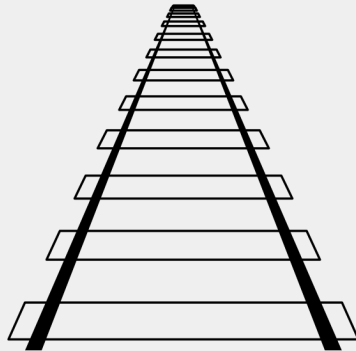


Rail or Road?

Comparing the carbon footprint of passenger train versus car travel



Why this topic?

Concern about climate change



Love for travel



Project on flight emissions by Metis alum

Origin Country

Select or type location

Origin City

Select or type location

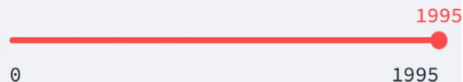
Destination Country

Select or type location

Destination City

Select or type location

Per Passenger Emissions Limit (kg)

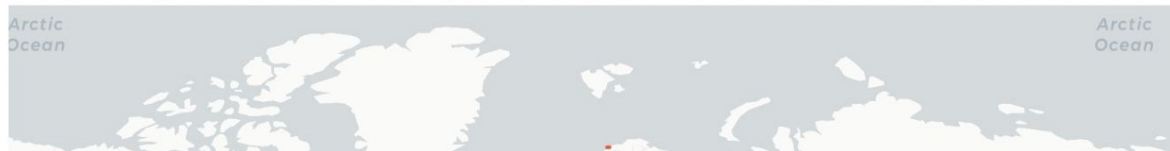


Welcome to Flight Impact!

Flying is one of the most carbon-intensive ways that we can spend our time as individuals, and its use is dominated by a small group: in 2018, only **11% of the global population** took a flight, and just **1% of the population was responsible for 50% of aviation emissions** ([Time](#), 2021). If flying is a part of your life, there are ways to reduce your air travel emissions, and you can start here! Explore route options, understand your flight's carbon impact, and inform your decisions with EPA data.

How to get started:

- Compare the carbon emissions of multiple routes by choosing locations from the left-side dropdowns or filtering your search to an emissions limit
(For reference, the EPA estimates that a [typical passenger vehicle](#) emits about 4.6 metric tons (4600 kg) of CO₂ per year)
- Hover over the routes on the map, zoom in, and drag left and right to explore the route map
- Check out the table at the bottom of the page for alternative routes, emissions comparisons, and additional ways to travel consciously



Data Engineering Pipeline

Data Ingestion



Processing and Storage



Processing



Storage

Deployment



Interactive Web App

Origin city

Select or type location

Route

Destination city

Rail or Road?

The purpose of this web app is to allow users to compare the carbon footprint of train versus car travel between cities serviced by Amtrak.

User instructions:

1. Select an origin city
2. Select an Amtrak route
3. Select a destination city
4. View the distance and emissions **per passenger** by train versus car
5. View and/or zoom in on a map that plots the cities on the Amtrak route between the origin and destination cities

Train results...

Car results...



Future Work

- Incorporate connections between Amtrak routes, so users are not limited to selecting cities on the same route
- Seek to autopopulate the route drop-down for cities in only one route
- Add a map showing paths between cities that train and car routes pass through

Sources

- Railroad by Ataur Rahman from NounProject.com
- Road by Sergey Krivoy from NounProject.com
- Airplane by Simon Child from NounProject.com
- Train by SAM Designs from NounProject.com
- Car by DinosoftLab from NounProject.com
- <https://www.pinclipart.com/maxpin/wJmoxR/>
- https://en.wikipedia.org/wiki/List_of_Amtrak_routes
- <https://www.amtrak.com/train-routes>