
Are Highways Subsidized?

BY RANDAL O'TOOLE

I have always loved trains. I am an ardent cyclist, and I never particularly liked automobiles. So I always took it for granted that the reason most Americans drive and passenger trains have nearly disappeared is that our highways are unfairly subsidized. I felt particularly incensed that the Interstate Highway System, which took business from the railroads, was so heavily subsidized.

As the saying goes, our biggest problems are not what we don't know, but what we think we know that isn't so. One day I looked up the data to find out just how much money federal, state, and local governments spent subsidizing highways. I was stunned to learn:

- The Interstate Highway System was built without a dime of subsidy, being funded entirely with gas taxes and other highway-user fees;
- For the last 60 years virtually no federal money and very little state money other than highway-user fees have been spent on any highways or roads;
- Cities and counties, however, do spend property, income, and sales taxes subsidizing new local roads and street maintenance;
- But these subsidies are partly offset by diversions of federal and state highway-user fees to mass transit and other nonhighway programs;
- Bottom line: user fees cover nearly 90 percent of the total amount spent on highway construction, maintenance, and operations.

In 1919 my home state of Oregon was the first state to dedicate a gasoline tax to highways, roads, and streets. At that time gas taxes cost less to administer than toll roads and as a user fee they seemed to be just as fair. By

1932, when Congress dedicated the first federal gas tax to roads, every other state had followed Oregon's example and nearly 60 percent of the money spent on roads came from such taxes. Eventually, states charged truckers weight-mile fees and vehicle-registration charges. Federal tire taxes were also included in highway funds.

A U.S. Department of Transportation annual report called *Highway Statistics* reveals that in 2004 highway-user revenues totaled well over \$100 billion. Nearly \$21 billion of this was diverted to mass transit and other nonhighway programs but should still be counted as highway-user fees.

At the same time, nearly \$39 billion was spent on highways out of property taxes and other taxes. Of the total amount spent on highways in 2004, then, net subsidies amounted to \$39 billion minus \$21 billion, or about \$18 billion. This is about 12 percent of total spending on road construction, maintenance, and operations such as highway patrols. (See table HF-10 of *Highway Statistics 2004*.)

The myth of interstate highway subsidies is most pernicious because it supports claims that postwar suburbanization is some kind of plot rather than the preferred choice of most American families. Former Milwaukee Mayor John Norquist, for example, argues that interstate subsidies interfered with the free market and that interstate highways built through the hearts of cities drained them of jobs and residents. In reality, federal highway planners originally expected to bypass the cities and it was only lobbying by urban mayors, including Norquist's

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predecessor, that convinced Congress to run the highways through cities. As Harvard transportation professor Alan Altshuler observes, those highways reduced inner-city congestion and probably helped save many downtowns.

While I don't approve of the \$18 billion subsidy for other roads, it is trivial compared with the nearly 4.7 trillion passenger-miles carried on American highways in 2004 (*Highway Statistics*, table VM-1). This is less than 0.4 cents per passenger-mile. After adjusting for inflation, back issues of *Highway Statistics* show that the total subsidy over the past 84 years has averaged less than 0.5 cents per passenger-mile. The cost per mile is even lower if we attribute part of it to the 1.1 trillion ton-miles of freight carried on highways each year (*National Transportation Statistics 2004*, table 1-46a).

On a state-by-state basis the subsidies range from 2.6 cents per passenger-mile in Alaska to minus 0.6 cents in Maryland. Eight states in addition to Maryland divert enough money from their gas taxes so that highway users pay more fees than the states actually spend on roads. At the other end of the scale, seven states and the District of Columbia join Alaska in spending more than a penny per passenger-mile in subsidies to roads. Subsidies in the remaining 32 states are between 0 and 1 cent per passenger-mile.

A case could be made that some of these local expenses are not even subsidies to driving. Streets existed and were paid for by local taxes long before automobiles. In most modern subdivisions, developers build the streets and deed them over to the city or county, which then has to pay only for maintenance. Street maintenance, snow removal, and other operations are as important for pedestrians, cyclists, and public safety as for auto drivers. Still, cars dominate many of these streets and auto-user fees should pay for most of their maintenance.

Rail and transit advocates use the myth of major highway subsidies to justify more subsidies to Amtrak

and public transit. Yet according to the Bureau of Transportation Statistics, taxpayers pay at least 21 cents per passenger-mile to subsidize Amtrak. Subsidies to public transit in 2004 averaged 65 cents per passenger-mile, says the American Public Transportation Association's *Transit Fact Book 2005*. (For the record, subsidies to air travel are about a tenth of a penny per passenger-mile.)

Amtrak and transit subsidies have been far greater than highway subsidies for at least 35 years. In recent years total transit subsidies have been twice as great as total highway subsidies even though highways carry a hundred times more passenger traffic and thousands of times more freight than transit does.

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The Social Costs of the Automobile

While highway subsidies may be minimal compared to the amount of work they perform, I still believe that the automobile imposed large external costs on society. If only we could get people to drive less, for example, our air would be far cleaner.

The Environmental Protection Agency and many American cities have spent millions of dollars on numerous creative programs aimed at reducing driving. The only thing that has worked to clean the air, however, is to clean it at the tailpipe. Thanks to technological improvements, our air is far cleaner today than it was in 1970 when Congress first passed the Clean Air Act.

The average car on the road today produces about a tenth as much pollution as cars in 1970. So even though we drive almost three times as many miles as Americans did in 1970, all our cars together produce less than 40 percent as much pollution. Many new cars today produce just one-hundredth as much pollution as 1970 cars, so the air will continue to get cleaner even as driving increases.

Though air pollution is declining, at least it really exists. Other so-called social costs of the automobile are more ethereal. Various auto critics have charged the

automobile with “land-use impacts,” “the loss of transportation options” (that is, high-cost competitors), and trade deficits due to people buying foreign cars. After a massive study of such claims, University of California economist Mark Delucchi concluded in the *Journal of Transportation and Statistics* that most “rely on outdated, superficial, nongeneralizable, or otherwise inappropriate studies.”

Delucchi himself estimates that the total social costs of the automobile average less than 7 cents per vehicle-mile (which, at an average occupancy of 1.6 people per car, works out to around 4.3 cents per passenger-mile). Strangely, most of Delucchi’s costs are congestion and accidents. Since these costs are paid mainly by auto users, they may not be social costs at all. Even if 7 cents per mile is correct, Delucchi is the first to point out that “the subsidies to public transit generally are much greater than the external costs of automobile use” (“Should We Try to Get the Prices Right?” *Access*, Spring 2000).

The most recent claim is that free parking is somehow a subsidy or social cost. Some anti-auto advocates think office parks and shopping malls should require their employees and customers to pay for parking. This makes as much sense as requiring businesses to charge their employees to use office equipment or supermarkets to charge rent for shopping carts.

Other auto skeptics claim that the automobile imposes increasing costs on American families. In fact, data from the Commerce Department’s Bureau of Economic Analysis show that since 1950 Americans have consistently spent about 9.5 percent of their disposable incomes on autos and driving. Though we actually spend a little smaller share of our incomes on driving today, we drive three times as many miles per capita as we did in 1950 (Census Bureau, *Historical Statistics of the United States: Colonial Times to 1970*).

The Benefits of the Automobile

While I once fantasized about the high costs of the automobile, I rarely thought about all the benefits autos have provided. Like suburban critic James Howard Kunstler, I imagined that American life before the automobile was “glorious,” with everyone taking trains or streetcars to work from their “magnificent house[s] surrounded by cool porches.”

A little digging in history, however, reveals that only a tiny fraction of American city dwellers lived this way before the automobile. Most of them lived in tenements or slums and walked to their sweatshop jobs. With poor sanitation, pollution from nearby industry, and high crime, their lives were a lot less glorious than Kunstler imagines. In fact, as planning historian Peter Hall documents in his book *Cities of Tomorrow*, the original goal of most early twentieth-century planners was to get people out of the crowded cities and into lower-density suburbs.

Planners had little to do with the exodus to the suburbs, however. Instead, the fortunes of the working class turned around when Henry Ford developed the moving assembly line in 1911, allowing him to double wages while halving the price of his cars. Suddenly ordinary workers could afford to buy the cars they made. Their increased mobility allowed them to move to single-family homes that previously were occupied only by the wealthy and middle-class workers who could afford train or streetcar fares.

Wide-scale auto ownership dramatically increased American mobility. History’s most intensive network of intercity passenger trains and urban transit was found in the United States in 1920. In that year the average American rode about 1,200 miles per year on these passenger trains and urban transit lines. Today, the average American travels about 16,000 miles per year by automobile.

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This 12-fold increase in mobility has generated numerous benefits. It is no coincidence that, after adjusting for inflation, worker incomes increased by more than seven times during the twentieth century. This is partly because the automobile gave people access to more and better-paying jobs, but it is also because the automobile transformed those jobs.

Ford's horizontal moving assembly lines required far more land than the vertical factories that preceded them. One of Ford's plants was a mile wide, one-and-a-half miles long, and employed 100,000 workers—far more than could live within easy walking distance.

The moving assembly lines produced a synergistic effect: assembly lines increased incomes so workers could afford to own cars, and increased worker mobility allowed more industries to build far-flung factories using moving assembly lines. These industries moved from urban centers to suburban areas where land was less expensive. Such industrial sprawl effectively ruled out other forms of commuting, so Americans could not possibly have the incomes they enjoy today without cars.

As incomes increased, automobiles simultaneously reduced consumer costs and greatly increased the variety of goods available to consumers. Without cars, we would not have supermarkets, club warehouses, home-improvement centers, or all sorts of other retail categories and shops. In 1912 a typical American grocery store carried about 300 different products. Today, the average supermarket carries 20,000, many carry 50,000, and a few carry well over 100,000 different products. This product diversity is possible only because automobiles bring to the stores a diversity of customers who may live many miles away.

Thanks to autos, Americans enjoy far better housing than they had a century ago. While the full benefits of the automobile were delayed by the Depression and

World War II, in the 15 years after 1945 U.S. homeownership rates soared from 44 to 62 percent as millions of families fled inner-city tenements for Levittowns and other suburbs.

This so-called “sprawl” is the “land-use impact” that auto critics want to count as a social cost of autos. But is it really so bad that more families get to live in suburban homes with private yards? The 2000 census found that four out of five Americans live in “urban clusters” of 2,500 people or more, yet these urban clusters occupy just 2.6 percent of the land area of the United States. Not only are we not running out of open space, thanks to automobility most Americans enjoy their own private open spaces in the gardens and play areas in their yards.

Automobiles greatly extended people's social opportunities. Before the auto, rural residents, particularly women, could live for months at a time without seeing anyone except their direct family members. Even urban residents could be isolated: people who moved out of their hometowns might return to see their families only once or twice in their lifetimes. The automobile eliminated this social and familial isolation.

The auto has also opened the door to all sorts of recreational opportunities that previously existed only for the rich, if they existed at all. Skiing, backpacking, wilderness hiking, fly-fishing, boating, surfing, and beachcombing are only a few of the many outdoor sports enabled by the automobile. A century ago only one out of 6,000 Americans visited Yellowstone Park. By 1965 it was more than one out of 100.

Among the other benefits of auto technology are emergency medical care, rapid-response fire and police services, and the ability to evacuate in case of natural disaster. Hurricane Katrina left thousands of families stranded because New Orleans has the lowest auto ownership rate of any major American city. The news media



In the 15 years after 1945 U.S. homeownership rates soared as families moved to the suburbs.

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reported lengthy traffic jams when Hurricane Rita threatened the Gulf Coast, yet every family with an automobile managed to escape the path of the storm long before it hit.

Perhaps most important, autos are far more egalitarian than the plush Pullman cars and expensive streetcars of a century ago. More than 92 percent of American families own at least one automobile, and whether you drive a 1985 Yugo or the latest Cadillac, you have exactly the same right to drive on any highway, road, or street in the nation.

Ending Highway Subsidies

Government funding of roads, even through user fees, has interfered with the free market. But at least through the 1970s a private road system would not have looked much different from the one America built. Before 1980 most highways were located and built by state and local civil engineers who knew they were funded out of user fees. Their goals were to build safe and efficient roads, and their incentive was to build roads where people wanted to drive so they would pay the user fees needed to fund the roads. Subsidies of less than half a penny per passenger-mile—perhaps \$60 to \$70 per person per year—would have very little effect on American travel.

Transportation engineers largely ignored social costs when locating and designing highways. In 1950, when the Interstate Highway System was still in the planning stages, transportation economist Shorey Peterson warned against trying to account for social costs. By taking only safety and traffic into account, he observed, engineers could guide highway spending “on a more precise basis” than most other government programs. Any attempt to consider “the public interest,” however, would lead to “the wildest and most irreconcilable differences of opinion,” predicted Peterson. “Controlled in this way, highway projects are peculiarly subject to ‘pork barrel’ political grabbing.”

This is exactly what has happened in the last two or three decades as urban planners have displaced civil engineers in planning urban transportation. The planners argued that they would better account for social costs. Instead, many have supported a crusade to reduce driving by allowing congestion to increase. Where pos-

sible, they diverted highway funds to expensive and little-used rail transit projects. They spent other funds on endless studies or on projects that actually reduced roadway capacities.

The result is that transportation decisions have gotten far more political. In 1981 Congress included just ten “earmarks,” or pork-barrel projects, in the transportation bill it passed every six years. According to Ronald Utt’s *A Primer on Lobbyists, Earmarks, and Congressional Reform*, since then the number of earmarks has steadily increased, reaching 6,371 in the 2005 bill. In short, thanks to planners, fewer roads have been built than private road companies might have built, and thanks to earmarks, the ones that have been built haven’t always been in the best locations.

To libertarians, the solution is obvious: privatization. That is far more easily said than done. However, we can approach the problem incrementally if we recognize that roads are really two separate issues: the highways funded by federal and state user fees and the streets funded out of local taxes.

While only a small increase in gas taxes could eliminate road subsidies, gas taxes are the wrong approach for solving transportation problems. For one thing, it is much more likely that increased state and especially federal gas taxes will end up as pork than that they will trickle down to reduce local street subsidies.

A cents-per-gallon tax also does not account for inflation or changes in fuel economy. Because of inflation and improved fuel economy, you only pay half as much gas tax for every mile you drive as your parents did in 1960. This shortfall in highway revenues is the main reason roads are more congested today than they were a few decades ago.

Finally, gas taxes send the wrong signals to travelers on congested roads. While we expect to pay more for airline tickets and hotels during busy periods, gas taxes are the same whether people drive at 5 a.m. or 5 p.m.

Fortunately, we now have electronic toll systems that were not available when Oregon passed the first gasoline tax in 1919. Electronic toll lanes in California, Minnesota, and other states vary the toll based on the amount of traffic. This insures that the lanes never get congested and people don’t waste time (and fuel) sitting in traffic.

Although some people have dubbed these “Lexus

lanes,” surveys show that people of all income levels use them when they need to get to work on time or have some other pressing business. Few people use them all the time, although many women find that they would rather pay a small toll to enjoy the safety of these roads even during nonrush-hour periods.

Robert Poole of the Reason Foundation proposes that cities build complete networks of toll lanes that will never be congested, giving buses, emergency vehicles, and anyone else the opportunity to drive the same speeds at rush hour as at midnight. Construction costs can be financed mostly if not entirely out of toll revenues. Many other transportation experts believe that all new highway capacity should be funded out of tolls, leaving gasoline taxes to maintain existing roads.

As more toll roads are built, privatization of those roads will be an obvious next step. Chicago recently sold a 99-year lease to the Chicago Skyway to a Spanish toll-road consortium, and Indiana sold a 75-year lease to the Indiana Toll Road. Cintra-Macquarie, the Spanish consortium, will pay \$5.6 billion and promised to maintain the roads and make certain improvements in exchange for collecting the tolls. Chicago and Indiana plan to use the revenues to improve other highways.

Ever the pioneer, Oregon is considering installing

GPS transceivers in every car and eventually charging drivers a fee that depends on how many miles they drove on each individual road or street and the time of day they used it. Many people have raised privacy concerns about this plan. On the other hand, Wisconsin has indexed its gas tax to inflation, thereby correcting part of the problem with it as a user fee. Inflation-indexed fuel taxes can still be a fair way of paying for relatively uncongested roads, while tolls should be used for new highways and in congested areas.

Local streets would follow a different path to privatization. University of Maryland policy analyst Robert Nelson observes that St. Louis and other cities have allowed neighborhoods to take control of their streets. Eventually, Nelson imagines, that control could include taking over title and road maintenance.

I still bicycle as much as I can and dream of riding trains across the prairies and through the mountains. But I now realize that automobiles have become the dominant form of travel not because of subsidies but because they are the fastest, most economical, and most convenient form of transportation ever devised for most trips between about a mile and several hundred miles. More than any other invention, the automobile liberated Americans and people all over the world. 



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