

# 42SG

Reducing CO<sub>2</sub>e with order consolidation

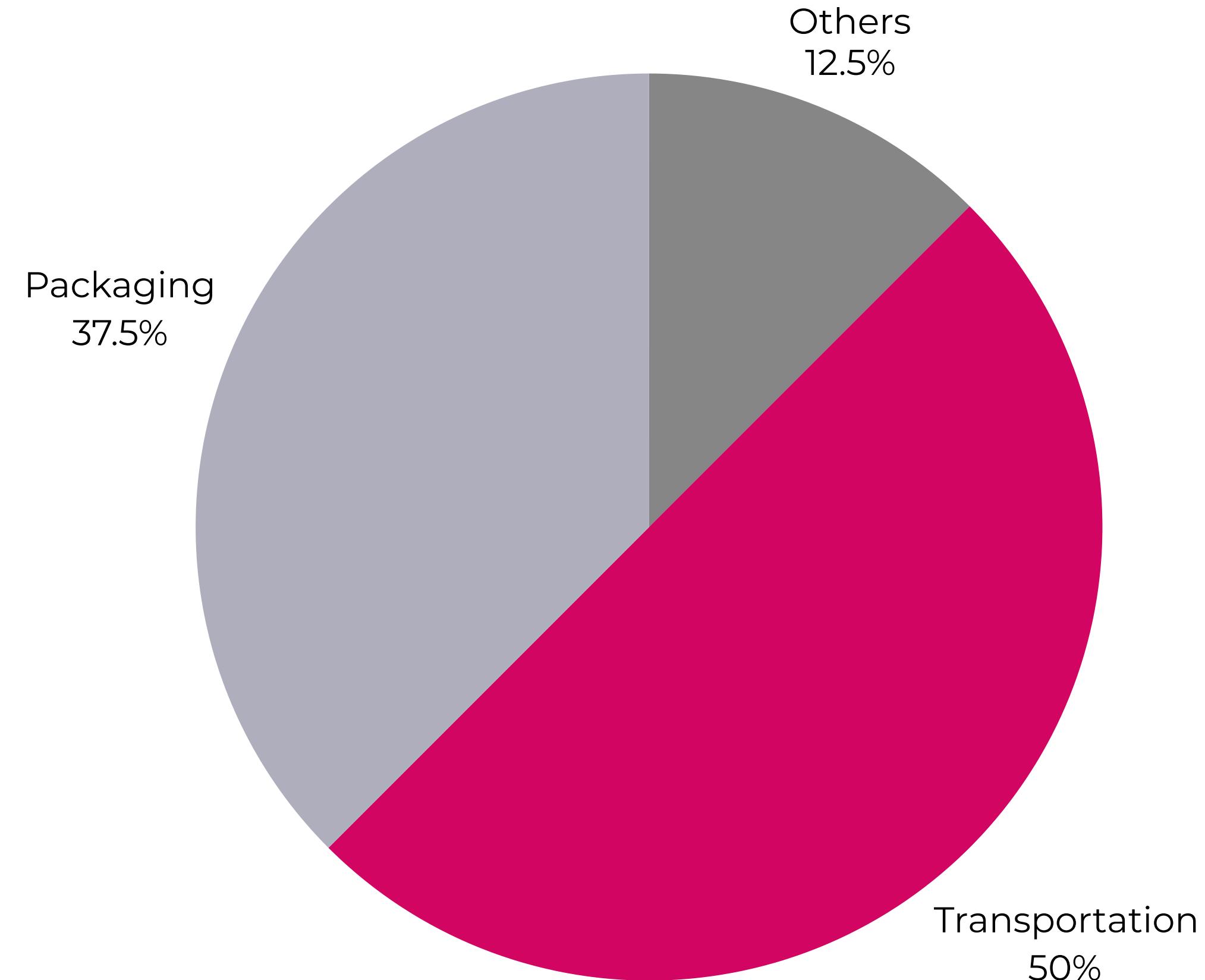


# **THE ECO CHALLENGE WE FACE...**

”

**I feel I can  
do more for  
the planet...**





**50%**  
CO<sub>2</sub>E EMISSION\* DUE TO  
**TRANSPORTATION**

\*emission measured for a point to point delivery  
<https://www.mdpi.com/2071-1050/15/10/8084>

# PROBLEM

## Transportation

- an unavoidable component of food delivery
- inevitable CO<sub>2</sub>e emissions that contribute to environmental impact

How can we reduce CO<sub>2</sub>e without impacting business volume?

Can we reduce CO<sub>2</sub>e while increasing business volume?



**pandagather**  
Band Together,  
Make the World Better.

# OUR SOLUTION

## pandagather

### **Intelligent Order/Route Consolidation**

- Prompt users\* to “piggyback” on ongoing orders

### **End-customer empowerment**

- Empower users to participate in a essential “green” spending

### **Rewarding experience**

- Quantifiable benefits for all stakeholders

\*users identified with endpoint within 100m of destination of 1st order

# **WHAT WE SEEK TO ACHIEVE**

- Reduce the number of trips, carbon footprint
- Maintain the number of deliveries
- Increase overall earning potential of delivery partners

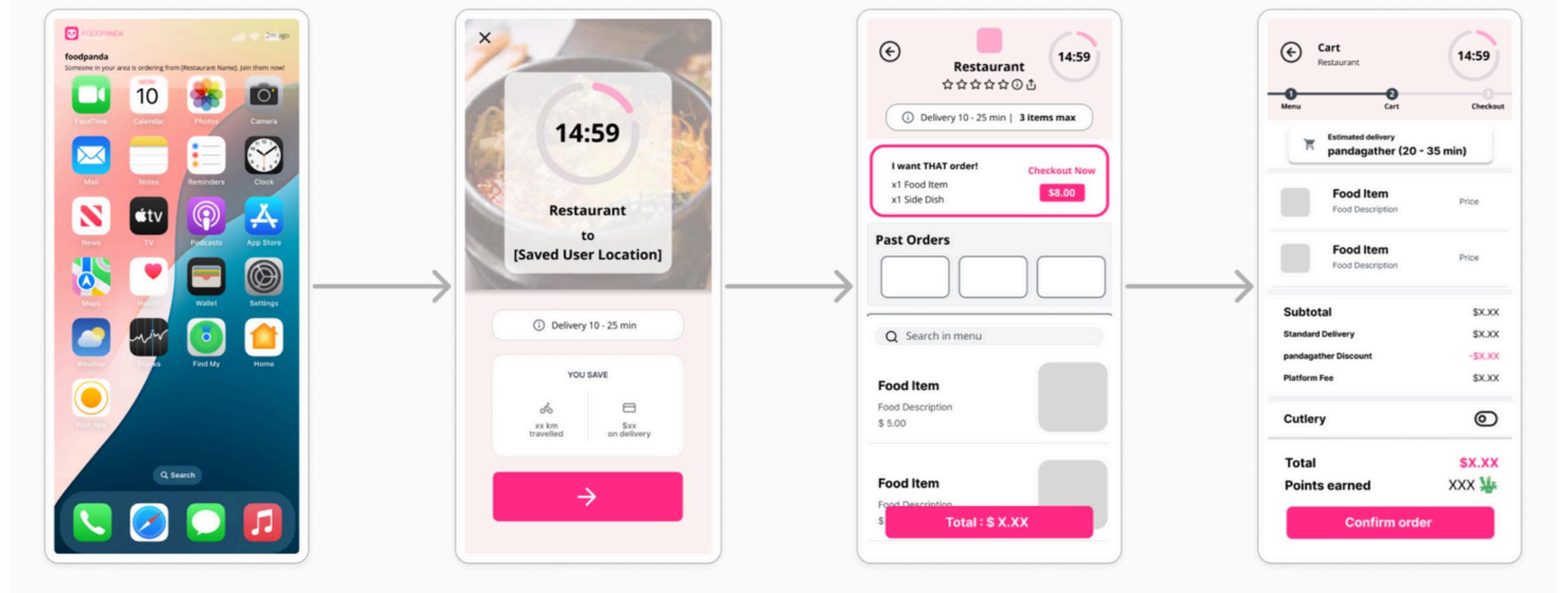
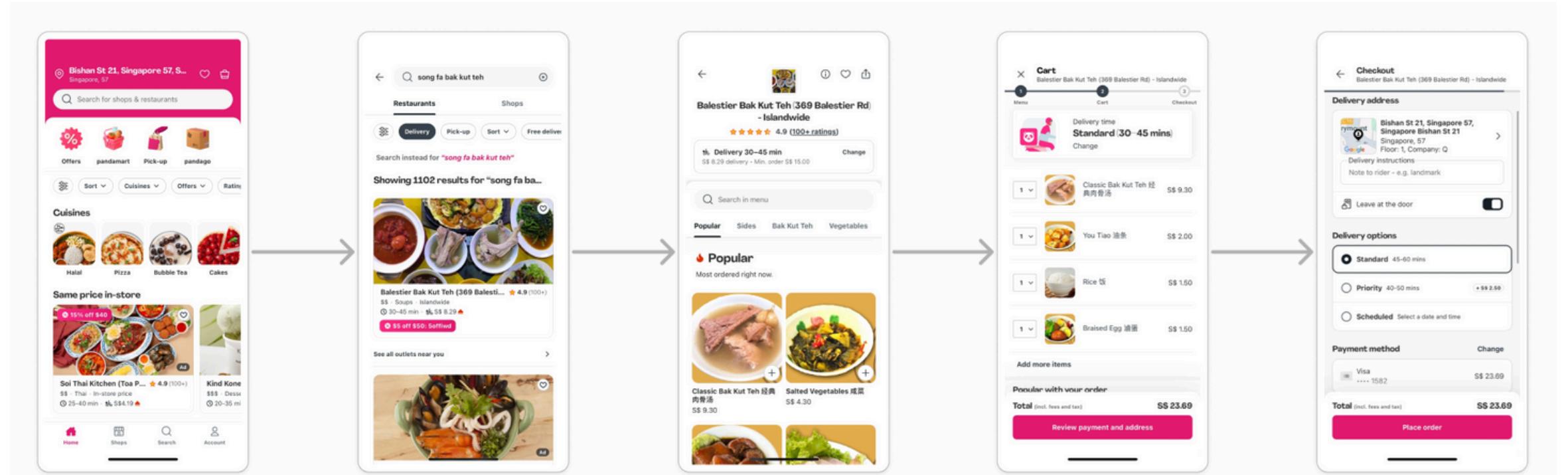
# How it works

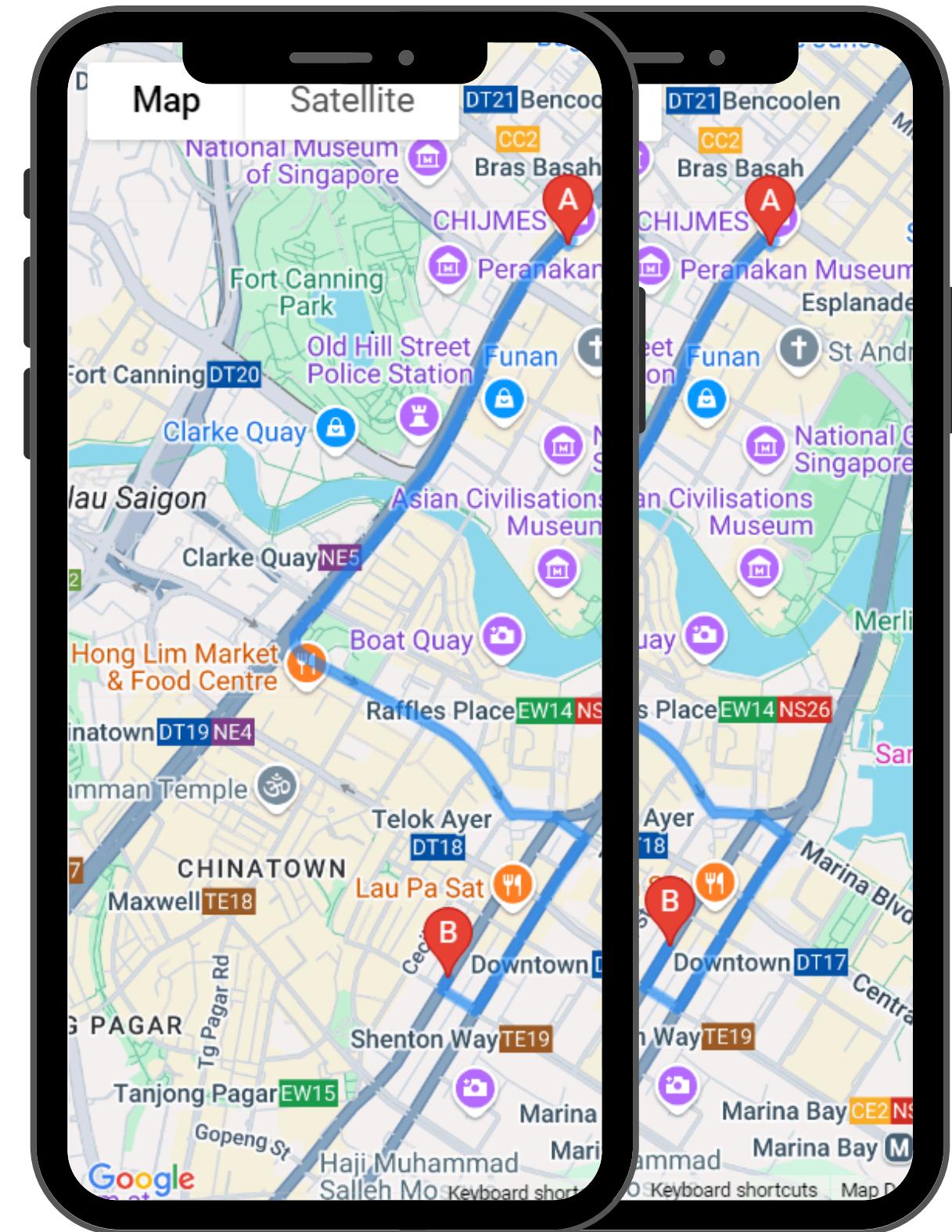


Principle Customer

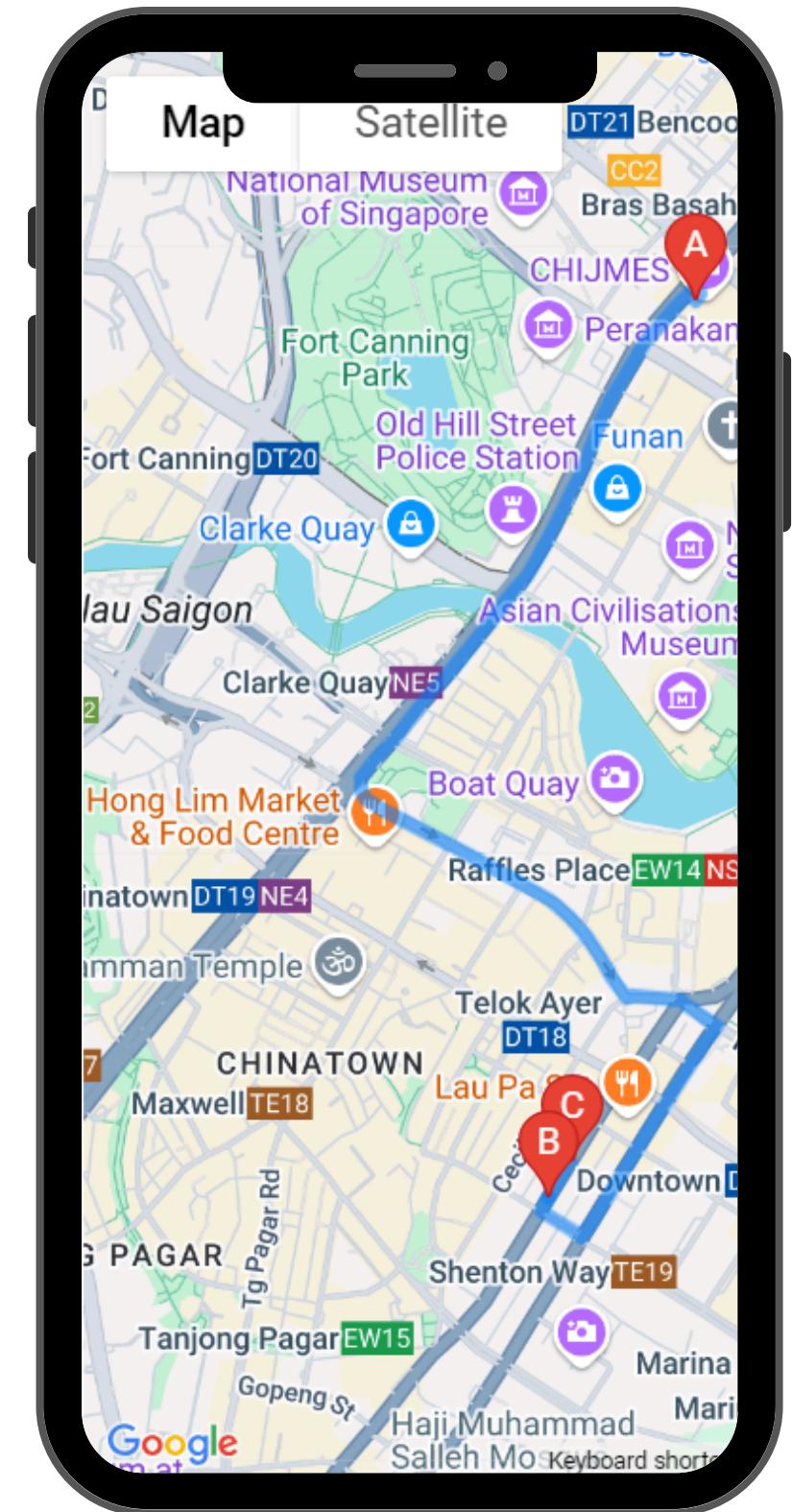
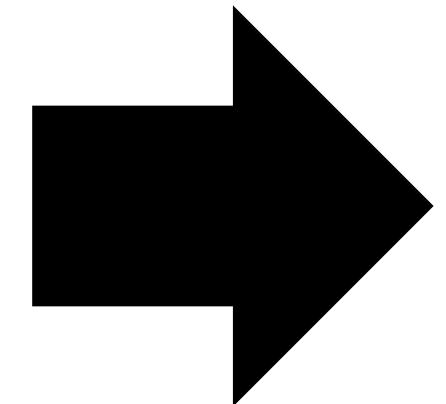


pandagather Customer





2 Orders - 2 Trips



2 Orders - 1 Trips

## What we will achieve

Rider

**~43.5%**

increased earnings



**What we will achieve**

F&B Owners

+50%

exposure opportunity



**What we will achieve**

Customers

**50%**

co-share green efforts



## What we will achieve

foodpanda

€37.7M



potential increase in food revenue

## What we will achieve

All  
stakeholders

↓**8421.9**  
**tonnes\***

less CO<sub>2</sub>e emission

per year not traveled due to order consolidation



# DEMO

# FEASIBILITY & IMPLEMENTATION AT SCALE

## Technical viability

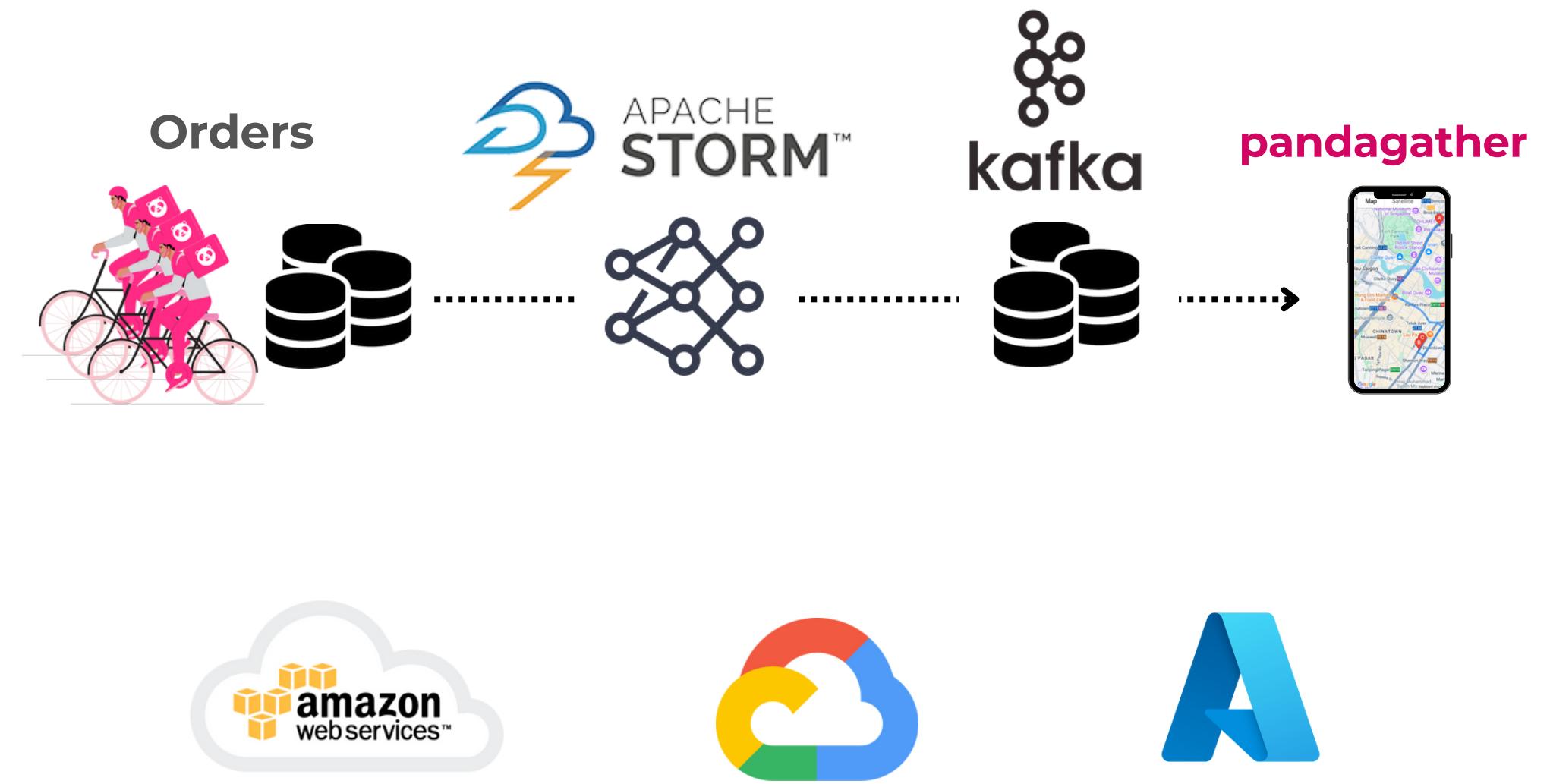
Storm is highly scalable and fault-tolerant distributed realtime computation system.

Over 30 companies use it:

- Twitter/X for personalisation, search
- Spotify for recsys
- Taobao for system telemetry
- Flipboard for generating custom feeds
- WebMD

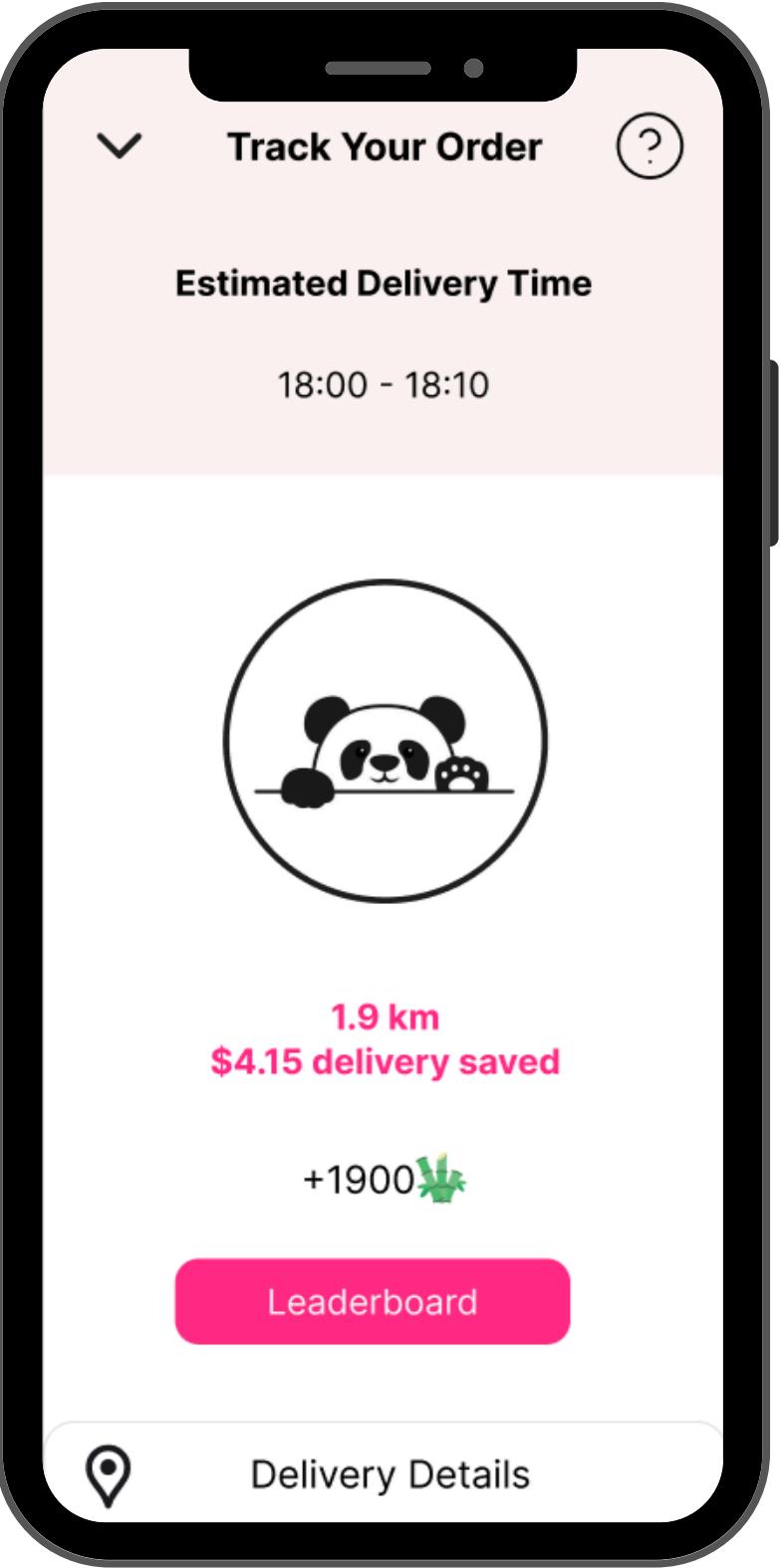
## Resource requirements

- Standard IaaS or FaaS cloud products





## Order Gathering



## Immediate Feedback



## Social Sharing

# **THANK YOU**

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**FOR COMING**

## Base Case Data\*

1. Total Orders DH (2023) = 3,283.3M
2. Asia Orders DH (2023) = 1,716.6M
3. Total Revenue DH (2023) = 12,658.5 (€M)
4. Asia Revenue DH (2023) = 4,134.1(€M)
5. foodpanda Asia share =  $6,250 / (6,250 + 761 \times 3) \times 100\% = 73\%$
6. foodpanda order share (2023) =  $(1,716.6M / 3,283.3M) \times 0.73 \times 100\% = 38\%$
7. foodpanda Orders (2023) =  $3283.3(M) \times 0.38 = 1,247.7(M)$
8. foodpanda revenue (2023) = (Asia Revenue x foodpanda Asia share) = 3,017.9 (€M)

## Base Case Assumptions

1. Number of orders consolidated = 2 / pandagather
2. CO<sub>2</sub>e / KM (per motorbike)\*\* = 110g
3. Order Consolidation Rate = (Notification to Imp. Rate x Imp. to Con. Rate x Cust. Density) x 100% = 1.25%
4. Orders to Trips Rate = 50%
5. Notification to Imp. Rate = 2.5%
6. Imp. to Conv. Rate = 2.5%
7. Cust. Density (100m Radius) = 20pax
8. pandagather delivery discount = 50%
9. Average Trip Distance (pre-pandagather, 2 Orders) = 2 x 3km
10. Average Trip Distance (post-pandagather, 2 Orders) = 3.1km

\*Barclay Equity Research European Internet, 30 August 2024

\*\*<https://thrustcarbon.com/insights/how-to-calculate-motorbike-co2-emissions>

## Calculations

1. Trips Reduction (Rate) :  $(1 \text{ Order} / 2 \text{ Orders}) \times 100\%$
2. CO<sub>2</sub>e =  $(CO_2e \text{ g / KM}) \times (\text{Order Consolidation Rate} \times \text{Orders to Trips Rate}) \times (\text{foodpanda orders}) \times \text{Average Trip Distance (post-pandagather, 2 Orders)}$
3. Number of orders, pandagather(rate) =  $(\text{Notification to Imp. Rate} \times \text{Imp. to Con. Rate} \times \text{Cust. Density})$
4. Potential Revenue Increase =  $(\text{Number of Orders, pandagather(rate)} \times \text{foodpanda revenue})$
5. Rider Earnings Increase / Trip =  $[\text{Average Trip Distance (pre-pandagather)} / \text{Avg Trip Distance (post pandagather)} \times 100\%] - 100\% - (\text{pandagather delivery discount})$
6. F&B Exposure Opportunity =  $(\text{Cust. Density} \times \text{Notification to Imp. Rate} \times 100\%) - 100\%$
7. Co-share Green Efforts = Trip Reduction (Rate)
8. Average Trip Distance =  $(\text{Average number of trips made in a 20min timeframe, from 1 vendor to the same area}) \times (\text{Average distance of such trips})$
9. Average Trip Distance =  $(\text{Average distance of trips made in a 20min timeframe, from 1 vendor to the same area}) + \text{Average order consolidation radius}$