



RAIL PASSENGERS  
ASSOCIATION

# How Trains Make Money: Advancing Our Understanding of Passenger Rail

Rail Passengers has invested in modeling tools such as IMPLAN that allow us to map out the economic benefits of train service.

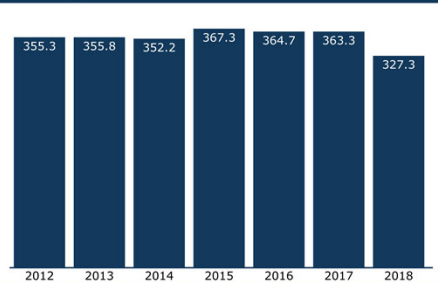
## Amtrak fact sheet: Southwest Chief service

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### Passengers, 2012-2018 (in thousands)



### Quick recap, 2018

	Coach	Sleeper	Total
Passengers	269,625	57,665	327,290
Average trip	716 miles	1355 miles	829 miles
Average fare	\$ 78.00	\$331.00	\$122.00
Avg yld per mi	10.8¢	24.4¢	14.7¢

### Top city pairs by ridership, 2018

- Chicago, IL - Kansas City, MO 437 mi
- Chicago, IL - Los Angeles, CA 2256 mi
- Albuquerque, NM - Los Angeles, CA 924 mi
- Flagstaff, AZ - Los Angeles, CA 565 mi
- Chicago, IL - Galesburg, IL 162 mi
- Chicago, IL - Flagstaff, AZ 1691 mi
- Albuquerque, NM - Chicago, IL 1332 mi
- Chicago, IL - La Plata, MO 298 mi
- Albuquerque, NM - Gallup, NM 173 mi
- Chicago, IL - Princeton, IL 104 mi

### Top city pairs by revenue, 2018

- Chicago, IL - Los Angeles, CA 2256 mi
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- Albuquerque, NM - Los Angeles, CA 924 mi
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- Kansas City, MO - Los Angeles, CA 1819 mi
- Chicago, IL - Fullerton, CA 2230 mi
- Chicago, IL - Kingman, AZ 1864 mi
- Albuquerque, NM - Fullerton, CA 898 mi

Note: Chicago is Amtrak's east-west gateway.

### At a glance

Part of Amtrak's Long Distance sector  
Daily service: 36 cities in 8 states  
Population of service area  
Within 25 miles: 14,329,026  
Within 50 miles: 28,082,821  
Longest segment traveled: 2,256 miles  
Chicago, IL - Los Angeles, CA

### Trips by length, 2018



### Activity by station

	2016	2017	2018
Albuquerque	75,651	74,293	64,382
Barstow	3,153	3,509	3,400
Chicago	151,578	151,602	141,679
Dodge City	4,895	5,208	5,289
Flagstaff	40,309	38,977	42,838
Fort Madison	6,611	6,661	5,891
Fullerton	27,484	24,814	22,155
Galesburg	26,517	24,815	23,967
Gallup	15,561	15,481	14,597
Garden City	7,378	6,966	7,056
Hutchinson	4,691	4,294	4,415
Kansas City	75,523	79,176	73,536
Kingman	9,904	9,944	9,066
La Junta	7,080	7,009	7,373
La Plata	11,675	11,647	10,956
Lamar	1,879	1,673	1,588
Lamy	11,373	10,768	9,731
Las Vegas	4,851	4,487	4,629
Lawrence	8,465	9,834	8,362
Los Angeles	99,562	97,918	86,729
Mendota	7,769	7,197	6,772
Naperville	11,847	11,571	10,725
Needies	8,017	9,176	9,125
Newton	13,741	15,828	15,218
Princeton	7,943	7,316	8,256
Raton	16,454	15,122	7,392
Riverside	12,287	12,029	11,474
San Bernardino	11,579	12,035	10,656
Topeka	10,214	10,084	9,136
Trinidad	5,747	5,415	5,635
Victorville	6,664	6,292	5,911
Williams Jct.	8,051	6,672	2,032
Winslow	4,481	4,187	4,345

## Required Reading

- Our “Amtrak Fact Sheets” are used by reporters, policy makers, and advocates every year
- With special ongoing thanks to:
  - George Chilson
  - Matt Fels
- [www.railpassengers.org/ridership](http://www.railpassengers.org/ridership)



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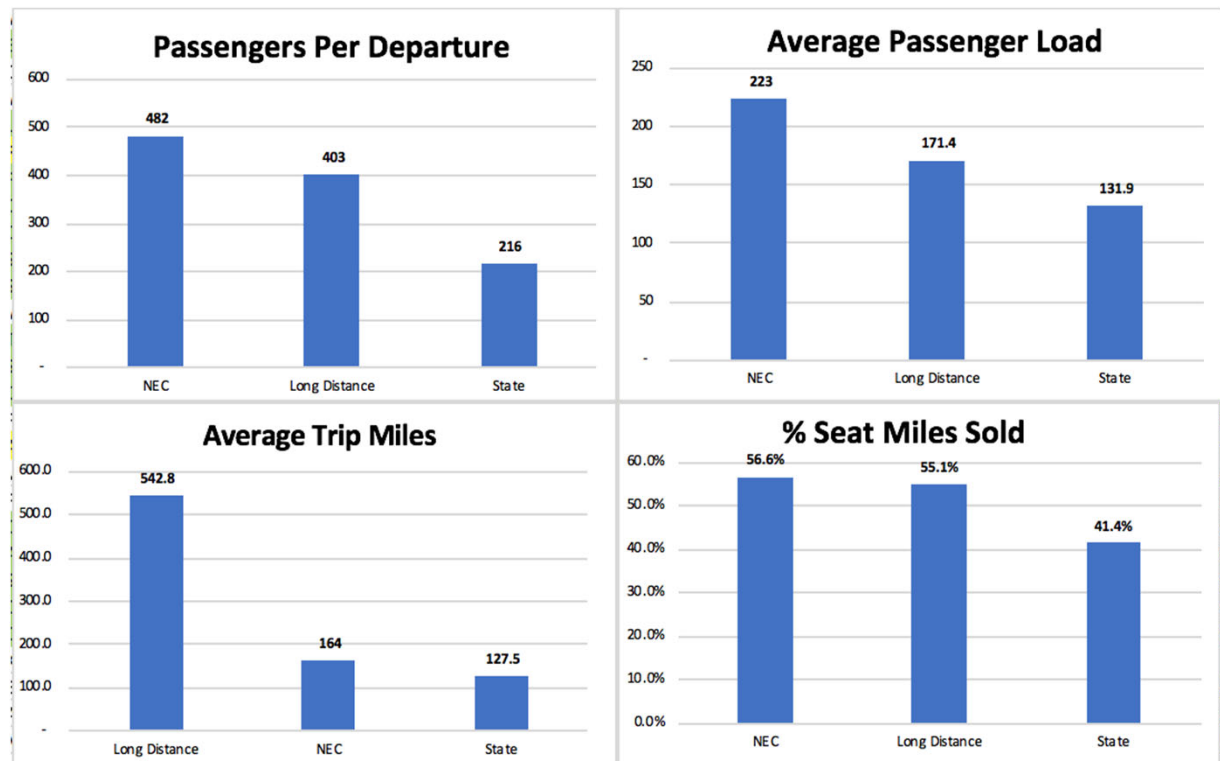
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## The Big Picture

- Compiling current ridership data as a whole tells us that Long Distance Trains perform surprisingly well
- Note that state supported trains usually have multiple frequencies
- Frequencies cut both ways – State Supported Trains are saved by them, Long Distance Trains perform **in spite** of them
- These **unique characteristics** of the Long Distance line represents a dynamic many fear losing
- Again, Thanks George!



So. We know how the trains perform relative to each other—  
but how do they affect the world around them?





## Beyond the train itself

- Passenger rail is a niche industry, and a niche area of study
- Our friends at T4A and Mayor John Robert Smith had worked with the **Trent Lott Center** at University of Southern Mississippi
- Dr. Yuanyuan Zhang authored an excellent study conceptualizing the **restoration of Gulf Coast Service**
- Dr. Zhang is a Research Professor at the Center for Logistics, Trade and Transportation at USM
  - Specializing in transportation related economic development



### Restoration of Gulf Coast Passenger Rail Service

### Economic Impact in Mississippi, Alabama and Louisiana

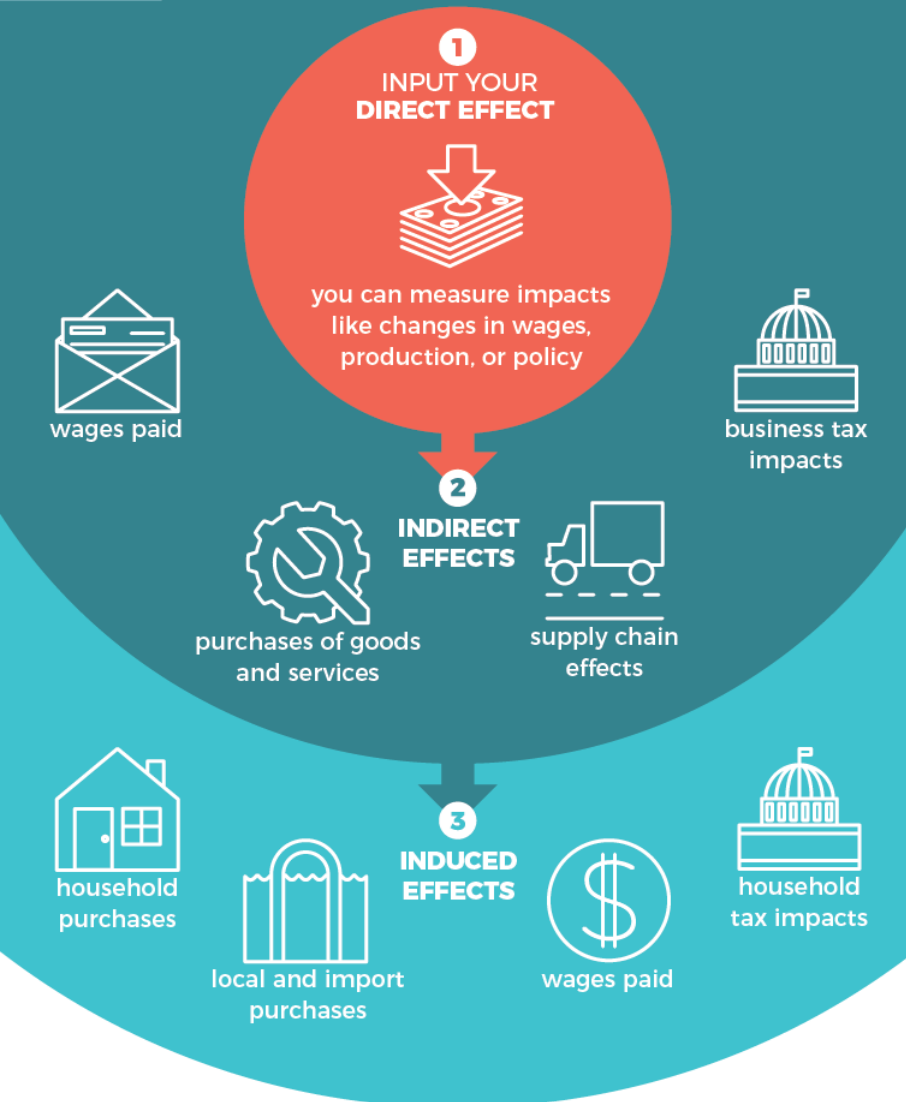
Prepared By:  
Dr. Yuanyuan Zhang, Research Professor  
MAY 2018  
REVISION 2





## Building our platform

- Collaborated with Dr. Zhang to build economic impact model
  - Comprehensive Literature review of 40+ Papers
  - Defined Impacts to derive benefits
- Contracted with IMPLAN to quantify benefits
  - IMPLAN is a calculator for multiplier effects of changes in final demand for one industry on all other industries within a local economic area
  - IMPLAN uses a matrix of data from the Bureau of Labor Statistics (BLS)
  - IMPLAN is relied upon by Universities, Fortune 500 Companies, and the US Forestry Service





# Passenger Trains **do** make money

...Just not for the railroads that operate them.

We built a model with Dr. Zhang to illuminate:

- **DIRECT** quantifiable benefits from passenger trains:
  - Railway Operations and Maintenance Spending on local economies
  - New Visitor Spending
    - Induced travel that otherwise would not happen
  - Community development and property values adjacent to train stations
- **INDIRECT** quantifiable benefits include:
  - Pollution control savings
  - Highway traffic fatalities avoided
  - Highway maintenance avoided
  - Saved travel cost for area residents



# Southwest Chief Bustitution

The Association investigated Amtrak's plan to replace the Chief with a Bus through New Mexico, Colorado and Kansas.

- Overall the Chief would leave a **\$180 Million** hole in the parts of those three states it would no longer serve directly.
- Amtrak itself estimated that replacing the Chief with a bus would lead to 100,000 fewer riders. From that, we estimated that
  - At least \$5 Million would be lost in visitor spending from 30,000 riders who would no longer travel without the option
  - There would be an over 70% increase in pollution control in the three states affected from those driving in the wake of losing direct train service

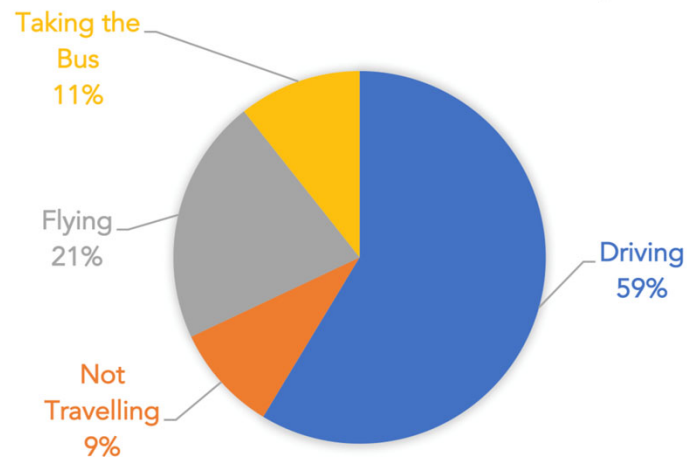
WHOLE PAPER: [www.railpassengers.org/swc](http://www.railpassengers.org/swc)





# A Second Train for Minnesota THE BABY BUILDER

## PASSENGER TRAVEL BEHAVIOR WITHOUT TRAINS IN MN, WI & IL



A second train is estimated attract an additional 155,500 to the corridor. Using data obtained from Amtrak, we estimate that the state would see:

- Overall, a **\$25 Million** return from the \$2-3 Million operating cost for the state
  - Those “not travelling” given train service would create **\$2.9 Million** in new spending for the state
  - 90,000 drivers would divert to train service, saving the state
    - **\$1.8 Million** in accidents avoided
    - **\$20.8 Million** in saved maintenance

WHOLE PAPER: [www.railpassengers.org/mn](http://www.railpassengers.org/mn)

SAMPLE CALCULATION

# Direct Benefit: New Visitor Spending



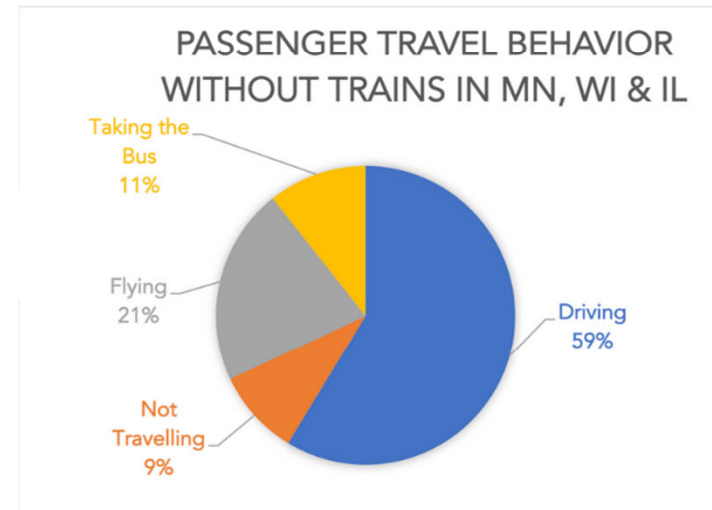
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*Projected ridership in state × induced ridership % (.9) × tourist ridership % (.46)  
= Induced Tourist Ridership*



*Induced Tourist Ridership × Average Daily Spend (140.17) × Duration (3)  
= Visitor Spending*



	BABY BUILDER VISITORS	EMPIRE BUILDER VISITORS
<b>TOTAL</b>	<b>\$845,696.07</b>	<b>\$1,711,942.63</b>
<b>IMPLAN</b>	<b>\$2,873,740.00</b>	<b>\$5,815,984.00</b>



# Southwest Chief Visitor Impacts

State	Category	Current SWC				
		Job	Labor income	Value added	Output	State/local tax
CA	Visitor spending	41.23	\$ 1,799,581.00	\$ 2,747,358.00	\$ 4,481,549.00	\$ 275,891.00
AZ	Visitor spending	5.87	\$ 193,437.00	\$ 266,978.00	\$ 464,019.00	\$ 27,366.00
NM	Visitor spending	19.64	\$ 553,129.00	\$ 804,190.00	\$ 1,455,618.00	\$ 85,720.00
CO	Visitor spending	2.48	\$ 85,756.00	\$ 137,236.00	\$ 242,263.00	\$ 16,171.00
KS	Visitor spending	5.19	\$ 149,140.00	\$ 214,260.00	\$ 391,745.00	\$ 23,007.00
MO	Visitor spending	20.74	\$ 597,085.00	\$ 850,949.00	\$ 1,564,307.00	\$ 88,604.00
LA	Visitor spending	1.17	\$ 31,818.00	\$ 46,677.00	\$ 86,353.00	\$ 5,533.00
IL	Visitor spending	10.81	\$ 389,950.00	\$ 558,782.00	\$ 937,955.00	\$ 60,830.00

Calculated via IMPLAN , SWC visitor spending alone creates **\$9,623,809** in total benefits

# SAMPLE CALCULATION

## Indirect Benefit:

Highway Accidents Avoided



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### Automotive VMT Avoided

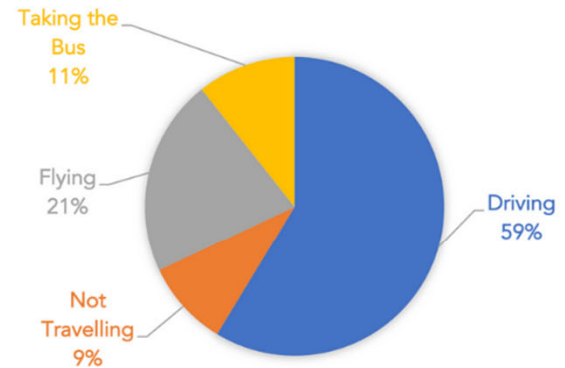
$$\begin{aligned}
 &= \text{Travel Distance (milage between origin \& destination train stops)} \\
 &\times \text{Passengers that would Drive} \\
 &(\text{No. of passengers} \times (1 - \text{induced \%}) \times \text{automobile mode share (59\%)}) \\
 &\div \text{No. of passengers in an automobile (1.64)}
 \end{aligned}$$



$$\begin{aligned}
 &\text{Saved crash cost by shifting from automobile to passenger rail} \\
 &= \text{Automobile VMT Avoided} \times \text{cost of accidents per vehicle mile (\$.12)}
 \end{aligned}$$

	EMPIRE BUILDER MINNESOTA RIDERSHIP	BABY BUILDER MINNESOTA RIDERSHIP
TOTAL	\$3,441,687	\$1,320,797

PASSENGER TRAVEL BEHAVIOR  
WITHOUT TRAINS IN MN, WI & IL





## Southwest Chief Traffic Fatalities Avoided

State	Saved cost by using current service (Scenario I)	Replace the current service by bus bridge ABQ-DDG (Scenario II)	% increased cost (Scenario II)	Replace the current service by bus bridge ABQ-LAJ (Scenario III)	% increased cost (Scenario III)
CA	\$345,620.26	\$138,163.15	40%	\$136,475.89	39%
AZ	\$951,685.55	\$624,912.65	66%	\$618,962.15	65%
NM	\$1,037,035.22	\$820,233.16	79%	\$822,491.04	79%
CO	\$292,754.31	\$259,022.65	88%	\$259,848.68	89%
KS	\$908,360.89	\$750,239.75	83%	\$731,381.30	81%
MO	\$460,678.37	\$285,584.88	62%	\$277,558.71	60%
IA	\$48,629.10	\$23,696.02	49%	\$23,151.57	48%
IL	\$244,854.46	\$80,124.11	33%	\$77,283.85	32%
<b>TOTAL</b>	<b>\$4,289,618.16</b>	<b>\$2,981,976.37</b>		<b>\$2,947,153.19</b>	



## A Major Question

**DIRECT** quantifiable benefits from passenger trains:

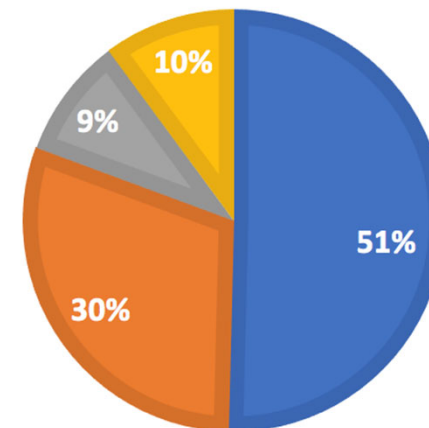
- Railway Operations and Maintenance Spending on local economies
- **New Visitor Spending**  
Induced travel that otherwise would not happen
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**INDIRECT** quantifiable benefits include:

- **Pollution control savings**
- **Highway traffic fatalities avoided**
- **Highway maintenance avoided**
- **Saved travel cost for area residents**

## HOW AMTRAK PASSENGERS WOULD TRAVEL WITHOUT TRAINS\*

■ Drive ■ Fly ■ Take a Bus ■ Would Not Travel



SOURCE: <https://www.amtrak.com/state-economic-impact-brochures>



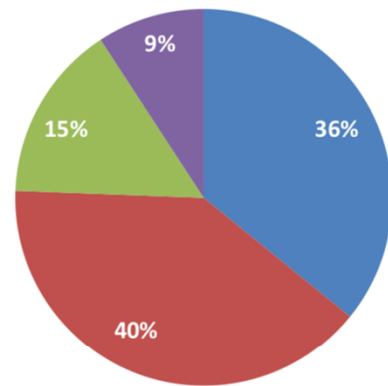
How did you come to this meeting?  
How would you have come without trains?

# Washington, D.C.



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**Travel Mode Preference if Amtrak Unavailable**

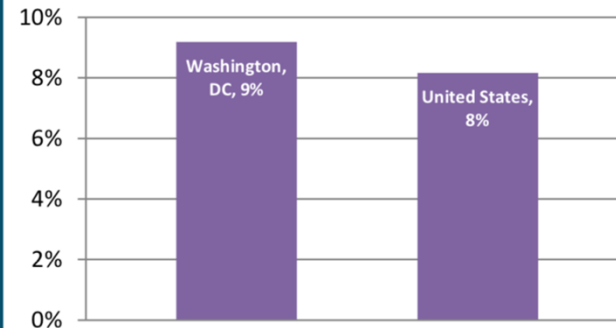


- Would drive if Amtrak unavailable
- Would fly if Amtrak unavailable
- Would use the bus if Amtrak unavailable
- Would not travel if Amtrak Unavailable

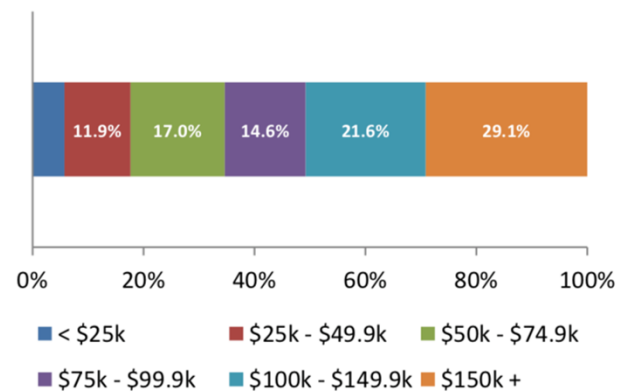
Percent of population within 30 miles of a rail station served by Amtrak

**100%**

**Percent of Riders who Would Not Travel if Amtrak was Unavailable**



**Income Distribution of Amtrak Travelers in Washington, DC**



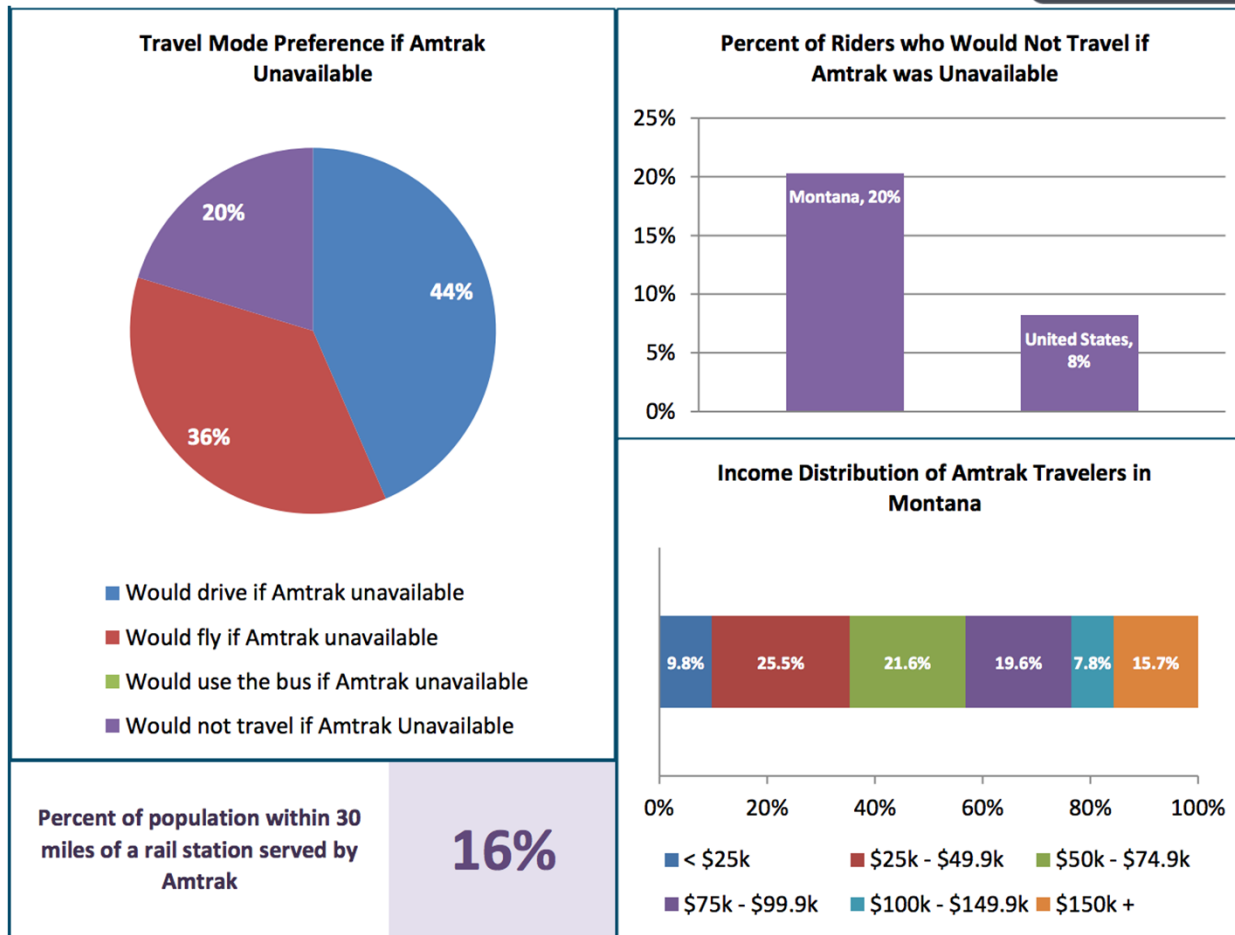
**Source:** <https://www.amtrak.com/state-economic-impact-brochures>



# The State of Montana

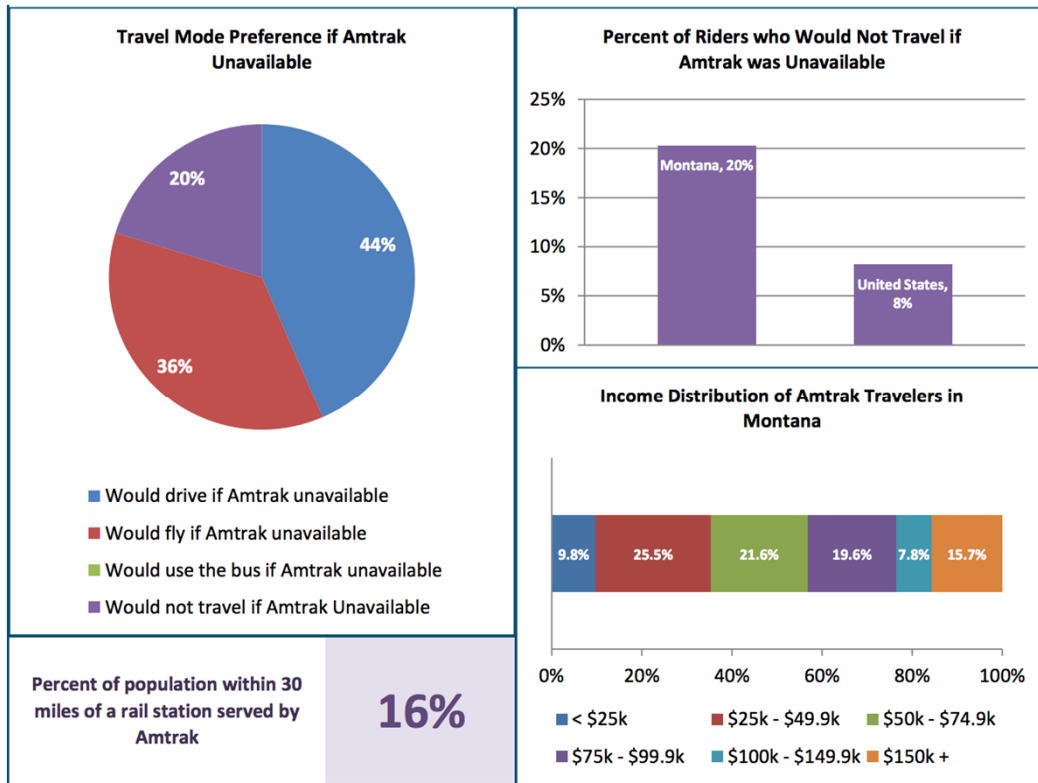


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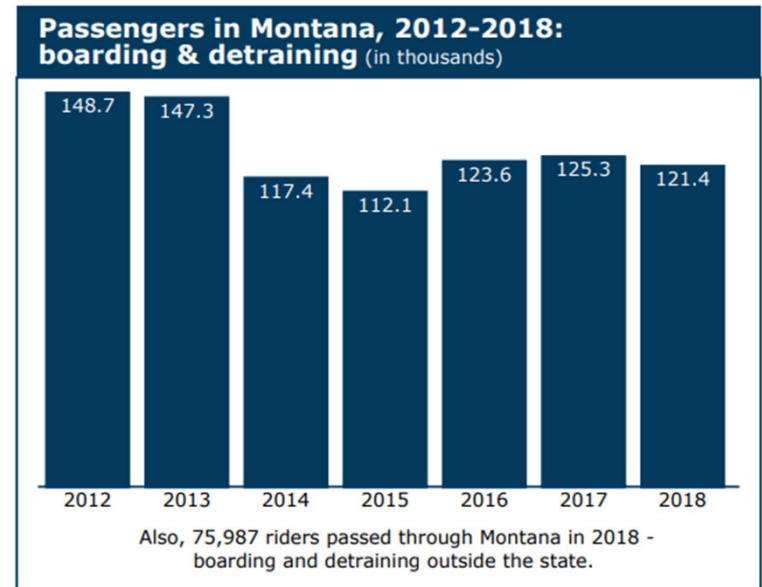


**Source:** <https://www.amtrak.com/state-economic-impact-brochures>

# Let's tell a story



Source: <https://www.amtrak.com/state-economic-impact-brochures>



**Quick recap, 2018 (arrivals and departures)**

	Coach/ Business	First/ Sleeper	Total
Passengers	94,123	27,306	121,429
Average trip	639 miles	1002 miles	721 miles
Average fare	\$ 85.00	\$292.00	\$131.00
Average yield, per mi	13.2¢	29.1¢	18.2¢

Source: [www.railpassengers.org/ridership](http://www.railpassengers.org/ridership)



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## QUESTIONS

- More questions? Reach out to [abezumwalt@narprail.org](mailto:abezumwalt@narprail.org)
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