Data Product Manager Nanodegree

Applying Data Science to Product Management
Final Project: Developing an MVP Launch Strategy for a Flying Taxi Service

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Welcome to your first week at Flyber


Ayber

In this project, you will apply the skills acquired in this course to create the MVP launch strategy for the first flying car taxi service, Flyber, in one of the most congested cities in America -- New York City.

You are responsible for bringing the first flying car taxi service to market by analyzing data and building a product proposal.

You will need to use the SQL workspace provided in the Classroom, and Tableau Public, in order to successfully complete the project.

You'll present your answers, findings, and insights in the Answer Slides found in this deck. Feel free to include any additional slides, if needed.

Every **Data Exploration** presented in this slides deck in accessible via this **Google Colab Notebook**, just click the logo below:

Section 1: Data Exploration

Back to the basics of product management, identify your customer and their pain points:

- What are taxis used for?
- What are the characteristics of the users that leverage them?
- What are existing pain points with taxis?
- What are the existing pain points with digital ride-sharing services?

Answer Slide

What are taxis used for?

Taxis compose a fleet used as an on-demand car service. As opposed to public transportation, people often use them to get directly to where they want to go, i.e., there are no stops in between where they get on and where they get off.

Answer Slide

What are the characteristics of the users that leverage them?

Mostly affluent and with a fast-paced lifestyle, taxi users usually need taxis in day-to-day mobility needs, like going to work, restaurants, bars, concerts and airport pickup/dropoff.

Answer Slide

What are existing pain points with taxis?

- **Client-centric pain points**
  - Inefficient technology and user experience
  - Ride is not guaranteed
  - Significant waiting time
  - Traffic jam risk
- **Market-centric pain points**
  - Fareseeking dead-time
  - No coordination between client and driver

Answer Slide

What are the existing pain points with digital ride-sharing services?

- Uncertainty of fleet availability
- Non-optimized logistics
- Risk of long waiting time
- Scam risk: is the driver taking the best route?
- Rejection: what if the drivers does not accept my ride demand?
- Internet connection dependant
- Usually bank-accoutend users only
- Limited payment methods

What user improvements do you hypothesize a flying taxi service would have over the existing state of taxis today?

What market improvements do you hypothesize a flying taxi service would have the existing taxi service industry & physical road infrastructure today?

Answer Slide

What user improvements do you hypothesize a flying taxi service would have over the existing state of taxis today?

- **Key Differentiators**
  - Faster mobility
  - Less traffic congestion
  - Reduced waiting/commute time
  - Increased predictability/certainty of being on time to important day-to-day events
  - Unique user experience and convenience
  - City sightseeing: a beautiful view from above

Answer Slide

What market improvements do you hypothesize a flying taxi service would have the existing taxi service industry & physical road infrastructure today?

- **Market Improvements**
  - Job generation
  - New Flying Cars Fuel Stations businesses
  - Increased transport competition = reduced tariffs
  - Increased air traffic control and regulation
  - Faster road mobility with reduced road taxi fleet
  - Reduced frequency for road repair

Upload this dataset into Tableau Online.

Ensure the fields are parsed correctly; field headers are included in the first row of the CSV.

Let’s begin exploration!

Acquire a high-level understanding of the granularity and scope of the dataset, to inform the basis for your analyses:

- How many records are in the dataset?
- What does each record represent?
- What is the primary key?
- What date range is your dataset bound to?
- What are the geographical bounds of this dataset? Is it limited to Manhattan, or is Brooklyn, Queens, Staten Island, the Bronx, and New Jersey included? Where are most of the data points centralized at? Are there outliers?

Answer Slide

How many records are in the dataset?

15 **columns**

1.048.468 **rows/records**

Totalling 15.727.020 **data points**

Answer Slide

What does each record represent?

Every record represents a **unique taxi ride**.

Answer Slide

What is the primary key?

The **“id”** key is **primary key**, as the number of unique values for the “id” key equals the number of records in the dataset.

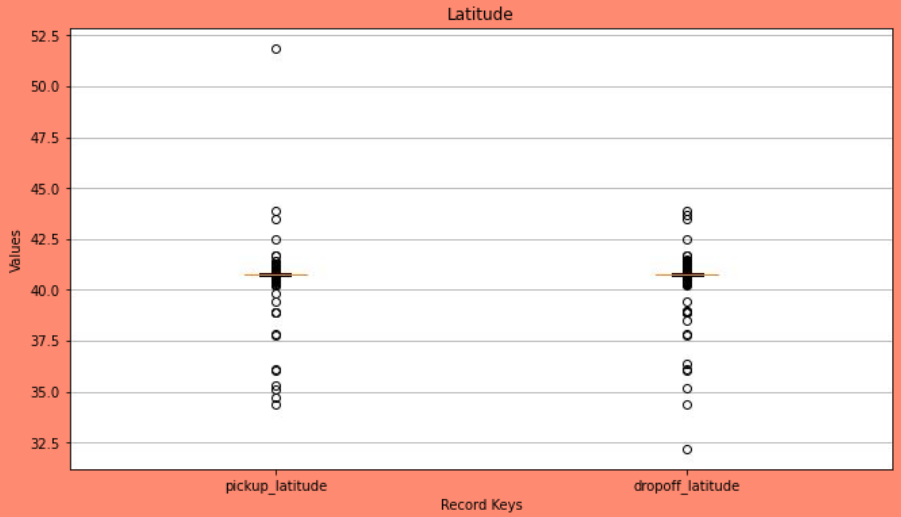
Answer Slide

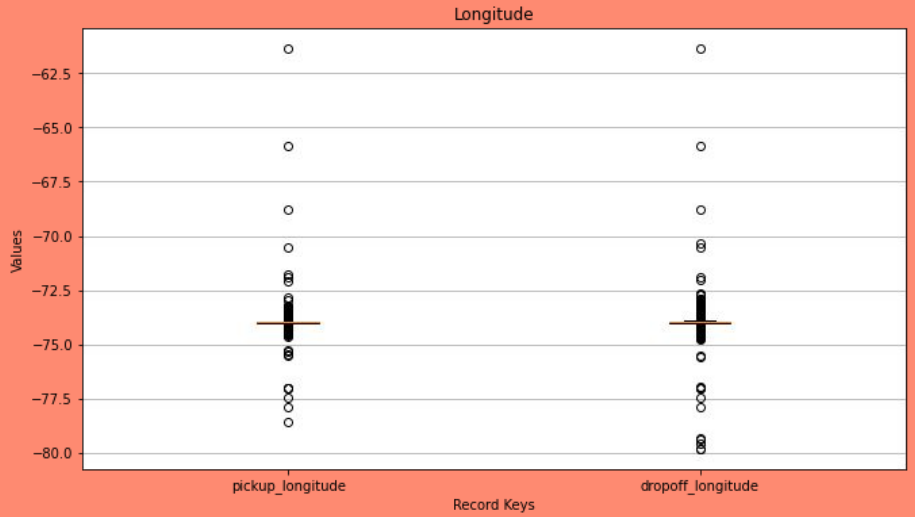
What date range is your dataset bound to?

Our taxi_rides dataset in bound as from the **January, 1st, 2016** to **July, 1st, 2016**, in terms of data range.

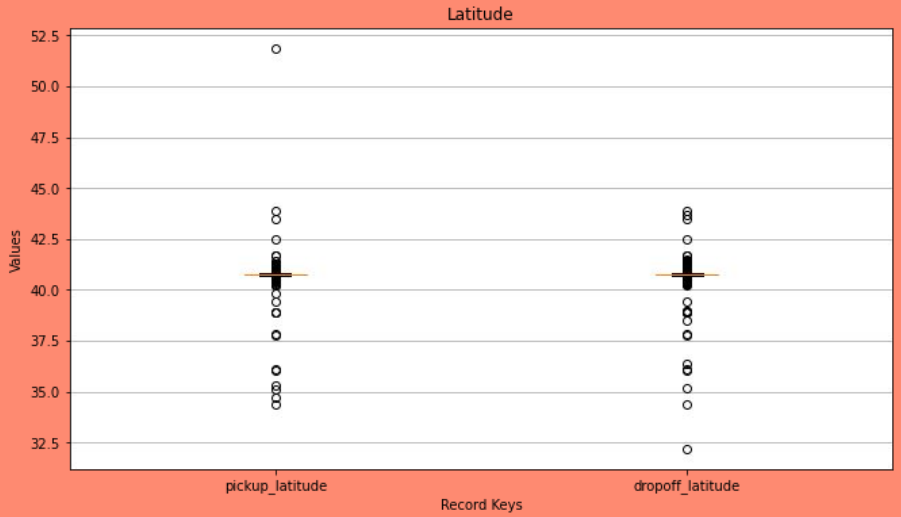
Answer Slide

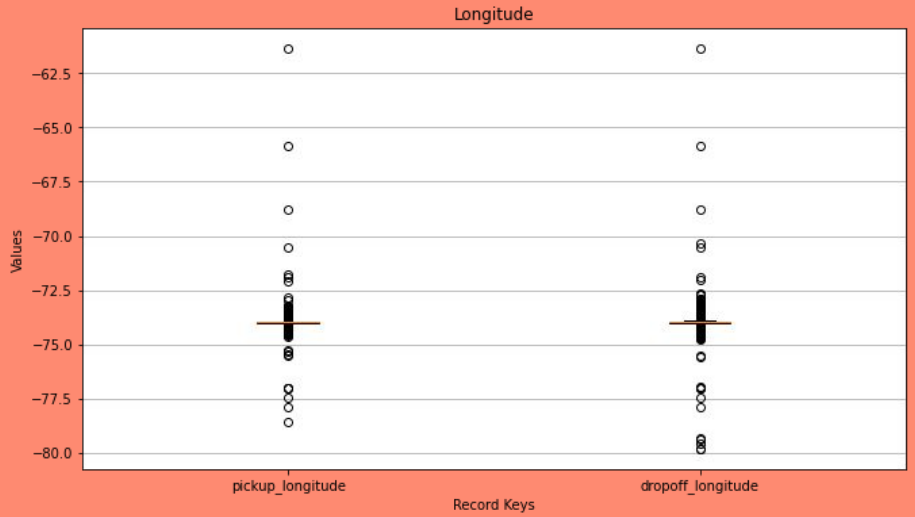
What are the geographical bounds of this dataset? Is it limited to Manhattan, or is Brooklyn, Queens, Staten Island, the Bronx, and New Jersey included? Where are most of the data points centralized at? Are there outliers?





Answer Slide





Clearly, the pickup and dropoff locations are not limited to Manhattan, Brooklyn, Queens, Staten Island, the Bronx or New Jersey. In fact, there are outliers, that's for sure. Every 2.5 degrees in latitude or longitude corresponds to roughly 277.5 Km, so clearly some points stand out.

Answer Slide

	pickup_latitude	dropoff_latitude	pickup_longitude	dropoff_latitude
count	1.048468e+06	1.048468e+06	1.048468e+06	1.048468e+06
mean	4.075094e+01	4.075183e+01	-7.397343e+01	4.075183e+01
std	3.372348e-02	3.636651e-02	4.268783e-02	3.636651e-02
min	3.435970e+01	3.218114e+01	-7.854740e+01	3.218114e+01
25%	4.073738e+01	4.073594e+01	-7.399186e+01	4.073594e+01
50%	4.075415e+01	4.075455e+01	-7.398174e+01	4.075455e+01
75%	4.076836e+01	4.076984e+01	-7.396731e+01	4.076984e+01
max	5.188108e+01	4.391176e+01	-6.133553e+01	4.391176e+01

These taxi rides records are centralized somewhere close to New York City, as we can see on the 75% percentile above.

You notice that the dataset does not contain explicit data points out-of the-box, we'll need to enrich the dataset with relevant fields:

- You notice that ride price is not included, but figure it could be derived. Based on information about New York taxi prices gleaned from the internet, create a calculated field called `price` using the `duration`, `distance`, and `passenger count` fields.
- You hypothesize your target users will be those who take a relatively longer time getting to a destination that is relatively close, due to heavy traffic conditions and/or limitations to physical road infrastructure. To be able to analyze where this is happening, you will need to create a calculated field called `distance-to-duration ratio`.

Let’s understand the scope and distribution various dimensions within the dataset. Calculate the **average**, **median**, and the **first & second standard deviation of the mean** for the following measures:

- duration
- distance
- passenger counts
- duration-to-distance ratio
- price

Answer Slide

Data Cleansing

Some Data Cleansing was performed before taking a look at distribution , we have **ignored data containing**:

- **Distance** < 0.1
- **Distance** > 200
- **Duration** < 59
- **Duration** > 86400

Price Formula

Price = 2.642 + 1.56*__distance__ + 0.00834*__duration__

```
def taxi_price(duration_seconds, distance_km):
  average_basic_fee = 2.642
  fee_per_km = 1.56
  fee_per_s = 0.00834
  return (average_basic_fee + fee_per_km*distance_km + fee_per_s*duration_seconds)
```

Answer Slide

Average

```
duration                    958.822970
distance                      3.474816
passenger_count               1.665477
duration_to_distance_ratio  400.497722
price                        16.059297
dtype: float64
```

Median

```
duration                    666.500000
distance                      2.118607
passenger_count               1.000000
duration_to_distance_ratio  280.220486
price                        11.727679
dtype: float64
```

1 Standard Deviation

```
duration                    3180.723676
distance                       3.962220
passenger_count                1.314831
duration_to_distance_ratio  2745.702286
price                         28.208772
dtype: float64
```

2 Standard Deviations

```
duration                    6361.447352
distance                       7.924439
passenger_count                2.629662
duration_to_distance_ratio  5491.404572
price                         56.417545
dtype: float64
```

Answer Slide

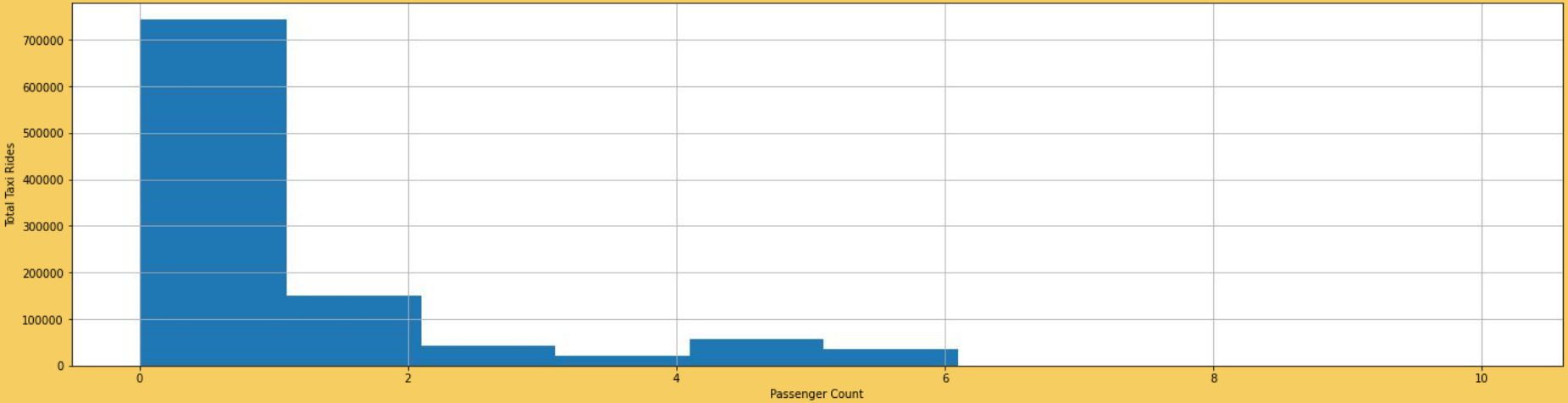
Key (Range)	68% Percentile	95% Percentile
duration	0 - 4139.54 s 0 - 68.99 min	0 - 7320.27 s 0 - 122 min
distance	0 - 7.43 Km	0 - 11.39 Km
passenger counts	0 - 2.98	0 - 4.3
price	0 - $44.26	0 - $72.47

Check Python Colab Notebook referred at the intro of presentation in order to understand the methodology for price and ratios.

Flying cars may have to have to be a lower weight for efficiency & take-off. Or you may just decide to leverage mini-copters for your initial MVP.

Create a histogram that visualizes the number of total rides grouped by passenger counts to analyze the potential market volume of low passenger pickups (1-2 passengers).

Answer Slide



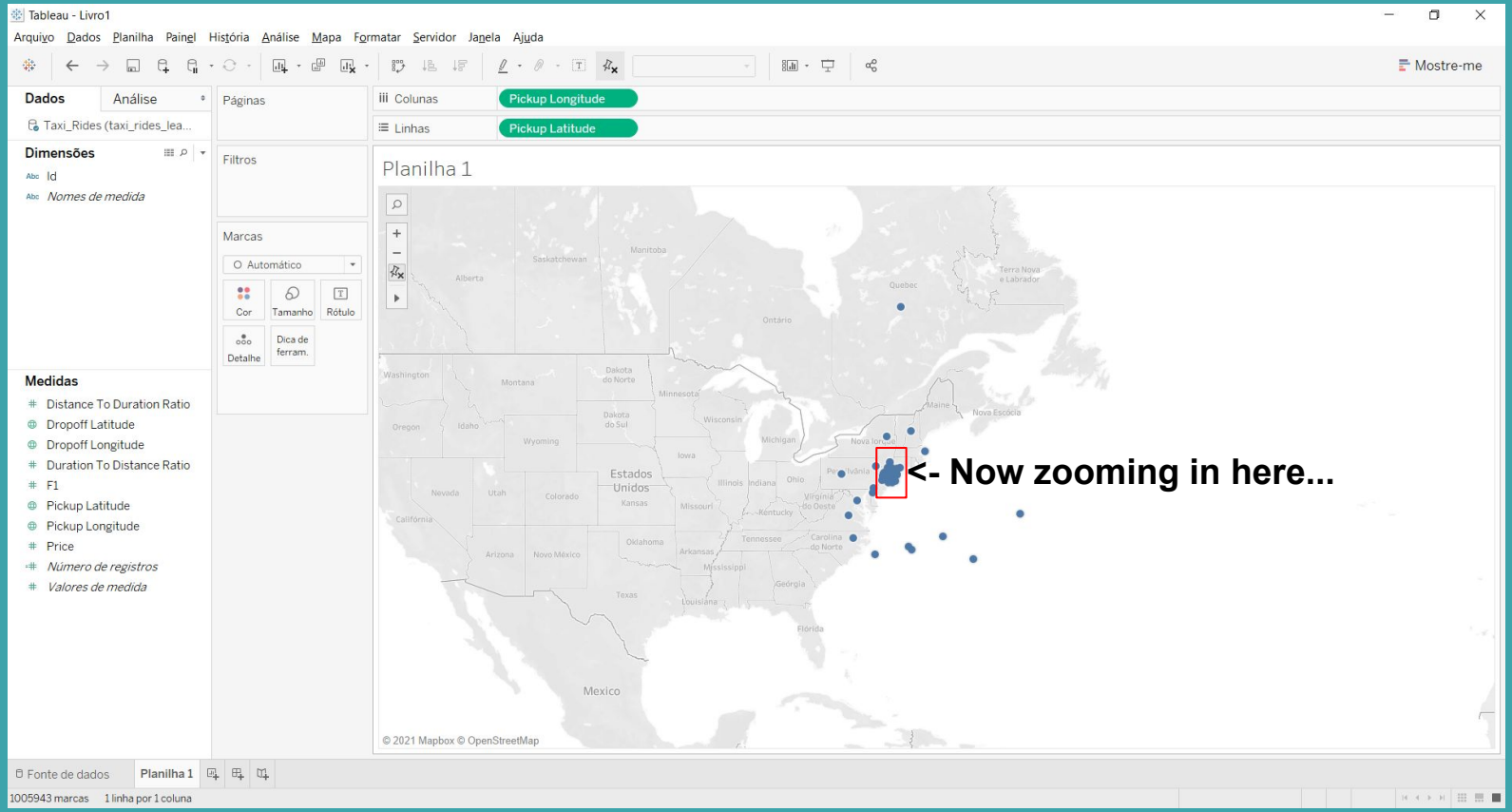
743’095 taxi rides were recorded with only **1 passenger**, corresponding to roughly **71% of all rides** recorded in the first semester of 2016.

Those 1-passenger rides corresponded to **69.4%** of revenue in the first semester of 2016.

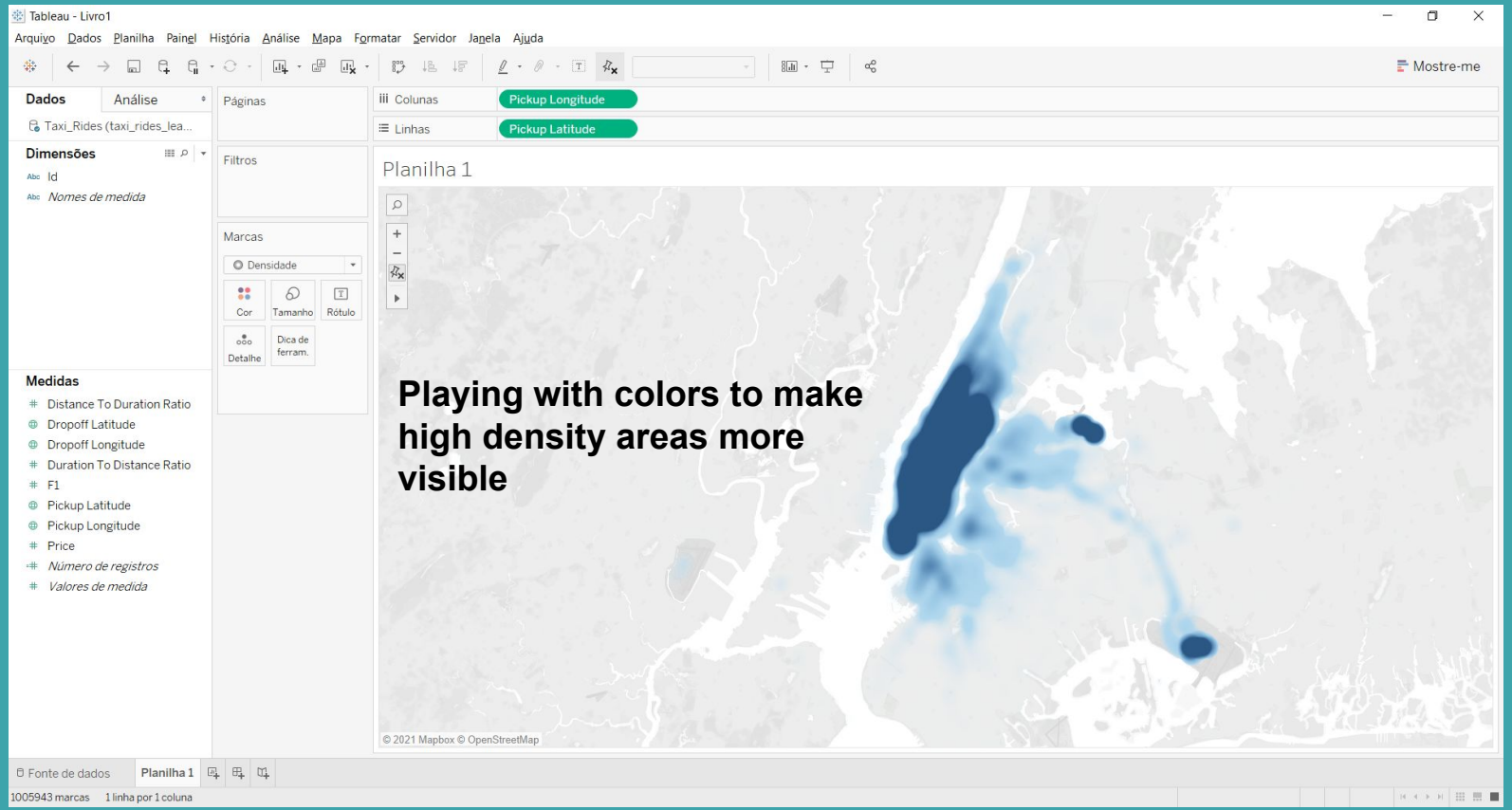
For the initial MVP launch (& most likely GA), we have a finite amount of monetary resources to build Flyber pick-up / drop-off nodes. We'll need to be strategic on where we'll place them:

- Which neighborhoods/zip codes tends to experience a relatively higher density of pick-ups?
- Which neighborhoods/zip codes tends to experience a relatively higher density of drop-offs?
- Which neighborhoods/zip codes tends to have the highest duration-to-distance ratios, based on pick-up?
- Which neighborhoods/zip codes tends to have the highest duration-to-distance ratios, based on drop-off?
- For any of the neighborhoods identified, are there any potential areas within the neighborhood that are optimal for flying taxi pick-up / drop-off? What makes them suitable?

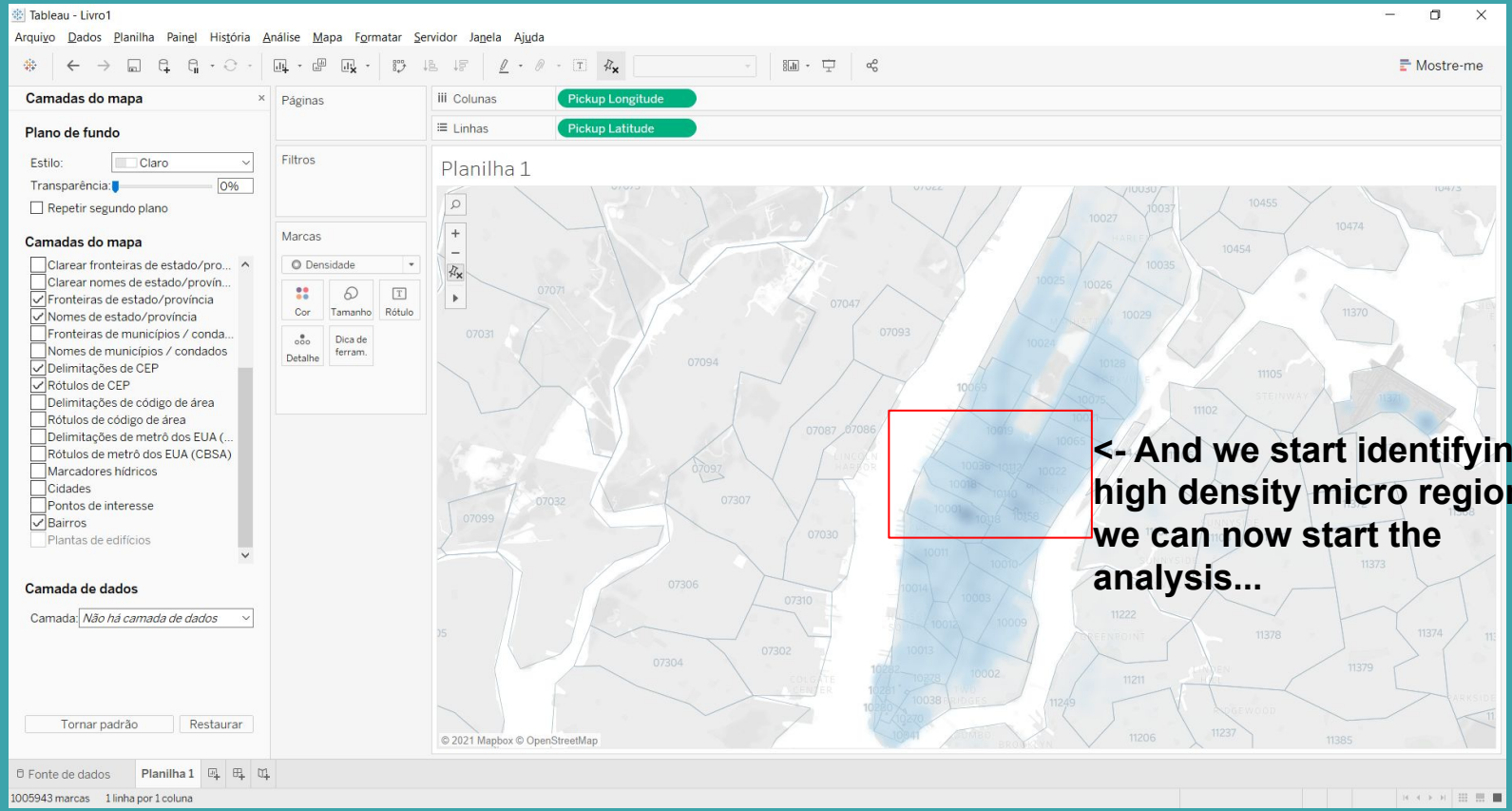
Geographic Location of Taxi Rides



Geographic Location of Taxi Rides

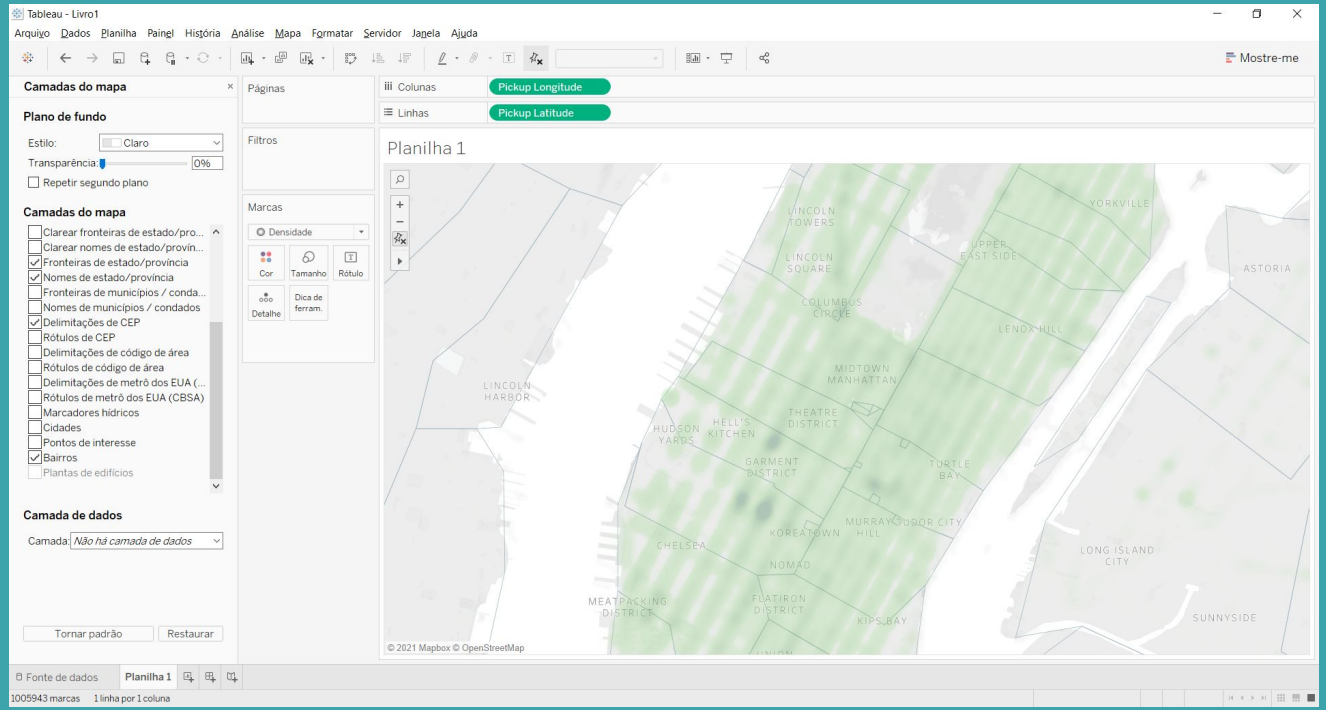


Geographic Location of Taxi Rides



Answer Slide

Which neighborhoods/zip codes tends to experience a relatively higher density of pick-ups?

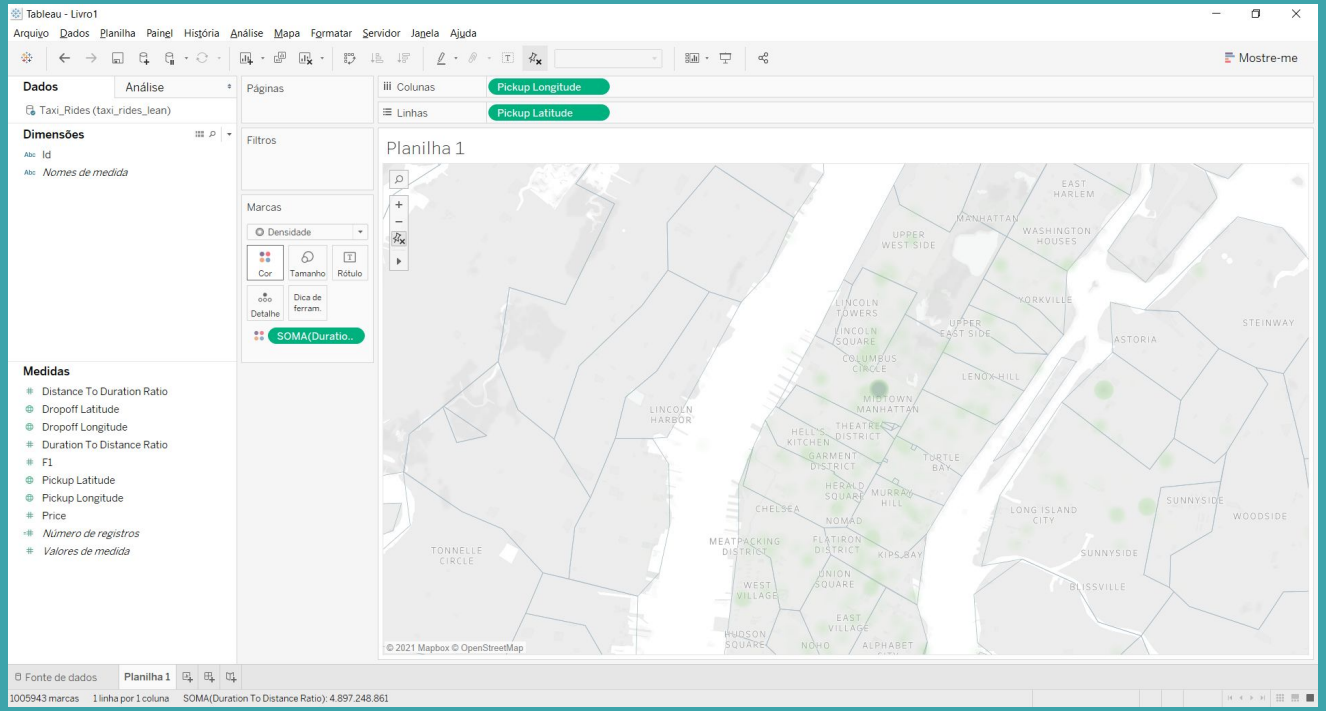


Top 5 **Neighborhoods** with a higher density of pick-ups:

- Koreatown
- Garment District
- Hell's Kitchen
- Turtle Bay
- Columbus Circle

Answer Slide

Which neighborhoods/zip codes tends to have the highest duration-to-distance ratios, based on pick-up?



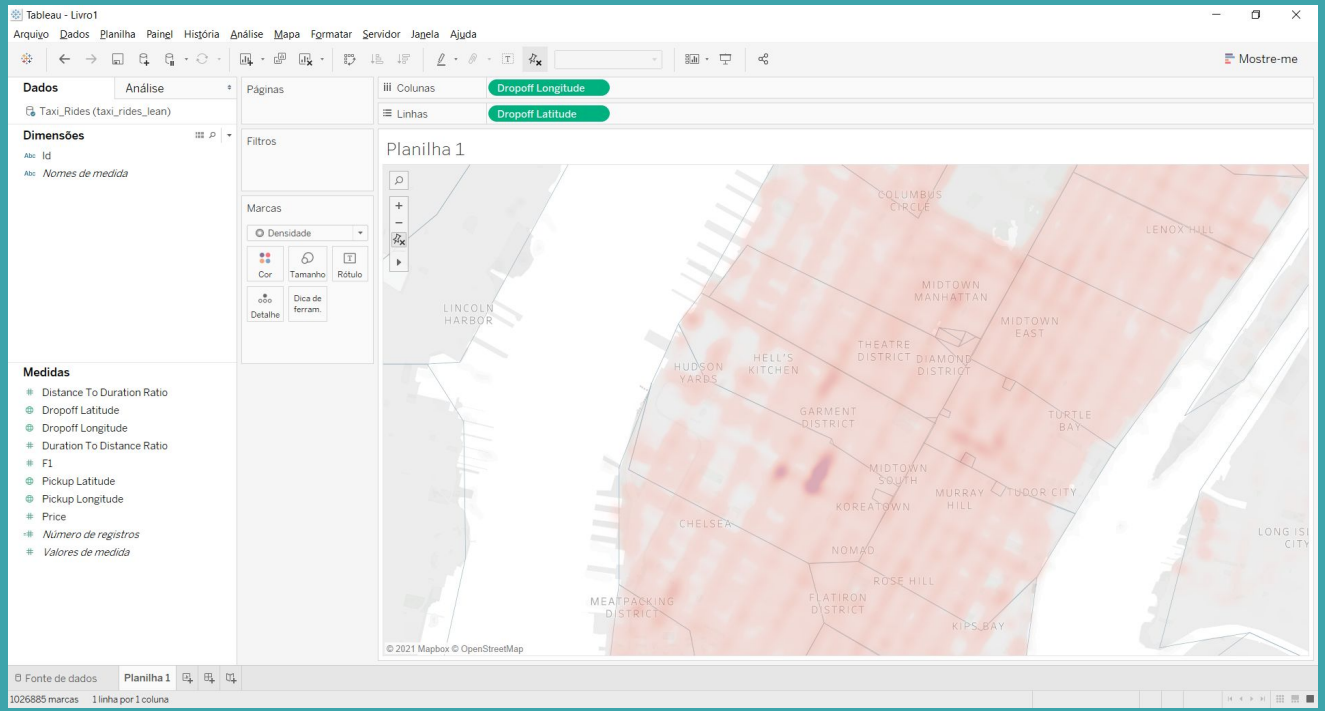
Top 3 **Neighborhoods** with highest duration-to-distance ratios:

1. Midtown Manhattan
2. Long Island City
3. Dutch Kills

It actually makes sense, Midtown Manhattan is usually crowded with traffic jams (ref).

Answer Slide

Which neighborhoods/zip codes tends to experience a relatively higher density of drop-offs?

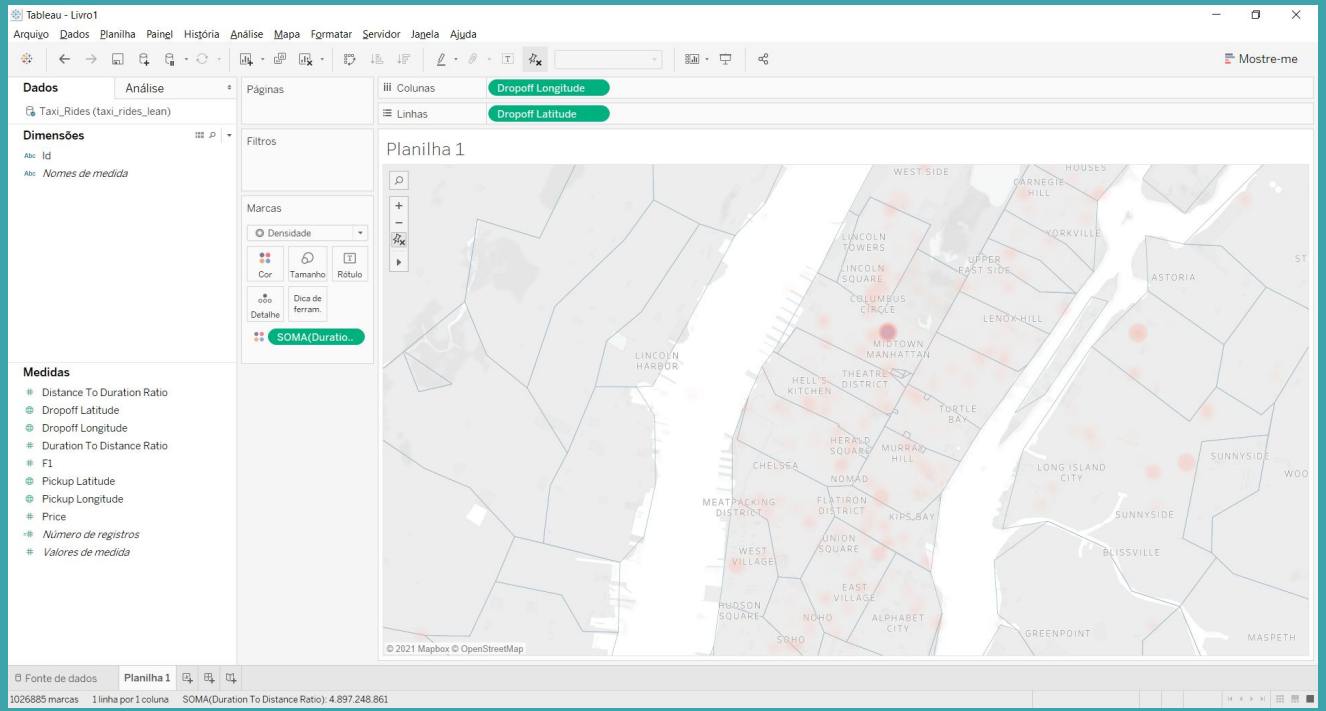


Top 5 **Neighborhoods** with a higher density of drop-offs:

- Koreatown
- Garment District
- Turtle Bay
- Hell's Kitchen

Answer Slide

Which neighborhoods/zip codes tends to have the highest duration-to-distance ratios, based on drop-off?



Top 3 **Neighborhoods** with highest duration-to-distance ratios:

1. Midtown Manhattan
2. Long Island City
3. Dutch Kills

As we said before, it makes sense, all those neighborhoods are often experiencing traffic jams.

Answer Slide

For any of the neighborhoods identified, are there any potential areas within the neighborhood that are optimal for flying taxi pick-up / drop-off? What makes them suitable?

We should place flying taxi pick-up/drop-off stations on these neighborhoods:

- Midtown Manhattan
- Long Island City
- Dutch Kills

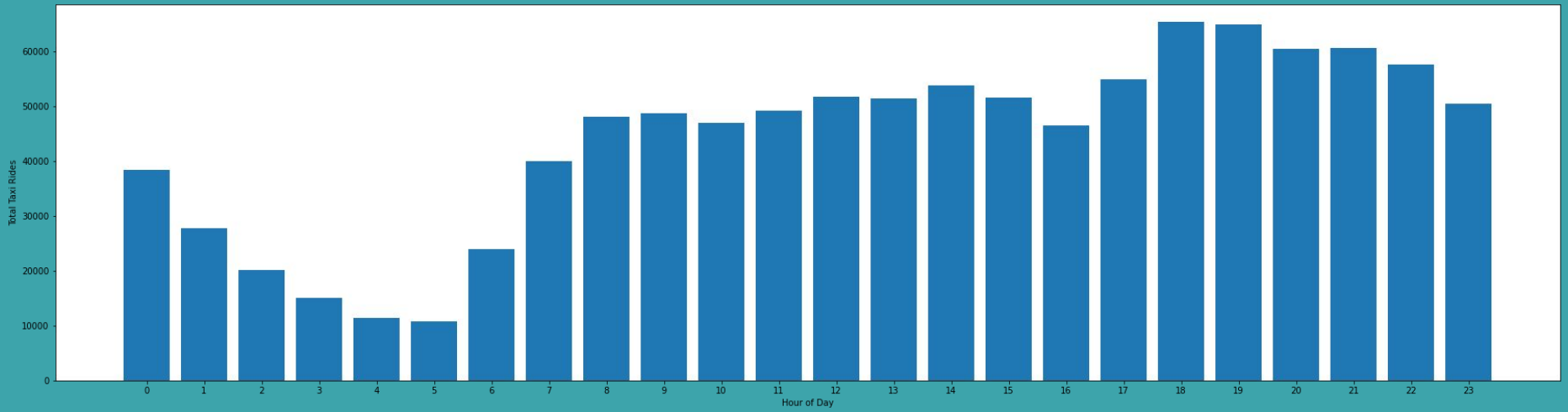
Having **highest duration-to-distance ratios**, launching our pilot MVP on these areas could **maximize** our **chances of a successful service launch**.

It may not make operational sense to have the service running 24/7, for now.

- What times throughout the day experience relatively higher volumes of ride pick-ups?
- What days throughout the week experience relatively higher volumes of ride pick-ups?
- Pinpoint any periods throughout the year that experience trend fluctuation or seasonality around ride pick-up volumes. This will help us in our post-launch analyses to determine if any spikes or dips were influenced by seasonality or through actual feature adoption/regression.

Answer Slide

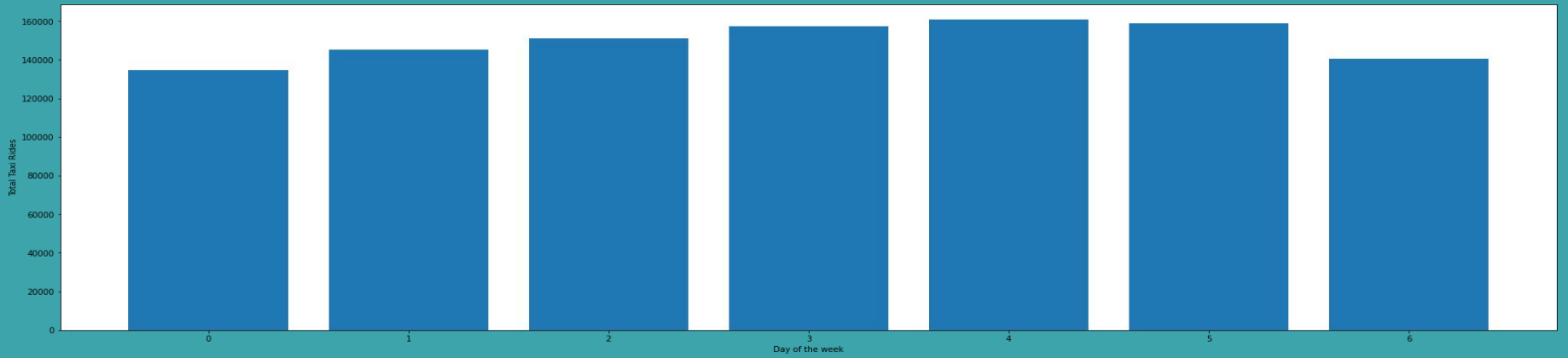
What times throughout the day experience relatively higher volumes of ride pick-ups?



Clearly, most rides occur between **6 and 10 pm**, representing **23.98%** of the total rides during the whole day.

Answer Slide

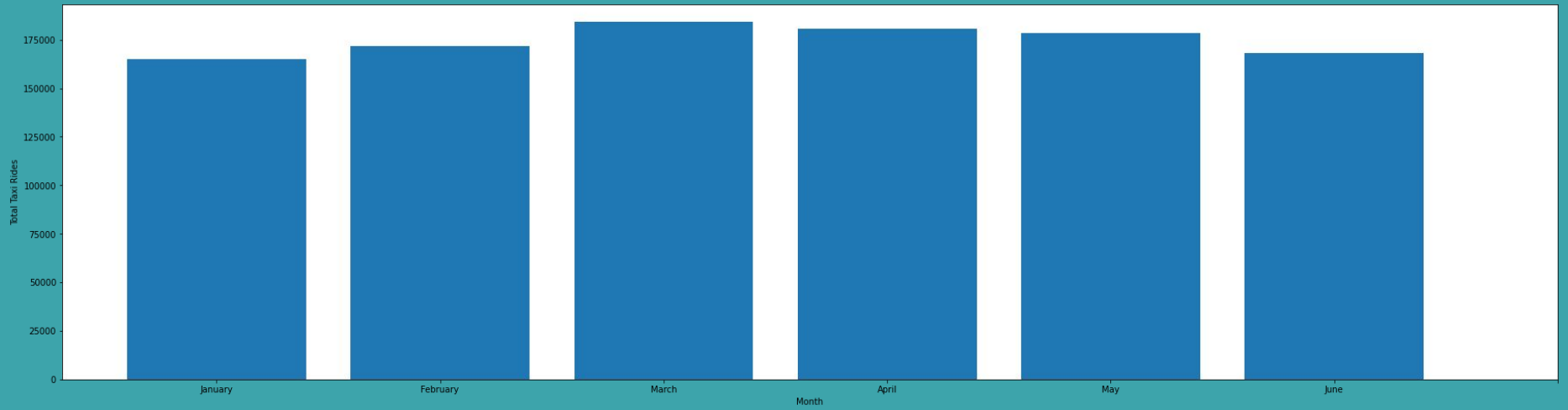
What days throughout the week experience relatively higher volumes of ride pick-ups?



Clearly, most rides occur from Thursday to Saturday (Day 3 to 5 in the graph), representing around 28.26% of taxi rides.

Answer Slide

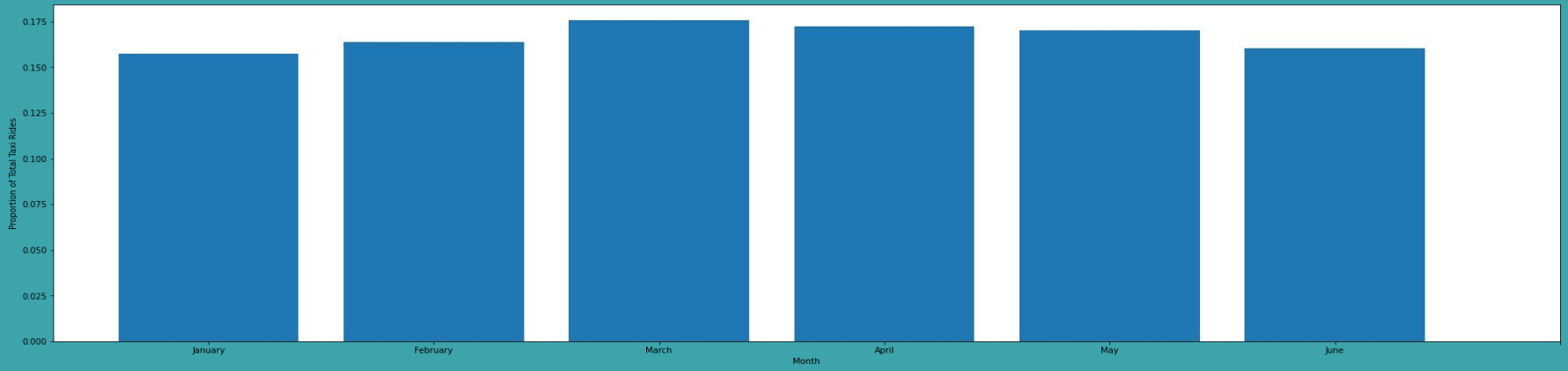
Pinpoint any periods throughout the year that experience trend fluctuation or seasonality around ride pick-up volumes.



There is an upside trend from January to March, where volume of rides reaches its peak. From March to June, we can verify a downside trend.

Answer Slide

Pinpoint any periods throughout the year that experience trend fluctuation or seasonality around ride pick-up volumes.



Normalizing total rides per month, we can see that March accounts to around 17.5% of all rides in the semester.

General Insights from external sources

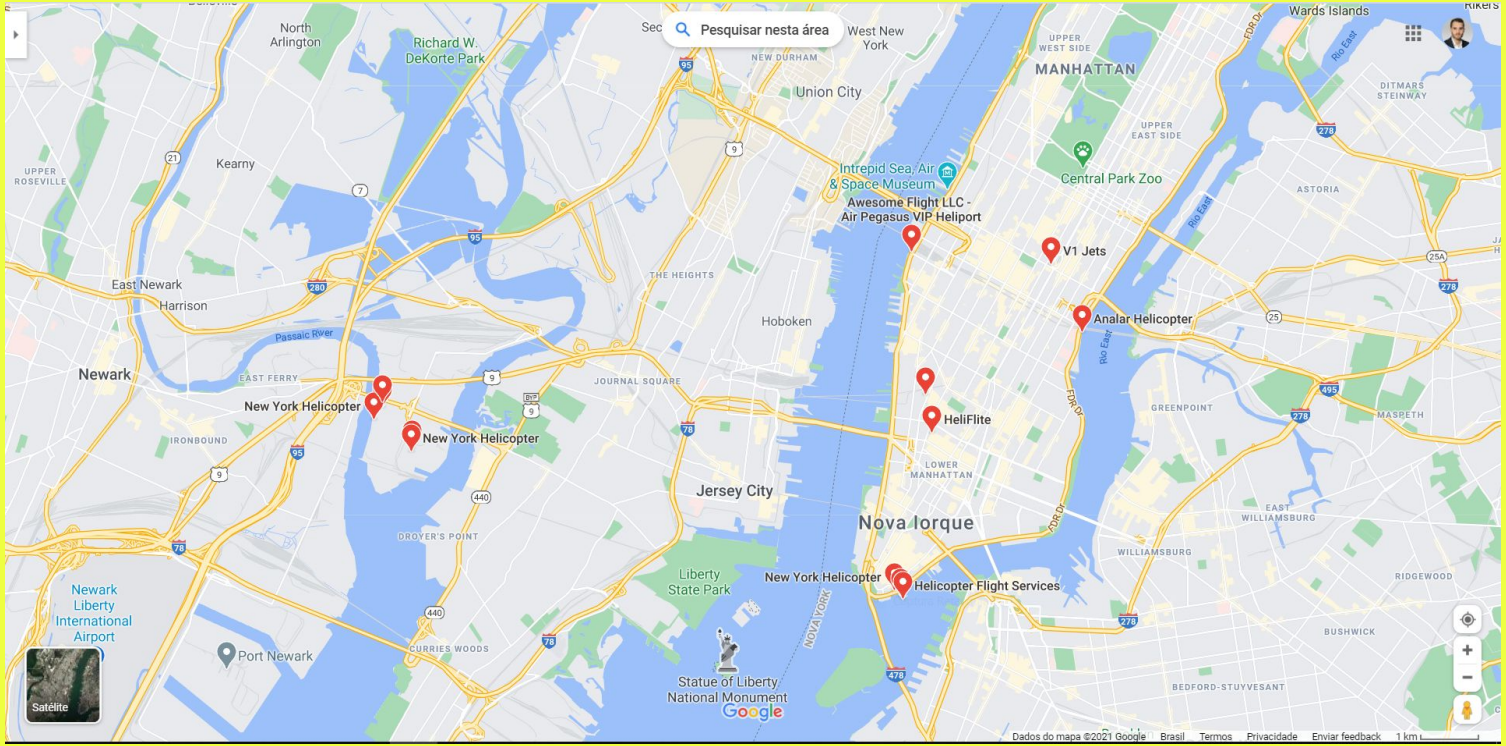
"Looking at a scenario of getting from Midtown Manhattan to JFK airport, ARK Invest's analysis suggests that the journey would take just 18 minutes by drone - a quarter of the time a traditional taxi journey would take - and would **cost** about 74 dollars, which they say is a small premium over a typical 65 dollar taxi ride". (**frontiersin.org**)

"For the scaled adoption of passenger drones and flying cars (particularly fully autonomous) to occur, the operators of these vehicles would likely need to demonstrate a near-flawless **safety record**, covering both mechanical integrity as well as safe operations. As we have seen with autonomous cars, any mishap can garner significant attention and can slow the pace of adoption". (**Deloitte**)

"The Transition (flying car model) will require a **Sport Pilot certificate** and **driver's license** to operate". (**robbreport.com**)

There were 590,040 aircraft pilots in the US in 2015. In 2016, 6% of the US population is leaving in the NY State, so we could estimate there are around **36K aircraft pilots living in the NY State** in 2016.

General Insights from external sources



Assuming our flying car models could be **VTOL** (Vertical Take-Off and Landing), there are plenty of **ready-to-use hotspots for potential flying taxis pick-up/drop-off stations**, as we could use the same ones as Helicopters.

General Insights from external sources

“The average helicopter takes around 2-5 minutes to start the engines, get the instruments & systems working and tested before the helicopter is ready for takeoff”. **(link)**

Taking off time would be probably the biggest issue impacting **predictability/reliability/consistency** of **wait queue time.** A new Flying Taxi could take off every 5 minutes and a new Flying Taxi could land every 1-2 min. So, queue time could be estimated as something around [7 min] X [#people_queue].

You and the user research team ran a quantitative survey on existing taxi and/or rideshare users in New York City to determine sentiment around potentially using a flying taxi service.

Dive into the survey results dataset in order to extract insights from explicit feedback.

Upload this dataset into Tableau Online or a SQL database (the classroom contains a workspace with the data for you as well).

Ensure the fields are parsed correctly, field headers are included in the first row of the CSV.

Question schema:

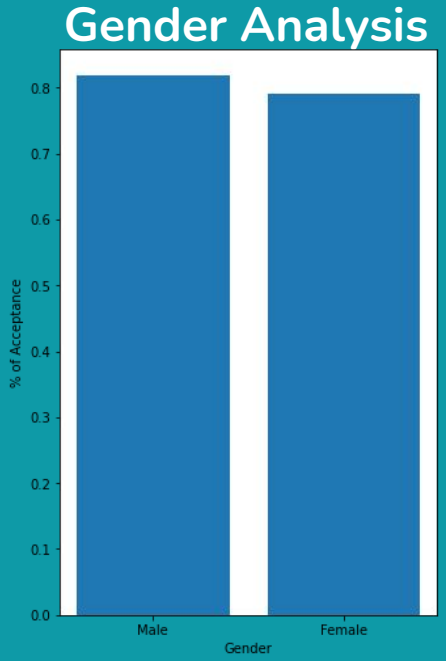
Q1 - What is your email?
Q2 - What gender do you identify as?
Q3 - What is your age?
Q4 - What is your annual income? (income bands)
Q5 - What neighborhood do you reside in?
Q6 - Do you currently use taxis? (Y/N)
Q7 - Do you currently use ridesharing services? (Y/N)
Q8 - Would you use a flying taxi service, if such a concept existed? (Y/N)
Q9 - If yes to Q8, how much would you be willing to pay per mile for such a service? (USD)
Q10 - If no to Q8, what is the reason?

To inform our future product marketing efforts, we'll want to extract the following:

- Is there an inclination of better Flyber adoption based on gender, age, income level, or neighborhood of residence?
- What is the distribution of potential price per mile based on gender, age, income level, and neighborhood of residence?
- What is the different personas/segments of negative sentiment towards not using a flying taxi car service?

Answer Slide

Is there an inclination of better Flyber adoption based on gender, age, income level, or neighborhood of residence?

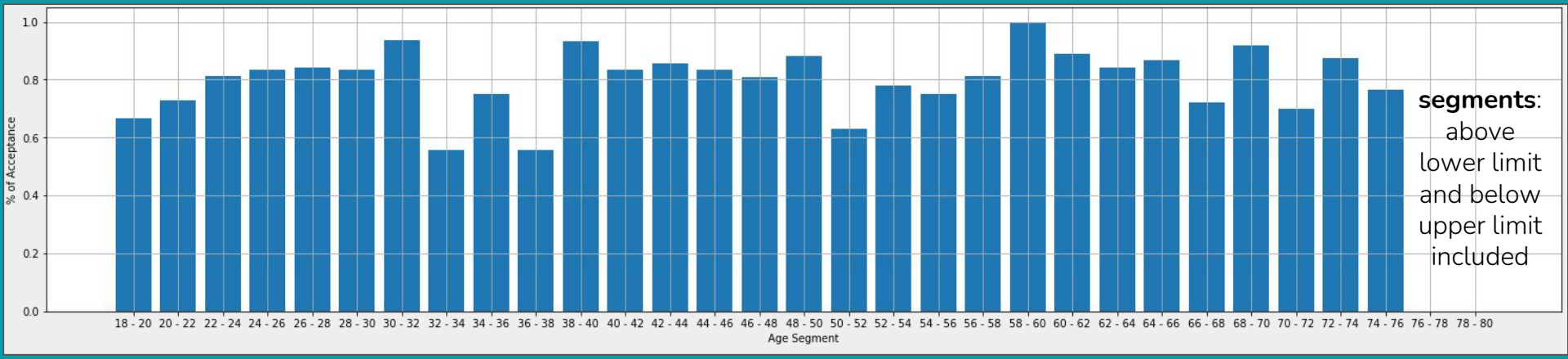


Around 81.77% of **Male** and 79.15% of **Female** showed an inclination of adoption.

Answer Slide

Is there an inclination of better Flyber adoption based on gender, age, income level, or neighborhood of residence?

Age Analysis

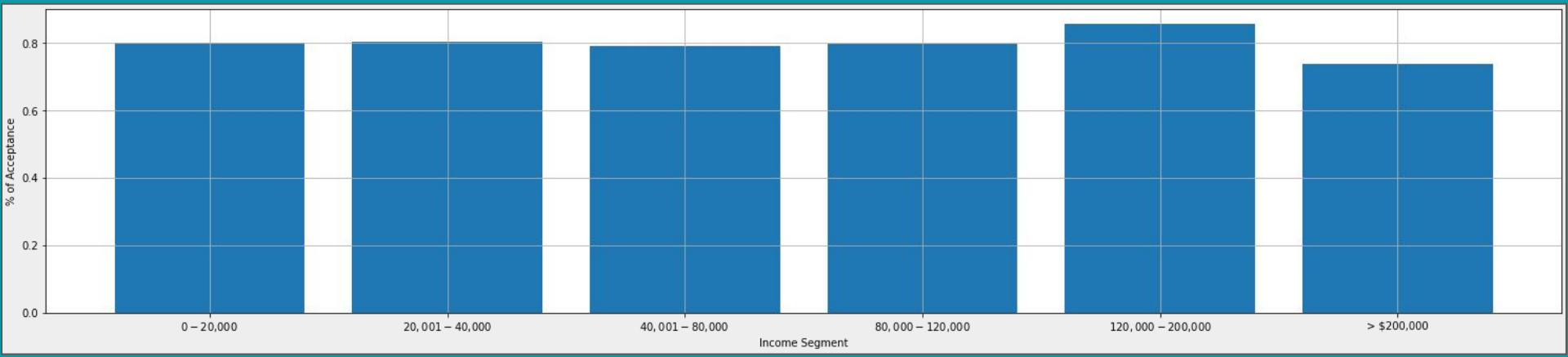


Percentage of acceptance for each age segment is often high, but we can definitely identify the **30-32, 38-40, 58-60** and **68-70** as the most prominent segments.

Answer Slide

Is there an inclination of better Flyber adoption based on gender, age, income level, or neighborhood of residence?

Income Level Segments



Considering only people who would use the flying taxi service, the $120-200K income level segment represents the most prominent segment, based on percentage of acceptance of Flyber's flying taxi services.

Answer Slide

Is there an inclination of better Flyber adoption based on gender, age, income level, or neighborhood of residence?

Neighborhood of Residence

Top 5 Neighborhood of Potential Flyber Adopters

Midtown	15
Battery Park City	14
Financial District	12
Tudor City	11
Tribeca	11

There are 69 unique Neighborhoods between potential Flyber adopters, being the Top 5 these ones on the left. They represent 15.75% of the total sample.

Answer Slide

What is the distribution of potential price per mile based on gender, age, income level, and neighborhood of residence?

On average, **male** potential flyber adopters would pay around $23/mile, while **female** would pay $23.3/mile, roughly **1.2%** more.

count	157.000000
mean	23.012739
std	9.146239
min	7.000000
25%	17.000000
50%	22.000000
75%	28.000000
max	44.000000

Males

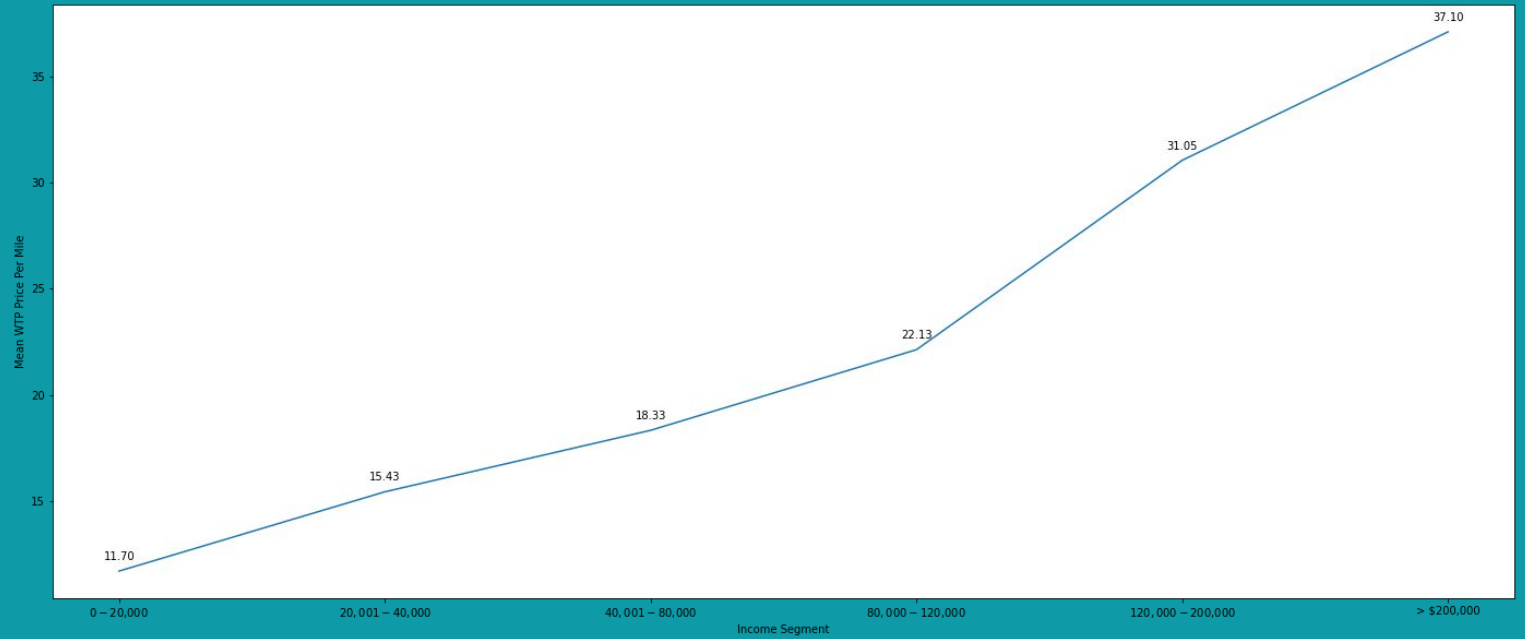
count	243.000000
mean	23.288066
std	9.379474
min	5.000000
25%	16.000000
50%	23.000000
75%	29.000000
max	46.000000

Females

The **highest paying age segment** would be people between 10 and 20 years old, included, with an average of $26.75/mile. People between 60 and 70 years old would pay on average roughly $26/mile, followed by the 40-50 *tranche* where people would pay around $23.1/mile.

Answer Slide

What is the distribution of potential price per mile based on gender, age, income level, and neighborhood of residence?



There is a positive correlation between income segments and Average Willingness to Pay Price per Mile, ranging from $11.7/mile to $37.1/mile.

Answer Slide

What is the distribution of potential price per mile based on gender, age, income level, and neighborhood of residence?

Neighborhood	Avg_Price
Inwood	34.000000
Financial District	32.833333
Bowery	32.800000
Battery Park City	32.714286
Columbus Circle	30.100000
Tribeca	29.363636
Lower East Side	28.000000
West Village	27.333333
Downtown Manhattan	27.000000
Diamond District	26.285714

Highest Average Willingness to Pay Price per Mile would be at Inwood Neighborhood. Here is the top 10 highest paying neighborhoods whithin the user research data.

Answer Slide

What is the different personas/segments of negative sentiment towards not using a flying taxi car service?

People who wouldn't use Flyber services, 99 people in total, range from 18 to 76 y.o., with an average **age** of 46 y.o.

28% of these people are whithin a $40-80K **income** segment, being the top income segment.

Also, 64% of these non-potential Flyber users identify themselves as Females, being the top **gender**.

In terms of neighborhoods, non-potential users are quite spread, the top **neighborhood** between these people is Sutton Place, representing only 5% of the data sample.

Answer Slide

What is the different personas/segments of negative sentiment towards not using a flying taxi car service?

The **top 4 most mentioned word** in question 10 was **UNSAFE**.

The word **TRUST** and **EXPENSIVE** was mentioned 15 times each.

The word **DANGEROUS** was mentioned 11 times.

We definitely can use this most common words in our **marketing strategy** in order to **attract people** who have negative sentiment towards Flyber flying taxi car service.

Hooray! End of Section 1.

Section 2: Proposal Synthesis

Identify a product objective for Flyber's launch. Your product objective will guide your KPIs, so identify what Flyber should optimize for. Your objective should be centered around one the following focus areas:

- User Acquisition
- User Engagement
- User Retention
- Profitability

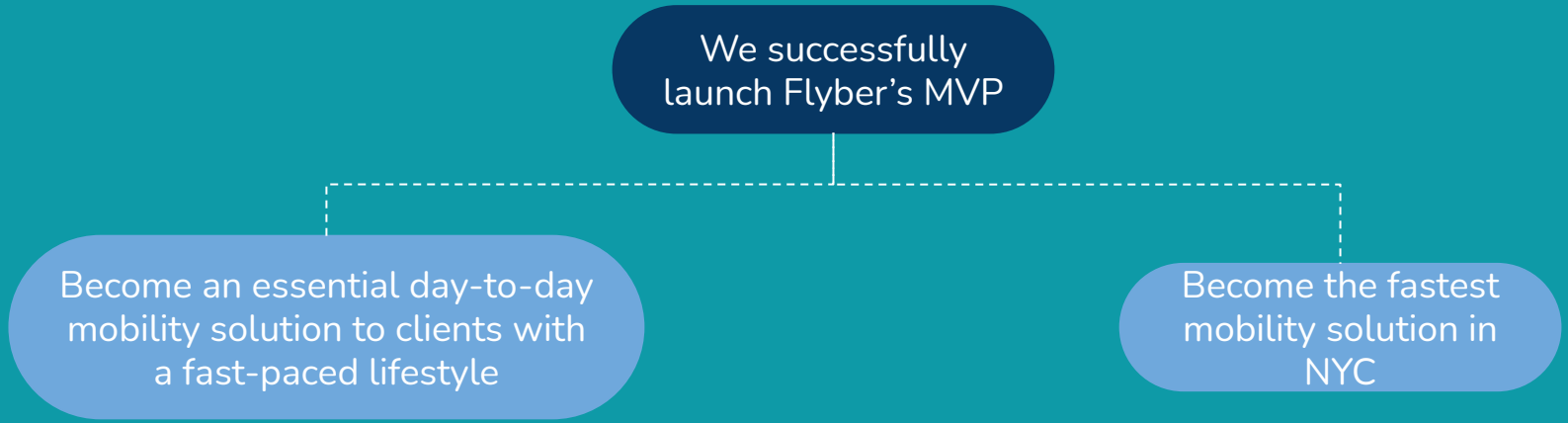
Explain your reasoning. Include both why you feel your focus area is more relevant than the others for Flyber at this time of the product development cycle.

Answer Slide

On our Flyber's MVP launch, we're focusing on

...USER ENGAGEMENT

Answer Slide



Strategy

Objectives

Answer Slide

But why **User Engagement** ?

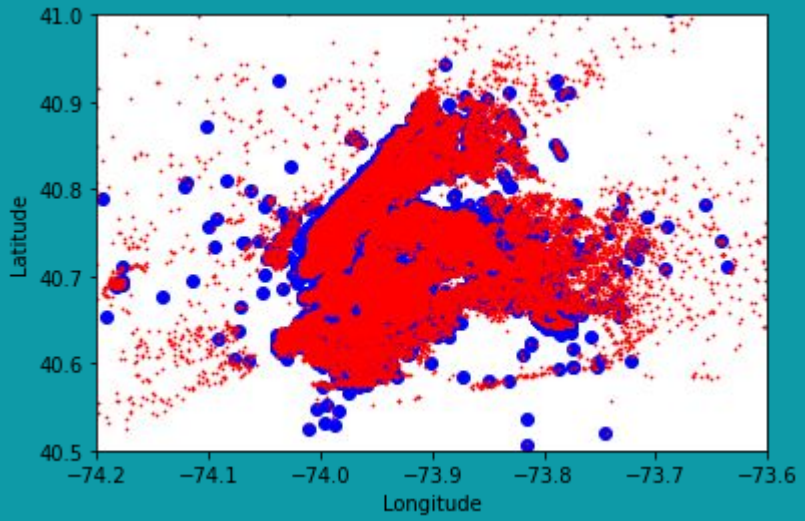
- We are launching a day-to-day mobility service, most important issue now is **Stickiness**
- Tackling a few of our **biggest pain point** and **key differentiators**, we should probably have big chances of boosting engagement

Why **not** User Acquisition, User Retention or Profitability ?

- ~~**Acquisition**~~: growing in such an expensive and regulated business would be very expensive, we risk not having enough infrastructure to sustain rapid growth and not being able to improve our service in a equally fast pace
- ~~**Retention:**~~ we need time to create a flying-mobility culture, it definitely won't happen on our first MVP
- ~~**Profitability:**~~ not the right moment to focus on, costs per ride will be at the pek on MVP, but it will fall when we reach massive volume

Formulate 3-5 Key Performance Indicators (KPIs), to measure if the product is heading towards the right direction based on your objective

Answer Slide

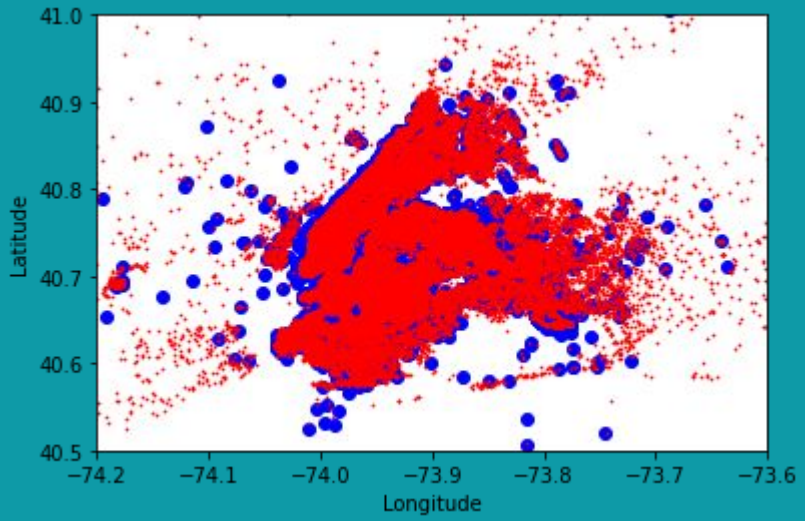


Nowadays, only 14.52% of taxi rides have a below 5 minutes commuting time duration.

Flyber's new flying taxis will take this number up to 50%.

And this will be our main hypothesis tested during the MVP time period allotted.

Answer Slide



If we do succeed, and we will, we are using this milestone in our Marketing Campaigns!

Answer Slide

Answer Slide

These 3 Key Results placed on our MVP launch strategy could be measured by these 3 KPIs:

1. **Average weekly flights per active user**
2. **Stickiness (WAU/MAU)**
3. **% of commuting time below 5 minutes**

Create hypotheses around what thresholds your KPIs would need to hit in order to determine success

Answer Slide

- **Hypothesis 1: The flying taxi service** solves the user need through **improved predictability**, we expect to **attain 1 weekly flight average for active users** by **the end of our MVP time window**.

- **Hypothesis 2: The flying taxi service** solves the user need through **traffic jam avoidance**, we expect to **attain 25% of Stickiness** by **the end of our MVP time window**.

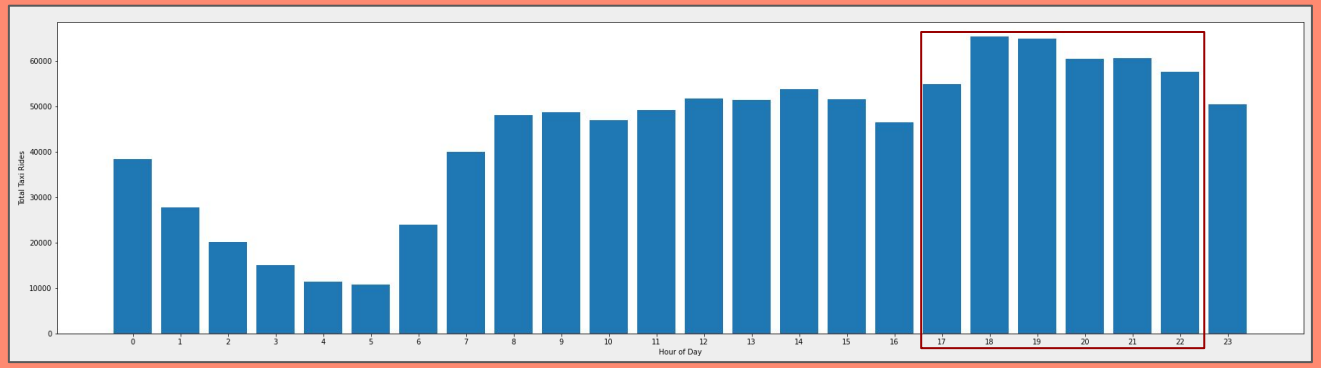
- **Hypothesis 3**: **The flying taxi service** solves the user need through **faster commuting**, we expect to **increase commuting time in less than 5 minutes to 50%** by **the end of our MVP time window** on **targeted MVP spots.**

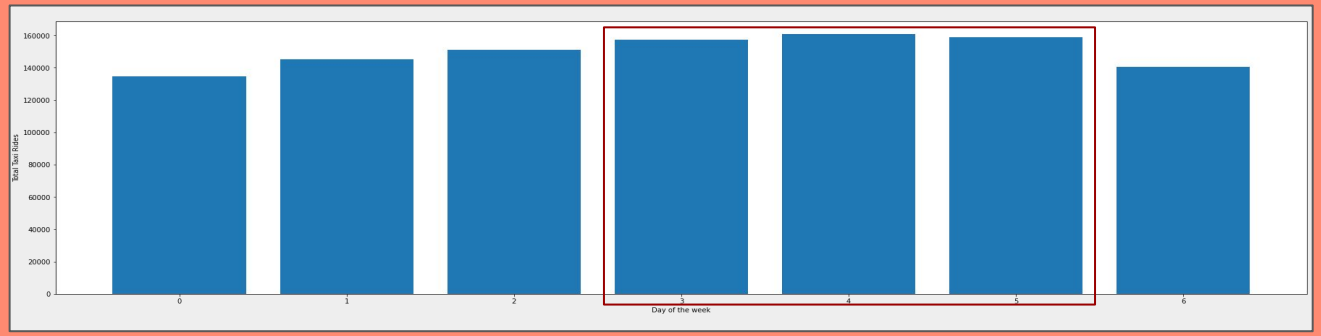
As the product manager, you make decisions based on the insights you extract, we'll need to know the feature set we'll include in the MVP to measure viability, while keeping operational expenditure under control:

- What times/days of operation should the service run for?
- How many pick-up / drop-off nodes should we have?
- Where should the nodes be located?
- Should we initially use copters or homegrown hardware?
- Should the pricing be fixed or dynamic? At what rates?

Answer Slide

What times/days of operation should the service run for?

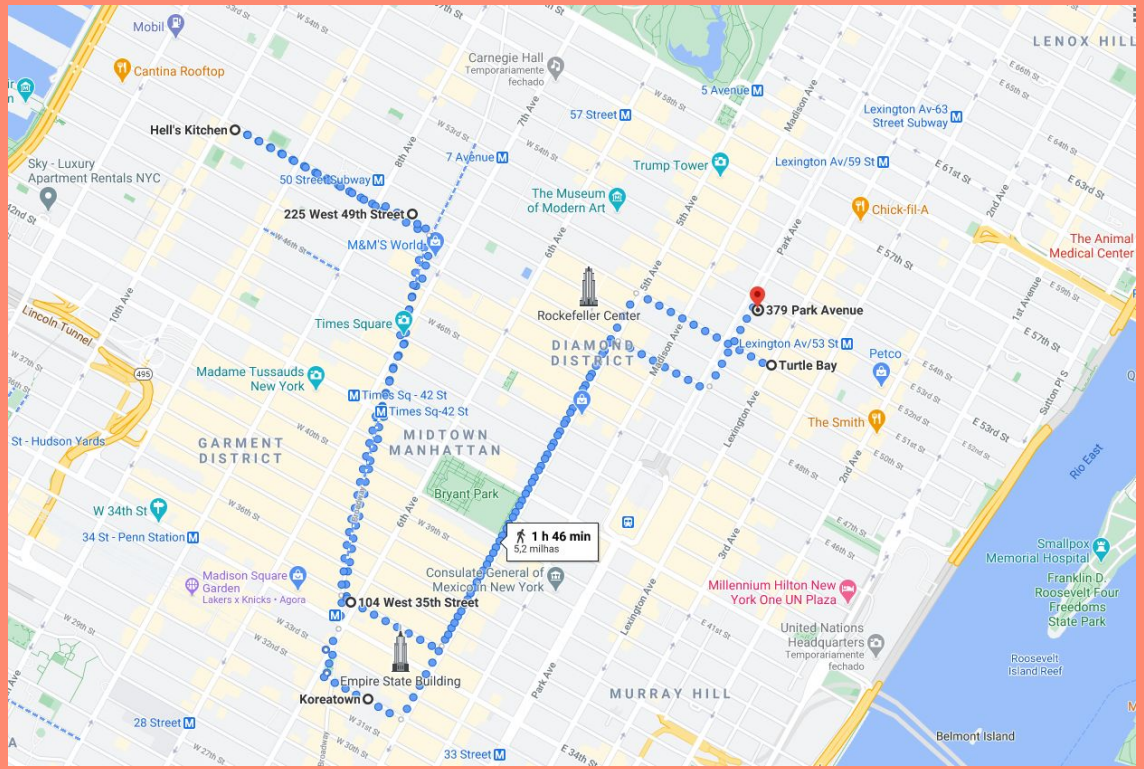




Our MVP operation will run from 5pm to 10pm from Thursday to Saturday, accordingly to peak times and days of taxi rides. From 5pm to 6pm, flight requests will be open for clients scheduling and our staff will be preparing the daily opening, taxis will be flying from 6 to 10pm.

Answer Slide

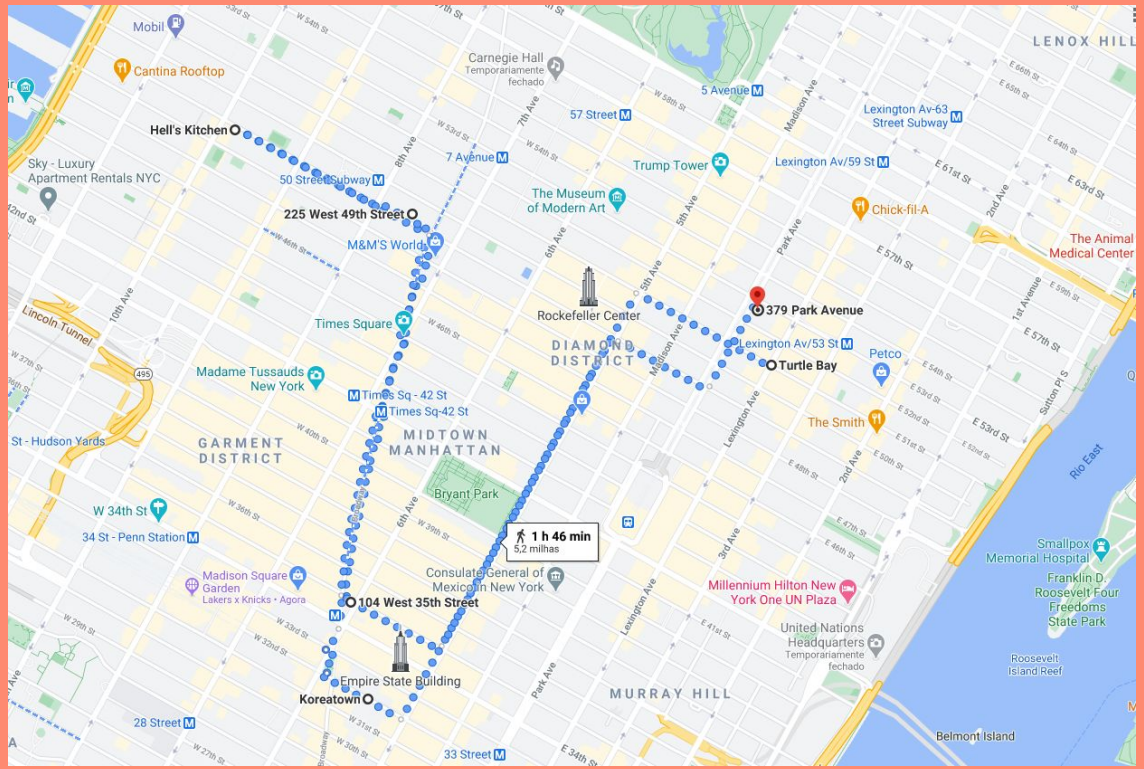
How many pick-up / drop-off nodes should we have?



Considering the intersection between the set of neighborhoods with highest density of pick-ups and drop-offs and considering neighborhood centers where distance between then is not walkable (> 10 min-walk), we have assertively chosen Koreatown, Hell's Kitchen and Turtle Bay as our kickoff spots.

Answer Slide

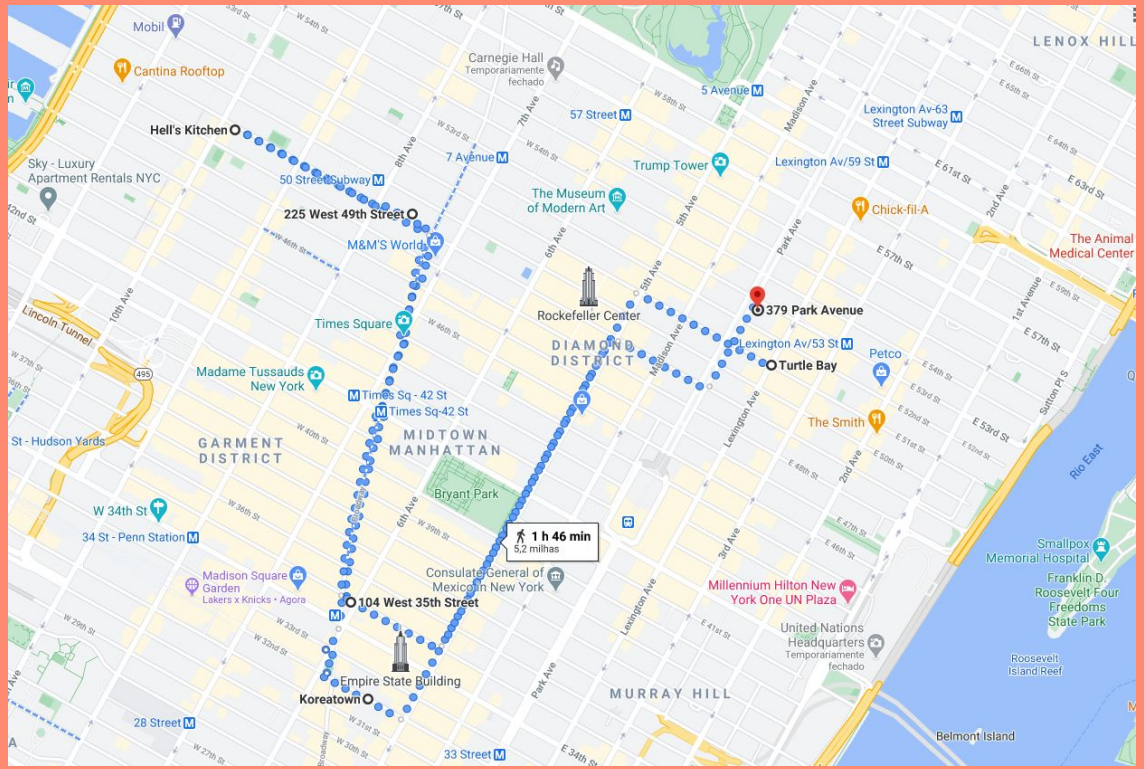
Why 3 spots ?



We maximize flight possibilities (6 possible paths) and keep it simple for a first launch at the same time !

Answer Slide

Where should the nodes be located?



Our 3 pick-up/drop-off **nodes** will be precisely at:

- 225 West 49th Street
- 379 Park Avenue
- 104 West 35th Street

Criteria:

- **Walkable distance** from nearest metro station (< 5 min)
- **Open areas** for Vertical Take-Off and Landing (VTOL)
- **Considerable distance** between them, maximizing added value of our service

Answer Slide

Should we initially use copters or homegrown hardware?

We are using the german Volo-Port 2-seat copter model for our initial launch, covering more than 70% of taxi ride needs (1 passenger only).

These copters require massive R&D time and budget, so we'd better choose Volocopter as our main copter provider through leasing contracts for now.

Answer Slide

Should the pricing be fixed or dynamic?

Price will be fixed.

Why ?

1. Keep it **simple**
2. Sell daily/weekly/monthly **Flyber ticket packs** on a web page optimized for smartphones
3. Boost **engagement** and **frequency** of usage
4. Collect **feedback** for future usage: **+** for **marketing** and **-** for **improvements**

Answer Slide

At what rates?

Pick-up - Drop-off	Distance in Km	Commuting Time by Car at 6 pm	Estimated Taxi Price	Estimated Flyber Price (User Research)	Flyber Experience
Koreatown - Hell's Kitchen	2,8	22	$18,02	$46,98	$45,00
Koreatown - Turtle Bay	3,1	26	$20,49	$52,01	$45,00
Turtle Bay - Hell's Kitchen	1,9	14	$12,61	$31,88	$45,00
Turtle Bay - Koreatown	3,1	26	$20,49	$52,01	$45,00
Hell's Kitchen - Koreatown	2,8	22	$18,02	$46,98	$45,00
Hell's Kitchen - Turtle Bay	1,9	14	$12,61	$31,88	$45,00

*Estimated Taxi Price based on Taxi estimation fares formula of Section 1
**Estimated Flyber Price based on average price per mile in Downtown Manhattan collected via User Research

Answer Slide

At what rates?

	Tickets	Normal Price	Flyber Prime User Pack
Daily Pass	12	$540,00	$480,00
Weekly Pass	4	$180,00	$160,00
Monthly Pass	1	$45,00	$40,00

Why **Flyber Prime User Packs** ?

1. \+ **Predictable** Revenue and Operations
2. \+ **Engagement**
3. Financial **Leverage**

Considering weekly openings from Thursday to Saturday.

Determine the MVP sample size & time period allotted estimated to come to a conclusion on your hypotheses.

Answer Slide

MVP sample size & time period allotted

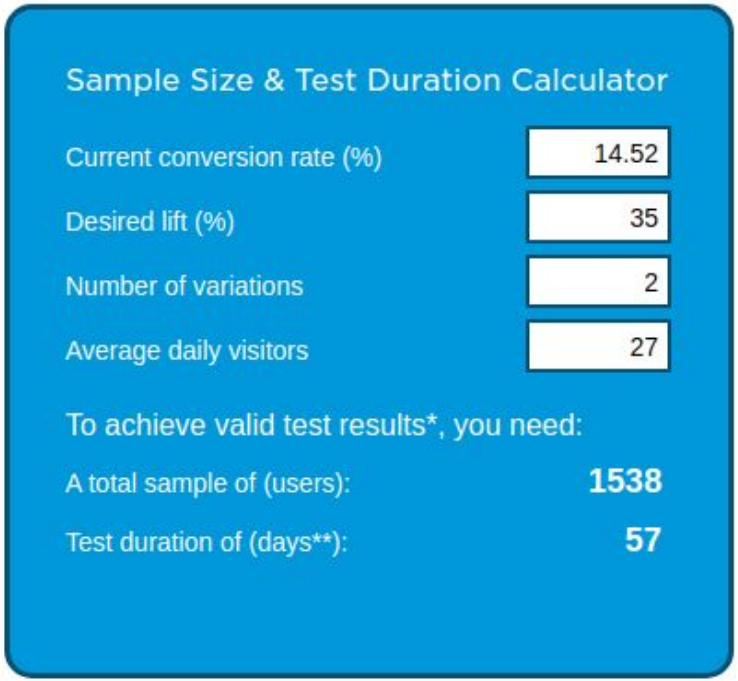
Our Volo-port copter will take around **7 minutes to land and takeoff** again, according to specs.

So we in a **4h (240 minutes) daily operation**, we could expect to serve around **34** customers on a daily basis.

Assuming high **occupation rate**, during MVP, due to early adopters, at **80%**, we can expect at least **27** customers a day using our services.

Answer Slide

MVP sample size & time period allotted



Using **Unbounce's Sample Size & Test Duration Calculator:**

Assumptions

- **14.52%** of taxi rides with a below 5 minutes commuting time
- A **35%** desired lift, up to 50%
- A number of variation of **2**, i.e., terrestrial taxi rides and Flyber's Flying Taxi Services
- **27** daily Flyber users

Results

- We will need to attain a **milestone** of **1538 users**
- Test will last for **57** operating days, **19** weeks with a 3-day-per-week operation, totalling **4 months and 3 weeks of Test Duration**

Create an instrumentation plan for the events you need collected and logged, in order to be able to physically measure your KPIs.

Answer Slide

Instrumentation Plan

Metadata of our Data Tagging Plan

Events	What it defines?	Data Format
flightRequested	A request for a Flyber's ride	Bool: **True** if event triggered
flightPrePaid	Client successfully paid for the ride	Bool: **True** if success, **False** if payment failed
queueArrival	Client gets to Flyber pickup point queue	Bool: **True** if event triggered
clientOnBoard	Client gets on board of Flyber's vehicle	Bool: **True** if event triggered
flightTakeOff	Flight takes off	Bool: **True** if event triggered
flightLanded	Flight lands	Bool: **True** if event triggered
clientOffBoard	Client gets off board of Flyber's vehicle	Bool: **True** if event triggered

Answer Slide

Instrumentation Plan

Metadata of our Data Tagging Plan

Event Properties	What it defines?	When it is collected?	Data Format
user_ID	ID of one or more clients using our service	All events	64 hex char String
user_rate_score	A score rating for the ride form the users	clientOffBoard	Int [0,10]
flight_key	Unique flight ID	clientOnBoard; flightTakeOff; flightLanded; clientOffBoard	64 hex char String
data_timestamp	The exact moment event takes place	All events	Timestamp
pilot_ID	Unique pilot ID	flightTakeOff; flightLanded	64 hex char String
vehicle_serial_number	Unique vehicle ID	clientOnBoard; flightTakeOff; flightLanded; clientOffBoard	64 hex char String
location_latitude	Latitude of event location	All events	Float

Create a qualitative feedback survey questions for users after their ride, to further understand and optimize the product for future iterations.

Answer Slide

Qualitative Feedback Survey

We are using a **state-of-the-art product feedback framework** called
Fit For Purpose

Q1. Tell us why you chose our service. Point out the top 3 reasons or objectives you had when you choosing our service.

Q2. For each reason/objective, please indicate how you found our service fulfilling your expectations. Please score each reason/objective using the following scale:

- **5.** My expectations were exceeded
- **4.** My expectations were fully met
- **3.** Expectations were mostly met but a few minor concerns remained
- **2.** Some significant needs were unaddressed
- **1.** I got some value but most of my expectations were unmet
- **0.** I found nothing useful

Q3. Please tell us why you gave these scores on Q2.

Reference. : link

Summarize everything you have learned into your final proposal

- Identify the target population. Why did you select that target population? What are their pain points?
- Create a product proposal containing claim, evidence, estimated impact, and risks
- Claims should be backed by quantitative evidence, impact should assess market needs/benefits
- Risks involve any known unknowns that we'll still need to monitor post-launch
- State cross-functional stakeholder teams that will need to be involved

Wrap up

For our **Flyber MVP**:

- We are **targeting** highest distance-to-duration ratio spots in Manhattan: Turtle Bay, Hell's Kitchen and Koreatown

Wrap up

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- We are **targeting** highest distance-to-duration ratio spots in Manhattan: Turtle Bay, Hell's Kitchen and Koreatown
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- We are already in contact with the **FAA** (Federal Aviation Administration) in order to **mitigate** any **risks** of overloading NY **Air Traffic Control** teams during our MVP