

STL - CHI Amtrak

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Introduction

Recently, I was asked to pick a friend up from the St. Louis Amtrak station. Their train from Chicago was scheduled to arrive at 10:30 PM. Little to my surprise and most unfortunately, the train was delayed and ended up arriving at 2:30 AM. Having previously had my own experience with delayed Amtrak trains, this recent occurrence begged the question: how reliable is Amtrak? And more specifically, how reliable are the Amtrak trains running between Chicago and St. Louis? And furthermore: is taking an Amtrak train between Chicago and St. Louis, worth the risk of being late.

Data

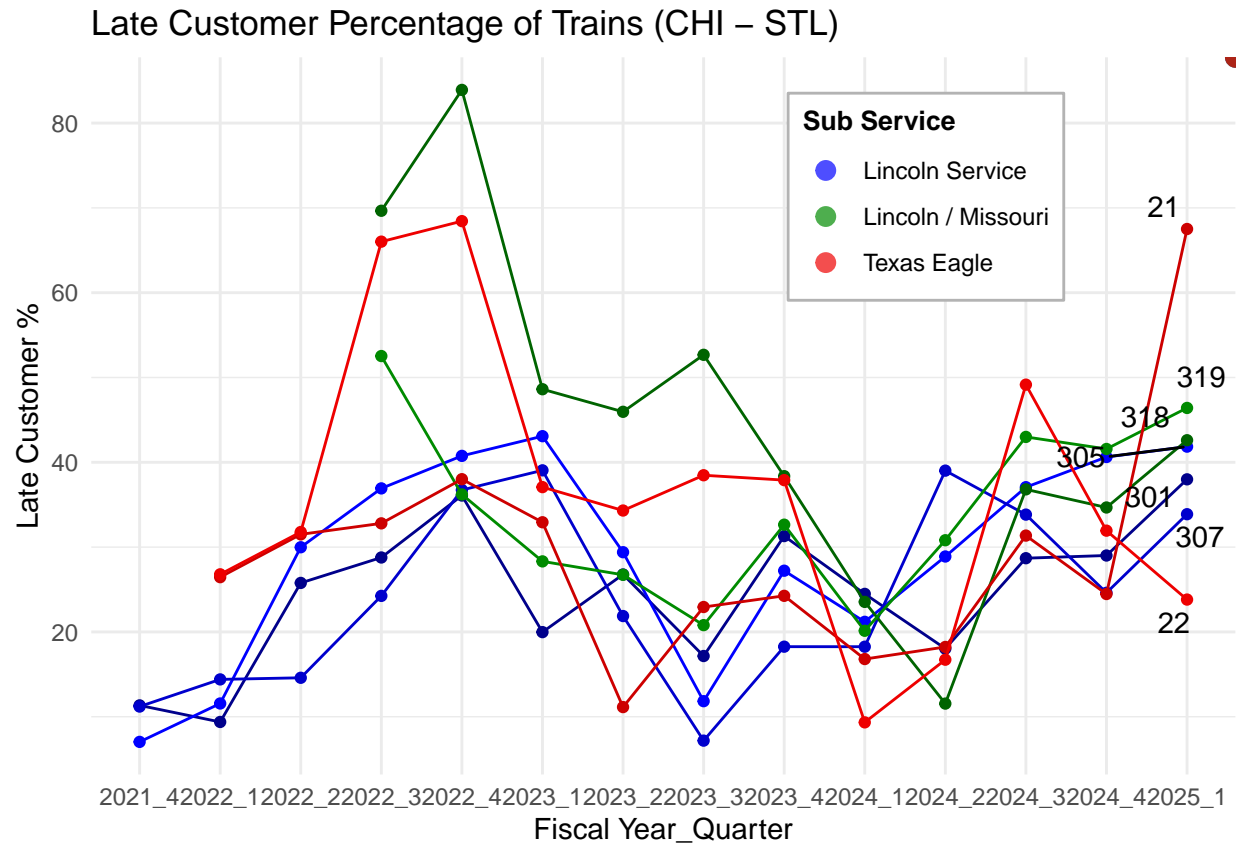
The data used for this analysis is open data which can be found at the Bureau of Transportation Statistics (railroads.dot.gov) under Amtrak or more specifically at: <https://railroads.dot.gov/rail-network-development/passenger-rail/amtrak/intercity-passenger-rail-service-quality-and> The Amtrak data is gathered quarterly and organized into several different spreadsheets with an overall report. As I am interested in looking specifically at the Amtrak performance for trains between Chicago and St. Louis, I proceeded with the Station Performance Metrics spreadsheet. Again the data is organized by quarter, so I downloaded all quarterly Station Performance Metrics data sets which spanned from Q4, 2021 to Q1, 2025 (14 total files). Note that the FRA (Federal Railroad Association) strives for a minimum OTP (On Time Performance) of 80% over two successive quarters for all intercity passenger trains. The FRA defines “On Time” to be an arrival of less than 15 minutes after the scheduled arrival. Further details of the FRA’s methodology can be found both in their quarterly Methodology Report and Performance and Service Report.

Methodology

In order to evaluate the reliability of taking a direct Amtrak Train between St. Louis and Chicago and back I calculated the percentage of late passengers per quarter per specific train. Direct trains between St. Louis and Chicago fall into three Sub Service lines: Lincoln Service, Lincoln / Missouri, and Texas Eagle. I will first examine the performance of trains running from CHI -> STL, followed by the performance of trains running from STL -> CHI. I will do this by plotting the percentage of late customers over time for each train followed by a table with cumulative statistics.

Results

CHI -> STL



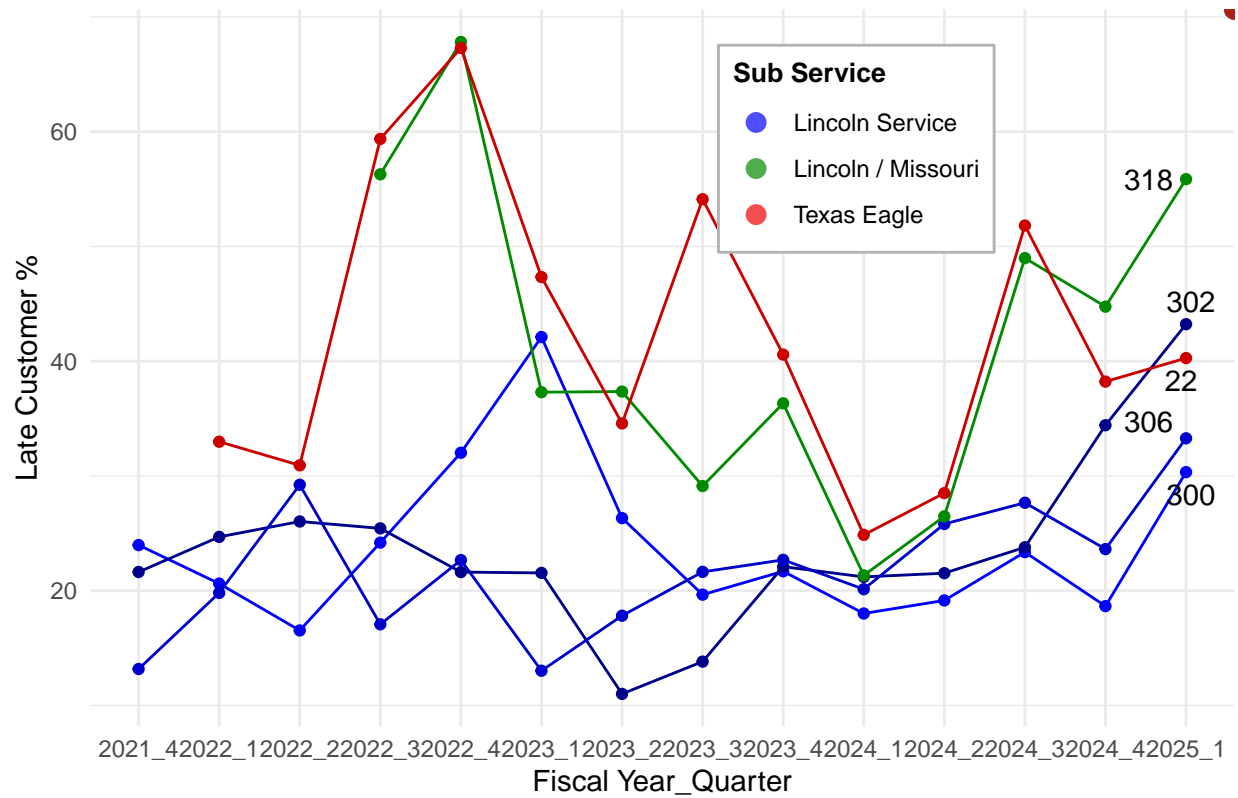
Sub Service	Train Number	avg_late_percentage	avg_min_late
Lincoln / Missouri	318	44.39640	48.27273
Lincoln / Missouri	319	34.46902	53.63636
Lincoln Service	301	24.62693	44.07143
Lincoln Service	305	29.10095	51.78571
Lincoln Service	307	24.08195	62.78571
Texas Eagle	21	29.10757	50.15385
Texas Eagle	22	36.28943	124.76923

Sub Service	avg_late_percentage	avg_min_late
Lincoln / Missouri	39.43271	50.95455
Lincoln Service	25.93661	52.88095
Texas Eagle	32.69850	87.46154

The train performances vary pretty heavily over time with no noticeable trend. There is no clear winner for an individual train running from CHI to STL. However Lincoln Service trains have performed much better in recent history.

STL -> CHI

Late Customer Percentage of Trains (STL – CHI)



Sub Service	Train Number	avg_late_percentage	avg_min_late
Lincoln / Missouri	318	41.96654	63.09091
Lincoln Service	300	24.04420	45.78571
Lincoln Service	302	23.71600	44.71429
Lincoln Service	306	21.97317	54.85714
Texas Eagle	22	42.37332	107.53846

Sub Service	avg_late_percentage	avg_min_late
Lincoln / Missouri	41.96654	63.09091
Lincoln Service	23.24445	48.45238
Texas Eagle	42.37332	107.53846

Again, there is no clear individual winner, but the Lincoln Service trains have a seemingly lower Late Customer %. Lincoln Service's better performance is confirmed again with Lincoln / Missouri and Texas Eagle performing even worse running in the CHI direction.

Conclusion

- As none of the trains operating between Chicago and St. Louis had an average percentage of delayed customers under 20%; by FRA's standard these train lines are not running up to par and are not reliable.
- In both directions Lincoln Service is historically by far the most reliable train line Sub Service.
- Although ~24% chance of being on time is not stellar it may be acceptable for some.
- Personally I find ~40% chance of being late to be not worth the risk and thus would not consider taking a train on the Lincoln / Missouri or Texas Eagle Sub Service.

Data Source

railroads.dot.gov