsidies to auto driving, having exceeded \$1 per passenger mile for the first time in 2018.

Despite transit's tiny share, it is likely that at least half of the nation's major urban areas are spending more than half of their transportation funds on transit. They often make the excuse that highways are subsidized, so no one should complain about subsidies to transit, even though transit subsidies are many times greater per passenger mile. This is just one more reason to end highway subsidies.

## Transit's Share of Motorized Travel

Urban Area	2017	2018
New York	11.51%	11.34%
Los Angeles	1.83%	1.80%
Chicago	3.37%	3.34%
Miami	1.08%	1.00%
Philadelphia	2.45%	2.36%
Dallas-Fort Worth	0.53%	0.52%
Houston	0.70%	0.68%
Washington	3.21%	3.17%
Atlanta	0.87%	0.82%
Boston	2.68%	2.41%
Detroit	0.43%	0.37%
Phoenix	0.72%	0.67%
San Francisco-Concord	5.43%	5.38%
Seattle	3.39%	3.38%
San Diego	1.33%	1.26%
Minneapolis-St. Paul	1.09%	1.06%
Tampa-St. Petersburg	0.32%	0.33%
Denver-Boulder-Longmont	1.64%	1.54%
Baltimore	2.29%	2.02%
St. Louis	0.62%	0.57%
San Juan	0.94%	0.71%
Riverside-Murietta	0.36%	0.36%
Las Vegas	0.94%	1.52%
Portland	2.34%	1.99%
Cleveland	0.70%	0.65%
San Antonio	0.63%	0.61%
Pittsburgh	1.42%	1.34%
Sacramento	0.57%	0.56%
San Jose	0.90%	0.83%
Cincinnati	0.39%	0.41%
Kansas City	0.21%	0.20%
Orlando	0.53%	0.52%
Indianapolis	0.13%	0.16%
Virginia Beach	0.38%	0.35%
Milwaukee	0.68%	0.59%
Columbus	0.33%	0.36%
Austin	0.65%	0.63%
Charlotte	0.42%	0.40%
Providence	0.50%	0.50%
Jacksonville	0.32%	0.31%
Memphis	0.21%	0.18%
Salt Lake-Provo-Orem	1.12%	1.10%
Louisville	0.47%	0.43%
Nashville	0.25%	0.23%
Richmond	0.39%	0.35%
Buffalo	0.66%	0.64%
Hartford	0.91%	0.96%
Bridgeport	0.29%	0.28%
New Orleans	0.62%	0.59%
Raleigh	0.16%	0.15%
Oklahoma City	0.09%	0.10%
Tucson	0.77%	0.73%
El Paso	0.71%	0.72%
Honolulu	3.67%	3.54%
Birmingham	0.09%	0.12%
Albuquerque	0.76%	0.72%

## Fixing Urban Problems

Between 1919 and 1931, all of the then-48 states put their highways on a user-pays system by collecting gas taxes and vehicle registration fees and dedicating those fees to roads. The crowning achievement of user-pay was the Interstate Highways, which were paid for entirely out of federal and state highway user fees. The result was what some people called “the [best transportation system in the world](#).”

After completion of the Interstate Highways, however, the user-pay principle faded as Congress and many states diverted user fees to other programs and then supplemented highway funds with general funds. Transportation agencies became less responsive to user needs and more responsive to political whims. The result was such things as light rail, streetcars, dedicated bus lanes, and road diets. These were doubly offensive as they not only wasted money but, in most cases, actually made congestion worse. At the same time, infrastructure has been allowed to deteriorate because politicians would rather spend political dollars on shiny new projects than on maintenance of existing facilities.

Restoring the user-pay system means both ending subsidies to roads and ending diversions of road user fees, including gas taxes, vehicle registration fees, tolls, and (eventually) mileage-based user fees, to non-highway programs. Doing so will solve most of the problems now associated with transportation systems: relieving congestion, restoring infrastructure, and reducing the waste of funds on projects to nowhere.

Those who want to save energy, reduce greenhouse gas emissions, or otherwise fix the ills generated by auto driving need to take into account what the late economist Charles Lave called “the [Law of Large Proportions](#),” which he defined as “the biggest components matter most.” In particular, he said, this means that, instead of trying to solve highway problems by reduce the miles of driving, it is more cost-effective to reduce the ills associated with each mile of driving.

Rather than wasting money on obsolete transit systems and deliberately increasing congestion to force people to out of their cars, we need to make better cars and build better roads. An important part of making this happen is to improve our highway financing systems to eliminate subsidies and insure that users pay for what they use and get the quality of transportation that they pay for.

*Randal O’Toole is a land-use and transportation policy analyst and author of [Gridlock: Why We’re Stuck in Traffic and What to Do About It](#).*

*Left: Transit carries less than 1 percent of motorized travel in the vast majority of urban areas. Of the hundreds of urban areas not shown in the table, transit exceeds 1 percent mainly in a few college towns and other urban areas with young populations. Click [here](#) to download a spreadsheet showing transit’s 2017 and 2018 shares of motorized travel for almost every urban area in the United States.*