WHITE PAPER

How Do Long Distance Trains Perform Financially?

HOW DO LONG-DISTANCE TRAINS PERFORM FINANCIALLY?

Amtrak's Long Distance Service Line operates 15 long-distance routes ranging from 764 to 2,438 miles. They provide once daily (on two routes tri-weekly) service to about 325 cities and smaller communities in 39 states and the District of Columbia, offering connnections with other long-distance routes and Amtrak's state-supported and Northeast Corridor (NEC) short-distance routes. Fourteen of these routes operate overnight and offer lower-density coach seating, sleeping car service and meals. In FY 2018, long distance routes carried 4.5 million passengers,14% of Amtrak's ridership. Passengers traveling to and/or from stations in rural area acounted for 18% of long-distance ridership.

How does long-distance financial performance compare to other service lines?

In FY 2018, long-distance routes generated revenues of $523.4 million, the vast majority of which were from ticket sales and food and beverages sold on trains. These revenues covered 49% of their operating costs, resulting in an operating loss of $543.2 million. Amtrak also spent $260 million in FY 2018 on capital investments for long-distance service.

Long-distance service requires a disproportionately high share of Amtrak's federal funding because it accounts for the vast majority of Amtrak's operating losses and the federal government is the only source of funding for nearly all of its capital costs. The table below shows the financial performance of Amtrak's three National Train Service service lines in FY 2018.[1]

FY 2018 OPERATING EARNINGS

$ millions	Northeast Corridor	State Supported	Long Distance
Adjusted Ticket Revenue	$1,243.5	$513.8	$441.2
Food & Beverage Revenue	$45.6	$25.7	$69.4
State Funding	$0.0	$233.8	$0.0
Other Revenue	$26.8	$15.0	$12.8
Operating Revenue	$1,315.9	$788.3	$523.4
Operating Expense	($791.8)	($879.4)	($1,066.7)
Adjusted Operating Earnings	$524.1	($91.1)	($543.2)
Ridership	12,123,643	15,079,135	4,513,474
Net Revenue/(Loss) per Passenger	$43	($21)	($120)
(State Funding per Passenger)	$0	$15	$0
Net Revenue/(Federal Subsidy) per Passenger	$43	($6)	($120)

During FY 2018, long-distance trains accounted for 38% of Amtrak's train miles but produced only 20% of passenger revenues and were responsible for 86% of federally-subsidized operating losses. The Adjusted Operating Loss for the Long-Distance Service Line that is subsidized by the federal government equates to a average subsidy of $120 for each long-distance passenger. On the New Orleans-to-Los Angeles *Sunset Limited*, the average federal subsidy for each passenger was $362. These figures do not include capital costs.

[1] The Amtrak Performance Tracking system Amtrak uses to calculate the revenues and costs of its service lines and routes is described in "How Does Amtrak Allocate Revenues and Costs to Routes?"

Passengers on state-supported routes received $15 per passenger in state funding and required an average federal subsidy of $6 per passenger in FY 2018. The NEC generated an operating surplus of $524.1 million used for NEC capital investments, as required by the FAST Act.

The table below compares the financial performance of Amtrak's service lines under key performance indicators used in the public transportation industry.

FY 2018 KEY OPERATING PERFORMANCE INDICATORS

	Northeast Corridor	State Supported	Long Distance
Revenue per Available Seat Mile (cents)	37.4	17.0	11.8
Cost per Available Seat Mile (cents)	22.5	19.0	24.0
Cost Recovery Ratio	166%	90%	49%

Revenues from long-distance trains covered less than half of their operating costs, while state-supported trains covered 90% and NEC trains 166%. Revenue per available seat mile (RASM) – revenues divided by the total passenger capacity available, expressed in miles – was 31% lower on long-distance trains than on state-supported trains, and RASM on long-distance trains was less than a third of that on NEC trains. The State Supported Service Line has a much lower federally-funded operating loss than the Long Distance Service Line: ticket and food and beverage revenues cover a higher percentage of its operating costs, and state payments cover most of its operating loss.

Why are long-distance operating losses so high?

Long-distance trains have large operating losses because their revenues are lower and their operating costs are higher than Amtrak's NEC and state-supported services.

The table below compares a three-day, one-way trip on Amtrak's *California Zephyr* between Chicago and Emeryville (San Francisco), California and a same-day round trip between New York City and Washington, D.C. on a *Northeast Regional* train. Revenues are based on the FY 2018 average revenues per available seat mile on both routes and the number of revenue seats. Seats per trip on the *California Zephyr* are based upon its peak season equipment consist and include sleeping car berths.

	California Zephyr	Northeast Regional
Trip	Chicago-Emeryville One Way	New York-Washington Round Trip
Train operating hours per trip	52	7
Miles per trip	2,438	450
Seats per trip	348	480
Seat miles per trip	848,424	216,000
Average revenue per available seat mile	$0.1129	$0.2804
Revenue per trip	$95,787	$60,566
Revenue per train mile	$39	$135

As the table indicates, the revenues on the *California Zephyr* trip are about 58% higher than on the *Northeast Regional* round trip. However, because the *California Zephyr's* average revenue per seat mile is much lower and its average speed is slower, it has to travel nearly 2,000 more miles (five and a half times as far) and for seven and a half times as long to generate those revenues. As a result, its revenue

per train mile ($39) is less than a third of the *Northeast Regional's* ($135). The *California Zephyr* also has much higher costs that are solely attributable to its operation, as detailed below.

Labor Costs

The *Northeast Regional* round trip requires only five dedicated employees who do not provide services for any other train and are paid for only one day of work: an engineer, three conductors and a café attendant.

As indicated in the table below, the *California Zephyr* requires 45 dedicated employees – nine times as many – per one-way trip. They are comprised of:

- Twenty-seven engineers and conductors per trip. In accord with federal laws limiting their hours of service and labor agreements that specifiy minimum staffing requirements, two conductors and one or two engineers are required to operate the *California Zephyr*, and engineers and/or conductors are replaced at eight intermediate crew change points along its route.

- Eleven on-board service (OBS) employees per trip. The *California Zephyr's* dining car and lounge car require six employees and an additional five employees serve passengers in sleeping cars and coaches. These employees are paid for the entire 52-hour trip (save for rest breaks) and for the time they spend preparing the train for departure, and receive additional pay if the train arrives late.

- Aproximately seven dedicated station employees per trip. Because the *California Zephyr* is the only train over the vast majority of its route, station employees at most intermediate stations do not serve any other train and all of their costs are attributable to the *California Zephyr* route.[2]

	California Zephyr	**Northeast Regional**
Trip	Chicago-Emeryville One Way	New York-Washington Round Trip
Engineers/conductors per trip	27	4
On-board service employees per trip	11	1
Dedicated station employees per trip	7	0
Total dedicated employees per trip	45	5

Equipment Costs

Long-distance trains require more cars and locomotives ("equipment sets") because they include non-revenue cars for which tickets are not sold, sleeping cars that have about half of the capacity of regular coach cars, and coaches configured for overnight travel with fewer seats per car.

The *California Zephyr* has ten cars during peak periods, versus eight on the *Northeast Regional.* However, those ten cars provide 27% fewer seats/berths that can be sold to passengers than the eight cars on the *Northeast Regional.* Three of the ten cars on the *California Zephyr* – the dining car, the lounge car and the baggage car – have no revenue space. Much of the space in a fourth car – the transition sleeping car – is occupied by rooms for the on-board staff.

Like most long-distance trains, the *California Zephyr* requires two locomotives rather than the one locomotive used on nearly all NEC and state-supported trains. The route also requires more equipment

[2] The seven staffed stations served only by the *California Zephyr* have two daily trains (one in each direction) and a total of 20 employees who work five days a week. Therefore, about a third of these employees are solely attributable to each one-way *California Zephyr* trip.

sets due to the length of the trip: six sets to provide a daily round trip (the equivalent of 1.5 sets for each trip) versus one set for the *Northeast Regional.*

Therefore, as depicted in the table below, the *California Zephyr* requires twice as much equipment as the *Northeast Regional* train, which means higher equipment and fuel/power costs. However, that equipment has less passenger capacity (available seat miles) than the *Northeast Regional's* equipment. This results in lower revenues, even before taking into account the *California Zephyr's* 60% lower revenue per seat mile.

	California Zephyr	**Northeast Regional**
Trip	Chicago-Emeryville One Way	New York-Washington Round Trip
Locomotives per trip	2	1
Locomotives per day	3	1
Cars per trip	10	8
Cars per day	15	8
Total equipment units per day	18	9

Do long-distance trains cover their Variable Operating Costs?

Total long-distance train operating expenses in FY 2018 were $1,066.7 billion. The $523.4 million in revenues long-distance trains generated in FY 2018 were slightly below their Frequency Variable Costs ($526.8 million). Frequency Variable Costs are costs that generally change due to adding or removing an individual train frequency, or the cars and locomotives operated on a train frequency. They include train and engine crew and OBS labor (wages and benefits paid to conductors, engineers and OBS employees), host railroad payments, and fuel and power.

Long-distance train revenues did not cover any of the:

- $297 million in Route Variable Costs incurred to provide, among other things, equipment, reservations and food service on long-distance routes.

- $243 million in System/Fixed Costs allocated to the Long Distance Service Line that reflect its proportionate share of overhead and corporate expenses.

Therefore, all of the Route Variable and System/Fixed Costs attributable to long-distance service were funded with Amtrak's federal subsidies, unlike the NEC and State Supported Service Lines.

Is long-distance ridership growing or declining?

From FY 2010 to FY 2018, ridership on long-distance trains increased only 1%. Were it not for passengers traveling within the NEC on long-distance trains that did not carry passengeers between NEC stations in 2010, ridership would have declined 5.4%. During the same period, Amtrak ridership on the NEC increased 16.9%, ridership on state-supported trains grew 8.7%, the U.S. population increased by 5.8%, and the number of domestic airline passengers rose 23.6%.

Of even greater significance, passenger miles on long-distance trains – the total number of miles traveled by long-distance passengers – fell 12.5% from 2010 to 2018. This steep decline was not attributable to service changes or disruptions. Long-distance seat miles – the total miles of train capacity (seats and berths) available for sale – decreased only 2.6%. Because long-distance trains were providing nearly as many seat miles in 2018 as in 2010, but carrying fewer passengers per seat mile, their average load factor – the percentage of seats and berths occupied – declined from 61% to 55%.

There are three principal reasons why usage of long-distance trains is declining while demand for other Amtrak services and for intercity travel by other modes is growing rapidly.

1. *Poor On Time Performance Due to Host Railroad Delays.* Long-distance trains are disproportionately impacted by poor on-time performance over the various freight railrods that host Amtrak trains, include the failure of some host railroads to regularly give Amtrak trains preference over their freight trains, as required by law. During FY 2018, delays attributable to host railroads accounted for 62% of long-distance train delay minutes, and more than two thirds of freight train interference delay minutes were on long-distance train routes. Endpoint on-time performance of long-distance trains fell from 74.6% in FY 2010 to 48.6% in FY 2018. This means that more than half of long-distance trains – twice as many as in FY 2010 - arrived at their destination over 30 minutes late in FY 2018. More than 20% of long-distance trains were over two hours late.

2. *Reduced Demand for Lengthier Train Trips.* Trips of 600 or more miles on long-distance trains declined 21% from FY 2010 to FY 2018, while trips under 300 miles increased 33%. The decline in longer trips corresponds to the significant increase in air service during this period in nearly all of the 600-plus mile city pair markets that long-distance trains serve. Most of the additional air service is provided by low cost airlines: according to the Federal Aviation Administration, the number of domestic passengers on low cost airline flights increased 36% from 2007 to 2018. What this means is that airline fares in major long-distance markets are often lower than fares for multi-day journeys in an Amtrak coach. Only 3.5% of long-distance trips - about 160,000 annually – are between the endpoints on long-distance routes (excluding the Virginia-to-Florida *Auto Train*, which only carries passengers accompanied by automobiles and makes no intermediate stops).

3. *Changing Travel Preferences:* Long-distance trains do not meet the travel preferences of many travelers, including most Millennials who now account for more travel spending than any other age cohort but comprise just 16% of adult long-distance passengers. Most Millennials live in growing metropolitan megaregions where long-distance trains are rarely a viable travel option due to limited frequency, uncompetitive travel times, poor reliablity and often inconvenient departure and arrival times. Survery research by Priceline.com also indicates that the vast majority of Millennials prefer frequent short trips to the longer vacations that historically provided much of the patronage on long-distance trains.

Coach passengers account for 85% of long distance ridership. Because of low airline fares and reduced demand for rail travel in major long-distance markets, the fares Amtrak is able to charge long-distance coach passengers are much lower on a per-mile basis than fares on the NEC. Amtrak's lowest *Northeast Regional* fare between New York and Washington is $53. From New York to Miami, a 1,389-mile trip for which non-stop airline flights cost as little as $69, Amtrak's lowest fare is $95. This means that Amtrak receives $53 for carrying a passenger 225 miles from New York to Washington – but only $42 more from a passenger who stays on the train for an additional 1,164 miles to Miami.

Amtrak long-distance service is a more viable travel alternative in smaller communities where air service is limited or distant. However, with 80% of the U.S. population living in urban areas, the number of potential passengers in rural areas is relatively small: about 900,000 long-distance passengers annually travel to or from stations in rural areas.

Travel demand is much greater in under 400-mile corridors between major cities on long-distance routes. But infrequent, often late, long-distance trains do not meet the needs of travelers in these markets. The only Amtrak service in the fast growing corridor between Los Angeles and Phoenix, whose metropolitan area population now excceds 4.7 million, is a long-distance train, the *Sunset Limited.* It operates just three times a week, on an overnight schedule with pre-dawn arrivals in both directions, and makes its Phoenix-area stop in Maricopa, 35 miles from Phoenix. Over 2.1 million travelers flew between Phoenix and Los Angeles In FY 2018, but only 6,228 rode the *Sunset Limited.*

What capital costs does Amtrak incur for long-distance trains?

During FY 2018, Amtrak spent $260 million for capital investments for the Long Distance Service Line. The largest capital expenditure – $93 million – was for equipment overhauls. Other major capital expenditures were for acquisition of new equipment, stations, improving equipment maintenance facilities, and investments in tracks owned/maintained by Amtrak and used by long-distance trains.

The Long Distance Service Line is unique in that federal subsidies are virtually its only source of capital funding.

- As indicated above, the NEC generates a substantial operating surplus that is used for NEC capital investments. The additional net revenues from operation of on-order *Acela 21* trainsets will be used to repay debt incurred to acquire them. NEC commuter railroads also provide funding for shared NEC capital expenditures per the cost allocation policy developed by the Northeast Corridor Commission, as required by Section 212 of PRIIA. The policy is based on each railroad's proportional use of the NEC.

- Under the costing methodology developed pursuant to Section 209 of PRIIA, states fund equipment overhaul costs for Amtrak equipment used on state-supported routes. Many states provide their own equipment, for which they are responsible for capital costs. States also provide funding, sometimes in conjunction with local governmental entities, for other capital investments and facilities such as stations on state-supported routes.

Much greater capital investment needs for long-distance service lie immediately ahead. Most of Amtrak's long-distance equipment fleet has reached or is approaching the end of its useful life. The P42 Genesis diesel locomotives that pull long-distance trains have an average age of 20 years. Sixty percent of the passenger cars that carry long-distance passengers are 35 or more years old. Since procurement of new passenger rail equipment typically takes five years or more from requests for proposals to final delivery, decisions about acquiring new equipment will have to be made, and funding for the equipment to be acquired will have to be secured, within the next few years.

Amtrak has already committed over $1.1 billion to new equipment for long-distance service. The last of the 130 single-level Viewliner sleeping, dining, baggage and baggage-dormitory cars used primarly on eastern long-distance trains are scheduled to be delivered over the next two years. Amtrak has recently entered into an $850 million agreement to acquire 75 new Charger locomotives that will replace a portion of the diesel locomotives used on long-distance routes, with options to acquire more locomotives. In addition to locomotives, hundreds of passenger cars will also have to be ordered over the next few years if long-distance service is to be maintained at existing levels. Acquisition of this equipment would require significant increases in the federal funding provided for Amtrak's National Network.

Amtrak faces significantly increased capital costs for facilities and infrastructure used only by one or two long distance trains per day. They include installation of positive train control (PTC) on rail lines used by long distance routes where it is not required for freight operations, and the cost of addressing state-of-good repair needs and Americans with Disabilities Act (ADA) requirements at the hundreds of Amtrak stations served only by long distance trains. In FY 2019, Amtrak budgeted nearly $40 million for capital projects at stations served only by long distance trains.


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