Amtrak is a conundrum that has been difficult for both politicians and Amtrak managers to solve.

- Politicians and the media act as if it is an important mode of travel, yet it carries less than 1 percent as many passenger miles as domestic airlines and just 0.1 percent of total domestic passenger miles.
- Rail advocates claim intercity passenger trains are economically competitive, yet Amtrak fares per passenger mile average nearly three times airline fares, and when subsidies are added Amtrak costs four times as much per passenger mile as the airlines and well over twice as much as driving.
- Amtrak claims that some of its trains earn a profit and overall passenger revenues cover 95 percent of its operating costs, yet even the Rail Passengers Association, the leading supporter of intercity passenger trains, believes Amtrak's accounting methods misrepresent reality.


## The Insignificance of Amtrak

According to the Bureau of Transportation Statistics, the 325.1 million people who resided in the United States in 2017 traveled an average of 14,900 miles by automobile (including 72 miles by motorcycle), 2,100 miles by domestic airline, 1,060 miles by bus (excluding urban transit), and 170 miles by urban transit. Based on DOT's 2017 National Household Transportation Survey, Virginia Tech planner Ralph Buehler estimates (on page 183 of this report) that Americans walked 33.7 billion miles and cycled 8.5 billion miles, for an average of 100 miles walking and 26 miles cycling.

Amtrak, meanwhile, carried the average American just 20 miles. That's right: federal taxpayers spent nearly $\$ 2$ billion in 2018 subsidizing Amtrak so Americans could ride intercity trains fewer miles than they ride bikes. Of course, the average American doesn't ride intercity trains: I rode Amtrak more than 11,000 miles in 2017, so to compensate for just my travel, 550 other Americans didn't ride it at all.

Amtrak brags that it serves more than 500 cities in

46 states, but in most of those cities it is virtually irrelevant. Just 9 cities-New York, Washington, Philadelphia, Chicago, Boston, Los Angeles, Oakland, San Diego, and Sacramento-produce more than half of all of Amtrak's boardings/ alightings. Another 125 cities produce 40 percent of customers. The bottom 153 cities produce less than 1 percent of Amtrak's customers, with fewer than two dozen people a day getting on or off an Amtrak train in each of those cities.

The Interstate Highway System is 48,000 miles long and connects virtually every major and most minor urban areas in the contiguous 48 states. By comparison, Amtrak's route system is only 21,000 miles long, and the vast majority of those miles see no more than one train a day in each direction. Las Vegas, the nation's $23^{\text {rd }}$-largest urban area and a popular tourist destination, is the largest but far from the only major urban area not served by Amtrak.

Just because Amtrak serves your city doesn't mean it can take you where you want to go when you want to go there. Want to go from Indianapolis to Chicago? Amtrak could take you, but just once a


The average American traveled well over 18,000 miles in 2017, with Amtrak contributing just 20 of those miles. *Bus category excludes urban transit buses, which are included under urban transit. Non-commercial air and other minor forms of travel are not shown.


Amtrak's route map showing the Northeast Corridor in red, state-supported day trains in blue, and long-distance trains in yellow. Most long-distance trains also use the Northeast Corridor or state-supported tracks for parts of their routes.
day, until June 30 when it was cut to three times a week. At least a dozen buses per day serve this route. Indianapolis to Cincinnati? Amtrak is there, but only three days a week, compared with 16 buses a day. Indianapolis to Cleveland? Only if you are willing to take $23-1 / 2$ hours to do it, including an 11-1/2-hour layover in Chicago. Several buses a day serve this route in under 7 hours. How about to Columbus, Louisville, or Nashville? Sorry, Amtrak doesn't serve those cities at all.

## Trains Are Expensive

There's a good reason for Amtrak's insignificance: trains are expensive. Average Amtrak fares in 2017 were $33.4 \Phi$ per passenger mile, compared with 13.2 for airlines. Americans spent $\$ 1.15$ trillion on their cars in 2017 (see table 2.5.5, lines 54, 57, and 116), traveling 4.8 trillion passenger miles for an average cost of $24 \dagger$ per passenger mile.

Adding subsidies only makes it worse for passenger trains. Federal and state subsidies to Amtrak averaged at least 34 cents per passenger mile in 2017. Federal, state, and local subsidies to airlines and roads averages about a penny per passenger mile.

## Amtrak's Questionable Accounting

Amtrak's chief executive officer, Richard Anderson, lives

in a fantasy world. In a 2018 speech, he claimed that Amtrak is "debt free" and is "stockpiling cash" for fleet renewals. In fact, according to Amtrak's 2018 consolidated financial statement, Amtrak has liabilities of $\$ 5.9$ billion, including long-term debts of $\$ 908$ million.

Amtrak should be saving money for fleet renewals, as the average age of its passenger cars has risen to more than 30 years-the highest in Amtrak history and well past the expected service lives of those cars. Yet far from stockpiling cash, Amtrak's cash and cash equivalent assets declined from $\$ 1.1$ billion in 2017 to $\$ 500$ million in 2018, and Amtrak is relying on a $\$ 2.45$ billion loan from the federal government to replace its Acela trains in the Northeast Corridor.

Anderson's fantasy is just an extension of other accounting fantasies that Amtrak has relied on for many years. According to Amtrak, its Northeast Corridor trains earn a profit and all of its passenger revenues together cover 95 percent of its operating costs. The latter claim is based on two significant subterfuges.

First, Amtrak counts subsidies from the states as "passenger revenues." Amtrak officials rationalize that the states are effectively contracting with Amtrak to carry their residents around. In reality, the $\$ 234$ million collected from the states in 2018 is simply a subsidy without which Amtrak fares would have to be higher and
its ridership lower.
Second, when calculating "operating costs" Amtrak conveniently ignores depreciation, which at more than $\$ 807$ million is the second-largest operating cost listed in its financial statement. Depreciation is not just an accounting fiction; it is a real cost indicating how much a company needs to spend or set aside to keep its capital improvements running at 100 percent of their capacity.

Amtrak's actual ticket sales (plus food \& beverage and charter train revenues) totaled to $\$ 2.34$ billion in 2018. Counting depreciation, Amtrak's actual operating expenses were $\$ 4.24$ billion, which means passenger revenues covered just 55 percent of operating costs, not 95 percent as Amtrak claims.

Amtrak's claim that its Northeast Corridor trains earn a profit is also a fantasy. This claim is based on a familiar subterfuge: its cost accounting of each of its routes leaves out depreciation. The "profits" it claims to earn on Northeast Corridor trains are actually spent maintaining that corridor - and fall well short of maintenance needs. Most of Amtrak's infrastructure is in the Northeast Corridor, so most of the $\$ 807$ million in 2018 deprecation should have been charged to those trains. In fact, Amtrak may be underestimating depreciation in the corridor.

According to a 2009 Amtrak report, Amtrak's portion of the corridor had a $\$ 5.5$ billion maintenance backlog. But a 2010 report found that the corridor has $\$ 52$ billion of capital replacement needs. Amtrak's inability to set aside enough money to keep its infrastructure in a state of good repair clearly shows that the Northeast Corridor is not earning a profit.

## Long-Distance Trains

According to Amtrak's pre-depreciation accounting, Northeast Corridor trains earned $\$ 526$ million in profits in 2018 while long-distance trains lost $\$ 540$ million. But long-distance trains operate almost entirely on private freight railroads, so most of the $\$ 807$ million in depreciation applies to Northeast Corridor trains.

Even the Rail Passengers Association-the leading lobby group supporting Amtrak-argues that Amtrak's route accounting is "fatally flawed, misleading, and wrong." The association notes that Amtrak route accounting allocates such costs as maintenance of way to all of its routes even though it only incurs those costs on the route miles that Amtrak actually owns - which are the Northeast Corridor and segments in Pennsylvania, Connecticut, and Michigan. Yet close to 95 percent of long-distance train miles is not on these routes. Thus, Amtrak accounting undercharges the Northeast Corridor by ignoring depreciation and overcharges the long-distance trains by counting Northeast Corridor and other Amtrak-owned maintenance costs against those trains.

Amtrak's misleading cost accounting has contributed to paranoia that Amtrak has a plan to kill its long-dis-
tance trains. Despite extensive media claims, Amtrak has never actually said it wanted to do this, and to do so would be political suicide as 23 of the 46 states reached by Amtrak are served only by long-distance trains, so terminating those trains would cost it half its support in Congress.

CEO Anderson has pointed out, however, that some changes will be needed. The biggest problem is with the Southwest Chief, which uses BNSF tracks between Chicago and Los Angeles. In 2010, BNSF stopped running freight trains over 281 miles of this route between La Junta, Colorado and Lamy, New Mexico, and informed Amtrak that it would have to pay all of the maintenance costs if it wished to continue using this route. Although the states of Colorado and New Mexico have put up some money for maintenance, Anderson has questioned whether it is worth it for the few hundred passengers a day who ride this route and suggested that Amtrak might use buses to fill in the gap, an idea that outraged rail fans.

The Southwest Chief situation should remind us that it is easier to make an economic case for passenger trains when passengers can share infrastructure costs with freight. Dedicating tracks solely to passenger trains could only make sense if there is demand for a lot of trainssuch as, possibly, the Northeast Corridor, but not on Amtrak-owned tracks in Michigan and certainly not in Colorado-New Mexico.

Beyond special cases such as the Southwest Chief, the reality is that, when depreciation and other costs are properly allocated, Amtrak's losses per passenger mile in the Northeast Corridor are probably about comparable to its losses from long-distance trains. This isn't an argument to keep the long-distance trains; it is an argument that all of Amtrak's trains have questionable value.

One problem with Amtrak's long-distance trains is that they try to be all things to all people. Customers include business travelers on trips that are generally under 200 miles; vacationers on much longer trips; and people on personal business such as visiting relatives or going to or from college. By trying to serve all these markets, they end up serving none of them very well.

One of Amtrak's most successful long-distance trains, the Auto Train, almost exclusively serves the vacationer market. It is worth noting that Amtrak's Northeast Corridor trains serve almost exclusively the business traveler market. This suggests that Amtrak could do better by focusing other long-distance trains on just one market.

For example, the California Zephyr goes through Amtrak's best scenery, and Amtrak could save money and might be able to boost ridership by running the train only during daylight hours, stopping at hotels during the nights, similar to the Rocky Mountaineer in British Columbia and Alberta. Any such suggestions, however, run into political opposition from entrenched interests who benefit from keeping things the way they are.

## Food Services

In 2012, House Transportation and Infrastructure Committee Chair John Mica (R-FL) held hearings critical of the losses Amtrak incurred on food services. He was deaf to then-Amtrak CEO Joe Boardman's argument that quality food service was an "essential component" of attracting passengers to Amtrak trains and that cutting food services would probably result in greater losses because of a decline in ridership. As the Rail Passengers Association points out, it is a mistake to think of Amtrak food services as restaurants; they are more like the complimentary breakfasts offered by many hotels.

Mica could have used losses from food services as an example of Amtrak's overall inefficiency and promoted legislation aimed at improving that efficiency. After all, food service losses of about $\$ 80$ million a year represent less than 5 percent of Amtrak's total annual losses. Instead, he persuaded Congress to pass a law mandating that Amtrak break even on its food services by 2020 and ignored Amtrak's much larger losses from train operations. This forced Amtrak to cut the quality of the meals it serves on its long-distance trains, leading to further charges that it wants to eliminate those trains.

## Solving Amtrak's Real Problem

Amtrak's real problem is not that it isn't subsidized enough, as advocates argue, but that it is subsidized too much. If 45 percent of its operating costs and 100 percent of its capital costs are subsidized, then Amtrak trains are more about politics than transportation. Political constraints prevent Amtrak from operating an efficient network, emphasizing the trains that come closest to covering their costs and jettisoning the trains that lose the most. Instead, Amtrak is pushed by Congress to keep trains with few riders that are costly to run even while Congress prods it into reducing its overall expenses.

Amtrak can solve the food service issue by contracting out meal preparation to restaurants and caterers along its routes. On boarding a train, passengers would be given a menu of meals they can order that would be delivered at various stops along the route. Dining cars and dining car crews would be eliminated and replaced with one person who would take orders, phone them to the restaurants, and deliver them to the passengers. Although similar ideas have been suggested in the past, Amtrak has stubbornly refused to consider them.

Amtrak can solve the Southwest Chief and similar issues by considering alternate routes. Rail fans appear wedded to the current route because its historic use by the Santa Fe Super Chief and other trains, but there are at least other routes Amtrak could use, some of which would cost less and serve more people.

For example, Amtrak could maintain a Kansas City Chief between Chicago and Kansas City-the busiest part of the Southwest Chief route-and serve the Chica-
go-Los Angeles market with a section of the California Zephyr branching off at Salt Lake City. Amtrak's Desert Wind once followed this route but was cancelled in 1997. Restoring it in place of the Southwest Chief would save money by substituting 1,225 route-miles ( 427 between Chicago and Kansas City and 788 between Salt Lake and Los Angeles) for a 2,265 -mile route. It would also serve more people because the Las Vegas area has more residents and attracts more tourists than all of the cities that would lose service in Arizona, California, Colorado, Kansas, and New Mexico combined.

Many of these changes won't be possible unless Congress frees Amtrak of its political constraints. It can do so by changing the way it funds the agency. Instead of funding specific routes or projects, Congress should just give Amtrak a subsidy for every passenger mile it carries. This would give Amtrak incentives to focus on customer needs, not political whims.

Federal subsidies to Amtrak in 2018 were about $\$ 1.95$ billion for 6.5 billion passenger miles, or 30 cents per passenger mile. That is considerably more than subsidies to highways: in 2017, highway users paid $\$ 42.1$ billion in federal fuel, truck, and tire taxes while federal expenditures on highways were $\$ 45.0$ billion. Since highways moved about 4.8 trillion passenger miles, this represents a federal subsidy of less than a tenth of a penny per passenger mile.

Similarly, subsidies to the airlines through the essential air service program are less than $\$ 300$ million a year, or under half a penny per passenger mile. The main federal subsidy to the intercity bus industry is a partial exemption from federal fuel taxes, which works out to less than a hundredth of a penny per passenger mile.

At the other extreme, the federal government spent $\$ 21.8$ billion subsidizing transit systems that carried 54.8 billion passenger miles in 2017, for a federal subsidy of 40 cents per passenger mile. However, urban transit systems, unlike intercity buses and airlines, are not competitors with Amtrak.

How much should the subsidy to Amtrak be? In fairness to Amtrak's competitors, it shouldn't as large as it is today. Congress should begin with a subsidy of, say, 20 cents a passenger mile and phase it downward over time until it reaches parity with the subsidies it gives to highways, airlines, and intercity buses.

Like planes, buses, and cars, passenger trains are primarily a means to an end - usually described as "mobility" - and not an end in themselves. They should be kept so long as they can serve that end, but they should not be heavily subsidized simply so the nation can say it has one more mode of travel. Instead, they should be allowed to stand or fall on their own merits.

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