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Stopping the Runaway Train
The Case for Privatizing Amtrak

by Randal O'Toole

Executive Summary

When Congress created Amtrak in 1970, passenger-rail advocates hoped that it would become an efficient and attractive mode of travel. More than 40 years of Amtrak operations have disappointed them, as Amtrak has become the highest-cost mode of intercity travel and remains an insignificant player in the nation's transportation system. Nationally, average Amtrak fares are more than twice as much, per passenger mile, as airfares. Despite these high fares, per-passenger-mile subsidies to Amtrak are nearly nine times as much as subsidies to airlines, and more than 20 times as much as subsidies to driving. When fares and subsidies are combined, Amtrak's costs per passenger mile are nearly four times as great as airline costs.

Partly because of these high costs, Amtrak is an insignificant mode of travel. The average American flies close to 2,000 miles a year and travels by car around 15,000 miles a year but rides Amtrak only about 20 miles a year.

Nor do the environmental benefits of passenger trains justify Amtrak's subsidies. Buses use far less energy per passenger mile than Amtrak. Cars in intercity travel are typically as energy efficient as Amtrak. While Amtrak is currently more energy efficient than flying, airline energy efficiency is improving faster than Amtrak's, and by 2025 air travel is likely to use less energy per passenger mile than trains.

Recent efforts to reform Amtrak have proven futile as entrenched interests, ranging from labor unions to local activists, have kept Amtrak an inefficient carrier heavily dependent on government subsidies. No amount of reform will overcome the fundamental problem that, so long as Amtrak is politically funded, it will extend service to politically powerful states even if those states provide few riders.

Budgetarily, Amtrak has become a runaway train, consuming huge subsidies and providing little or no return. Four decades of subsidies to passenger trains that are many times greater than subsidies to airlines and highways have failed to significantly alter American travel habits. Simple justice to Amtrak's competitors as well as to taxpayers demands an end to those subsidies.

The only real solution for Amtrak is privatization. Private operators would enjoy substantial cost savings over Amtrak and would be free to serve those routes that attract the most passengers rather than the ones that are backed by the most political muscle. Private railroads would also be more likely to develop innovations that will attract new riders.

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Before Amtrak took over the nation's passenger trains, rail travel cost considerably less than flying. Today, average per-passenger-mile rail fares are more than twice average airfares.

Introduction

When Congress passed legislation creating Amtrak in 1970, passenger-train advocates hoped that a national network of passenger trains would be operationally profitable and attractive to travelers. Instead, it has required continuous federal subsidies for operations and repeated injections of federal dollars for maintenance.

In fact, Amtrak's appetite for federal funds appears to be insatiable. Its budget request for 2013 was 55 percent more than Congress gave it in 2012. In 2010 Amtrak proposed to spend $117 billion upgrading its 457-mile Northeast Corridor line, a plan whose cost ballooned to $151 billion by 2012. For comparison, the inflation-adjusted cost of building the entire Interstate Highway System was only about three times this much, yet it is more than 100 times as long as the Northeast Corridor and—unlike Amtrak—it was paid for entirely out of user fees.

Despite its growing cost, Amtrak's contribution to the nation's transportation is truly miniscule. The average American travels about 15,000 miles a year by auto—well over 3,000 of them on interstate highways—and 1,800 to 2,000 miles a year by air, but only about 20 miles a year by Amtrak. Even in the Northeast, the average resident of the Boston, New York, Washington, and intermediate urban areas travels little more than 40 miles a year in Amtrak's Northeast Corridor trains.

In short, budgetarily Amtrak has become a runaway train, eating up huge subsidies and providing little or no return. Over the past four decades, subsidies for every passenger mile carried by Amtrak have averaged close to 10 times as much as federal, state, and local subsidies to airlines and more than 20 times as much as subsidies to auto drivers.

This has made Amtrak a continuing puzzle for legislators, budget cutters, and policy analysts. On one hand, federal subsidies to Amtrak are considerably smaller than federal subsidies to airlines or local subsidies to highways, leading rail passenger advocates to argue that Amtrak deserves more. On the other hand, Amtrak carries only about 1 percent as many passenger miles as the airlines and a fraction of a percent of the passenger miles that intercity highways carry, leading critics to argue that it is a waste of money.

A close look at the data reveal that Amtrak has failed for two primary reasons. First, in most markets passenger trains are simply not competitive against airline or highway travel. Even in the 100- to 500-mile ranges that rail advocates often say are optimal for passenger trains, buses are far less expensive (and far more energy efficient) than trains. Second, government control of Amtrak has saddled it with numerous inefficiencies, including unsustainably expensive labor contracts and political pressure to maintain service on routes that attract few passengers.

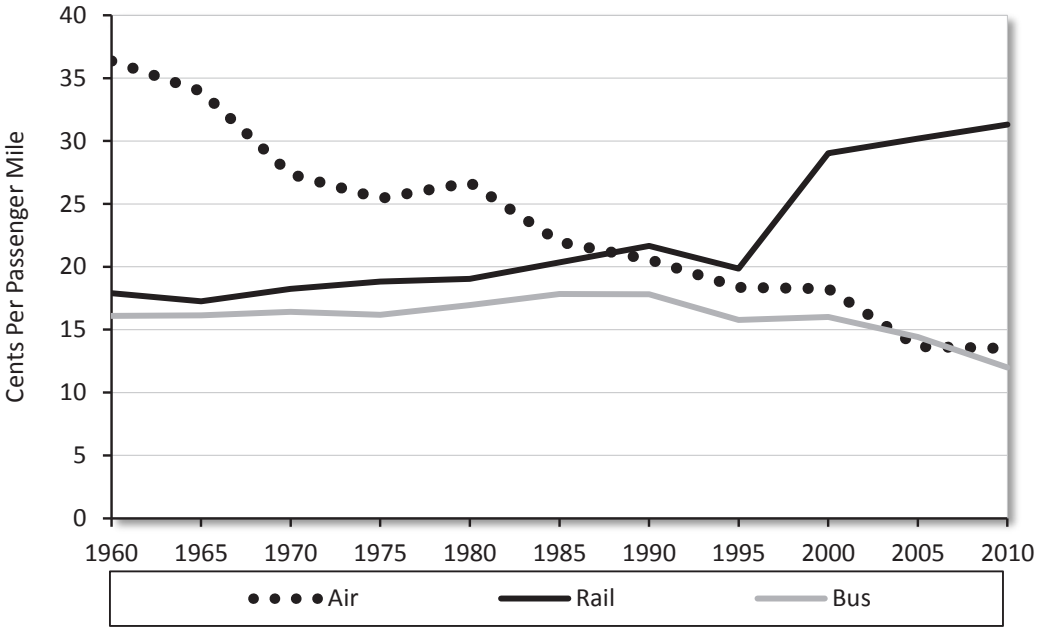
Recent years have seen several attempts to reform Amtrak in order to reduce its costs and streamline its operations. But these efforts have proven futile as entrenched interests, ranging from labor unions to local activists demanding that government subsidize trains they rarely ride, have kept Amtrak an inefficient carrier heavily dependent on huge government subsidies. No amount of reform will overcome the fundamental problem that, so long as Amtrak is politically funded, members of Congress will pressure it to provide service to almost every state even if trains attract few riders in some of those states.

The only real solution for Amtrak is privatization. Private operators would enjoy substantial cost savings over Amtrak and would be free to serve those routes that attract the most passengers rather than the ones that are backed by the most political muscle. Private railroads would also be more likely to develop innovations that will attract new riders.

The Highest-Cost Mode

Before Amtrak took over the nation's passenger trains, rail travel cost a little more than buses but considerably less than flying. It thus

Figure 1
Average Airline, Rail, and Bus Fares per Passenger Mile



Source: *2010 National Transportation Statistics*, table 3-16, "Average Passenger Revenue per Passenger-Mile."
Note: As inflation-adjusted airfares declined by 50 percent, Amtrak fares grew by 70 percent. As a result, Amtrak is now the highest-cost mode of intercity travel.

offered people of all incomes a genuine alternative mode of transportation. Today, thanks to Amtrak management, trains have become the highest-cost mode of intercity travel, and many of them are patronized mainly by the well-to-do who can afford the extra time required for trains rather than flying.

In 1970, the year before Amtrak took over the nation's passenger trains, average rail fares were about one-third less than average airfares—about 18 cents (in today's pennies) versus 27 cents per passenger mile.[1] Four decades of Amtrak management have reversed this ratio and more: by 2011, average rail fares were 110 percent greater than airfares—about 28.5 cents versus 13.8 cents per passenger mile (see Figure 1).[2]

Part of this change was due to a 50 percent decline in inflation-adjusted airline fares, which is beyond Amtrak's control. But part is due to a 70 percent increase in average rail fares, which Amtrak says was necessary due in part to pressure from Congress to reduce the company's operating losses. During an era when most private transportation costs significantly declined, Amtrak's dramatic increase in fares was stunning.

Not all of Amtrak's trains collect fares averaging 31 cents per passenger mile. Amtrak divides its trains into three groups: *Northeast Corridor* trains that connect Boston, New York, and Washington; *short-distance corridor* trains that generally serve cities in one or two states, usually with state support; and *long-distance* trains that travel through several states.

In 2011 Amtrak collected more than 75 cents per passenger mile on the Acela trains in the Northeast Corridor and 42 cents a passenger mile on other Northeast Corridor trains. Short-distance corridor trains collect an average of 22 cents a passenger mile, while long-distance trains collect an average of 17 cents a passenger mile. These averages are still greater than average airfares; only 4 of the 46 trains in Amtrak's accounting

Buses are less expensive than Amtrak—often far less expensive—for all lengths of trips.

On numerous routes, buses are not only less expensive but are faster and more frequent than Amtrak.

charged fares less than the airline average of 13.8 cents per passenger mile.[3]

To be fair to Amtrak, airline trips tend to be longer than rail trips and, since much of the cost happens at the terminuses, longer trips cost less per passenger mile. In 2001 the average airline trip was 1,500 miles, while the average rail trip was 250 miles.[4] As shown in

Table 1
Comparative Fares between Various City Pairs

	Air Miles	Air	Amtrak	Bus
New York-Seattle	2,400	142	266	139
Chicago-Oakland	1,830	170	205	119
Chicago-Los Angeles	1,740	135	156	119
Chicago-Seattle	1,710	126	159	119
Denver-Oakland	954	90	130	99
New York-Orlando	950	96	127	59
Chicago-Denver	885	74	138	99
Chicago-New Orleans	838	105	117	89
Chicago-New York	731	90	97	55
Oakland-Seattle	670	100	100	70
Atlanta-Washington	547	104	108	49
Oakland-Portland	544	71	80	78
Chicago-Memphis	492	159	99	16
Atlanta-New Orleans	424	79	110	9
Oklahoma City-San Antonio	409	87	59	76
Cincinnati-Washington	409	69	70	11
Boston-Washington	398	65	70	16
Denver-Salt Lake City	390	96	75	69
Chicago-Minneapolis	333	54	102	9
Chicago-St. Louis	258	94	25	13
Chicago-Detroit	234	94	32	6
Houston-San Antonio	192	54	33	8
Portland-Seattle	129	83	32	10

Source: Fares gathered on September 24, 2012, for one-way air and rail trips taken on February 12, 2013, and one-way bus trips taken on October 23, 2012 (most bus fares were unobtainable for February). Airline fares collected from kayak.com; Amtrak fares from Amtrak.com; bus fares gathered from megabus.com, boltbus.com, and greyhound.com; air miles from webflyer.com.
Note: Bus companies charge lower fares than Amtrak in almost every market, and are often more frequent and faster than Amtrak trains. Airline fares are also lower than Amtrak on longer routes.

Table 1, for trips of more than about 800 air miles, airlines tend to be significantly less expensive than Amtrak; for trips of 400 to 800 air miles, the prices are about the same; and for trips under 400 miles, Amtrak tends to be significantly less expensive than air travel.

While Amtrak may be less expensive than air travel for relatively short trips, buses are less expensive than Amtrak—often far less expensive—for all lengths of trips. In 2001 (the last year for which comprehensive data are available), bus fares averaged just under 13 cents a passenger mile compared with just over 13 cents for airfares and 25 cents for Amtrak. Today, the "new model" of bus service pioneered by Megabus costs significantly less than that.[5] At 217 miles, the average bus trip is only a little shorter than the average Amtrak trip, so there is no trip length over which Amtrak has a real competitive advantage.[6]

On numerous shorter routes, including New York–Buffalo, New York–Toronto, New York–Raleigh, Washington–Richmond, Raleigh–Charlotte, Chicago–Minneapolis, and Chicago–Indianapolis, buses are not only less expensive but are faster and more frequent than Amtrak. On most longer routes, airlines are also more frequent and, of course, faster than Amtrak. Amtrak's only advantage is that it provides a slightly different quality of service from buses or air, giving passengers more legroom and greater opportunities to move around the vehicle. But both buses and planes can easily match this; for example, LimoLiner, a Boston-to-New York bus, contains just 27 seats on a vehicle that would normally hold around 55 and offers videos, on-board food service, WiFi, and other amenities.[7]

The Highest-Subsidy Mode

Fares are just part of the cost of transportation, as most modes of passenger transport receive some government subsidies. Amtrak supporters are quick to point out that subsidies to air and highway travel are greater than subsidies to Amtrak. But domestic air routes carry nearly 100 times as many passenger miles as Amtrak, while intercity highways carry some 300 times as many passenger miles as Amtrak.[8] This means per-passenger-mile subsidies to Amtrak are far greater than subsidies to its competitors.

According to the U.S. Bureau of Transportation Statistics, after adjusting for inflation to 2011 dollars, subsidies to domestic air travel averaged about $14 billion a year between 1995 and 2007. Considering that the airlines carried an average of more than 500 billion passenger miles a year during those years, average subsidies work out to about 2.8 cents per passenger mile (see Figure 2).[9]

Using Bureau of Transportation Statistics' numbers, highway subsidies over the same time period averaged about $48 billion a year. Highways carried about 4.1 trillion passenger miles per year, for an average subsidy of 1.1 cents per passenger mile.[10] While 95 percent of the airline subsidies came from the federal government, all of the highway subsidies came from state and local governments.

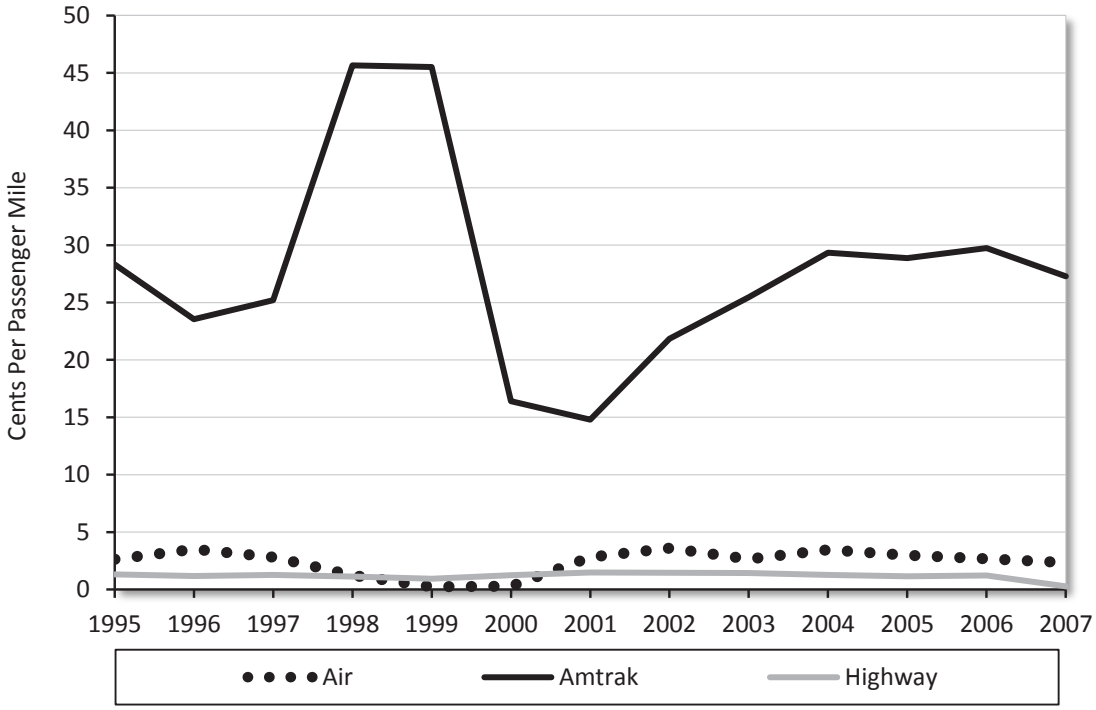
By comparison, federal Amtrak subsidies over the same time period averaged 25 cents per passenger mile.[11] State subsidies averaged another 2.8 cents. Per-passenger-mile subsidies to Amtrak were nearly 9 times subsidies to air travel and nearly 22 times subsidies to highway travel.

In response to concerns about its large subsidies, Amtrak claims that its "'farebox recovery,' i.e., the portion of operating costs directly covered by ticket revenue, was 79% in fiscal year 2011, compared with 76% in fiscal year 2010."[12] However, it reaches this conclusion only with a very liberal definition of "farebox revenues" and a very conservative definition of "operating costs."

Actual fares collected by Amtrak in 2011 totaled $1.851 billion, which was 79 percent of $2.344 billion.[13] But $2.344 billion isn't enough to cover Amtrak's labor, operations, and fuel costs, much less materials, facilities, advertising, or other operating costs.[14] Rev-

Domestic air routes carry nearly 100 times as many passenger miles as Amtrak, while intercity highways carry some 300 times as many passenger miles as Amtrak.

Figure 2
Airline, Highway, and Amtrak Subsidies per Passenger Mile



Source: *2012 National Transportation Statistics*, table 3-33, "Transportation Revenues by Mode and Level of Government," and table 3-36, "Transportation Expenditures by Mode and Level of Government"; Amtrak annual reports.

Note: While Amtrak subsidies have varied depending on the generosity of Congress in any given year, when measured per passenger mile, those subsidies have averaged about 9 times greater than airline subsidies and 22 times greater than highway subsidies.

Per-passenger-mile subsidies to Amtrak were nearly 9 times subsidies to air travel and nearly 22 times subsidies to highway travel.

enues become sufficient to cover 79 percent of costs only if they include $109 million in food service revenues—which arguably are passenger revenues even if they aren't strictly farebox revenues—and $191 million in state subsidies to short-distance corridor trains—which aren't passenger revenues at all.

On the other hand, Amtrak's calculation of operating costs excludes what it calls "capital improvements." But most of the money Amtrak spends on so-called capital improvements is actually for maintenance costs, including overhauling aging locomotives and passenger cars, replacing worn-out ties, renovating passenger stations, and renewing electrical hardware needed to power its electric locomotives in the Northeast Corridor. As the Congressional Research Service observes, "under generally accepted accounting principles, maintenance is considered an operating expense," not a capital improvement.[15] By redefining routine maintenance activities as "capital improvements," and then pretending that capital improvements don't need to be justified by revenues, Amtrak falsely makes it appear that it is becoming more solvent.

For example, in early 2012, Amtrak issued a press release bragging that it was requesting less "federal operating support" from Congress for 2013 than it received in 2012: $450 million instead of $466 million. But it more than doubled its capital improvement request from $657 million to $1.435 billion. This increase, the agency said, "is necessary to move beyond mere maintenance of existing equipment and infrastructure," ef-

fectively admitting that most of its "capital improvements" in recent years were actually maintenance.[16] Even true capital improvements designed to increase rather than just maintain service must eventually be repaid, preferably by service revenues.

When counting all costs, including fares and subsidies, Amtrak spends 60 cents per passenger mile, compared with about 16 cents for airline fares plus subsidies to air travel. When amortized capital and maintenance costs are included, even trains with the lowest fares per passenger mile are a considerably more expensive mode of travel than flying when subsidies are included.

The Insignificant Mode

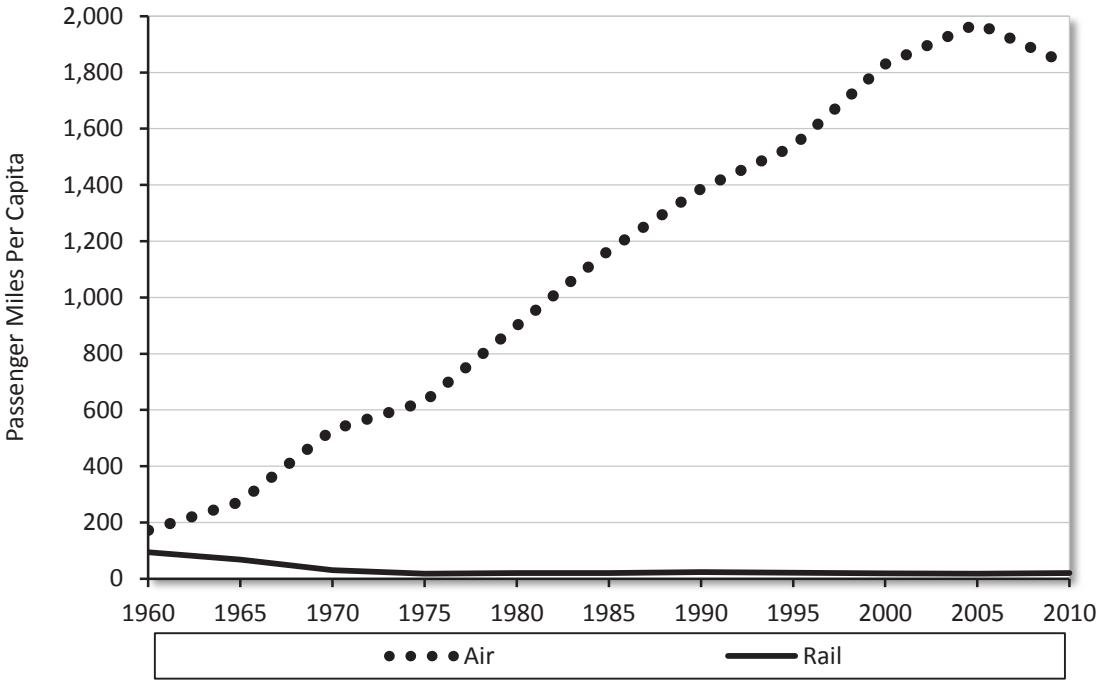
Amtrak brags that its ridership has reached record levels in recent years. Yet, for the vast majority of Americans, Amtrak remains an insignificant if not a completely irrelevant mode of travel. In 2007 domestic air travel peaked at more than 2,000 miles per person. At about the same time, per capita highway travel peaked at about 15,600 miles per year, about a third of which was intercity travel. Amtrak, meanwhile, carried Americans an average of just 19 miles per person.[17]

Since then, because of the recession, per capita airline travel has declined by about 10 percent, or about 200 miles per person, while highway travel declined by about 500 miles per person. Amtrak travel has increased since then, but not enough to take up the slack: as of 2011, the average American rode Amtrak 21 miles a year, or 2 miles more than in 2007 (see Figure 3). Even this is lower than in the early 1990s, when Amtrak carried the average American 24 miles per year.

Even in the Northeast Corridor, where Amtrak has the greatest presence, it remains an unimportant form of travel. The 43.5

In 2011 the average American flew 1,800 miles, traveled 15,000 miles by car, and rode Amtrak just 21 miles.

Figure 3
Per Capita Passenger Miles of Travel by Air and Rail



Source: *2012 National Transportation Statistics*, table 1-40, "U.S. Passenger Miles."
Note: The average American travels close to 2,000 miles a year by air but only about 20 a year by Amtrak. Not shown is per capita intercity highway travel, which averages about 5,000 miles per year.

At average intercity occupancy rates of 2.4 people per car, cars are more energy efficient than Amtrak.

million people living in this corridor rode Amtrak Northeast Corridor trains an average of about 42 miles each in 2011, or about 0.2 percent of the miles of mechanized travel taken by the average American every year. Even adding associated trains between New York and Albany, New Haven and Springfield, Philadelphia and Harrisburg, and Boston and Portland brings the total to less than 50 miles per capita.[18]

Amtrak brags that it carries more passengers in the Northeast corridor than the airlines, but it admits that it only has about 6 percent of the corridor's total intercity travel market, with highways carrying 89 percent.[19] The truth is that if Amtrak disappeared tomorrow, autos, buses, and planes could easily take up the slack without anyone noticing any significant increase in congestion on highways or at the airports.

Passenger-train advocates claim that, because the Northeast Corridor is so densely populated, rail lines that carry the average resident less than 50 miles per year are somehow vital to the economic health of the region. Yet they also make the seemingly contradictory claim that rail passenger service is equally critical to the health of rural areas. Amtrak's long-distance trains, says the National Association of Railroad Passengers, "bring economically viable mobility to rural areas and small towns."[20]

Any proposal to eliminate or reduce train service to small towns brings out cries of protest from people who claim this service is vital to their community. Yet Amtrak's twice-daily (once in each direction) passenger trains stopping in towns such as Brookhaven, Mississippi; Las Vegas, New Mexico; Libby, Montana; Sandpoint, Idaho; and Winslow, Arizona pick up or drop off an average of fewer than eight passengers per train (which means fewer than eight round trips per day to or from each of these cities).

The notion that rural areas need or deserve subsidized passenger trains is based on the idea that all Americans, regardless of where they live, should have equal access to all goods and services. The Postal Service, rural electrification, rural Internet access projects, the Rural Transit Assistance Program, and the Essential Air Service program are all based on this same idea. Ironically, the same people who advocate these ideas are often the first to decry government subsidized urban "sprawl."

The cost of actually providing everyone with equal access to any of these services is prohibitive. Even the Postal Service doesn't deliver mail to the door of every rural home. The Census Bureau estimates there are more than 3,500 urban clusters of more than 2,500 people in the United States, and Amtrak stops at only about 500 of them.

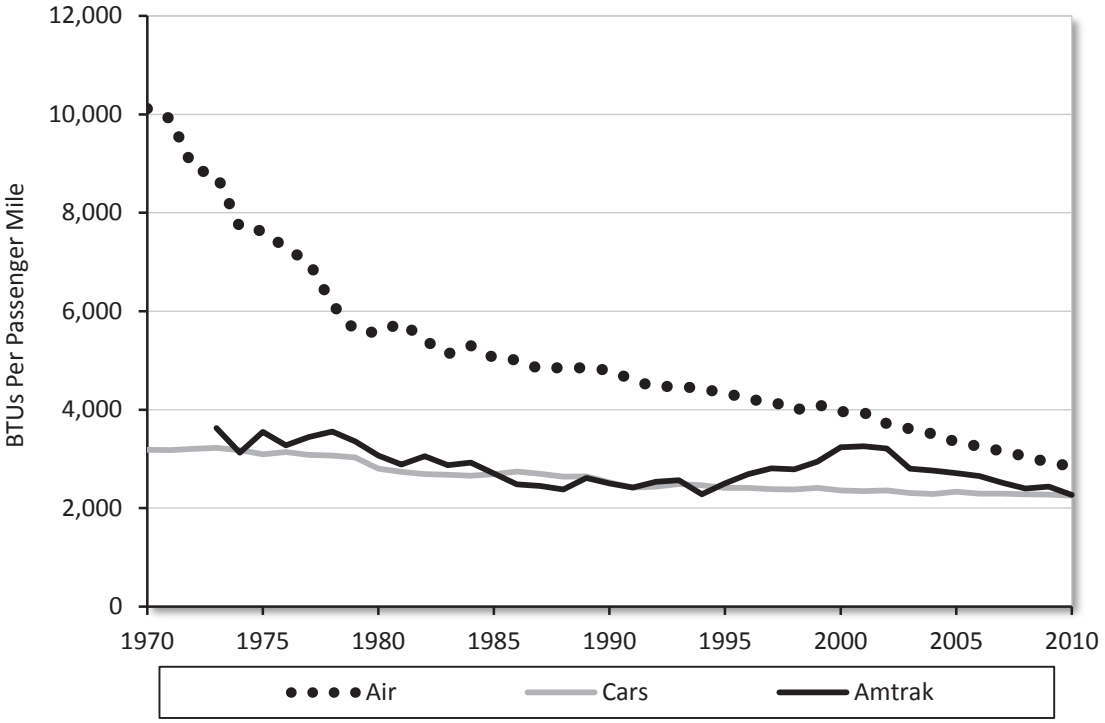
Nor do Americans expect that they will have ready access to all possible services no matter where they live. People's decisions to locate in various places recognize tradeoffs: locating close to jobs often means sacrificing good schools or quiet neighborhoods; locating in a big city may mean higher-paying jobs but less affordable housing. Americans move an average of nearly a dozen times during their lifetimes as their preferences and needs change.[21] Taxpayers should not have to subsidize people who choose to live in areas that do not support every possible transportation service.

Amtrak's Disappearing Energy Advantage

Passenger-train advocates tout the energy savings offered by trains over planes and automobiles. It is true that Amtrak uses about 20 percent less energy per passenger mile than flying. However, Amtrak's claims of energy savings over autos is more questionable, while buses have a clear energy-saving advantage over Amtrak. Moreover, under current trends, even flying will be more energy-efficient than trains in a few years.

According to the Department of Energy's *Transportation Energy Data Book*, Amtrak used an average of 2,271 British thermal units (BTUs) per passenger mile in 2010, the latest year for which data are available. Commer-

Figure 4
Air, Rail, and Car Energy Consumption per Passenger Mile



Source: *Transportation Energy Data Book, 31st Edition*, table 2.13, "Energy Intensities of Highway Passenger Modes," and table 2-14, "Energy Intensities of Nonhighway Passenger Modes."
Note: Amtrak uses as much energy per passenger mile as intercity driving when intercity auto occupancies of 2.4 people per car are used. Meanwhile, Amtrak uses less energy per passenger mile than airlines, but given a likely continuation of recent trends the airlines will be more energy efficient than Amtrak by 2023.

cial airlines used 2,852 BTUs per passenger mile. However, the *Data Book* also notes that airline energy efficiency has been growing at 3.1 percent per year, while Amtrak's energy efficiency has grown by only 1.3 percent per year (see Figure 4).[22] If this trend continues, airlines will be more energy efficient than Amtrak by 2023.

Aircraft energy efficiency is likely to continue to grow faster than rail's. Boeing says that its new 787, for example, uses about 20 percent less energy per seat mile than the planes it replaces.[23] By comparison, General Electric estimates that its latest locomotive saves just 3 to 5 percent of the energy required by its predecessors.[24]

According to the *Data Book*, the average car used 5,342 BTUs per vehicle mile in 2010. The data book uses an occupancy rate of 1.55 people per car to calculate BTUs per passenger mile.[25] However, the 1.55 number is based on urban travel. According to a study commissioned by the California High-Speed Rail Authority, cars in intercity travel tend to carry more people, an average of 2.4.[26] At 2.4 people per car, the average car used 2,226 BTUs per passenger mile in intercity travel in 2010, which makes intercity driving more energy efficient than Amtrak today. Using an occupancy rate of 2.19 for trips over 75 miles, a Congressional Research Service study also found that cars use slightly less energy than Amtrak.[27]

This doesn't include light trucks (pickups, SUVs, full-sized vans), which consumed 7,225 BTUs per vehicle mile or (at 2.4 people per vehicle) 3,010 BTUs per passenger mile in 2010.[28] However, the latest federal fuel

Scheduled intercity buses use 60 percent less energy per passenger mile than Amtrak.

Even at their non-wartime peak in 1920, intercity trains carried the average American fewer than 400 miles per year, or less than 3 percent as many miles as the average American travels by automobile today.

economy standard requires that the average of all cars and light trucks sold in 2025 get 54.5 miles per gallon, which is about 2,300 BTUs per vehicle mile.[29]

If auto manufacturers reach this standard on a straight-line path from the current average, and if the American auto fleet continues to be replaced at the historic average of about 5.5 percent per year, then by 2015 the average automobile, including both cars and light trucks, will use less energy per passenger mile in intercity travel than Amtrak uses today. Between now and 2025, the average energy efficiency of autos will grow at 3.2 percent per year, or more than twice as fast as Amtrak's has grown.

Scheduled intercity buses already use far less energy per passenger mile than Amtrak. According to a 2008 study commissioned by the American Bus Association, intercity buses use about 60 percent fewer BTUs per passenger mile than Amtrak.[30] The same conclusion was independently reached by the Congressional Research Service in 1996 and the National Surface Transportation Revenue and Policy Commission, a group commissioned by Congress to evaluate federal transportation policy, in 2007.[31] If Congress wants to save energy, it should stop subsidizing Amtrak, which would encourage an expansion of intercity bus service along Amtrak corridors.

The above energy data considers only the energy costs of operating planes, trains, buses, and autos. When full life-cycle costs are considered, including manufacturing, infrastructure construction, and disposal, rails are even less efficient than other modes. A lifecycle analysis by researchers at the University of California found that, because rail lines carry so few passenger miles relative to highways or airlines, construction, manufacture, and disposal consumed many more BTUs per passenger mile. Specifically, the analysis concluded that, over their complete lifecycle, passenger rail lines used about 2.5 times as much energy as they used in just operations, while highway users consumed only about 1.6 times as much energy as in operations.[32]

Who Shot the Passenger Train?

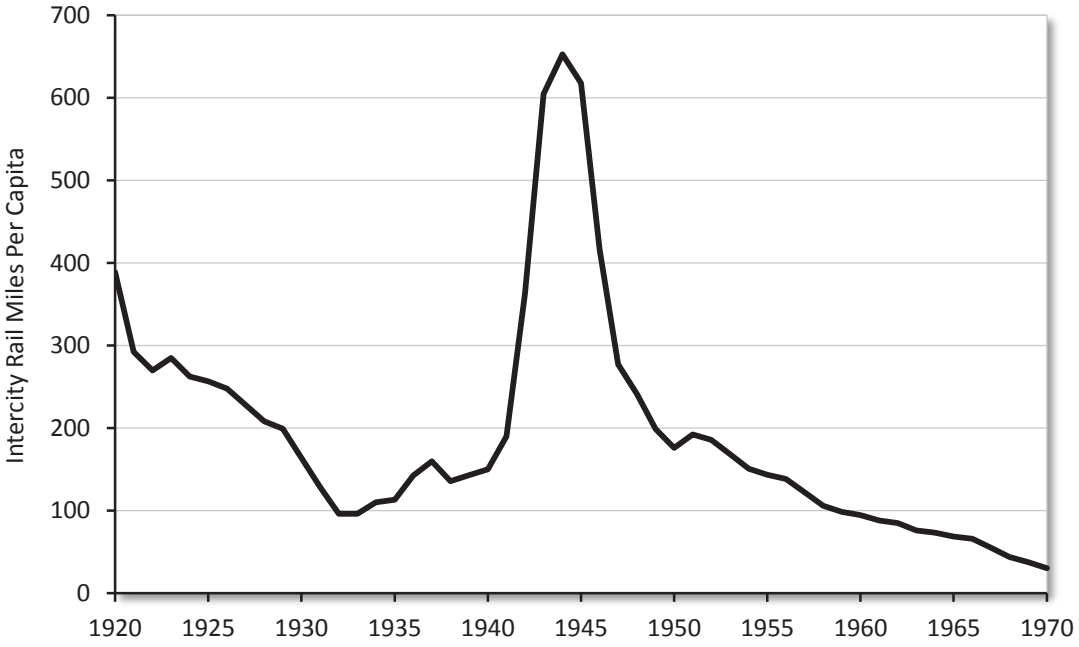
Passenger-rail advocates often blame the decline of American passenger trains on federal construction of the Interstate Highway System.[33] But a review of history shows that trains began to decline decades before that time. Passenger trains reached their zenith in 1920, when more than 20,000 trains per day traveled over the land connecting almost every city and town in the United States.[34] The railroads carried more than 41 billion intercity passenger miles that year, plus another 6 billion passenger miles on commuter trains.[35]

Many consider the 1920s to be the golden age of passenger trains, but it was a golden age only for those who had the gold to pay to ride the trains. While 41 billion passenger miles may sound like a lot, it represented less than 400 miles per capita, or less than 3 percent as many miles as the average Americans travels by automobile today. Rail fares averaged 2.75 cents per passenger mile in 1920, which is well over 30 cents in 2012 pennies.[36] In terms of worker pay, which was lower relative to costs in 1920 than it is today, such fares would be a dollar or more per passenger mile at today's wages.[37] Such high fares meant that frequent rail patronage was confined to the upper and middle classes; the vast majority of Americans in 1920 were members of rural or urban working classes who rarely, if ever, traveled by train.

As shown in Figure 5, competition from autos in the 1920s led to a slow decline to 24 billion passenger miles in 1929 (less than 200 miles per capita), and a more rapid decline because of the Depression to as low as 12 billion passenger miles (less than 100 miles per capita) in 1932 and 1933. Some railroads responded to these declines by introducing flashy new trains that carried travelers at much higher speeds than ever before.

By 1939 trains operated by the Burlington, Milwaukee Road, Northwestern, Pennsylvania, Santa Fe, Union Pacific, and several other railroads routinely exceeded 100 mph

Figure 5
Rail Passenger Miles per Capita before Amtrak



Source: *Historical Statistics of the United States: Colonial Times to 1970–Part 2*, series Q307_Q308.
Note: Claims that federal construction of the Interstate Highway System killed the passenger train are contradicted by the rapid decline in per capita rail riders during the 1920s and after World War II.

and sometimes reached 120 mph. These railroads along with the New Haven, New York Central, Reading, Rock Island, and others scheduled trains with average speeds from terminus to terminus greater than 60 mph including the time required for all stops along the way.[38] This was more than twice the average speed of trains prior to this era, and many of the railroads reported a large increase in ridership in response to the higher speeds.

By 1940 ridership was up to nearly 20 billion passenger miles, or 150 miles per capita. Gas rationing during World War II led to a huge increase in intercity rail travel, reaching 90 billion in 1944, or more than 650 miles per capita.

Eager to serve travelers, railroads invested hundreds of millions of dollars—billions in today's dollars—in new fleets of locomotives and passenger trains after the war. But ridership crashed immediately following the war, falling below 300 passenger miles per capita by 1947, 200 miles in 1949, 150 miles in 1954, and 100 miles in 1959. Population growth failed to compensate for this decline, and by 1955 total intercity rail passenger miles had fallen well below the lowest levels of the 1920s.

No end to this decline appeared to be in sight when, in 1959, *Trains* magazine published an incisive, 38-page report titled, "Who Shot the Passenger Train?" Written by the magazine's pithy editor, David P. Morgan, the report was the longest and most important article in the publication's 50-plus-year history.[39]

Morgan argued that the passenger train was not "technologically obsolete," but that "it was shot in the back."[40] Like Agatha Christie's *Murder on the Orient Express*, the villain was not a single assailant but several. In particular, Morgan blamed the passenger train's decline on

- **Unions** that insisted on antiquated work rules, such as a 1919 rule requiring railroads to pay crews for a

In 1959 *Trains* magazine argued that the passenger train was not technologically obsolete but was "shot in the back" by government regulators, subsidies to competitors, unfair taxation, and obsolete labor rules.

***Trains* magazine suggested that passenger trains could compete only if they could run 25 percent faster than highways, but a 1947 federal regulation made this infeasible by limiting trains to 79 mph.**

full day's pay for every 100 miles they worked (and to pay overtime for any additional miles), which was still in effect in 1959 even though average train speeds had doubled.[41]

- **Government regulators** whose work may have been appropriate when railroads were monopolies but was unnecessary now that competition existed. Morgan cited an example of one state public utility commission that denied a full fare increase requested by a railroads because "it has been generally recognized that railroad passenger service, as presently conducted, has not and cannot be operated at a profit."[42]
- **Subsidies to competition** including highway subsidies and the predecessor of what is today called the Essential Air Service program.[43]
- **Unfair taxation** of the railroads when publicly owned airports and highways paid no taxes.[44]
- **Railroad managers** who found it easier to deal with freight (which Morgan described as a wholesale business) than passenger transport (which Morgan called a retail business). Morgan didn't think that many rail managers were deliberately trying to kill potentially profitable passenger trains to make room for even more profitable freight trains (which some passenger-train advocates at the time believed), but he did think that most rail managers didn't really understand the passenger business.[45]

Morgan admitted that all but the last of these culprits hindered rail freight operations as much as they did passenger trains, yet most railroads were able to earn a profit on their freight business. Still, Morgan argued that fixing these problems would bring many, if not all, passenger trains closer to profitability. Certainly the resurgence in rail freight after the 1980 deregulation suggested that many rail lines that were once thought marginal could in fact be profitable once some of the above issues were addressed.

"Nobody is being asked to bail out the passenger train in the sense of making it a Federal ward," said Morgan. "All that is asked is simple justice." Just eight years later, an Arizona attorney named Anthony Haswell formed the National Association of Railroad Passengers specifically to lobby to make the passenger train a federal ward.

At least one regulation had a much bigger impact on passenger trains than freights. In 1951 an Interstate Commerce Commission (ICC) rule went into effect requiring railroads to either install expensive signaling equipment or to limit the speeds of passenger trains to 79 mph (see shaded box). A few railroads, including the Santa Fe, installed the equipment, but most judged that the high cost could not be justified by a small increment in passenger ridership, so they slowed their trains down, limiting their ability to compete with auto travel.

The ICC's 79-mph speed rule did more harm than good to passenger trains. Freight cars spend most of their travel time being sorted in yards, so there is virtually no benefit gained by speeding up freight trains above 79 mph. Railroads could only justify the multimillion-dollar cost of installing the ICC-mandated signals by the returns from passenger revenues. Since these returns were rapidly declining in the 1950s, few railroads that did not already have the signals made the effort.

A few railroads, such as the Burlington and Illinois Central, were able to compensate for the slowing of passenger trains where they had previously exceeded 79 mph by speeding them up in other locations where they had previously traveled at well below 79 mph, thus allowing them to maintain the same overall times between major cities. Others, such as the Union Pacific and Atlantic Coast Line, were forced to add time to their schedules, making them less competitive with autos. When manufacturers introduced new technologies, such as General Motors' lightweight Aerotrain or the Spanish tilting Talgo train, railroads that were already up against the 79-mph limit were unable to take advan-

How the 79 mph Limit Became Law

In 1951 the Interstate Commerce Commission (ICC) implemented a rule requiring that U.S. trains traveling 80 mph or faster be equipped with expensive signaling equipment instead of relying on traditional forms of railroad signaling. The history of the rule's adoption is a typical case of sensationalism and exploitation being used to adopt questionable public policy.

The ICC first proposed the rule in 1946, when a fast passenger train collided with the rear end of another passenger train that was halted in Naperville, Illinois, killing 47 people. The two Burlington Railroad trains had been running at about 80 to 85 mph just three minutes apart when a flagman on the lead train thought he saw something fall off the train and the conductor ordered the train to stop. The engineer of the following train received a yellow signal indicating the need to slow down, but he didn't apply the brakes until the leading train came into view, by which time it was too late. The second train was still going at least 45 mph when it hit the first.

While the ICC used this wreck to justify the new rule, it isn't likely that the rule would have made any difference in this case. If speeds had been limited to 79 mph, the second train would have hit the first train at 39–44 mph, hardly slow enough to have saved many lives. If the railroad had installed the signals the ICC wanted, the only difference would have been that a yellow light would have lit up in the cab of the locomotive as well as on the signal outside. The most stringent signaling system would have forced the train to a stop only if it passed a red signal, and by that time it would have already collided with the leading train.

The fireman of the following train did not survive the crash, and despite several investigations of the crash, the engineer never formally testified about what happened. However, an interior cab signal would not have helped, as it seems likely that the engine crew of the following train saw the yellow and the engineer responded not by setting the brakes but instead merely backing off on the throttle. When two trains were operating closely together, historian Chuck Spinner explains, "it was not uncommon for the engineer of the trail train to 'play the yellow,' or to push the envelope when it came to speed." Engine crews assumed that a yellow signal meant they were running a bit less than three minutes behind the train in front, so "all the engineer would have to do is back off on the train's speed just a bit" expecting to increase the distance to three minutes and that the next signal would be green.[46]

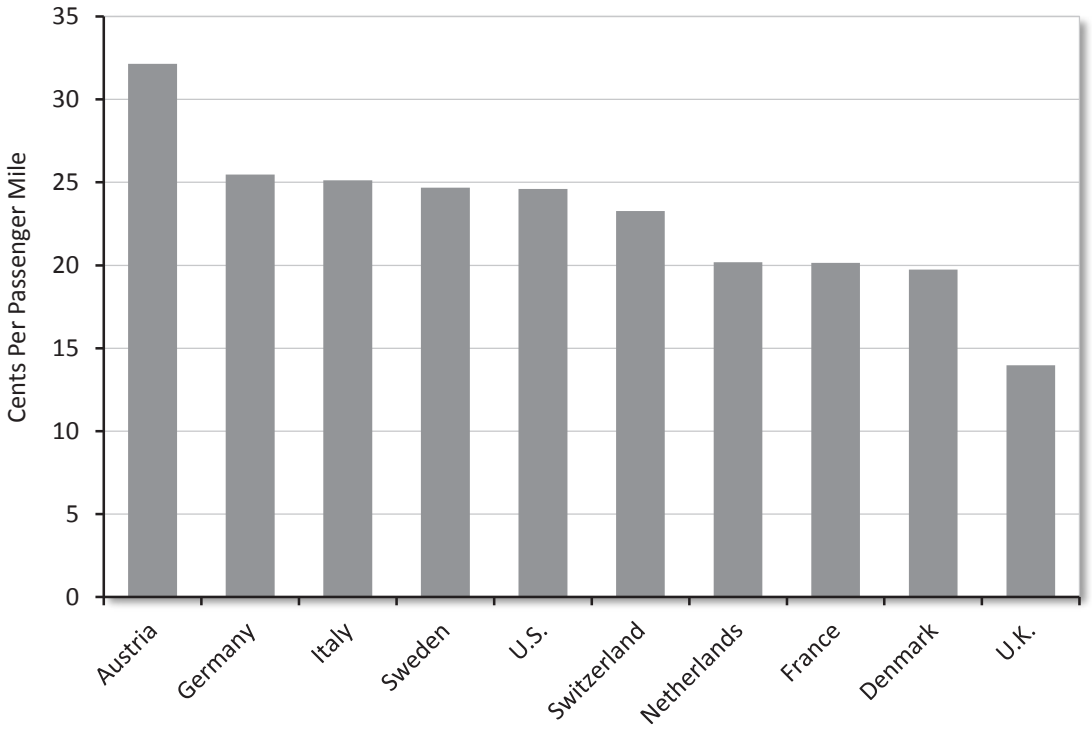
The Burlington Railroad responded to the accident by requiring that trains operate at least 15 minutes apart. This would have given the flagman of the first train time to walk back far enough to warn the second train of the need to stop. Some of the fatalities were in a prewar streamlined car that had not been built to the Association of American Railroad's standards for passenger cars. This car had been crushed between two stronger and heavier cars, and the ICC directed railroads not to operate cars of different standards in the same train. These changes made sense. The 79-per-hour rule did not.

The Interstate Commerce Commission used a train wreck in Naperville, Illinois, to justify the 79-mph speed limit, but it's not likely that this rule would have prevented the wreck.

tage of these new trains by speeding overall schedules.[47]

By itself, the ICC 79-mph rule didn't kill privately operated passenger trains. But if this rule had not been passed, and if the railroads had been deregulated earlier and other hindrances—such as unfair taxation and subsidies to competing modes—had been re-

Figure 6
Rail Subsidies per Passenger Mile



Source: "Public Funding Levels of European Passenger Railroads," Amtrak inspector general, 2008, p. 7.
Note: Amtrak subsidies per passenger mile are about the same as typical subsidies in Europe. Only Britain has significantly lower subsidies than the average for other European countries.

A 2008 Amtrak Inspector General Report found that virtually all European passenger train operations require significant public subsidies, but those subsidies are often disguised in national budgets.

moved, it is likely that passenger service could have remained profitable on many routes for many years.

Morgan argued that there were three markets for intercity passenger trains. First, on routes of 100 to 500 miles, trains could compete with other modes if they were "at least 25 percent faster than the highway." The ICC rule made it nearly impossible to achieve this goal profitably. Second, Morgan thought that business travelers would still be attracted to overnight trains between cities 500 to 1,000 miles apart. However, he noted this business was marginal because sleeping car passengers cost the railroads more than twice as much as coach passengers, yet paid less than twice the fares. Finally, Morgan thought that longer routes could sell "only on a cruise basis whereby 'getting there is half the fun.'"[48] Whether these markets are still viable today can only be determined by reforming federal transportation policy.

The European Experience

American rail advocates often point to government support of passenger trains in Europe and lament that the same support isn't provided in the United States. Yet a close look at European data reveals that passenger trains in these countries require large public subsidies that produce negligible benefits.

Contrary to claims that many European rail operations break even or earn a profit, a 2008 Amtrak inspector general's report found that virtually all European passenger train operations "require significant public subsidies." These subsidies are often disguised in rail budgets. For example, European rail operations "are typically organized into two separate business entities,"

one to manage the infrastructure and one to operate the trains. The train operators may report a profit, but only because they can ignore the heavy losses experienced by the infrastructure managers. Even the profits reported by the train operators are often exaggerated by including government subsidies among their revenues.[49]

The inspector general report estimated the government contributions to passenger operations for each of nine European nations, plus the United States, from 1995 through 2003.[50] Comparing these subsidies with passenger miles of rail ridership during those years reveals that the subsidies in most of these countries are between 20 and 30 cents per passenger mile, with the United States being right in the middle (see Figure 6). The only major exception is the United Kingdom, where subsidies are well under 15 cents per passenger mile, partly because it privatized its rail operations in the mid-1990s. This suggests that there are no economies of scale that would allow Amtrak to reduce its per passenger subsidies by expanding to a much greater size. The total subsidies in the nine countries during the years studied averaged $38 billion per year, while annual subsidies to Amtrak in those years averaged only about $1 billion. The average resident in these nine countries rode trains about 34 times as many miles as the average American, suggesting that there are diminishing returns to passenger rail subsidies: a doubling of subsidies will produce less than a doubling of ridership.

Together, the nine countries studied by the inspector general have a slightly greater population than that of the United States, but less than one-fourth the land area, resulting in an average population density that is 4.5 times greater than the United States. But this higher density has minimal effect on European travel choices, which are more influenced by the high taxes European governments impose on motor fuel, which effectively suppress European mobility.

In 2006 the average resident of the EU-15—the 15 Western European nations that made up the European Union before the fall of communism—traveled 6,459 miles by car, compared with 14,510 for the average American. European subsidies to rail made up for only a small fraction of this gap: while in 2006 the average American traveled only 18 miles by intercity rail and 35 miles by commuter rail, the average Western European travelled 533 miles by intercity and commuter rail. The extra miles of rail travel made up for less than 6 percent of the auto travel gap.[51]

Americans actually made up for most of the rail gap with greater bus travel. While the average EU-15 resident rode buses 665 miles in 2006, the average American rode them 997 miles, including airport buses, tour buses, and school buses, as well as urban transit and intercity buses. Europeans also flew less than Americans. While separate data are not available for the EU-15, the average residents of the EU-27 (which includes the original EU-15 as well as Cyprus, Malta, and 10 former communist countries) flew about 700 miles in 2006, compared with 1,970 miles by Americans.[52]

America's greater mobility is not due to the nation's large land area or low population densities. The second-most mobile nation in the world, after the United States, is Iceland, which has only 1 percent of the land area of the United States.[53] A comparison of Western European nations reveals almost no correlation between population densities and miles of per capita travel.[54]

Nor is European spending on trains dramatically increasing rail's share of European travel. According to the European Union, in 1980 76.4 percent of European travel was by auto, 2.5 percent was by air, while 8.2 percent was by intercity train.[55] By 2006 auto's share was still 76.4 percent, while air's share had grown to 8.3 percent and rail's share had declined to 7.9 percent. The big loser was buses, whose share declined from 11.9 percent to 6.3 percent.[56]

Spain has invested more in high-speed rail than any other European nation and now has more miles of high-speed rail than any country in the world except China. In 1990, before the nation's first high-speed line opened, rail's

Spain has invested more in high-speed trains than any other European nation, yet since it began building high-speed rail, rail's share of Spanish passenger travel declined from 6.9 percent to 5.4 percent.

share of surface passenger travel in Spain was 6.9 percent. By 2010, after a total of four major high-speed rail lines had opened, rail's share had declined to 5.4 percent.[57]

The most interesting passenger-rail action in Europe has been the British attempt to reform its rail system. This reform is often described as privatization, but it really ended up being a form of contracting. Initially, Britain sold its rail infrastructure to a private company, called Railtrack, that was supposed to maintain the rail lines and allow any operator to use them provided they paid an access fee. The government determined where passenger trains should run and invited private operators to bid on those routes.

Britain's system of contracting passenger trains to private operators led to a 60 percent increase in rail travel between 1996 and 2010, far more than in any other European country.

The Railtrack portion of the program proved to be a failure. In an effort to save money, it deferred maintenance, resulting in a poor on-time record as well as three serious accidents that killed 42 people between 1997 and 2000. As a result, the government bought out Railtrack and now operates the rail infrastructure through a quasi-governmental organization called Network Rail.[58]

Private contractors were allowed to bid on various routes, and if the bids were negative—that is, if the contractors would require subsidies to operate the routes—then the government would provide those subsidies. The private companies own their own locomotives and railcars, but they operate under franchise to the government.

Some reviewers consider the British system a failure.[59] Yet in one important way—ridership—it has been a huge success. From 1996, when private takeover was largely completed, to 2010, British rail passenger miles grew by 60 percent, far more than in any other European country, and more than twice as much as in the EU-15 as a whole.[60]

Rail's share of British passenger travel grew by 70 percent from 4.4 percent in 1995 to 7.5 percent in 2010. Again, this was more than that of any other European country; rail's share of travel in the EU-15, minus Britain, grew by only 10 percent in the same time period.[61] During the same years, private operations also increase rail's share of freight transport by nearly 50 percent, while rail's share declined in the rest of the EU-15.[62] The private operators accomplished this growth with less than 60 percent of the average subsidy per passenger mile of the eight other national rail systems studied by the Amtrak inspector general in 2008.

Three major complaints about the British railway program had to do with safety, reliability, and cost to taxpayers. However, since Network Rail replaced Railtracks, both safety and on-time performance have improved. In 2010, 92 percent of trains were on time, and surveys show that 83 percent of customers are satisfied with rail services. The private operating companies have purchased new equipment, reducing the average age of rolling stock by 23 percent.[63]

The biggest complaint about the British program was that subsidies, which were supposed to decline, actually increased. Adjusting for inflation, subsidies averaged about 2 billion pounds per year before privatization. These subsidies actually did decline slightly under Railtracks, but since Network Rail took over the infrastructure, they have grown to more than 4 billion pounds per year. The biggest increase in costs was infrastructure renewals, an increase partly required by Railtrack's deferral of maintenance.[64] Since overall costs per passenger mile remained constant, much of the increased subsidy can be attributed to the growth in rail ridership.

Some argue that the government repurchase of rail infrastructure proves that privatization doesn't work. But a more valid interpretation is that the British system continued to rely too much on central planning and regulation. Instead of letting the market determine where passenger service would be by rail, bus, or another mode, the British government politically determined rail routes and agreed to subsidize the supposedly privatized rail operators. The division of the system between an infrastructure company and operating companies failed to create the proper incentives, which contributed to safety and reliability problems. Despite these failings, no other country, no matter

how much it invested in high-speed rail or other rail improvements, has come close to a 70 percent increase in rail's share of passenger travel.

While not attempting widespread privatization, other European countries are saving money by contracting out selected routes. Contracting has saved 20 to 50 percent of costs on routes in the Netherlands, 20 to 30 percent in Sweden, and 20 percent in Germany.[65]

Privatization or Contracting?

Amtrak is supposed to be a corporation, not a government agency, and Amtrak president Joseph Boardman says that it is his goal to run Amtrak like a business. But there are three obstacles to running a government-funded organization like a business.

First, an organization that can draw on tax dollars to cover losses has little incentive to operate efficiently. Everyone in the organization, from top managers on down, knows that they can fall back on tax dollars to make up for any inefficiencies in their operations.

Second, an organization that is beholden to government to fund its operations must do things that are pleasing to government. Since Amtrak gets a third to half its funds from tax dollars, it must please appropriators as much as its customers. Among other things, this means running trains that carry few passengers simply because they go through the states or districts of powerful members of Congress.

Third, Amtrak faces the same labor problem as other public agencies in that negotiations with labor unions are asymmetric. When private companies negotiate with unions, the negotiators clearly represent each side of any dispute. But when public agencies negotiate, the agency negotiators have a conflict of interest as they represent both taxpayers, who have to pay for whatever the two sides agree to, and union members, who are also voters.

To reform Amtrak, some Republicans have proposed to have it contract out its operations to private companies such as Veolia and Stagecoach, both of which operate urban rail transit lines in the United States and elsewhere. Contracting out might help solve the labor problem, except that the same proposal calls for a requirement that contractors pay employees as much as Amtrak is paying them. Contracting out could also encourage operators to be efficient, especially so long as there was competition for such contracts. However, contracting out would not end the inefficiencies that result from political determination of routes and services.

Many American transit agencies contract out their operations at considerable savings to taxpayers. The Denver Regional Transit District (RTD) is a good example, as the Colorado legislature required the agency to contract out half of its bus routes. The companies that operate the routes maintain and fuel their buses, pay taxes on their fuel and property that RTD is exempt from, and pay workers roughly the same amount as RTD. One of the companies is even unionized. Despite higher fuel costs (when taxes are included) and comparable labor costs, in 2010 the private contractors cost 49 percent as much per bus-revenue mile and 52 percent as much per bus-revenue hour than the buses operated by RTD.[66]

Judging from experiences in Europe, contracting out Amtrak's operations might reduce per-passenger-mile subsidies by 20 to 50 percent. This would allow Congress to reduce Amtrak's appropriations without threatening Amtrak's routes or allow Amtrak to operate more trains on the same annual appropriation.

Contracting out remains an imperfect solution because Amtrak's route map would still be politically drawn rather than focused on the most suitable markets for passenger trains. Amtrak would still need to persuade Congress to subsidize most routes, and to do so it would need to extend service into most states even if some provided few customers. In the long run, both Amtrak and the pri-

Complete privatization of Amtrak is the only way to avoid the waste that results from political determination of routes and services.

To be fair, Amtrak privatization should take place in the context of reforming other transportation programs, such as ending federal subsidies to airlines and encouraging state and local governments to fund highways out of user fees rather than general tax dollars.

vate operators would lack market incentives to provide the most cost-effective transportation service. The proposal to require contractors to pay workers as much as Amtrak pays also represents an inefficient and inappropriate meddling with the market.

Complete privatization of Amtrak is the only way to avoid these problems. Such privatization could be part of a comprehensive transportation reform package that eliminates subsidies to rail competitors, reduces whatever regulatory constraints remain on private operators, and provides for fair taxation of all modes of transportation.

Privatization would mean selling Amtrak's assets: 623 route miles between Boston and Washington, New Haven and Springfield, Philadelphia and Harrisburg, and in Michigan; 105 rail stations; maintenance facilities; and roughly 2,300 locomotives, passenger cars, and other rolling stock. Amtrak estimates that these and other assets are worth about $11.1 billion, while its liabilities are about $5.3 billion.[67]

These numbers, however, represent the costs to Amtrak of purchasing right of way, infrastructure, and rolling stock, minus depreciation. Just because Amtrak paid these amounts to provide trains that lose money, however, doesn't mean they are worth that much on the open market. Privatization will probably produce net revenues that are less than the $5.8 billion Amtrak claims is its net asset value.

Privatization should be done with a minimum of restrictions or regulation. Whoever buys Amtrak's routes should not be required to open those routes to any train operator. Other than meeting basic safety requirements, operators should not be required to meet any particular frequency or level of service. Passenger trains, like buses and planes, should respond to the market, not to politicians.

To be fair, such privatization should take place in the context of reforming other parts of the transportation system as well. Congress should end the Essential Air Service subsidies and requirements that airlines serve remote communities. It should also encourage state and local governments to find ways to fund highways entirely out of user fees rather than general tax dollars.

Though privatization might result in an end to passenger trains on some routes, many routes could survive. Table 2, which shows data for the 44 routes in Amtrak's system, provides some clues as to what routes those would be. The table shows the "operating profit" for each route in 2011; this includes state subsidies on the revenue side but does not include depreciation, interest, capital improvements, or maintenance on the cost side. "Cost per passenger mile" is equal to the revenue per passenger mile (not shown) minus the profit per passenger mile.

The table shows only four routes that made an operating profit in 2011: the *Acela* and regional trains in the Northeast Corridor; the New York-Montreal *Adirondack*; and the Washington-Lynchburg trains (which are an extension of the Northeast Corridor). These trains earned an operating profit either by attracting patrons willing to pay high fares (as in the Northeast Corridor trains) or keeping costs low (as in the other two trains). Keep in mind that when capital improvements and maintenance are included, none of these trains made a profit, and those costs are probably higher in the Northeast Corridor (which is owned and must be maintained by Amtrak) than on most other routes, where Amtrak pays private railroads an access fee (which is included in operating costs) and need only maintain its rolling stock and stations.

The table reveals a very wide range of operating profits and costs per passenger mile as well as occupancy rates (that is, the average percentage of seats filled by revenue customers). Operating profits range from 25 cents per passenger mile for the Acela to minus 47 cents per passenger mile for the Los Angeles-New Orleans *Sunset Limited*. (The even greater loss of 80 cents a passenger mile on the Chicago-Indianapolis train is mitigated by the fact that Amtrak uses this train primarily as a "hospital train" to transfer cars in need of service from its Chicago hub to its shops in

Table 2
2011 Amtrak Operating Profits, Passenger Miles, and Occupancies

Route	Operating Profit (millions)	Passenger Miles (millions)	Profit per Passenger Mile (cents/pm)	Cost per Passenger Mile (cents/pm)	Occupancy (%)
Northeast Corridor (NEC)					
Boston-Washington (Acela)	165.8	650.2	25.5	50.1	64
Boston-Washington (Regional)	15.2	1,169.2	1.3	40.7	46
Total/average NEC trains	**179.5**	**1,813.1**	**9.9**	**44.3**	**52**
Short-Distance/State Corridor Trains					
Albany-Toronto	-6.6	124.5	-5.3	24.1	57
Boston-Portland	-1.4	45.2	-3.1	18.9	39
Charlotte-Raleigh	-2.0	15.7	-12.7	28.6	46
Chicago-Carbondale	-4.9	60.5	-8.1	22.7	38
Chicago-Grand Rapids	-1.0	16.7	-6.0	25.2	62
Chicago-Indianapolis	-4.7	5.9	-79.6	93.8	47
Chicago-Milwaukee	-2.8	66.7	-4.2	26.6	38
Chicago-Pontiac	-17.8	109.9	-16.2	33.3	51
Chicago-Port Huron	-2.6	38.8	-6.7	21.6	45
Chicago-Quincy	-2.7	37.5	-7.2	22.1	39
Chicago-St. Louis	-4.0	97.6	-4.1	16.7	46
Eugene-Vancouver	-16.7	138.0	-12.1	33.9	57
Kansas City-St. Louis	-0.6	40.0	-1.5	13.4	47
New Haven-Springfield	-13.9	35.5	-39.1	70.6	51
New York-Buffalo	-32.7	127.2	-25.7	57.2	34
New York-Charlotte	-1.5	93.8	-1.6	20.5	81
New York-Harrisburg	-11.0	117.0	-9.4	34.5	40
New York-Montreal	1.1	40.7	2.7	12.8	81
New York-Pittsburgh	-7.8	49.4	-15.8	33.7	62
New York-Rutland	-2.6	9.3	-28.0	55.0	41
Oakland-Bakersfield	-7.9	161.2	-4.9	27.0	41
Oklahoma City-Ft. Worth	-2.9	14.9	-19.5	32.4	45
Sacramento-San Jose	-15.2	109.4	-13.9	37.4	29
San Diego-San Luis Obispo	-33.9	249.3	-13.6	35.8	35
Washington-Burlington	-2.1	20.8	-10.1	29.2	53
Washington-Lynchburg	3.2	40.0	8.0	16.6	65

Continued next page.

Table 2 *Continued*

Route	Operating Profit (millions)	Passenger Miles (millions)	Profit per Passenger Mile (cents/pm)	Cost per Passenger Mile (cents/pm)	Occupancy (%)
Washington-Newport News	-1.0	111.1	-0.9	27.6	56
Total/average corridor trains	**-194.9**	**1,988.8**	**-9.8**	**31.3**	**44**
Long-Distance (LD) Trains					
Chicago-Los Angeles	-68.0	323.8	-21.0	34.6	68
Chicago-New Orleans	-23.4	108.8	-21.5	37.8	65
Chicago-Oakland	-64.2	287.9	-22.3	37.8	59
Chicago-San Antonio-LA	-30.9	177.6	-17.4	31.2	71
Chicago-Seattle	-57.0	327.6	-17.4	33.8	57
Lorton-Sanford (AutoTrain)	-32.6	223.3	-14.6	45.3	68
Los Angeles-New Orleans	-39.8	84.7	-47.0	60.2	51
Los Angeles-Seattle	-55.5	219.4	-25.3	43.5	61
New York-Chicago (Cardinal)	-19.1	45.7	-41.8	57.3	57
New York-Chicago (Lake Shore)	-38.7	202.6	-19.1	34.3	64
New York-Miami (Meteor)	-45.4	234.0	-19.4	36.1	66
New York-Miami (Star)	-52.2	219.3	-23.8	38.8	66
New York-New Orleans	-46.1	168.2	-27.4	45.2	58
New York-Savannah	-17.2	85.6	-20.1	39.3	48
Washington-Chicago	-25.2	115.6	-21.8	39.4	69
Total/average LD trains	**-615.4**	**2,822.9**	**-21.8**	**38.8**	**62**
Total/average all trains	**-630.7**	**6,638.9**	**-9.5**	**38.0**	**53**

Source: Calculated from "Monthly Performance Report for September 2011," Amtrak, Washington, 2012, p. C-1.
Note: Per-passenger-mile costs and occupancy rates vary widely among Amtrak trains, indicating that Amtrak is not efficiently managing its system. "Operating profits" count state subsidies to corridor trains as revenues but don't count maintenance, capital improvements, depreciation, or interest as costs. Add the cost per passenger mile to the profit per passenger mile to get the overall revenues per passenger mile, which includes food service revenues and state subsidies as well as rail fares.

Beech Grove, Indiana.) An efficient operator would try to find routes and frequencies that return a much narrower range of profits, either by investing more in the more profitable routes or reducing service on the less profitable ones.

Similarly, costs per passenger mile range widely from 13 cents on the *Adirondack* to 60 cents on the *Sunset Limited*. One reason revenues and costs range so widely is that occupancy rates vary from 29 percent on the Sacramento-San Jose *Capital* corridor to 81 percent on the *Adirondack* and New York-Charlotte *Piedmont*.

Based on these data, it seems likely that Northeast Corridor trains could be profitably operated by a private party. If the private operator could reduce operating costs to around 25 or 30 cents per passenger mile, which is typical of many other trains, then it

should earn a sufficient operating profit to pay for maintenance and improvements of the route.

Among the short-distance corridors, it is likely that the New York-Montreal Adirondack could also be profitably operated. It already has the lowest operating cost per passenger mile of any Amtrak route and ties with the New York-Charlotte train in filling the highest percentage of seats.

Many of the state-supported routes are more questionable. The Sacramento-San Jose and San Diego-San Luis Obispo trains in California are particularly likely to be submarginal. Even counting state subsidies as revenues, these not only lose more and cost more per passenger mile than the average corridor trains, they have the lowest occupancy rates of any Amtrak routes, which suggests that Amtrak and the state are supplying a service that is well in excess of demand. These trains might be more successful at reduced frequencies, but since Greyhound operates buses on the same routes at roughly twice the frequency, lower fares, and often as fast or faster than Amtrak, the rail service seems unnecessary.

The Chicago-St. Louis and Chicago-Pontiac (Detroit) routes are in-between. The federal and state governments are investing heavily in these routes to increase train speeds, which may make them more viable. Private operators are not likely to pay the full cost of those investments—when Japan privatized its high-speed rail lines, the private purchasers paid less than a penny for every dollar the lines cost—but if offered the routes they would be likely to operate them at a profit for many years. The long-run question is whether they would be able to earn enough to maintain the improvements, especially in the Michigan corridor where Amtrak owns (and would sell to the private operator) 95 miles of track. If the operator could spread the cost to more users by using this track for freight as well as passenger trains, it would be more likely to keep the passenger trains running in the long run.

Part or all of some of the long-distance routes, such as Chicago-Oakland or Chicago-Seattle, might survive as cruise trains. The classic cruise train was the pre-Amtrak *California Zephyr*, a popular train that was scheduled not to be fast (when introduced in 1949, it was almost 11 hours slower than its competitor, the *City of San Francisco*) but to pass through the best scenery during daylight hours.

The modern cruise train is best represented by the *Rocky Mountaineer*, a private train that entered Vancouver-Calgary service when VIA (Canada's version of Amtrak) canceled service on that route in 1990. In order to maximize scenic viewing, the train operates only in daylight hours, and passengers stay at hotels midway through the journey if the trip takes longer than one day. The company now offers four different routes, three of which require overnight stays: Vancouver-Calgary, Vancouver-Jasper, Vancouver-Whistler, and Whistler-Jasper.[68]

Amtrak's most scenic route is arguably the Denver-Oakland portion of the Chicago-Oakland Amtrak *California Zephyr*. If no private company decided to operate the complete Chicago-Oakland route, it seems likely that a company such as the one that owns the *Rocky Mountaineer* would operate the Denver-Oakland portion as a cruise train. Other highly scenic routes that could be cruise trains include Portland to Los Angeles; Portland to Salt Lake City; Seattle to Glacier Park; and Los Angeles to Albuquerque.

Other long-distance routes might survive as overnight trains. The New York-to-Florida trains have higher-than-average occupancy rates, and the *AutoTrain* actually earned a profit when it was privately owned. (Amtrak took over after the private owners went bankrupt when they "bet the company" in an unsuccessful expansion from Louisville to Florida.)

Conclusions

In 1967 Anthony Haswell, who describes himself as "a lifelong rail buff," created the

State-supported routes in California not only lose more and cost more per passenger mile than the average corridor trains, they have the lowest occupancy rates of any Amtrak routes.

National Association of Railroad Passengers to argue that a national network of passenger trains could be a cost-effective and reliable mode of transportation. His success has led many to call him the "father of Amtrak." Three decades after Amtrak was created, however, Haswell was discouraged by Amtrak's slow, unreliable, and costly trains. "Amtrak today ranks among such legendary boondoggles as the Tweed Courthouse of 1870," wrote Haswell, who sadly concluded, "I am personally embarrassed by what I helped to create."[69]

Joseph Vranich was one of the early executive directors of the National Association of Railroad Passengers, a position he took after working for Amtrak's public relations office. He later became a strong advocate for high-speed trains. Today, however, Vranich agrees with Haswell that Amtrak's performance has been dismal. Both former Amtrak advocates support privatization of the Amtrak system.[70]

"If passenger trains are in the red because they're technologically obsolete, because Americans prefer the convenience of a car or the speed of a jet, then these trains must be given a decent burial and left to the historians," said *Trains* magazine editor David P. Morgan in 1959. "Neither *Trains* nor anyone else can intelligently or morally plead the train's cause on the grounds of nostalgia or job protection."[71]

The only way to find out whether passenger trains make sense or are mere boondoggles is to privatize Amtrak in the context of reform of the nation's transportation infrastructure so that all modes are unsubsidized and treated equally by regulators and tax authorities. Congress can do much of this when the surface transportation reauthorization law expires in 2014 and the federal aviation reauthorization law expires in 2015.[72]

In 1959 Morgan argued that "simple justice" demanded a leveling of the playing field between the passenger train and its competitors. Today, after four decades of per-passenger-mile subsidies to Amtrak that are many times greater than subsidies to airlines or highways, simple justice to Amtrak's competitors and to taxpayers demands an end to those subsidies. Privatizing Amtrak is the best way to achieve that justice.

The passenger train is a beloved institution that has been a part of American history for more than 180 years. But for most purposes, it is an obsolete form of travel that cannot compete with buses, cars, and airplanes. Privatizing Amtrak will not end all passenger-rail service, but it will lead to such service being offered where it can provide a significant contribution to the nation's economy while it will also encourage private operators to innovate and find new and creative ways to make passenger trains relevant to American travelers.

Anthony Haswell is known as the "father of Amtrak," but by 2001 he was so disappointed in Amtrak's performance that he wrote, "I am personally embarrassed by what I helped to create."

Notes

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2. "Monthly Performance Report for September 2011," Amtrak, Washington, 2012, pp. A-1.2, C-1.

3. Ibid., p. C-1.

4. *National Transportation Statistics*, table 1-42, "Long-Distance Travel in the United States by Selected Trip Characteristics: 2001."

5. Randal O'Toole, "Intercity Bus: The Forgotten Mode," Cato Institute Policy Analysis no. 680, June 29, 2011, p. 5.

6. *National Transportation Statistics*, table 1-42.

7. LimoLiner, www.limoliner.com.

8. *National Transportation Statistics*, table 1-40; *Highway Statistics 2008* (Washington: Federal Highway Administration, 2009), table VM-1 (rural travel used as a proxy for intercity travel).

9. Calculated from *National Transportation Statistics*, tables 1-40 ("Passenger Miles"), 3-33 ("Transportation Revenues by Mode and Level of Government"), and 3-37 ("Transportation Expenditures by Mode and Level of Government"); adjusted to 2011 dollars using gross domestic product deflators calculated from "Current Dollar and Real GDP" spreadsheet published by the Bureau of

Economic Analysis (bea.gov).

10. Calculated from *National Transportation Statistics*, tables 1-40, 3-33, and 3-37; passenger miles based on light-duty vehicles, motorcycles, and buses from table 1-40.

11. Based on Amtrak annual reports for the years indicated.

12. "Annual Report Fiscal Year 2011," Amtrak, Washington, 2012, p. 41.

13. Ibid., p. 42.

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18. Passenger miles per route calculated from "Monthly Performance Report for September 2011," p. C-1; Northeast Corridor population estimated by adding together the Census Bureau estimates of the 2011 populations of the metropolitan areas between Boston and Washington.

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22. *Transportation Energy Data Book, Edition 31* (Oak Ridge, TN: Department of Energy, 2012), table 2-14.

23. "Boeing 787 Dreamliner to Cut Fuel 20%," *Environmental Leader*, September 27, 2011, tinyurl.com/cw8pzjj.

24. "Rail," General Electric, 2012, tinyurl.com/ycv2yte.

25. *Transportation Energy Data Book, Edition 31*, table 2-13.

26. *California High-Speed Rail Final Program EIR/EIS* (Sacramento, CA: California High-Speed Rail Authority, 2005), appendix 2-F, p. 2-F-1.

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51. European data from "Panorama of Transport: 2009 Edition," Eurostat, Brussels, 2009, tinyurl.com/ykks2bu, pp. 103, 104, 105, 108; population data based on "Population at 1 January 2006," Eurostat, tinyurl.com/99lhsc5; U.S. data from *National Transportation Statistics*, table 1-40 ("Passenger Miles").

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68. See rockymountaineer.com. In a hearing before the House Transportation and Infrastructure Committee on September 20, 2012, Amtrak president Joseph Boardman told the committee that the Rocky Mountaineer "is actually operated by Amtrak." A telephone call to the Rocky Mountaineer's head office confirmed that Mr. Boardman was mistaken.

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