

Visualisation - Chicago Taxi Trip Dataset

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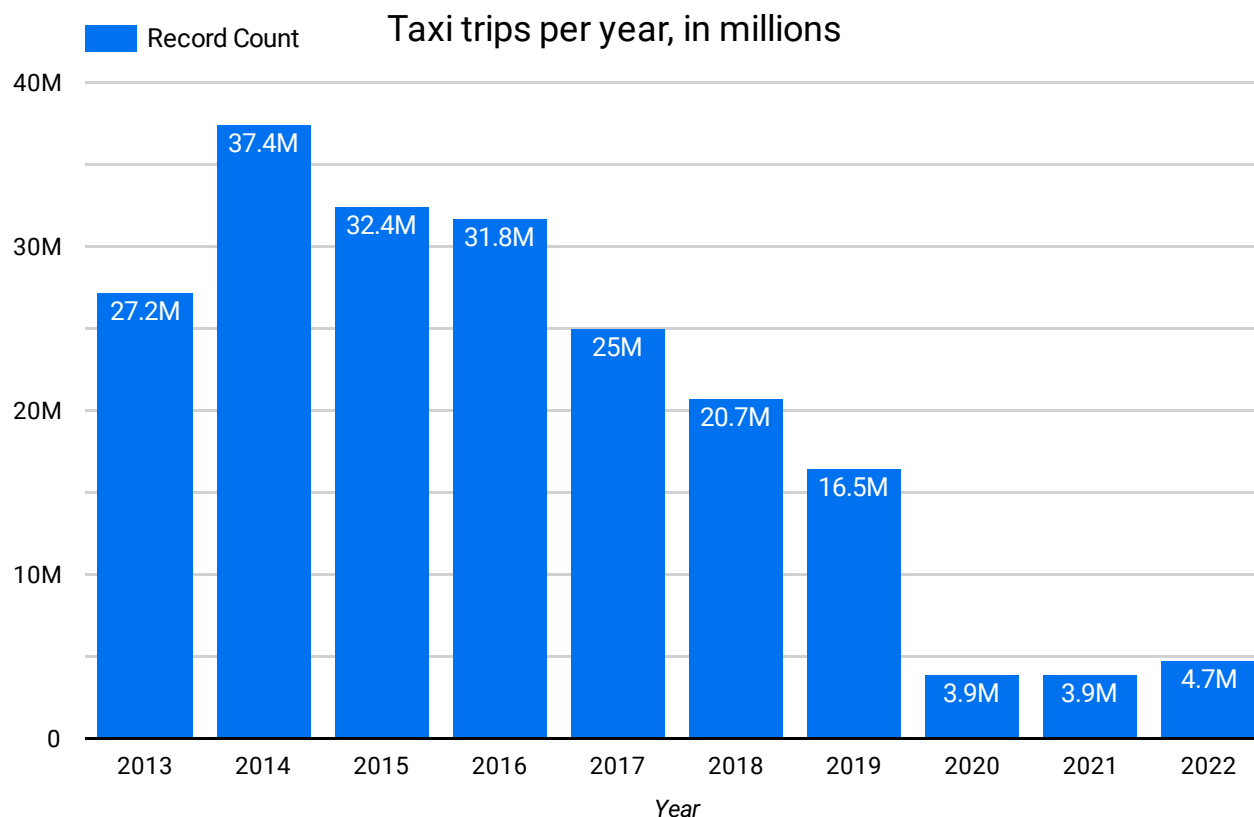
[Source](#)

Introduction

This dashboard utilises data from the public Chicago Taxi Trip dataset, hosted on Google BigQuery.

The subsequent analysis and visualisations will summarise the Chicago taxi industry. However, it is important to note that this data excludes ride-hailing apps such as Uber or Lyft and instead considers traditional taxis operated through licenses or taxi medallions.

The data includes taxi trips from 2013 to the present.



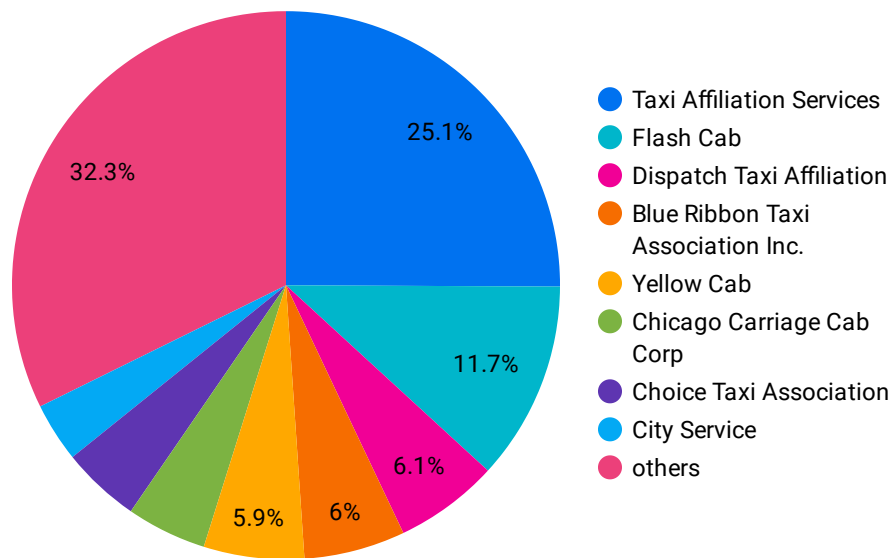
- With exception of 2013-2014, there has been a decreasing trend

- Exceptionally sharp drop from 2019-2020, which has persisted

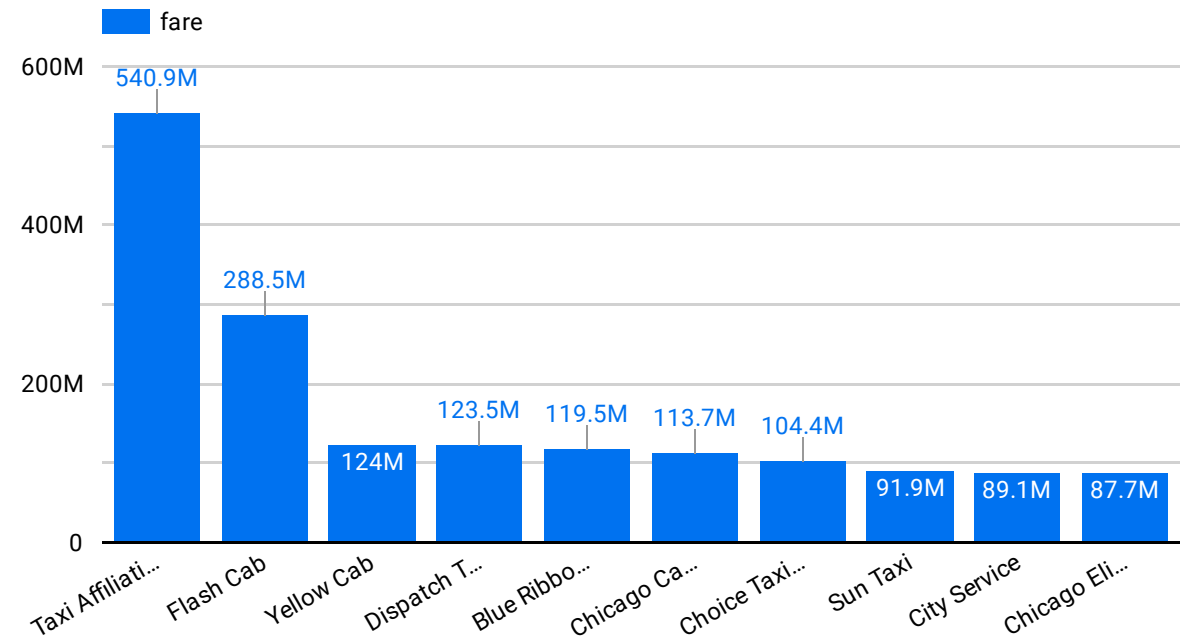
- Long-term trend possibly due to taxi industry disruption from ride-hailing apps, but sharp drop in 2020 likely due to COVID-19

Performance of taxi operators

Share of taxi trips by operator



Total revenue by operator, in millions



- Industry dominated by Taxi Affiliation Services, with 25.1% market share and highest revenue, at \$540.9M, followed by Flash Cab at 11.7%
- A few medium-sized operators at ~4-6% market share, such as Choice Taxi Association, Chicago Carriage Cab Corp, Yellow Cab, Blue Ribbon Taxi Association inc. and Dispatch Taxi Affiliation, with around ~\$100-120M revenue
- No discrepancy between market share and revenue, generally in the same order

Fare against miles

Average fare per
trip

fare
13.47

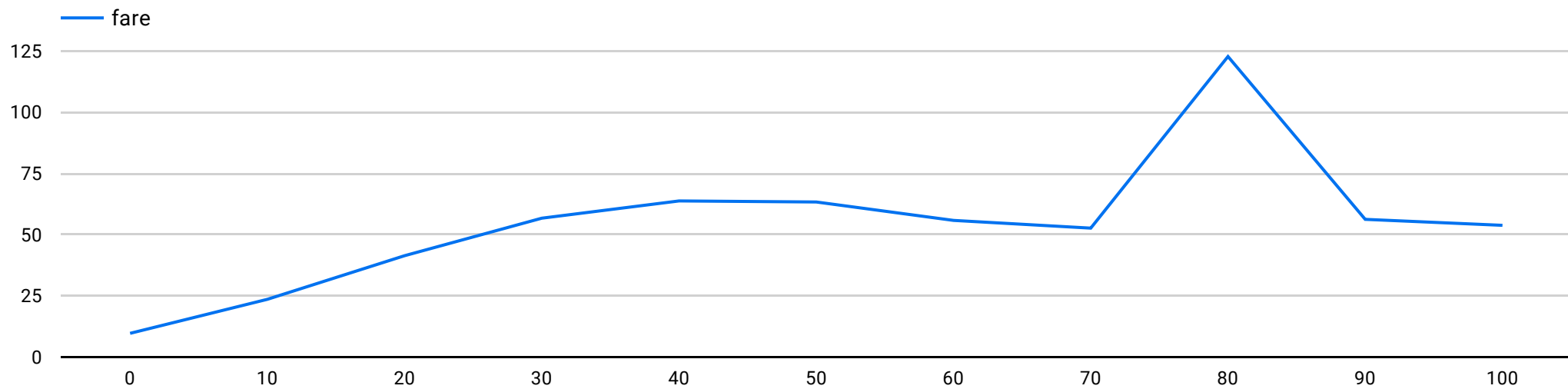
Average miles
per trip

trip_miles
3.36

Average fare by miles

Miles rounded to nearest 10

Trips greater than 100 miles excluded for ease of visualisation & low sample size



- General trend is increasing, as expected
- Fare plateaus at around 40 miles
- Outlier at 80 miles

Tip against miles

Average tip per
trip

tips
1.43

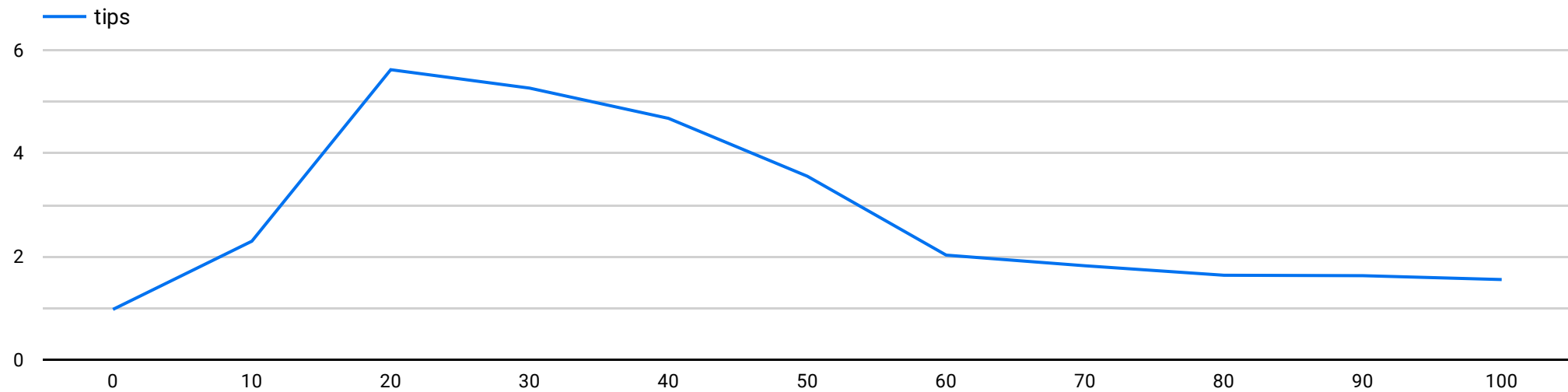
Average miles
per trip

trip_miles
3.36

Average tip by miles

Miles rounded to nearest 10

Trips greater than 100 miles excluded for ease of visualisation & low sample size



- Increase trend until 20 miles, then decreases until 60 miles before plateauing
- Different trend to fares, despite tips being generally given as a % of fares

Fare against trip duration

Average fare per trip

fare
13.47

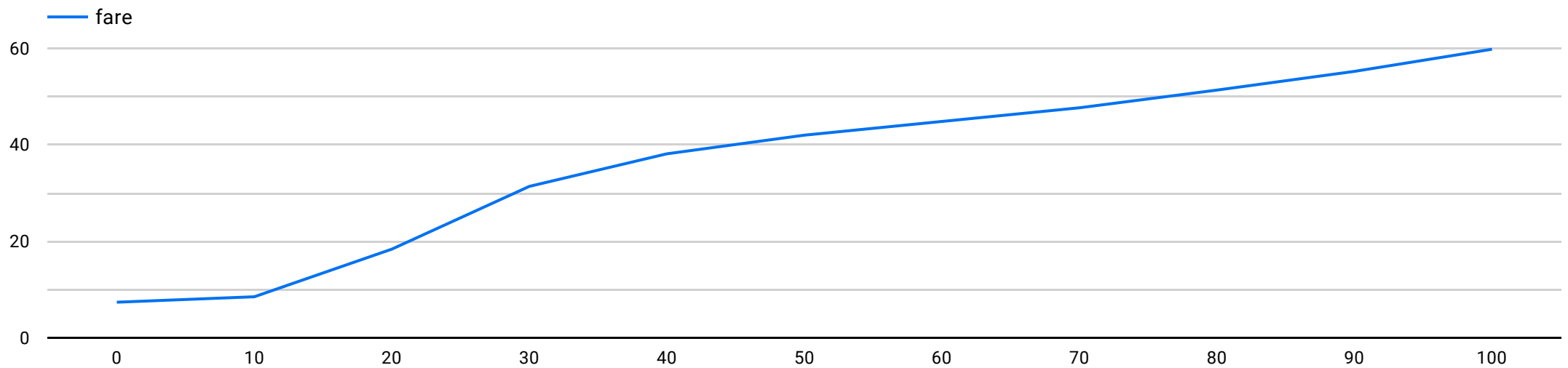
Average time per trip (13.37 minutes)

trip_seconds
802.12

Average fare by trip duration

Trip duration, in minutes, rounded to nearest 10

Trips greater than 100 minutes excluded for ease of visualisation & low sample size



- General trend is increasing, as expected
- Sharper increase above 10 minutes

Tip against trip duration

Average tip per
trip

tips
1.43

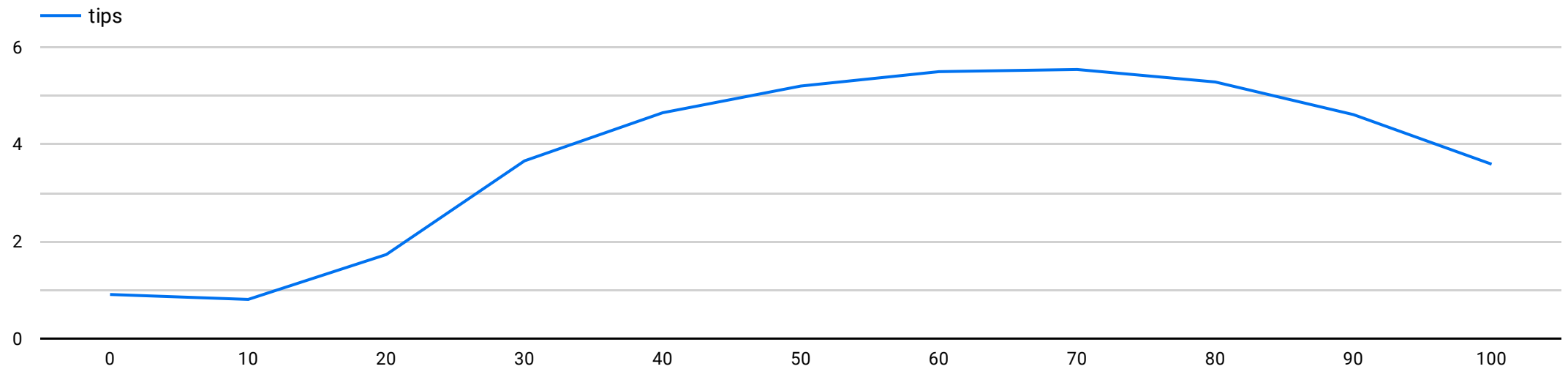
Average time
per trip (13.37
minutes)

trip_seconds
802.12

Average tip by trip duration

Trip duration, in minutes, rounded to nearest 10

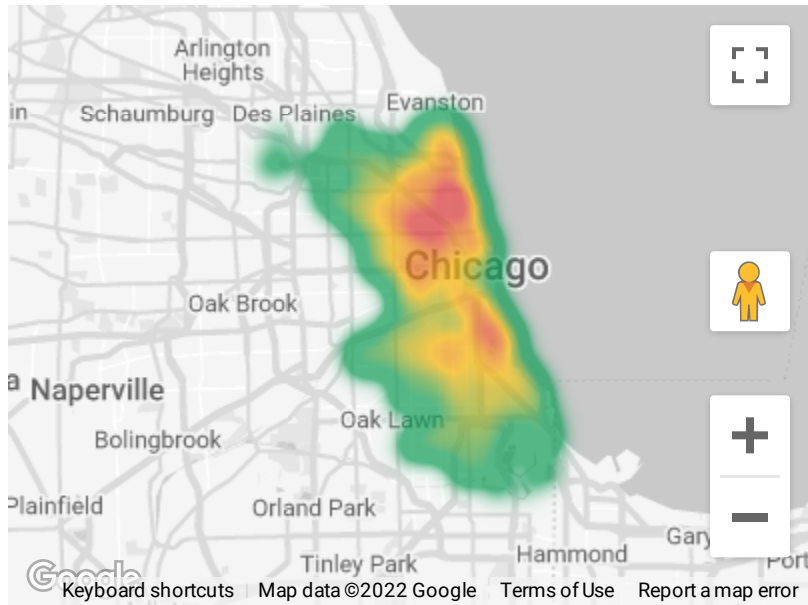
Trips greater than 100 minutes excluded for ease of visualisation & low sample size



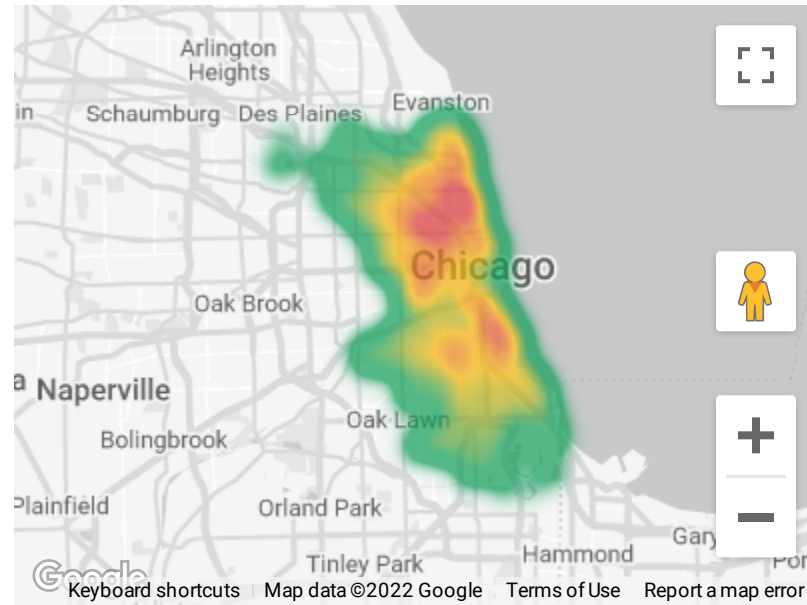
- General trend is increasing, as expected
- Plateaus at around 60 minutes, unlike fares, despite tips being generally given as a % of fares

Geographic concentration of trips

Concentration of pickups



Concentration of drop-offs



- Data augmented to generate coordinates
- Idea was to investigate if there are any distinct one-way travel patterns (Pickup in suburbs to go into city but not vice versa)
- Both pickups and drop-offs concentrated in central city areas, travel patterns appear symmetric