

# The Antiplanner

*Dedicated to the Sunset of Government Planning*

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## State & Local Highway Subsidies

Americans drove 14 percent fewer miles in 2020 than in 2019, but state and local highway agencies continued to spend as much money on road improvements and maintenance. State and local highway subsidies increased only slightly, however, as the decline in miles of driving was partly offset by increases in fuel taxes and other user fees.

Two years ago, an [Antiplanner policy brief](#) looked at 2018 state and local highway subsidies. Today's update compares 2020 with 2019 results based on data published in the Federal Highway Administration's annual [Highway Statistics](#) reports. In these reports, highway user fees, and how much of them are actually spent on highways as opposed to mass transit or other programs, are shown in tables SDF for the states and LDF for local governments. The sources of highway funds, including user fees, general funds, and other taxes, are shown in tables SF-3 and LGF-1. The actual amounts of money spent on roads are shown in SF-2 and LGF-2.

### Allocating Miles of Driving

The number of miles driven on state and local roads is needed to calculate state and local subsidies per vehicle-mile. Unfortunately, *Highway Statistics* doesn't break down miles of travel by ownership. Table VM-2 does report on how many miles of driving take place on each major type of road—interstate freeways, other freeways, other arterials, collectors, and local roads, all divided into urban and rural. Table HM-80 reports how many miles of each of those road types are owned by the states. Table HM-10 reports how many miles are owned by city and county governments for the urban and rural road systems as a whole, but not broken down by road type.

With these data, I estimated the number of miles of driving on state and local roads. State was easy: I calculated miles of driving per mile of road on each road type and multiplied those averages by the miles of each type owned by the states. Local was a little more tricky: About 90 percent of rural and 98 percent of urban roads that aren't

state-owned are owned by city and county governments, so I attributed those percentages of driving that didn't take place on state roads to local roads. The remaining 2 to 10 percent of roads are mostly in national forests or national parks, but some are in state or local parks. (More federal roads are in Oregon than any other state because Oregon timber is so valuable that the Forest Service built lots of roads back in its timber cutting years.)

This method of allocating miles of driving to state and local roads isn't perfect, but I suspect it is accurate to within plus or minus 30 percent. The main source of inaccuracy is the assumption that the vehicle-miles per road mile is the same on state roads as on local roads of the same type. If this is wrong, it is likely that state roads receive more miles of driving than local roads, so the state miles will be underestimated (and subsidies overestimated). This means the local vehicle-miles may be overestimated and subsidies underestimated, although this is partly offset in states with national forests because local roads are probably more heavily used than forest roads. At the state level, the subsidies are so small that a 30 percent error makes little difference. At the local level, subsidies in some states are much larger so the 30 percent error may be significant.

### Calculating Subsidies

Highway critics often compare total expenditures on roads with the user fees spent on roads and count the difference as subsidies. But this is unfair for two reasons. First, a lot of expenditures are paid for out of bond sales that will often be eventually repaid out of user fees, plus a small portion is paid for out of interest earned on the user fees before they are spent. This spending shouldn't be counted against today's user fees. Second, critics ignore the more than \$30 billion in highway user fees, including fuel taxes, vehicle registration fees, and tolls, that are diverted annually to transit and other non-highway programs. They should be counted as highway revenues even if legislators steal them for other programs.



Instead, I calculate state and local subsidies by subtracting diversions of road user fees from the general funds and other non-road taxes spent on roads. This reveals that the vast majority of subsidies are local: about \$45 billion in 2020 compared with just \$2 billion in state subsidies. There were also about \$15.3 billion in subsidies from the federal government.

Because the states own the most heavily used roads, including almost all the interstates and other freeways, more than 60 percent of all driving takes place on state roads, so state subsidies per mile of driving are small: about a tenth of a penny per mile. Although tiny, this subsidy increased by 37 percent from 2019.

About 38 percent of driving is on local roads, and subsidies to that driving average about 4.1¢ per mile, up from 3.7¢ in 2019. Only about 1 percent of driving is on national forest or park roads, and this is mostly subsidized, but I don't have the data to calculate those subsidies.

As shown in the table on page 4, almost half the states actually divert more money out of highway user fees than they appropriate to highways out of other taxes. In these states, subsidies are negative: auto users are actually paying to subsidize transit and other programs while the roads they drive on remain congested and, in some cases, in poor condition. Of states that subsidize their roads, the biggest subsidies are in Alaska at 6.34¢ per vehicle-mile, as that state uses oil tax revenues to subsidize much of its government. Subsidies are also more than 2¢ per vehicle-mile in Arizona, Maryland, Nebraska, and Virginia.

Alaska and West Virginia have the biggest local subsidies of around 30¢ per vehicle-mile, as shown in the table on page 5. West Virginia is a special case as it has very few local roads. Along with North Carolina, Virginia, and most New England states, the state owns almost all roads in rural areas. West Virginia is unique in that the state also owns a majority of roads in its cities. So the large local subsidy may be due to just a few roads.

State highway user fees cover 60 percent of funds spent by the states on highways. Most of the rest is transfers from the federal government, most of which comes out of federal fuel taxes and other federal highway fees (mainly taxes on trucks and truck tires).

Local governments more heavily subsidize their roads because most don't have a dedicated local fuel tax or other user fees. While the states transfer some funds from state user fees to local governments, it isn't enough to pay for local roads. As a result, cities and counties rely on sales taxes, property taxes, and other general funds to pay for almost half of their roads.

### The Value of User Fees

The problem with subsidies to roads is that the elected officials who allocate those subsidies often have political priorities other than road maintenance. The [recent collapse](#) of the Fern Hollow bridge in Pittsburgh illustrates

this problem. The city-owned bridge was considered to be in poor condition and the city estimated it would cost \$1.5 million to repair. Rather than repair it, the city spent almost that much money on a [bike-sharing program](#) in 2019

The city's own inspection program failed to reveal the extent of the deterioration of the bridge. According to [semi-annual inspections](#), which were remarkably similar over the past decade, it was the superstructure and pavement that was in poor condition while the substructure, which is the part that collapsed, was considered "adequate." Based on these inspections, the city [didn't even plan](#) to use its share of the bridge funds in the recent infrastructure bill to repair this bridge. Contrary to the official inspection reports, a local resident noticed in 2018 that one of the beams supporting the bridge had [completely rusted through](#). When he brought this to the attention of city officials, they [removed](#), but did not replace, the failed beam.

This is just one more example of why subsidies should be replaced with user fees, preferably tolls or mileage-based fees: highway agencies managers spending the revenues their roads earn will behave more responsibly than politicians because they know if they don't keep the roads in good condition those revenues will decline. As bridge data show, 9.5 percent of local bridges that are paid for out of general funds were in poor condition in 2020, compared with just 0.9 percent of local bridges paid for out of tolls.

### Federal Subsidies

When Congress reauthorized transportation funding in 2015, it fully expected to spend more money out of the Highway Trust Fund than the fund would collect in fuel taxes and other user fees. To make up the difference, it added \$70 billion to the fund, of which about \$50.9 billion was for highways and \$19.1 billion for transit, which was to last for five years. It should also be noted that some of the "highway" money in the fund is actually "flexible," meaning state and local governments can spend it on either highways or transit, so about \$1.0 billion to \$1.5 billion a year is transferred from highways to transit.

In my 2018 analysis, I attributed \$10.2 billion of the \$70 billion to 2018 highway costs. To calculate subsidies this year, however, I use table FE-210 of *Highway Statistics* to compare how much the federal government collected from highway users with how much it spent on highways each year. Collections were \$44.5 billion in 2019 and \$43.0 billion in 2020 while highway spending was \$45.6 billion in 2019 rising to \$48.3 billion in 2020. Subsidies thus rose from \$1.1 billion to \$5.3 billion.

In addition, table FA-5 says that agencies other than the Federal Highway Administration spent \$7.25 billion on roads in 2019. This did not come out of the Highway Trust Fund and was either for roads on federal lands or



transferred to state and local governments. This brought total 2019 federal subsidies to \$8.3 billion.

Unfortunately, table FA-5 is one of the few tables not yet released for 2020. The table for 2018 indicates that other federal agencies spent \$4.55 billion on roads, about \$2.5 billion less than in 2020. For the moment, I'll assume that the other-federal-agencies number for 2020 is \$10 billion, but I'll post an update here when that table is released. In the meantime, total federal subsidies in 2020 were an estimated \$15.3 billion.

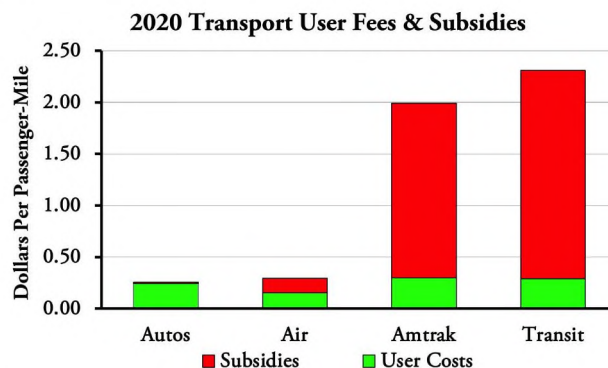
Since miles of driving dropped from 3.36 trillion in 2019 to 2.90 trillion in 2020, federal subsidies to roads increased from about 0.25¢ per vehicle-mile in 2019 to 0.52¢ per vehicle-mile in 2020. It is tempting to add this to the state and local subsidies to get the total subsidies in each state, but this wouldn't be accurate. First, the states received more than 95 percent of federal distributions in 2019, while local governments received less than 5 percent. Second, distributions to the states are not proportional to vehicle-miles traveled: large, thinly populated states such as Alaska and Wyoming received far more money, per vehicle-mile, than smaller, denser states.

Instead, when added to the state and local subsidies, total 2020 highway subsidies were \$62.6 billion, up from \$48.3 billion in 2019. Meanwhile, total miles of driving dropped from 3.36 trillion in 2019 to 2.90 trillion in 2020. This means the subsidies to driving rose from an average of 1.4 cents per vehicle-mile in 2019 to 2.2 cents in 2020. That's a big increase, but it is still far from the total subsidies to transit, which rose from an average of \$1.08 per passenger mile in 2019 to \$2.02 per passenger mile in 2020.

To calculate highway subsidies per passenger-mile, we first have to allocate the subsidies to passengers and freight. Since heavy trucks traveled about 9 percent of vehicle-miles and passenger vehicles the other 91 percent, the subsidies could be allocated that way. However, since trucks do more damage to roads than automobiles, I prefer to allocate the subsidies according to the value of each kind of transport.

The Department of Transportation hasn't posted data for 2019 or 2020 yet, but in 2018 trucks carried just over [2.0 trillion ton-miles](#) of freight, earning an average of [20.2¢ per ton-mile](#), for total revenue of \$410.7 billion. Meanwhile, according to the Bureau of Economic Analysis [National Income and Product Accounts](#) table 2.2.5, Americans spent \$1.223 trillion buying, operating, and insuring motor vehicles in 2018.

By value, then, 25 percent of subsidies to highways should be allocated to freight and 75 percent (or 1.65¢ per vehicle-mile in 2020) to passengers. Since the average automobile carries 1.67 people, the 2020 subsidy per passenger mile was slightly less than 1¢. If trucks produced a higher proportion of transportation value in 2020, then the subsidy per passenger-mile would be slightly lower.



*In 2020, transit fares per passenger-mile were 19 percent more than the average cost of driving per passenger-mile, but total transit costs, including subsidies, were more than nine times greater than the costs of auto driving. Meanwhile, Amtrak fares were almost twice as great as airline fares and total Amtrak costs per passenger-mile, including subsidies, were almost seven times as great as air travel costs. Sources: Auto costs from Highway Statistics 2020 as explained in this paper; airline costs from National Transportation Statistics, tables 3-20, 3-32, and 3-35, plus published data about CARES Act subsidies to airlines and airports; Amtrak data from Monthly Performance Reports, using the report for FY 2020, subtracting data from December 2019 and adding data from December 2020 to get data for calendar year 2020; transit from 2020 National Transit Database, service, fares, operating costs, and capital costs spreadsheets.*

In 2019, airlines were the least-expensive way to travel. Airfares averaged less than 19¢ per passenger-mile and subsidies to airlines were around a penny per passenger mile. But the Coronavirus Aid, Relief, and Economic Security Act of March 2020 gave airlines and airports \$35 billion in COVID relief funds, increasing airline subsidies to 14 cents per passenger-mile. The law gave no money to highways, so highway subsidies mainly increased because of the decline in travel. Airlines still charged lower average fares of only about 15¢ per passenger-mile, but when subsidies are added automobiles were the least-expensive mode. Meanwhile, Amtrak fares remained about twice as great as airline fares and subsidies to Amtrak rose to \$1.69 per passenger-mile.

If highway subsidies were eliminated, it probably wouldn't lead to much of a reduction in driving. But if all roads were paid for out of user fees instead having some user fees diverted to transit and other road costs paid for by general funds, it would give highway agencies better incentives to take care of the roads and to take actions that would help relieve congestion rather than make it worse. Road users should be the first, then, to demand an end to highway subsidies since they will be the main beneficiaries of such a change.

*Randal O'Toole, the Antiplanner, is a land-use and transportation policy analyst and author of [The Vanishing Automobile](#) and Other Urban Myths. [Masthead photo](#) from [pxhere.com](#).*



### 2019 and 2020 State Highway Subsidies

*(Dollars and vehicle-miles are in millions except subsidies/vehicle-mile are in cents)*

	2020 Highway Spending	2020 User Fees	2020 Diver- sions	2020 Non- User Fees	2020 Subsi- dies	2020 Vehicle- Miles	2020 Subsidy ¢/VMT	2019 Highway Spending	2019 Subsi- dies	2019 Vehicle Miles	2019 Subsidy ¢/VMT
Alabama	2,167	1,104	9	85	75	36,455	0.21	2,285	72	38,979	0.18
Alaska	1,031	107	4	225	220	3,479	6.34	1,159	225	3,922	5.72
Arizona	3,250	1,097	218	893	675	31,313	2.16	3,047	687	34,078	2.02
Arkansas	1,725	739	55	365	310	23,999	1.29	1,591	309	26,616	1.16
California	17,356	18,150	2,071	926	-1,144	172,371	-0.66	16,502	-1,564	190,123	-0.82
Colorado	2,650	2,117	349	154	-194	29,732	-0.65	2,333	120	33,516	0.36
Connecticut	2,117	979	174	458	284	22,261	1.28	2,117	-139	23,439	-0.59
Delaware	1,660	1,040	75	105	30	7,934	0.37	1,780	39	9,821	0.4
DC	724	109	5	0	-5	2,771	-0.18	597	-126	3,460	-3.63
Florida	11,214	6,745	1,250	476	-774	113,906	-0.68	11,517	-1,079	125,195	-0.86
Georgia	3,650	1,978	150	563	413	68,724	0.6	3,781	365	77,027	0.47
Hawaii	474	282	23	0	-23	4,804	-0.48	415	-21	5,996	-0.36
Idaho	1,037	587	54	60	6	9,708	0.06	1,097	14	9,744	0.14
Illinois	6,830	4,794	725	636	-89	52,659	-0.17	5,761	-170	61,175	-0.28
Indiana	3,245	1,916	4	134	130	33,526	0.39	3,495	133	37,957	0.35
Iowa	2,545	1,808	24	97	73	18,582	0.39	2,337	71	21,124	0.34
Kansas	1,559	781	276	518	242	14,605	1.66	1,481	147	16,418	0.9
Kentucky	2,645	1,551	164	6	-158	39,259	-0.4	2,594	-207	41,858	-0.5
Louisiana	1,847	718	84	43	-41	36,319	-0.11	1,725	-66	40,272	-0.16
Maine	1,278	479	66	0	-66	10,395	-0.64	1,190	-55	11,794	-0.46
Maryland	3,316	2,982	1,584	522	-1,061	31,814	-3.34	3,441	-1,078	38,349	-2.81
Massachusetts	3,730	1,394	542	263	-279	26,836	-1.04	3,730	-279	33,460	-0.83
Michigan	4,384	2,790	330	598	268	43,897	0.61	4,225	280	52,712	0.53
Minnesota	3,657	1,830	454	642	188	29,491	0.64	3,506	226	34,804	0.65
Mississippi	1,325	606	61	57	-4	23,330	-0.02	1,328	9	24,138	0.04
Missouri	2,497	1,013	5	414	409	46,709	0.88	2,542	410	51,837	0.79
Montana	883	482	207	7	-199	8,322	-2.4	814	-225	8,873	-2.54
Nebraska	1,388	518	10	419	409	12,207	3.35	1,803	405	13,402	3.02
Nevada	1,078	1,339	19	77	57	12,401	0.46	1,216	76	13,831	0.55
New Hampshire	708	379	6	5	-2	7,701	-0.02	650	-5	8,864	-0.06
New Jersey	9,147	3,290	1,359	1,610	251	25,988	0.97	10,008	6	31,065	0.02
New Mexico	1,139	757	239	377	137	15,819	0.87	1,038	197	17,852	1.1
New York	10,103	5,862	2,787	2,808	21	49,741	0.04	15,290	1,541	61,039	2.53
North Carolina	6,330	3,028	310	870	560	93,190	0.6	7,289	489	107,652	0.45
North Dakota	619	307	29	8	-21	5,124	-0.42	629	-18	6,071	-0.3
Ohio	6,367	3,736	272	484	212	60,762	0.35	5,496	347	70,670	0.49
Oklahoma	3,122	1,742	767	944	177	22,078	0.8	2,787	214	23,490	0.91
Oregon	2,567	1,391	137	75	-63	19,693	-0.32	2,571	-19	22,154	-0.09
Pennsylvania	10,285	7,883	1,822	1,169	-653	63,774	-1.02	9,641	-445	75,482	-0.59
Rhode Island	824	270	135	55	-79	5,040	-1.57	645	-70	5,833	-1.19
South Carolina	2,864	1,885	55	3	-53	49,297	-0.11	2,632	-87	53,124	-0.16
South Dakota	780	191	18	121	104	6,577	1.58	565	112	6,701	1.66
Tennessee	2,512	1,677	259	35	-223	51,145	-0.44	2,323	-288	56,629	-0.51
Texas	20,921	11,668	6,159	6,140	-19	185,830	-0.01	15,541	-341	207,106	-0.16
Utah	2,415	753	63	712	649	20,268	3.2	2,007	675	22,190	3.04
Vermont	598	311	80	55	-25	3,790	-0.66	565	-24	4,700	-0.5
Virginia	5,639	2,468	521	2,033	1,512	59,158	2.56	5,569	1,534	66,441	2.31
Washington	5,019	2,707	286	85	-201	29,251	-0.69	4,562	-562	34,501	-1.63
West Virginia	2,219	1,046	1	21	20	14,540	0.14	1,489	-154	17,286	-0.89
Wisconsin	3,295	1,793	260	220	-40	32,442	-0.12	3,275	-15	38,005	-0.04
Wyoming	612	377	64	73	9	6,493	0.14	564	22	7,112	0.31
Total/Average	189,346	113,560	24,625	26,647	2,022	1,766,996	0.11	184,543	1,744	1,999,092	0.09



### 2019 and 2020 Local Highway Subsidies

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Alabama	\$705	\$208	\$0	\$229	\$223	30,895	0.7	\$738	\$229	32,171	0.7
Alaska	425	28	0	212	351	1,202	29.2	256	212	1,339	15.8
Arizona	1,573	733	0	493	481	31,836	1.5	1,581	493	33,445	1.5
Arkansas	824	0	0	609	594	8,604	6.9	833	609	9,100	6.7
California	11,904	5,949	62	3,757	3,875	124,469	3.1	11,696	3,691	147,521	2.5
Colorado	2,212	553	61	1,000	1,026	18,382	5.3	2,150	942	20,542	4.6
Connecticut	1,007	863	0	60	64	7,476	0.9	956	60	8,037	0.7
Delaware	62	0	0	55	45	349	12.8	65	55	361	15.2
Florida	4,368	1,287	26	2,027	2,054	93,014	2.2	4,232	2,003	100,097	2.0
Georgia	1,243	232	0	920	935	42,463	2.2	1,247	920	53,425	1.7
Hawaii	479	285	0	69	72	3,831	1.9	470	69	4,837	1.4
Idaho	468	204	0	166	168	5,512	3.0	451	166	5,914	2.8
Illinois	3,760	529	0	2,177	2,179	41,069	5.3	3,733	2,177	45,909	4.7
Indiana	1,649	605	0	501	697	42,764	1.6	1,492	501	44,478	1.1
Iowa	1,667	884	0	295	323	11,040	2.9	1,645	295	12,266	2.4
Kansas	1,238	160	0	845	862	13,108	6.6	1,220	845	15,234	5.5
Kentucky	468	33	0	256	242	7,093	3.4	476	256	7,362	3.5
Louisiana	406	92	0	254	262	11,952	2.2	396	254	8,220	3.1
Maine	668	263	0	383	381	2,608	14.6	661	383	2,982	12.8
Maryland	1,325	183	0	870	850	18,554	4.6	1,344	870	21,293	4.1
Massachusetts	3,033	705	0.52	1,464	1,374	26,814	5.1	3,088	1,463	30,884	4.7
Michigan	2,042	31	4	1,602	1,636	42,411	3.8	1,970	1,601	49,169	3.3
Minnesota	4,205	1,152	0	2,813	2,698	21,783	12.4	4,270	2,813	25,550	11.0
Mississippi	568	113	0	361	354	16,147	2.2	567	361	16,757	2.2
Missouri	1,386	280	0	785	832	25,864	3.2	1,323	785	27,100	2.9
Montana	510	46	0	382	320	3,605	8.9	532	382	3,473	11.0
Nebraska	1,211	394	0.063	756	700	7,168	9.8	1,189	756	7,778	9.7
Nevada	1,212	308	0	422	420	12,483	3.4	1,216	422	14,589	2.9
New Hampshire	494	227	0	195	191	4,166	4.6	498	195	4,865	4.0
New Jersey	2,501	299	2	1,851	1,928	39,312	4.9	2,405	1,849	45,926	4.0
New Mexico	569	42	0	397	379	6,206	6.1	587	397	7,873	5.0
New York	9,513	2,041	723	4,204	4,359	51,168	7.1	9,332	3,511	61,249	5.7
North Carolina	1,371	181	0	297	323	11,988	2.7	1,472	297	13,653	2.2
North Dakota	539	110	0	393	361	3,611	10.0	606	393	3,738	10.5
Ohio	2,914	1,186	0	1,648	1,579	41,970	3.8	2,958	1,648	43,619	3.8
Oklahoma	941	0	0	465	454	19,721	2.3	963	465	20,946	2.2
Oregon	1,631	517	2	666	688	11,027	6.2	1,600	666	11,908	5.6
Pennsylvania	10,108	448	0	2,174	2,169	23,540	9.2	10,647	2,174	26,640	8.2
Rhode Island	98	2	0	77	75	1,757	4.2	100	77	1,684	4.6
South Carolina	600	52	0	594	514	4,508	11.4	660	594	4,649	12.8
South Dakota	414	94	0	304	311	3,021	10.3	404	304	3,046	10.0
Tennessee	717	430	0	213	212	25,078	0.8	698	213	26,094	0.8
Texas	8,201	1,601	23	3,542	3,436	73,974	4.6	7,996	3,518	80,276	4.4
Utah	531	306	0	198	200	9,531	2.1	514	198	10,281	1.9
Vermont	263	29	0	154	159	2,196	7.2	257	154	2,616	5.9
Virginia	2,524	1,227	5	504	558	15,488	3.6	2,463	498	17,396	2.9
Washington	2,910	551	0.222	1,555	1,489	22,294	6.7	3,022	1,554	25,651	6.1
West Virginia	413	6	0.959	413	383	1,272	30.0	450	412	1,504	27.4
Wisconsin	3,434	522	0	2,027	2,038	24,983	8.2	3,369	2,027	28,148	7.2
Wyoming	336	4	0	355	329	2,691	12.2	360	355	2,616	13.6
Total/Average	\$101,642	\$25,996	\$911	\$45,982	\$46,149	1,096,773	4.1	\$101,157	\$45,107	1,218,202	3.7