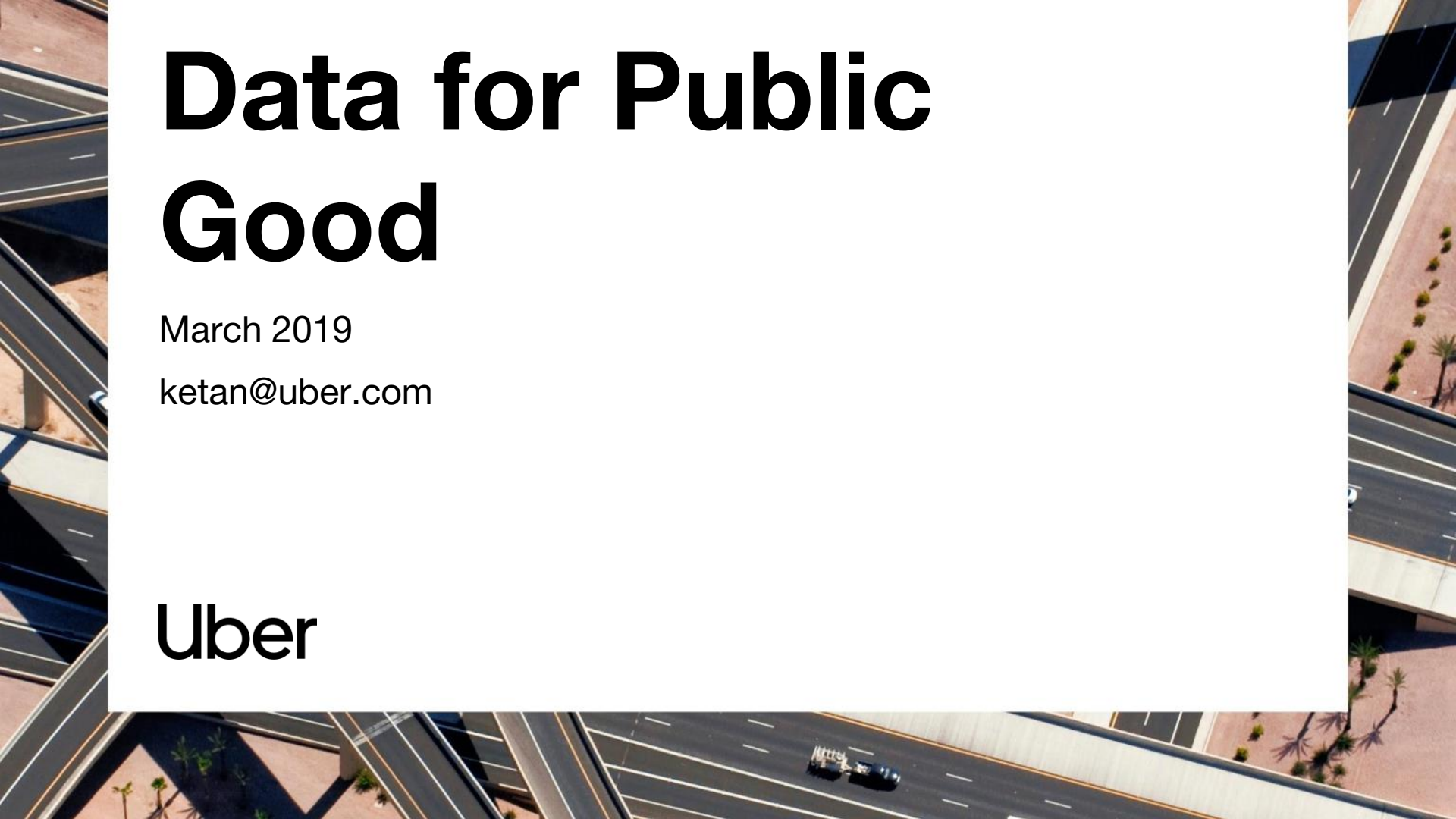


Data for Public Good

March 2019

ketan@uber.com

Uber

Agenda

01 Uber in Sub Saharan Africa

02 Case Study 1:

Mapping Sub-Saharan Africa

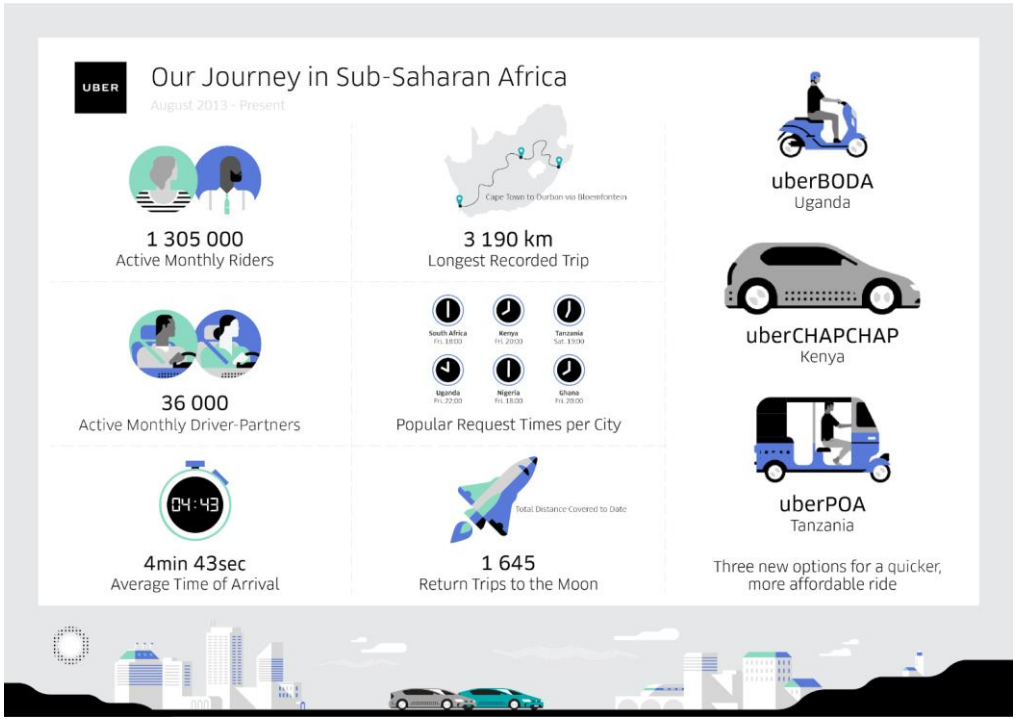
03 Case Study 2:

Uber Movement in Sub-Saharan Africa

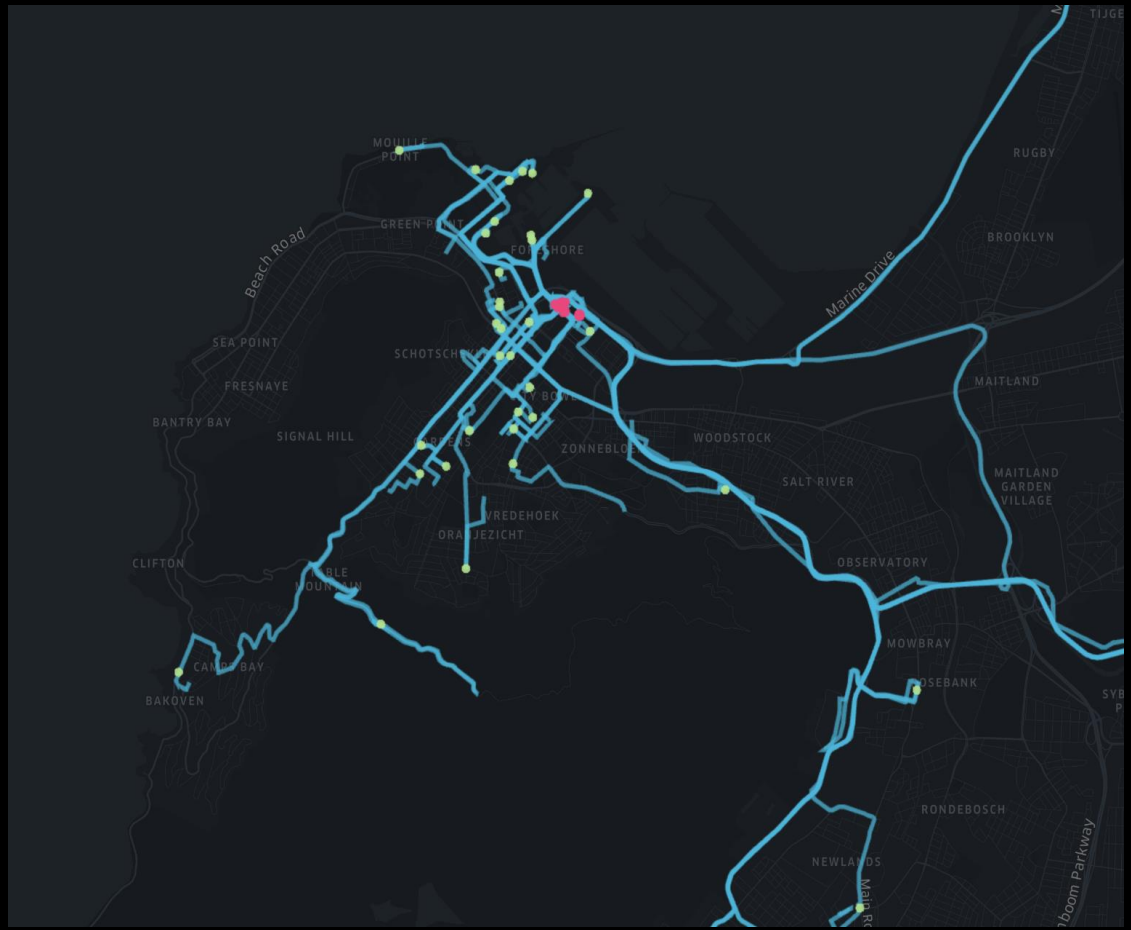
04 Q&A

Uber in Sub Saharan Africa

6 countries, 12 cities, +25 products and counting...

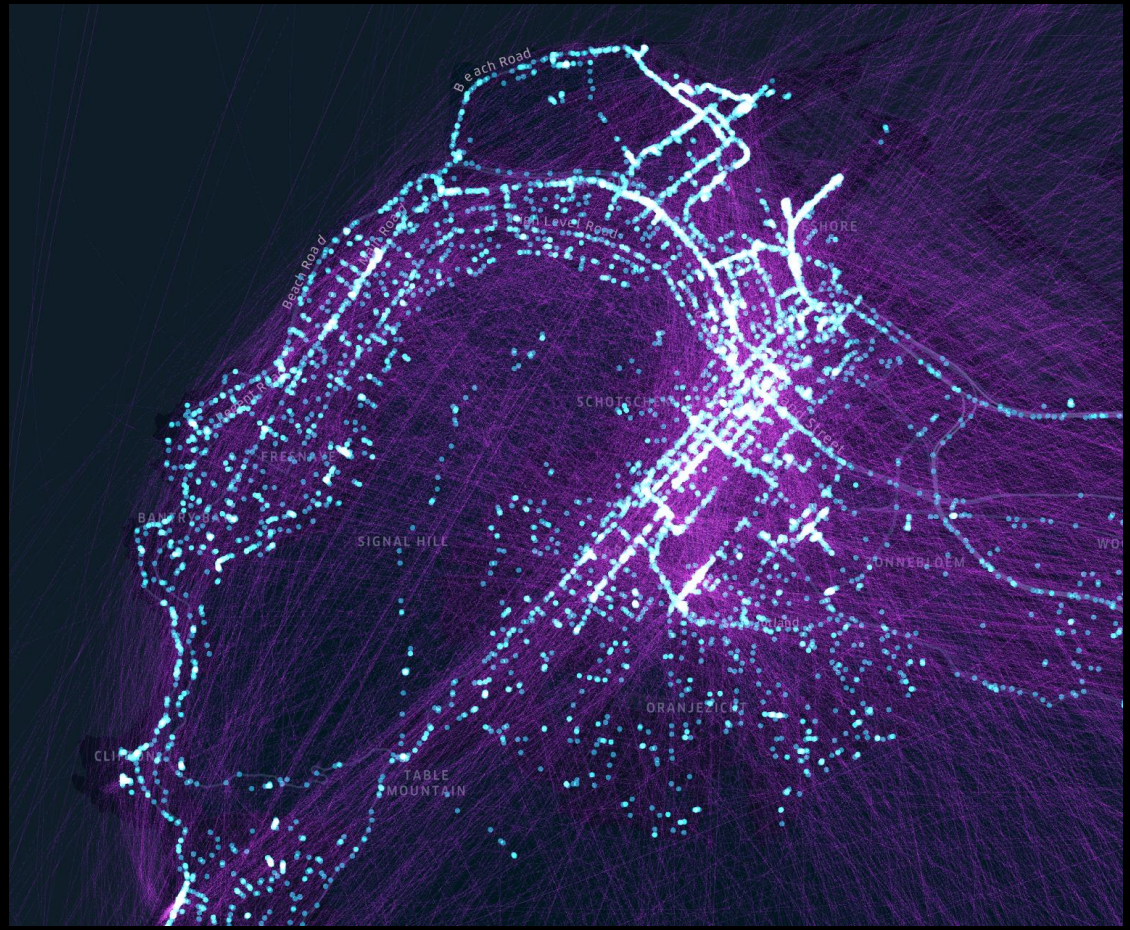


Random routes for 50 trips ending at the CTICC over in February 2019



Pickups in Johannesburg on New Year's Day 2019 (12am - 6am)

Pickups in Cape Town on New Year's Day 2019 (12am - 6am)



So What?

Case Study 1: Mapping Sub Saharan Africa

Basemaps remain a key challenge across Sub Saharan Africa

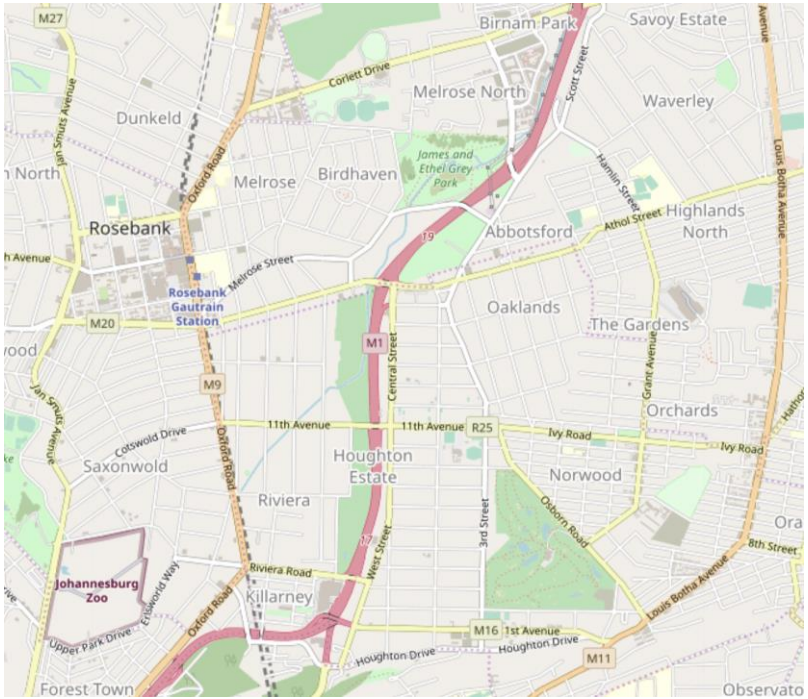
Base maps are vital for the correct routing of traffic through a city

1: Road Networks

2: Traffic Directions

3: Turn Restrictions

4: Other Attributes



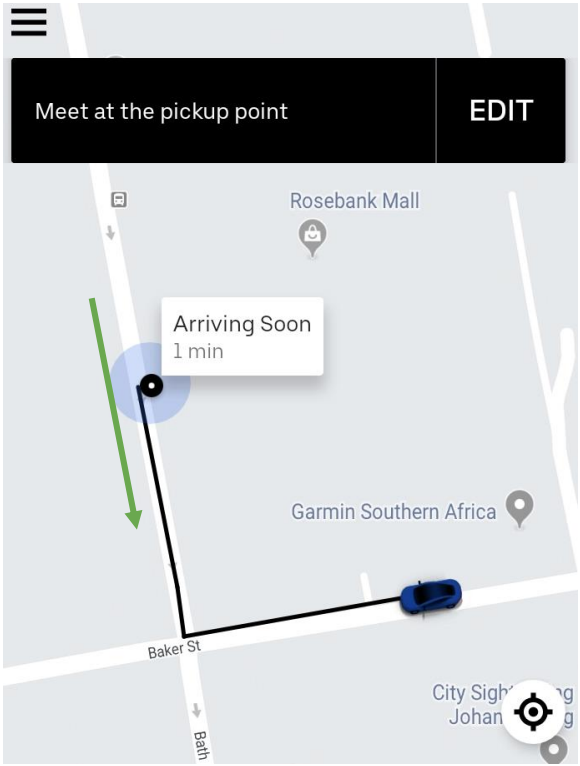
OpenStreetMap Johannesburg

Base map errors can lead to incorrect ETAs and fare calculations

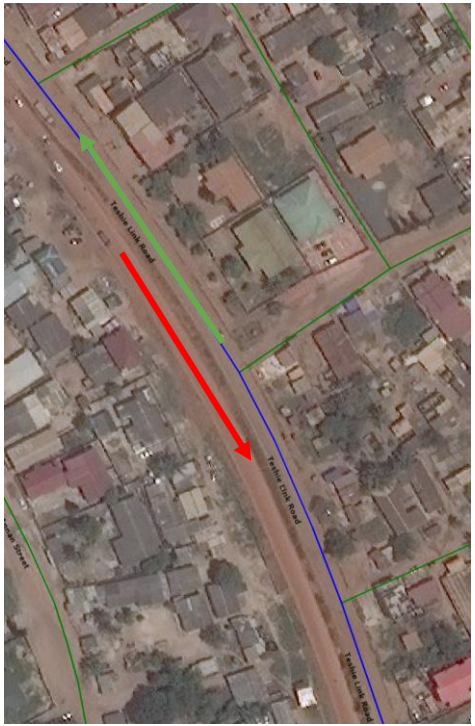
In most cases, this is just a minor inconvenience

In other cases, incorrect routing can lead to life threatening situations (e.g. emergency services taking the wrong route to get to someone in need)

Incorrect routing through one way street in Johannesburg

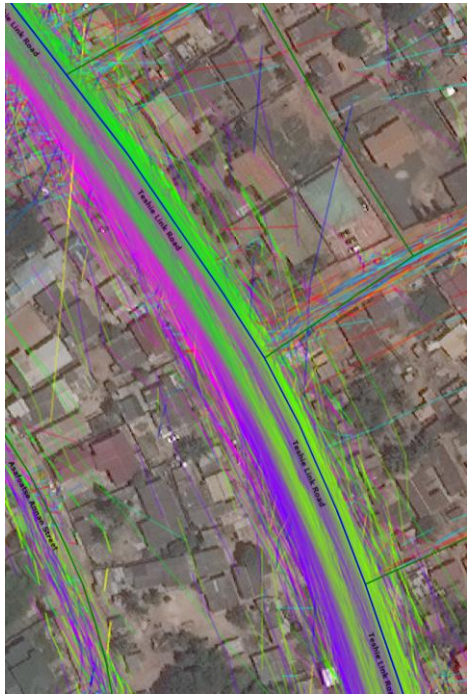


Uber uses traces from our trip data to help validate and improve open source basemaps



This road in Accra has a visible barrier between lanes and has been tagged as having traffic flowing in a single direction on each side of the barrier

Uber uses traces from our trip data to help validate and improve open source basemaps

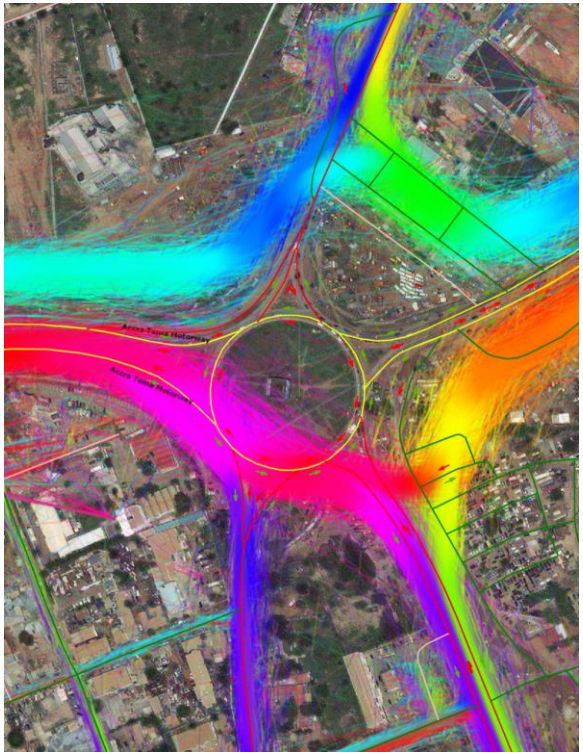


However, based on trace data we have, it's clear that traffic is flowing in either direction on both sides of the barrier

Uber uses traces from our trip data to help validate and improve open source basemaps

Based on current base maps and old aerial imagery, this roundabout in Accra appears to be functional with well defined turn signals and road segments

Uber uses traces from our trip data to help validate and improve open source basemaps



However, based on trace data we have, drivers appear to be cutting through residential areas in order to navigate the roundabout. This is indicative of both outdated base maps and out dated aerial imagery

Uber uses our trace data to not only to improve the quality of our service to our customers but also to improve base map accuracy of open source mapping initiatives across Africa

Case Study 2: Uber Movement

So What?

Nairobi was hit by massive floods in March 2018

Floods brought many parts of the city to a complete stand-still.

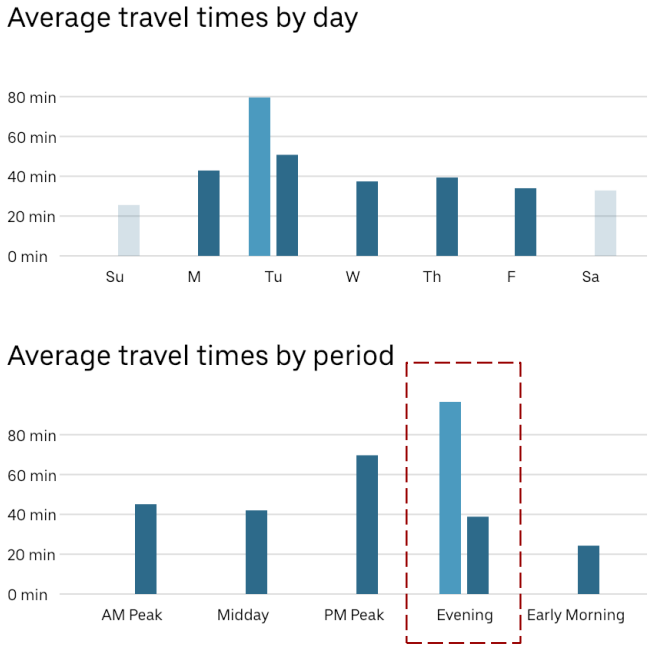
UberMovement allows city planners to understand how something like flooding impacts citizens in real time.

On March 6, Nairobi was inundated with 4.9cm of rain

On this day travel times from the Central Business District to certain parts of the city almost doubled

UberMovement allows to compare travel times on that day with average weekday travel times in March 2018

Travel times from Nairobi CBD to certain areas more than doubled on the day

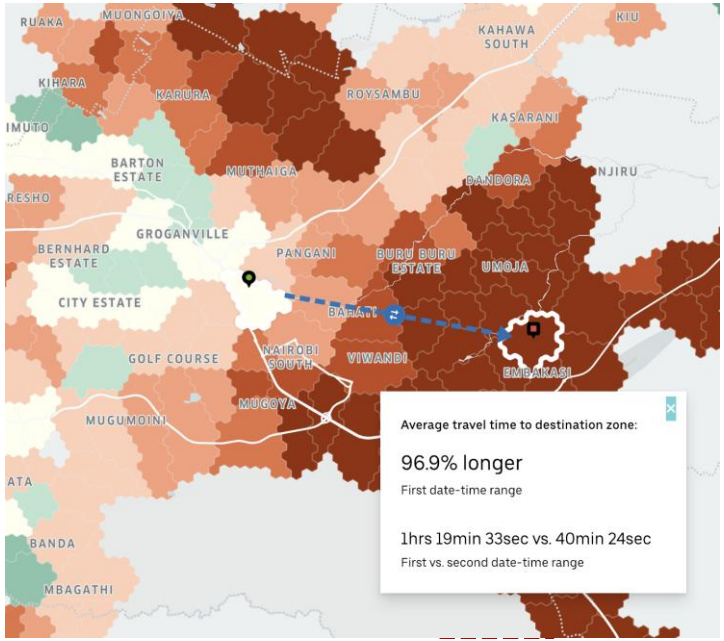


On March 6, Nairobi was inundated with 4.9cm of rain

However, these increases in travel times were not equally distributed across the city.

Areas in dark red represent the highest relative increases in travel time while areas in green represent the lowest

Travel times from Nairobi CBD to certain areas more than doubled on the day

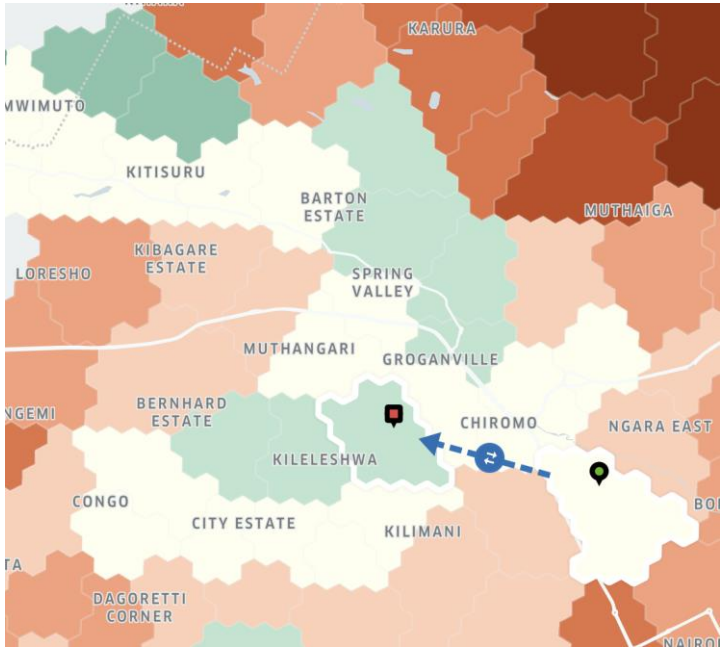


On March 6, Nairobi was inundated with 4.9cm of rain

However, these increases in travel times were not equally distributed across the city.

Areas in dark red represent the highest relative increases in travel time while areas in green represent the lowest

Travel times to higher income areas stayed the same or even decreased

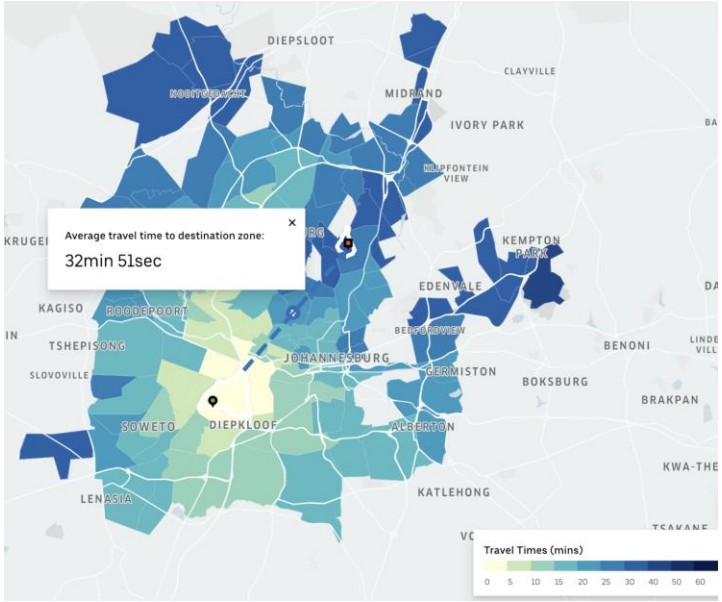


Soweto to Sandton: 33 minutes

Bringing it closer to home, on average, it takes 33 minutes for a rider to travel from Soweto to Sandton (in an Uber)

Understanding how far residents need to travel to access work and services is an important input for city planners

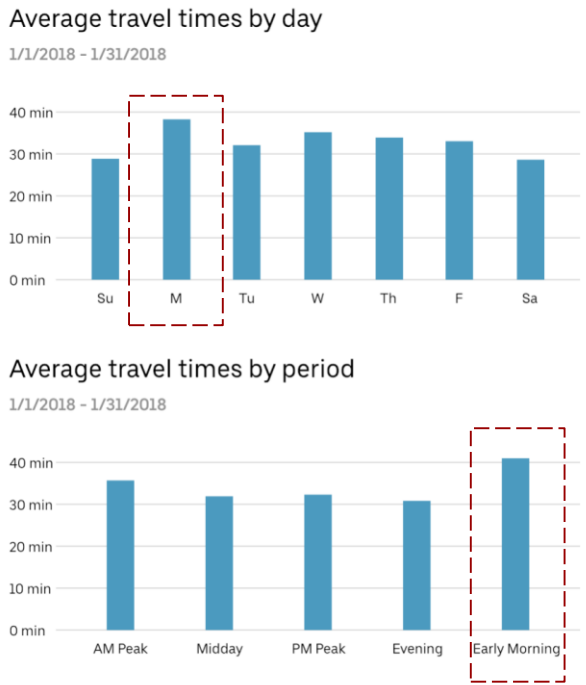
Average travel time from Soweto to other parts of Johannesburg



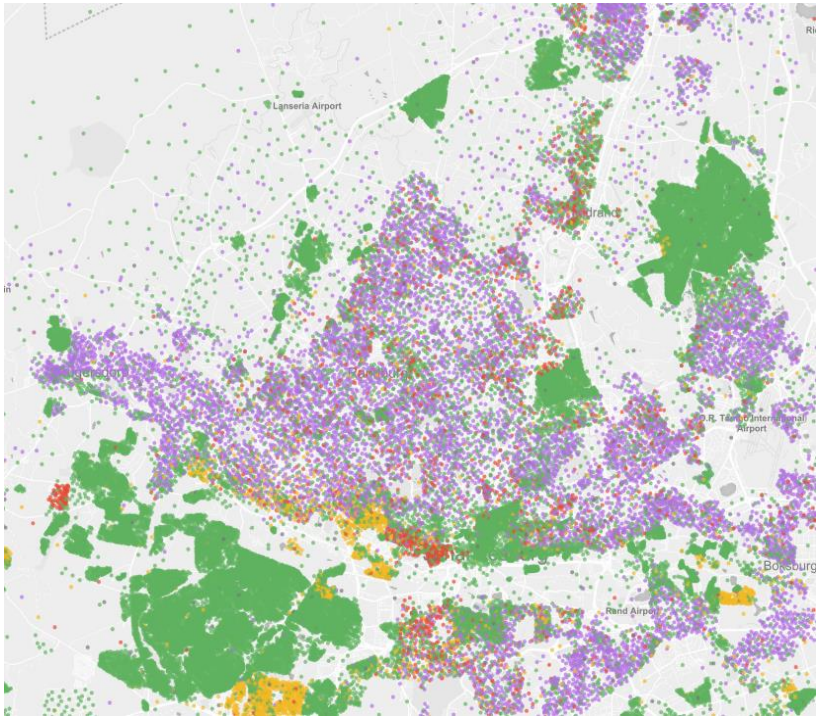
Soweto to Sandton: 33 minutes

Breaking the Soweto to Sandton journey down even further, we see that the longest travel times are on Mondays and in the early hours of the morning

Travel time from Soweto to Sandton by day of week and time of day

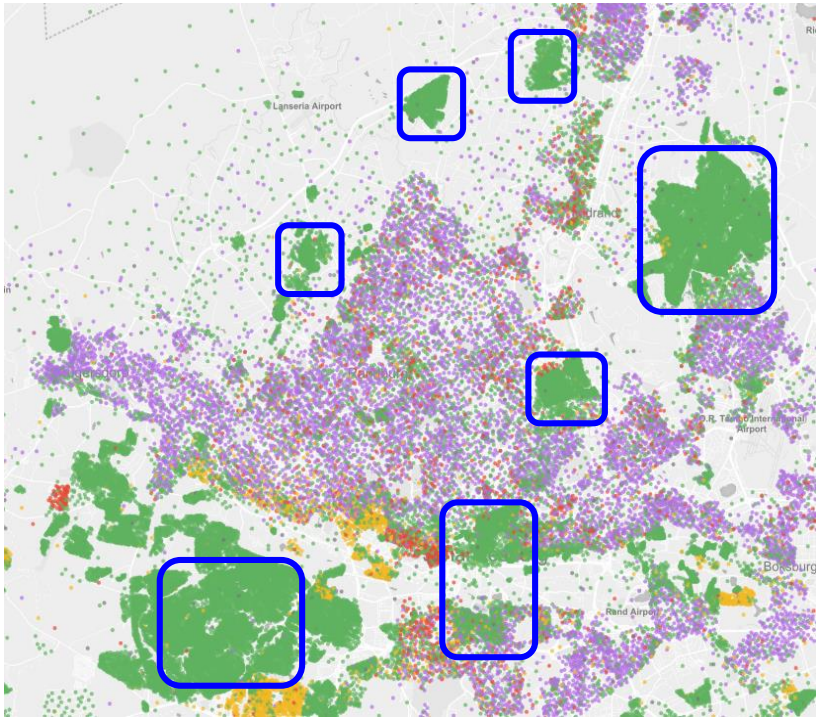


South Africa still suffers from the aftermath of segregated planning



Source: https://dotmap.adrianfrith.com/

The majority of our driver partners come from lower income areas in Johannesburg



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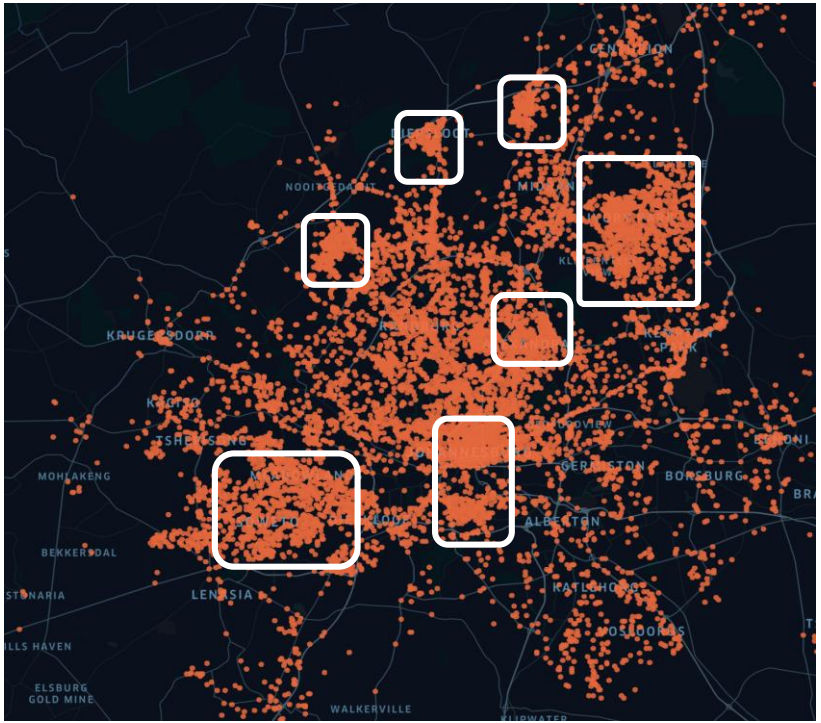

Location of where drivers first open their app in the weekday mornings (proxy for home location)

Riders in Soweto have very different use cases for Uber relative to riders in the rest of Johannesburg

Distribution of Trips by Time of Day and Day of Week by Geo							
	AM Rush	Nightlife	PM Rush	Sleep	Weekday	Weeknight	Weekend Day
[Index] Soweto vs Rest	0.71	1.51	0.72	1.53	0.66	1.36	1.39
Comments / Use Case:	Opportunity	Safety / Going Out	Opportunity	Safety	Opportunity	Safety / Going Out	Shopping / Going Out

A driver who starts their Monday morning in Soweto is faced with two options:

1. Wait for a trip that might not come (time is money)
2. Drive to Johannesburg without a rider (money is money)

In 2018 we decided to differentiate our pricing in Soweto, to increase the use cases for riders and ensure drivers do not have to contend with high wait times and empty legs to the city

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