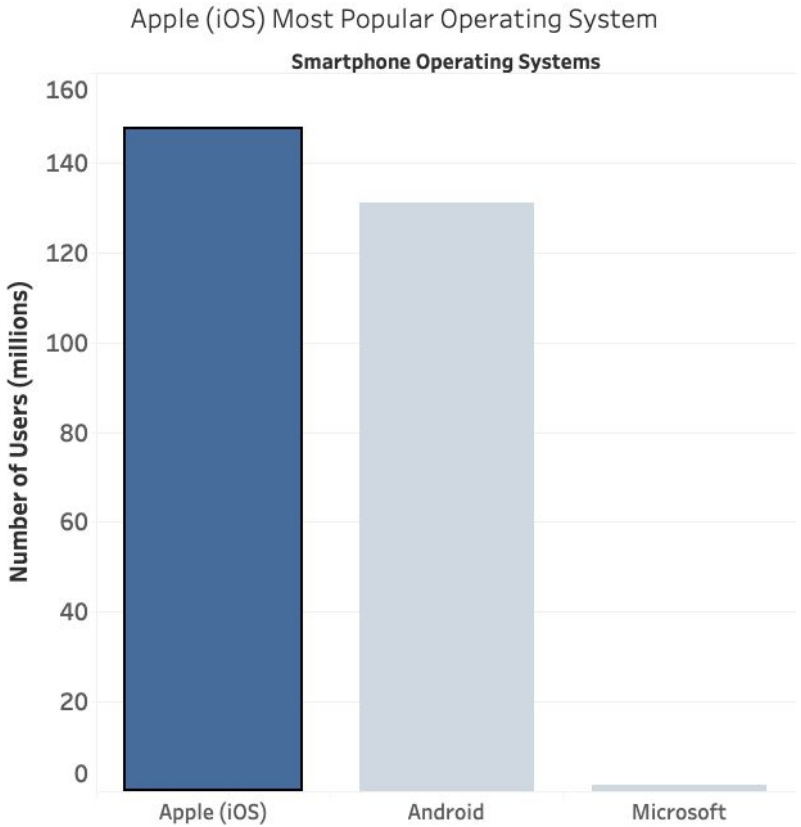
Apple Maps Recalculating: Driver Safety

Paul Troy - October 2021

Smartphone usage in the United States



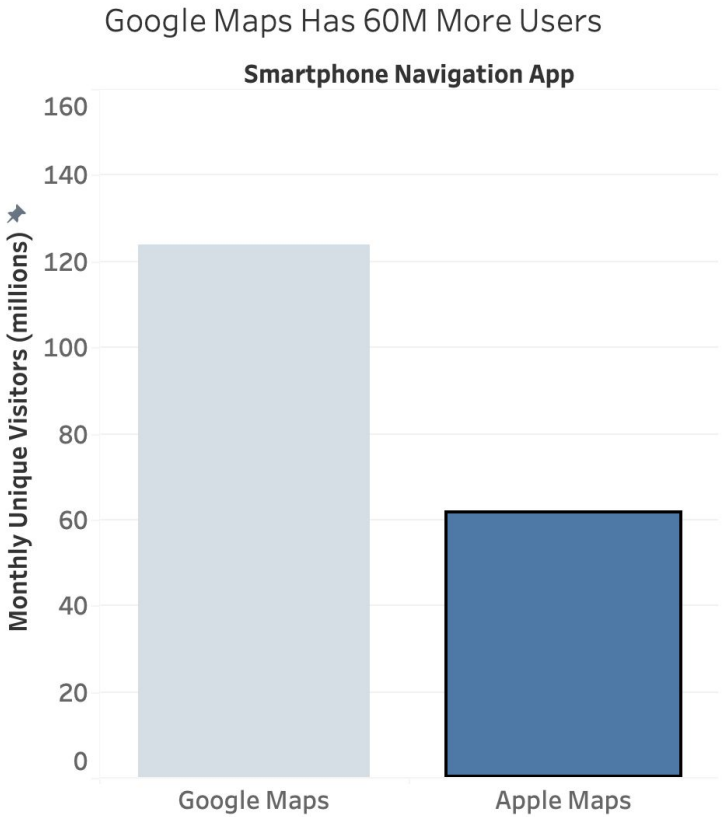
- Estimated **280M** smartphone users in the US
- **Apple iPhone** is most used phone

Data source: comscore.com; pewresearch.org

But something doesn't add up...

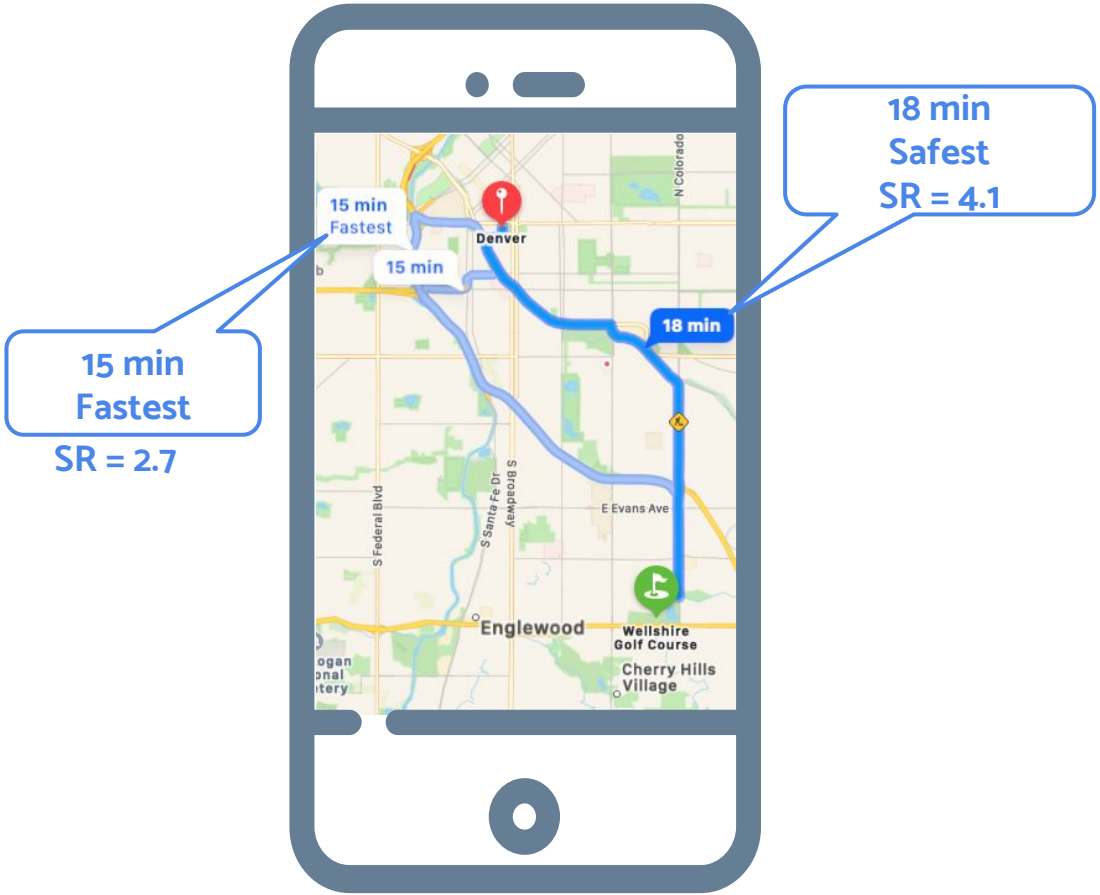
Most Popular Mobile Apps
#3 - Google Maps
...
#17 - Apple Maps

Question: How does Apple Maps increase market share?



Data source: comscore.com

Introducing **“Safe Route”** alternative



Capturing more of the market

Providing drivers with **“safety rating”** for a given route recommendation

How is a Safety Rating calculated?

A **regression/classification model** that assigns **dynamic** safety rating to a road, providing **“safest” route** alternative to they typical “fastest” route

Testing “Safe Route” in Denver, CO

Deploy incrementally

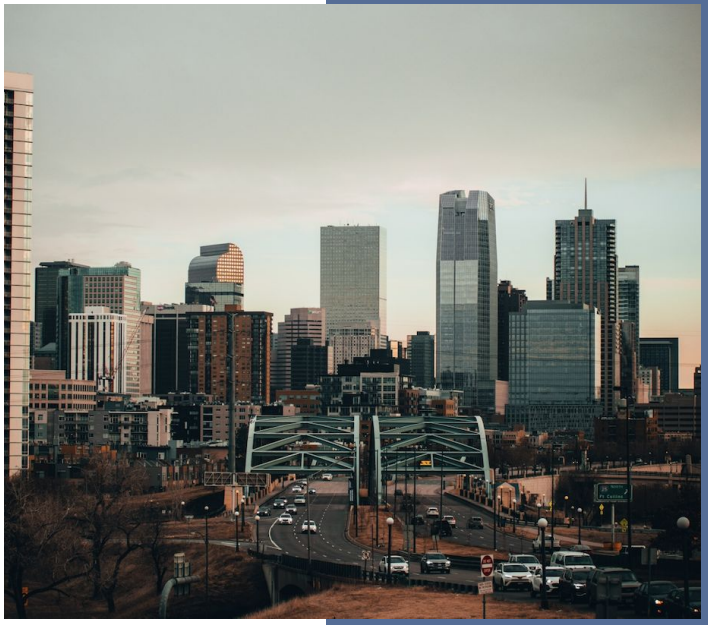
- Prove concept before scaling

Denver traffic accident database

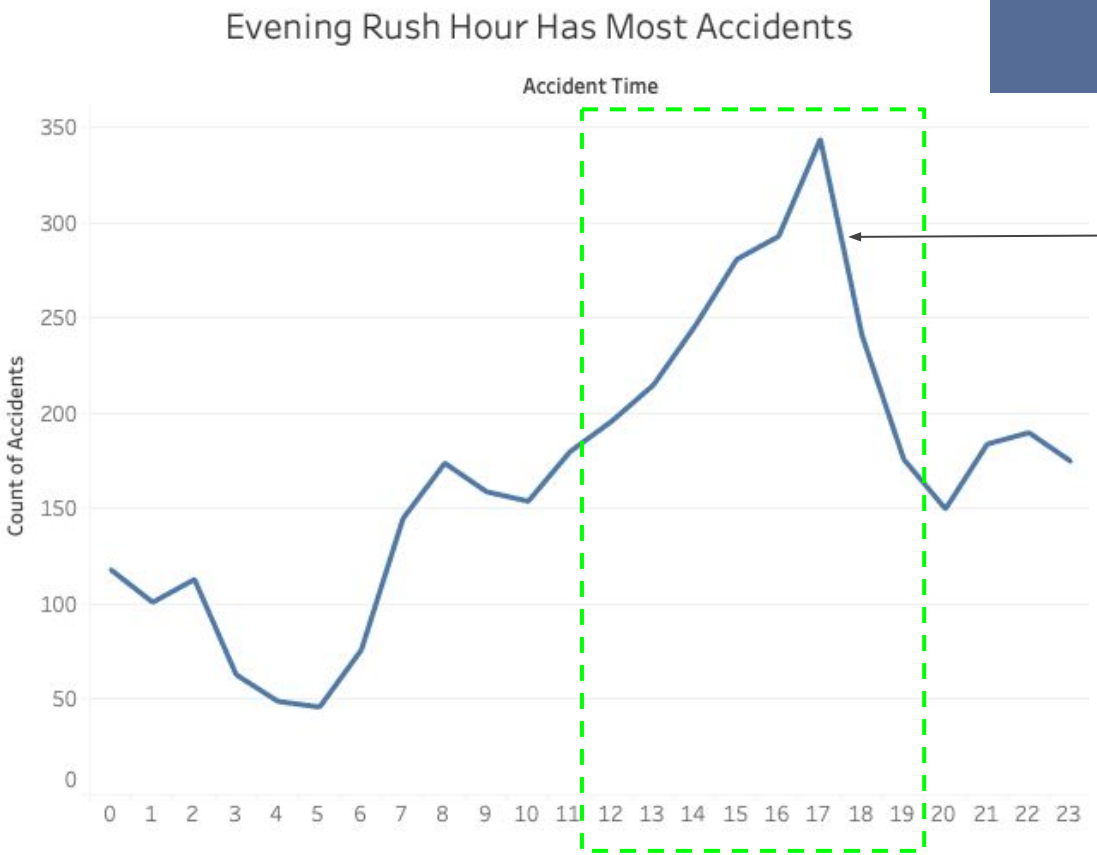
- Free, reliable
- Updated daily

Busy but not overwhelming

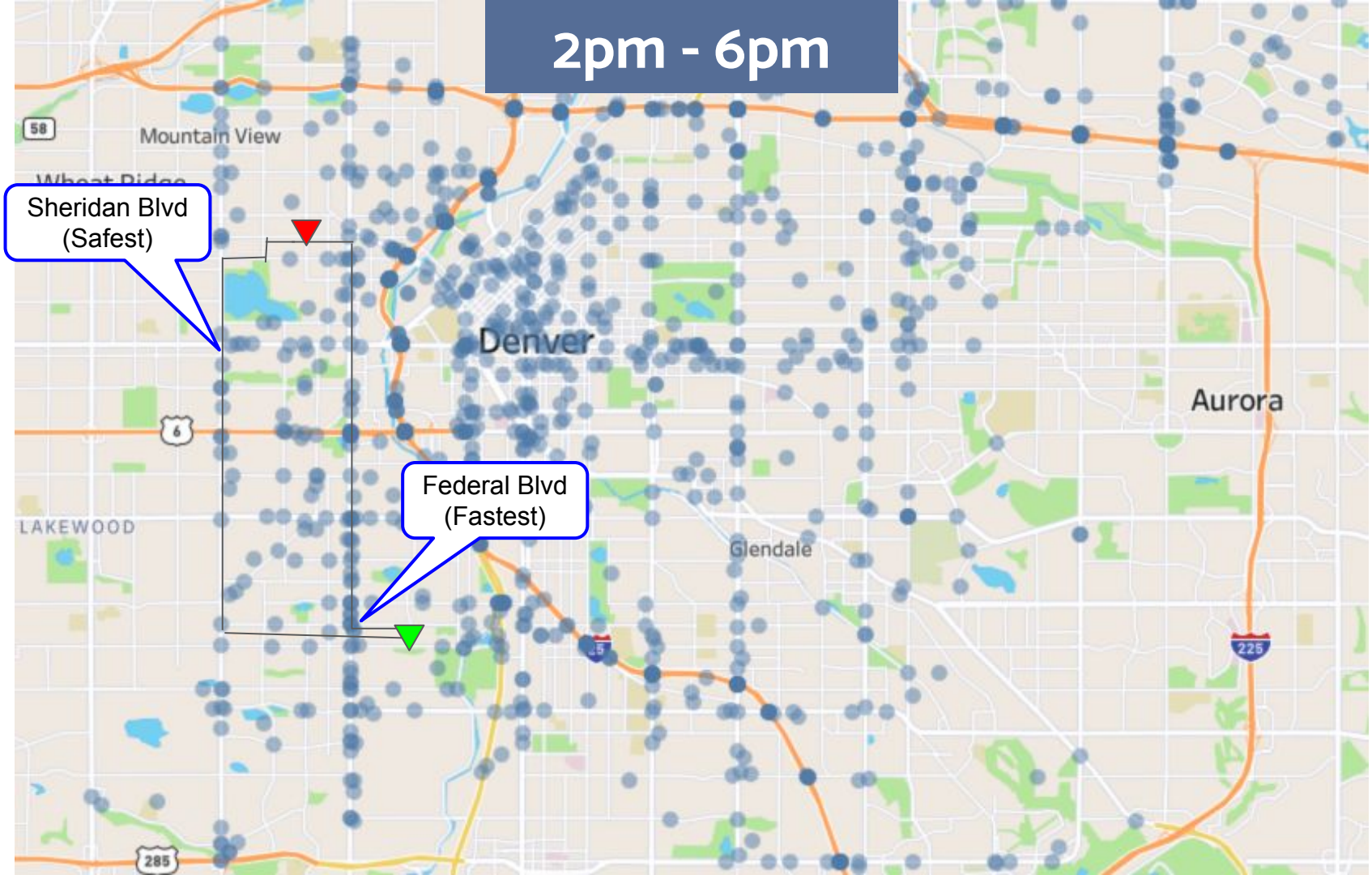
- #22 worst US traffic (CBS News)
- #19 US population



How does a safety rating fluctuate?



Safe Route would be most useful during the **afternoon**


2pm - 6pm
Sheridan Blvd
(Safest)
Federal Blvd
(Fastest)
Mountain View
Denver
Aurora
LAKEWOOD
Glendale
58
6
285
25
225

How do we measure Safety Rating's success?

Technical (routes simulation accuracy)

- Regression model
  - Feature identification
- Classification model
  - accident likelihood
  - accident type/severity

Non-Technical

- Increased Apple Maps market share in Denver (e.g. 5% increase after 6 months)

Assumptions

- Apple Maps is part of Apple's future business plan
- Market demand for "safer" route feature
- "Safe Route" solution path better than improving existing features

Risks

- Is it possible to predict accidents?
- Increase driver moral hazard, decreased safety
- Induced demand for "safest" route
- How does a driver quantify differences in safety rating?

What do we need to consider?

FUTURE WORK

- Build the models
- Refine “safety rating” calculation (categorical ordinal instead of numeric?)
- Incorporate Apple Maps internal data (real time geospatial)

CREDITS

This is where you give credit to the ones who are part of this project.

- Presentation template by Slidesgo
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