



TaxiCab Analysis

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Audience: Internal Team



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Concerns



CEO does not have complete visibility on how well his company is doing and is not sure if there are potential opportunities that can help his business scale further

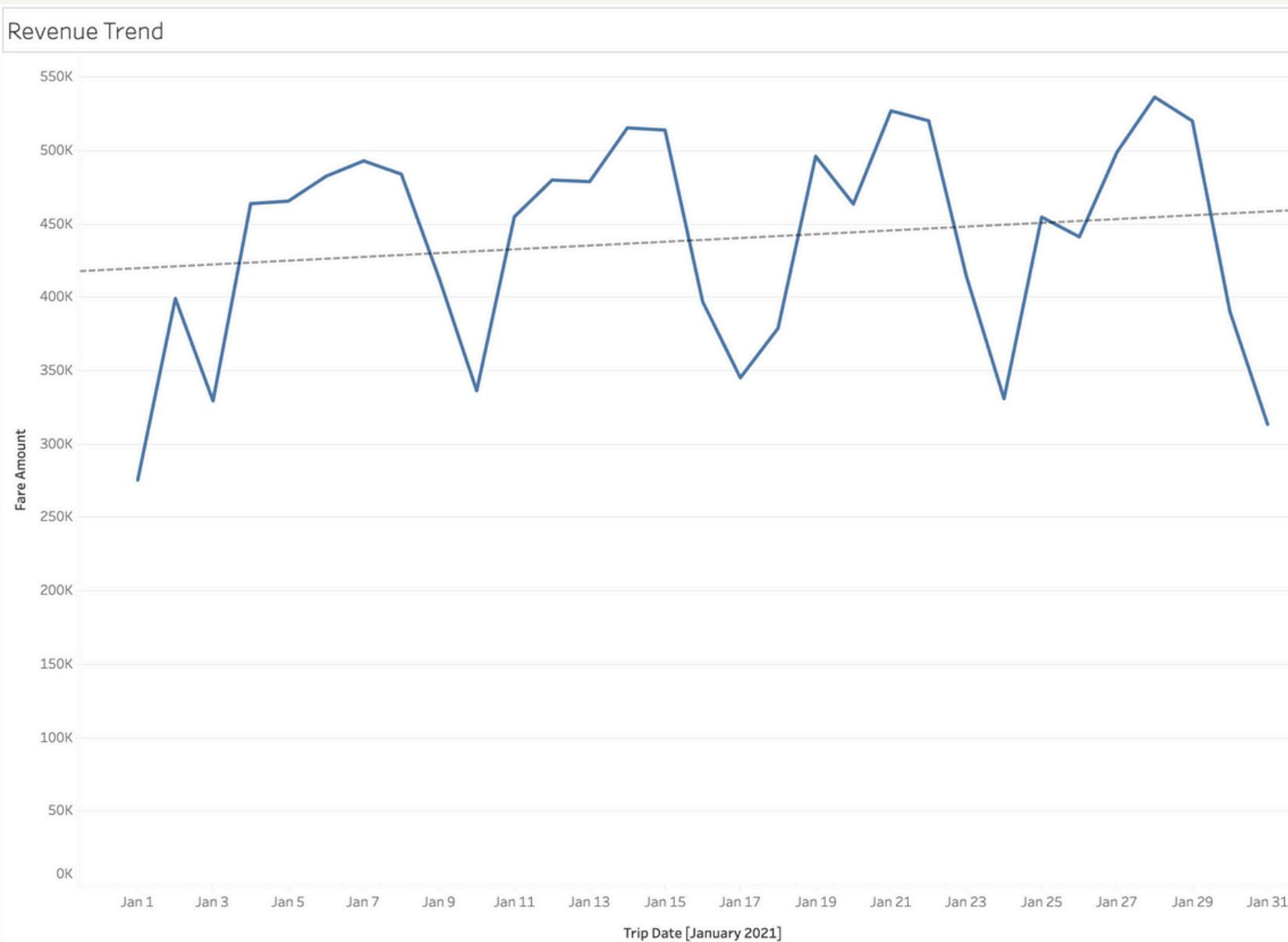
Question

- Average tip received by a vendor during the day
- Which time of the day is the busiest?
- Clean the Data and fix any anomalies
- Classify trips based on Payment Type
- Is there any relationship between congestion surcharge and trip distance?



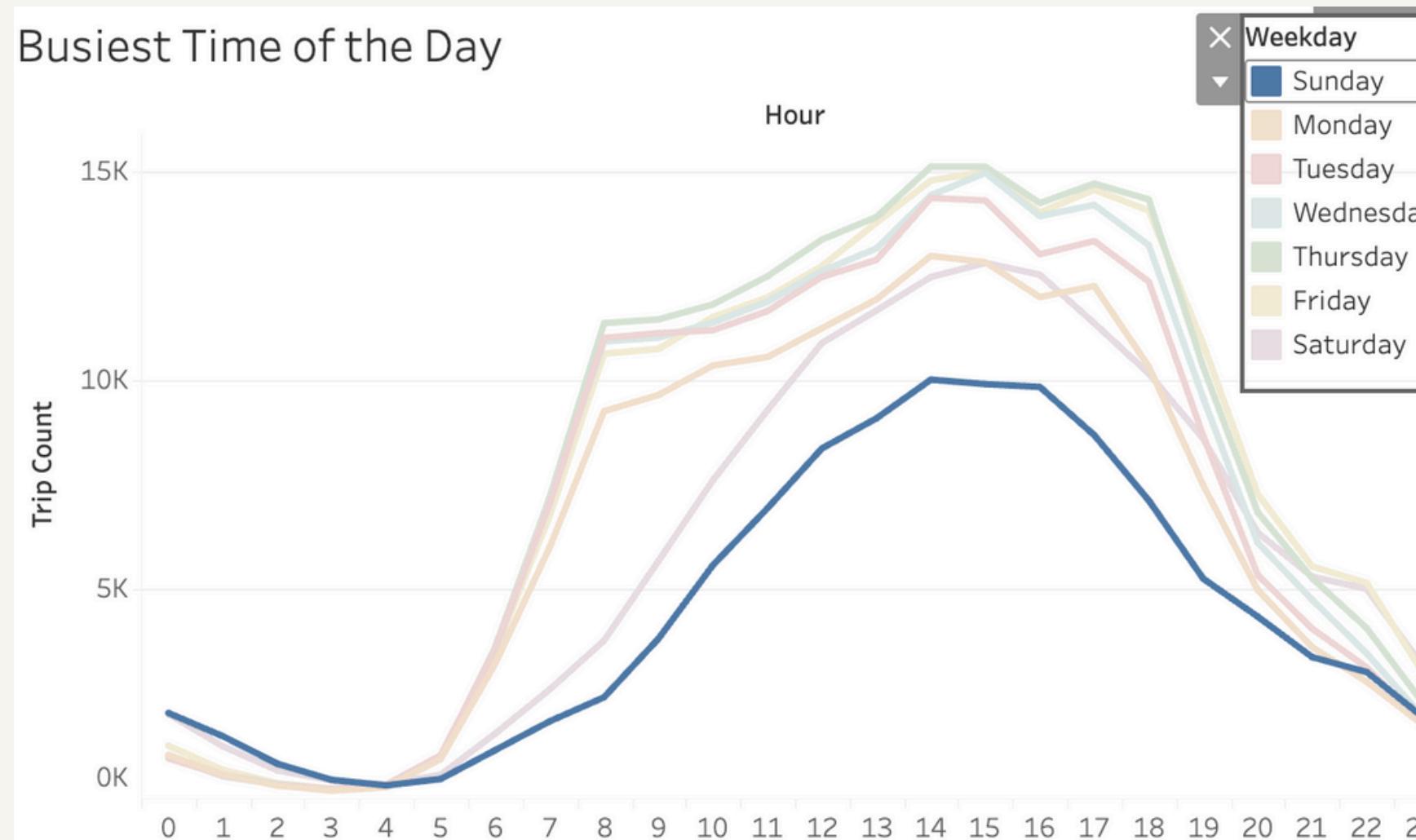
Insights

Revenue Trend



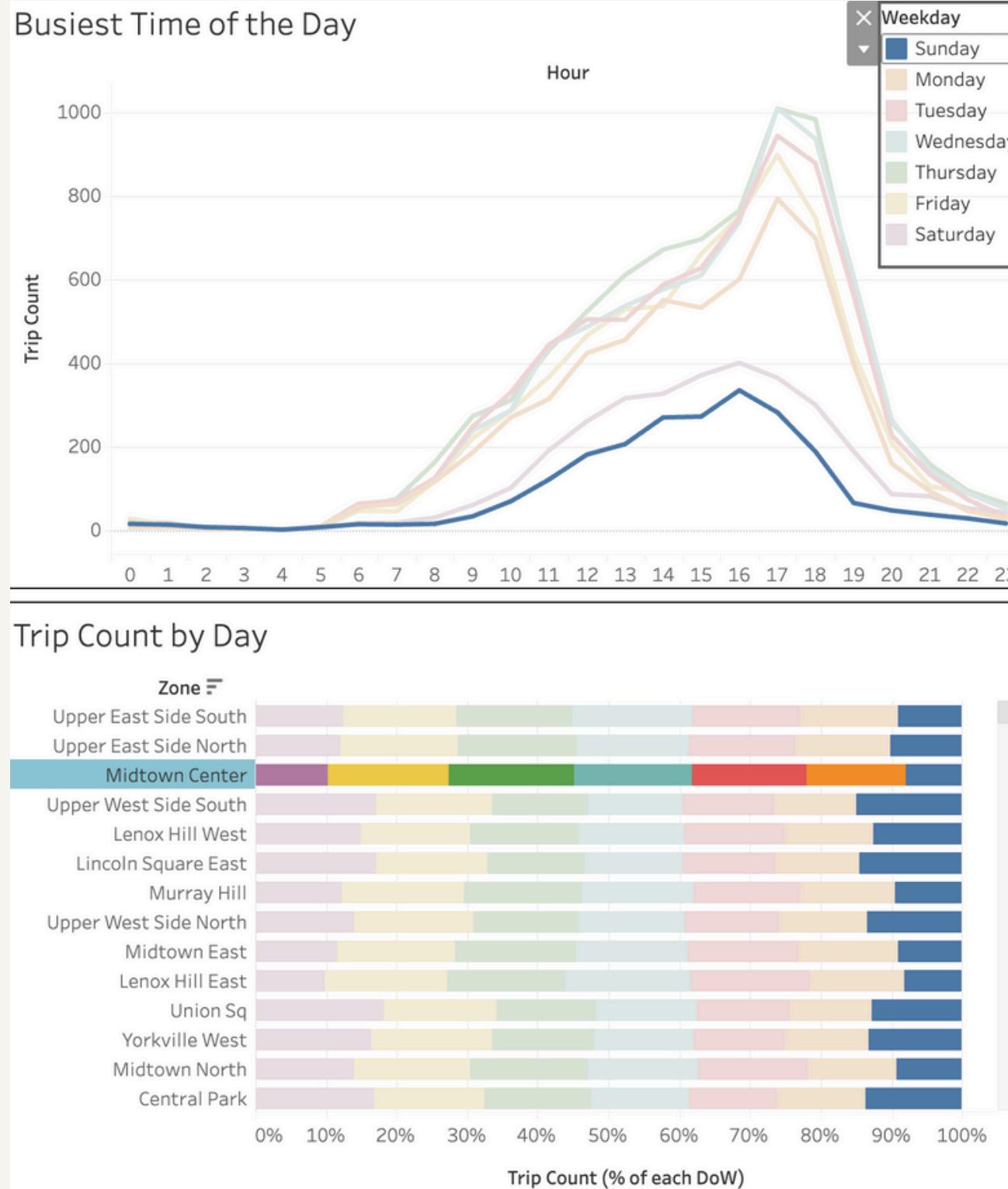
- There is a slight increasing trend in revenue.
- A significant drop is observed on weekends, particularly on Sundays.
- Sunday's revenue declines in the last two weeks when comparing week-on-week data

Busiest Time



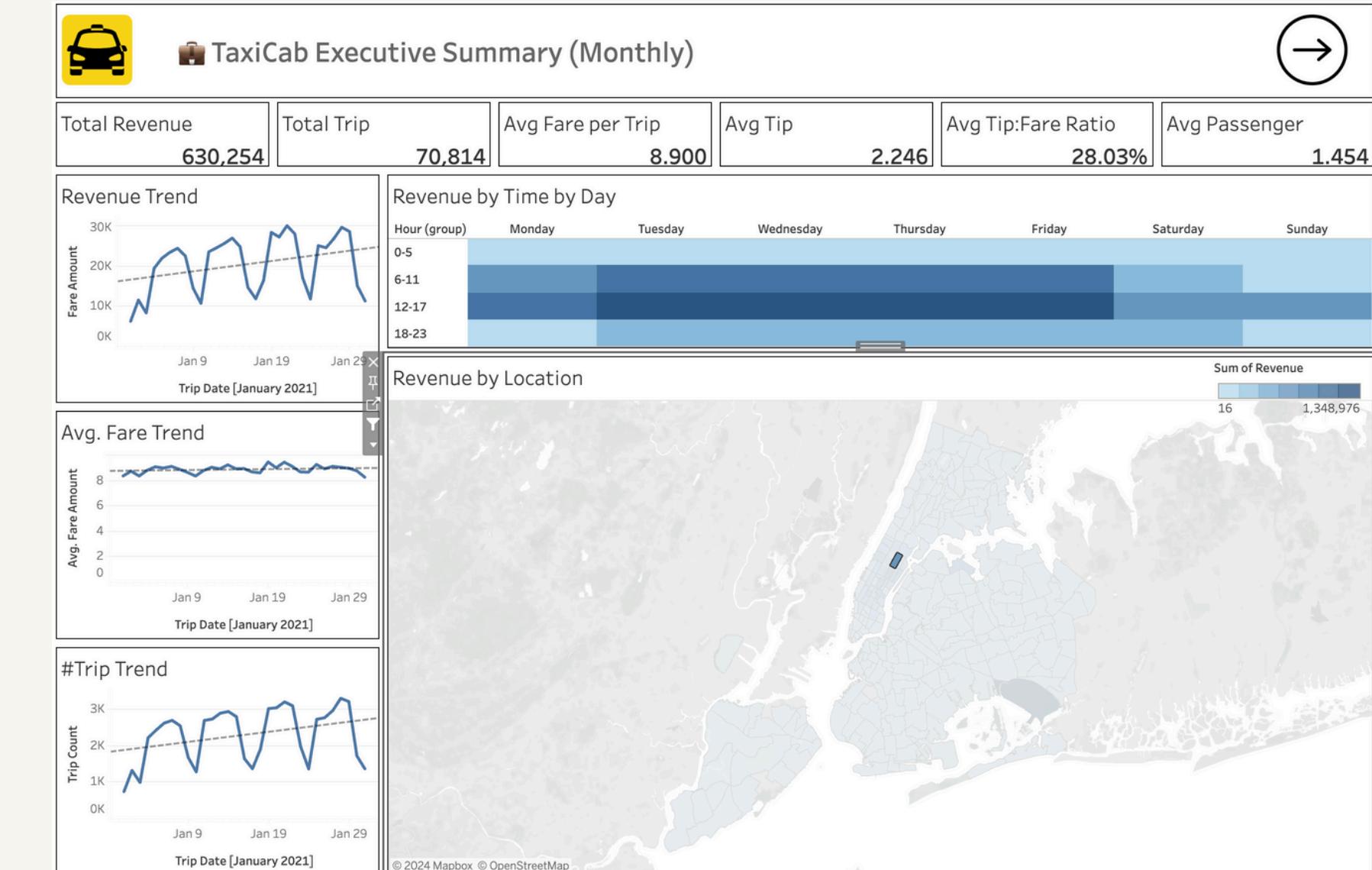
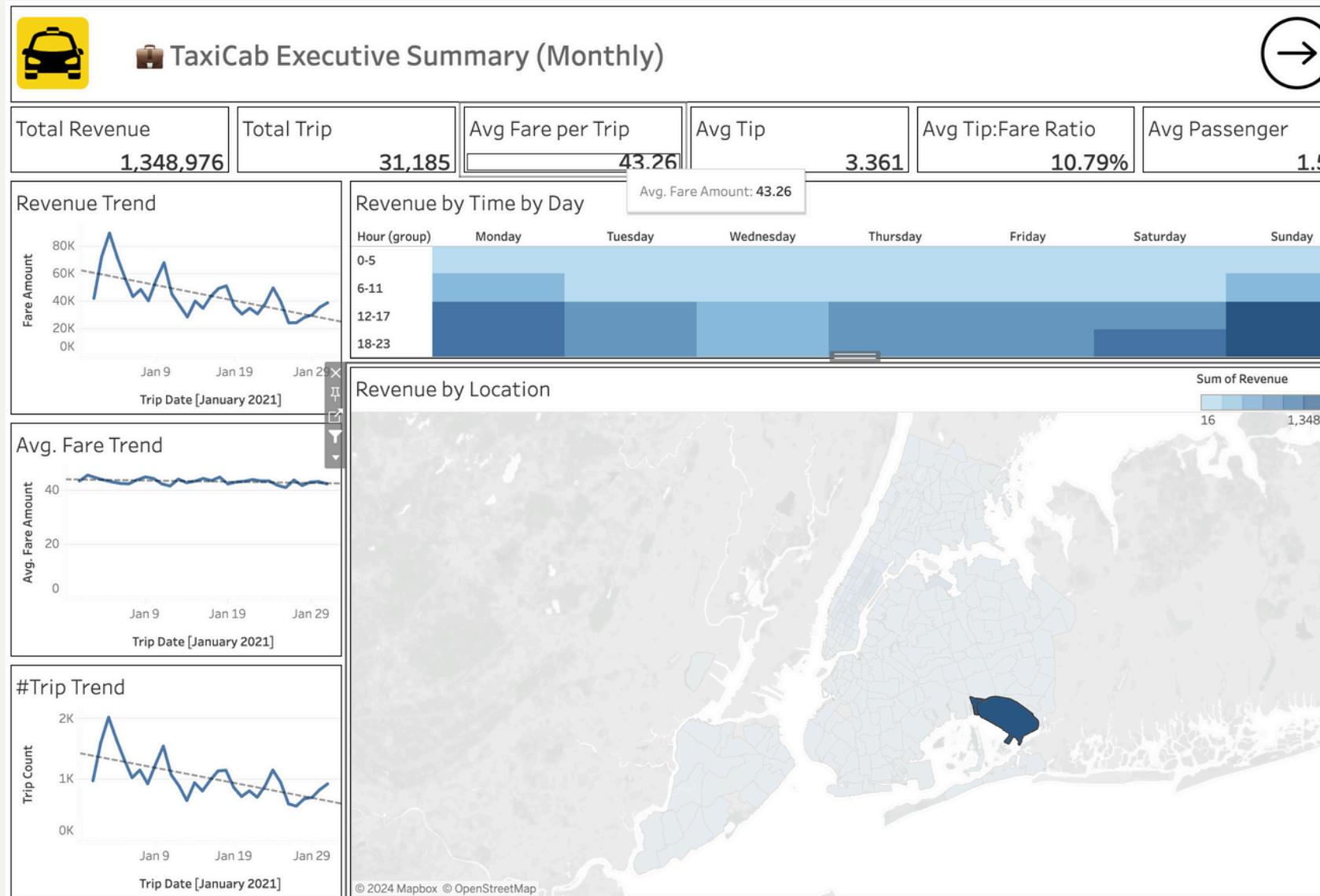
- Weekdays:
 - Surge in trip amount at 7 am
 - Peak between 14:00 and 15:00
 - Slight decline until 18:00, then significant drop
- Weekends:
 - No surge from 7:00 to 12:00 compared to weekdays
 - Similar trend to weekdays from 12:00 to 18:00, except on Sundays
- Opportunity:
 - Promotional strategies to increase sales during 12:00-18:00 on Sundays

Target Zone



- Location Analysis:
 - Certain areas, like Midtown Center, exhibit low Sunday trip proportions
- Opportunity:
 - Targeted promotions can be implemented, especially in these areas

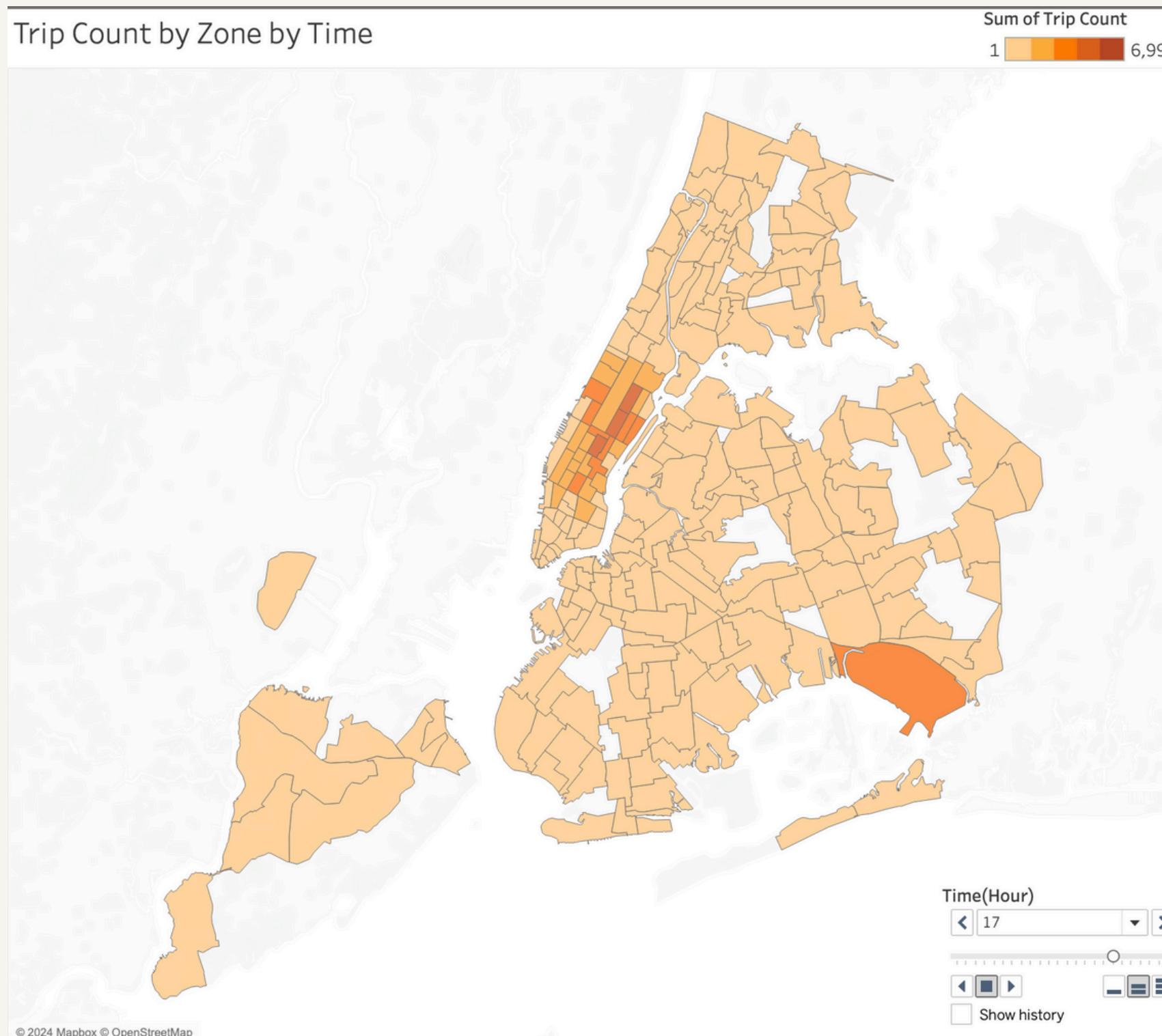
Difference in zones



JFK Airport

Upper East Side North

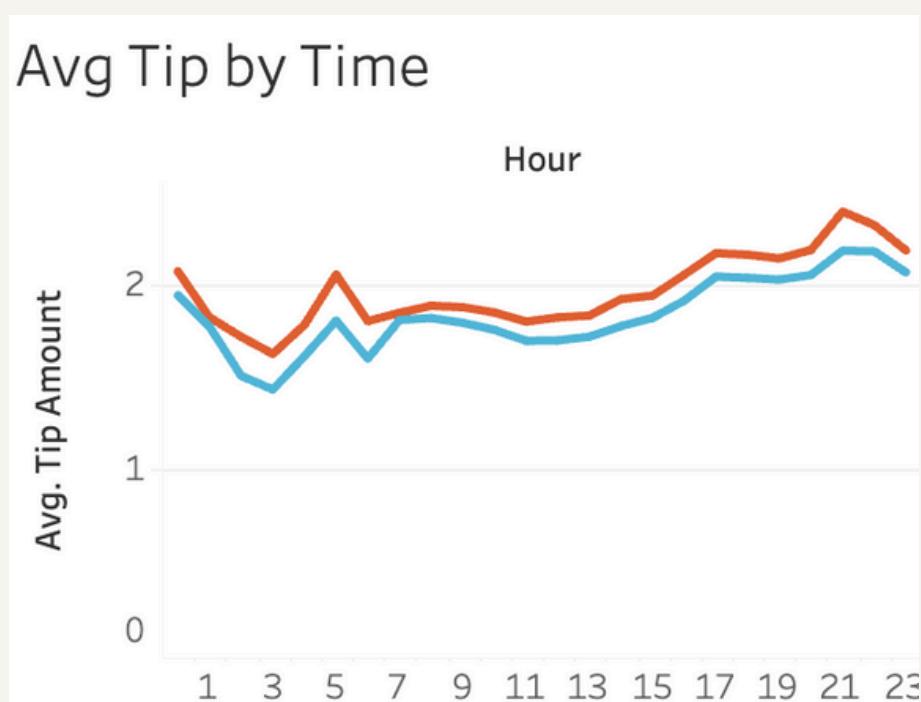
Fleet Allocation (suggestion)



- More data required
 - 1. Real-Time Location Data
 - GPS coordinates of each taxi in real time.
 - 2. Demand Forecasting Data
 - More Historical data on pickup locations and times, special events calendar, etc.
 - 3. Traffic and Road Condition Data
 - Live traffic updates, road construction notices, and accident reports.

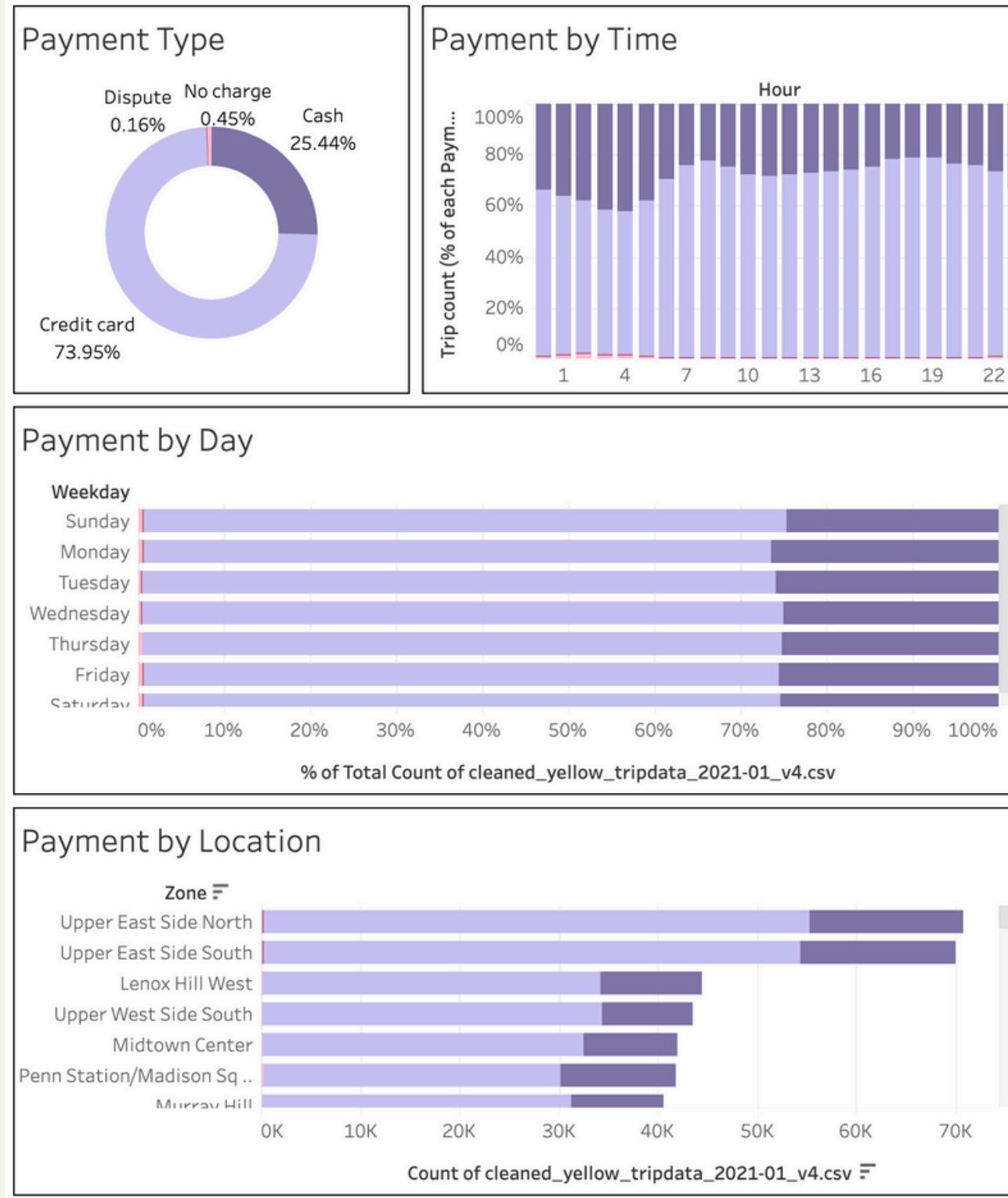
Tip Analysis

Avg Tip	
Vendor Name	
Creative Mobile Technolo..	2.25736
VeriFone Inc.	2.34942



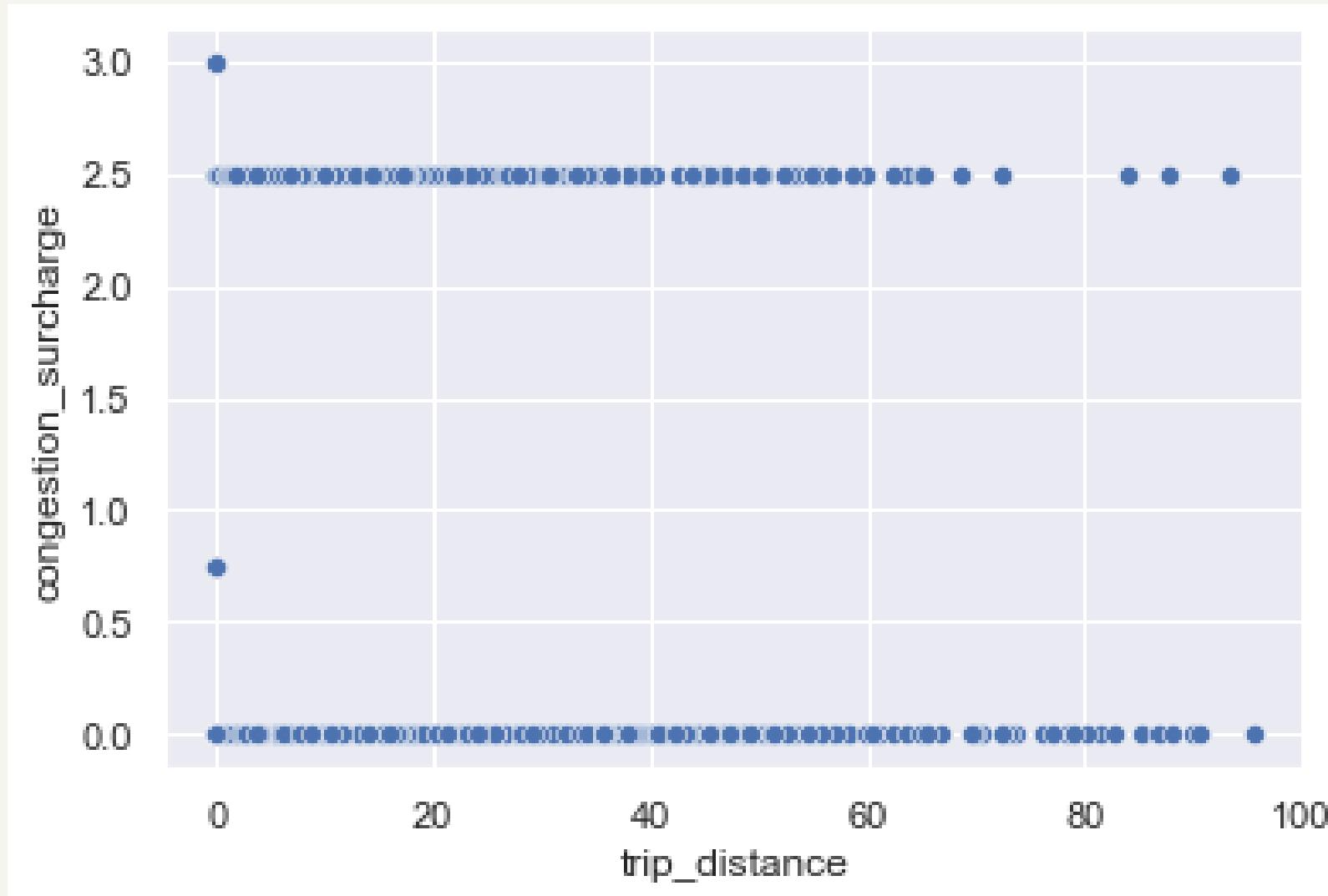
- Preprocess
 - Calculate only Credit card transaction
 - Drop negative values that make no sense
 - Drop outliers based on IQR method (~4%)
- Vendor Comparison:
 - No significant difference in average tip amount between the two vendors
- Time Analysis:
 - Highest tip amounts typically occur between 18:00-23:00
 - Lowest tip amounts observed around 2:00-3:00

Payment Type



- Payment Type Analysis:
 - Dominant payment types: Credit card (74%) and cash (25%)
 - Observation: Nighttime trips more commonly paid with cash than during the day
- Day of Week Analysis (DOW):
 - Consistent proportion across all days of the week for payment types

Congestion surcharge vs Trip Distance

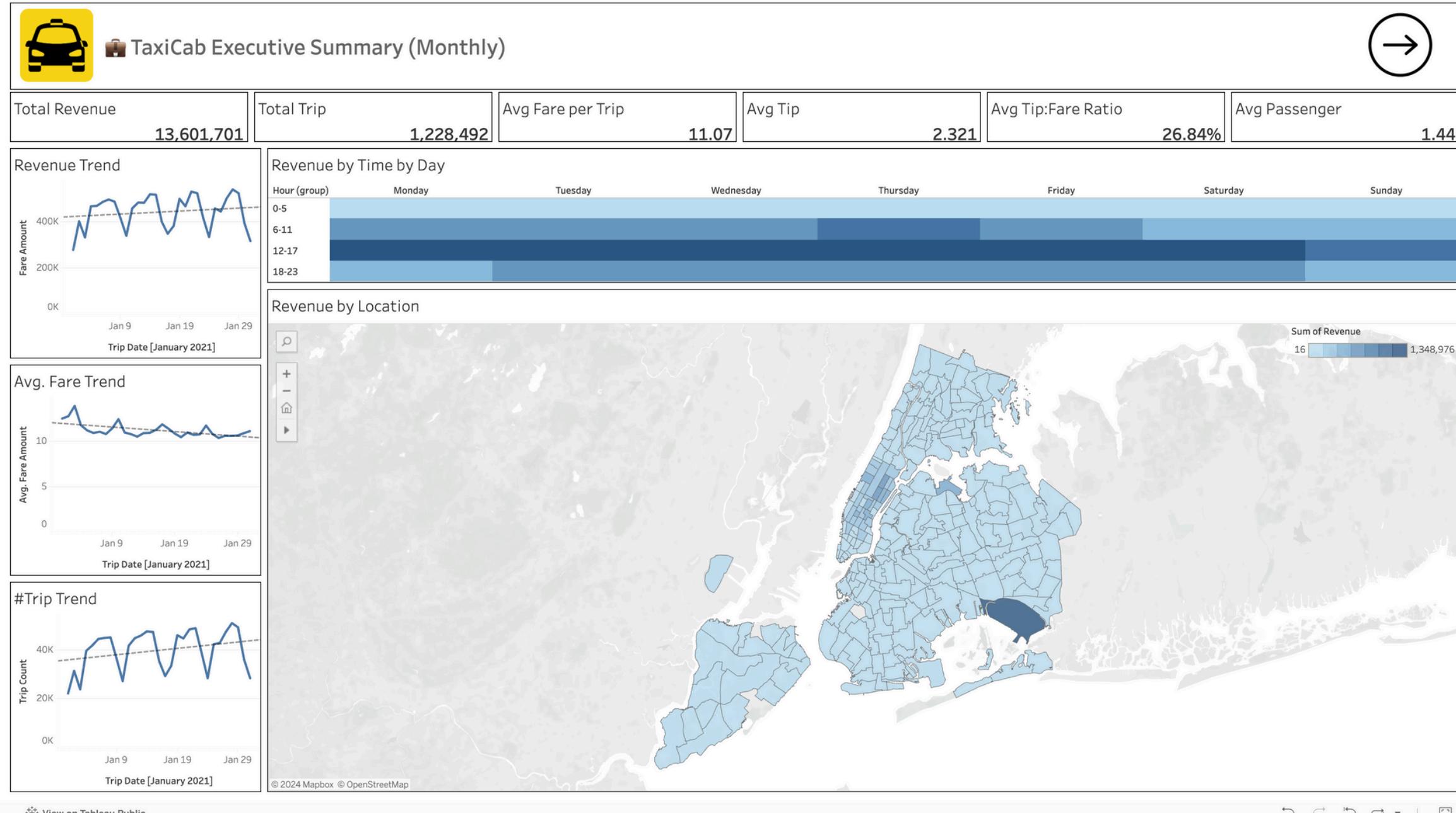


- No clear trend between Congestion surcharge and Trip Distance
- The surcharge is likely applied based on other factors, such as specific congestion zones, time of the day, or fixed policies, rather than how far the customer travels.



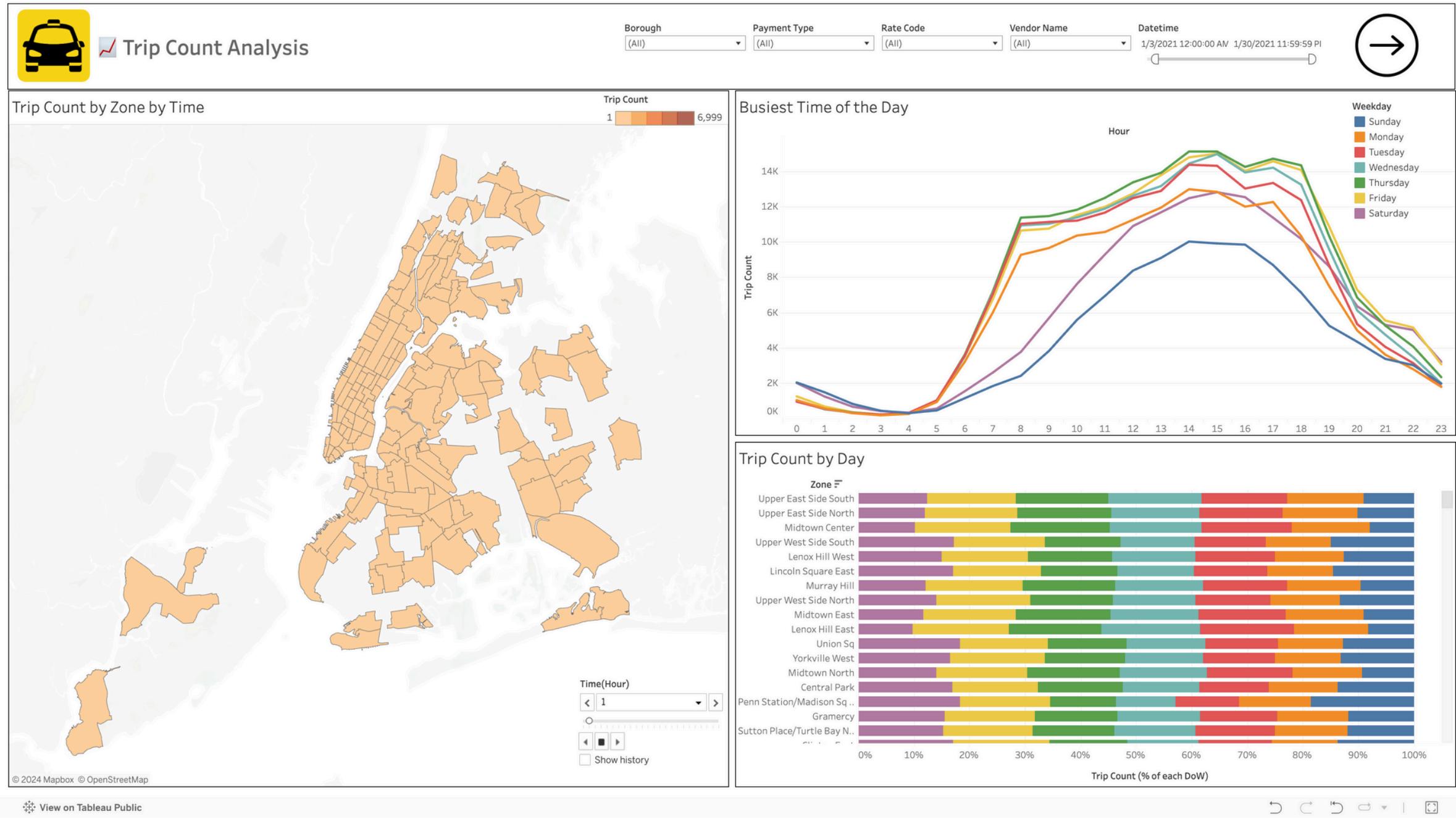
Dashboards

Executive Summary



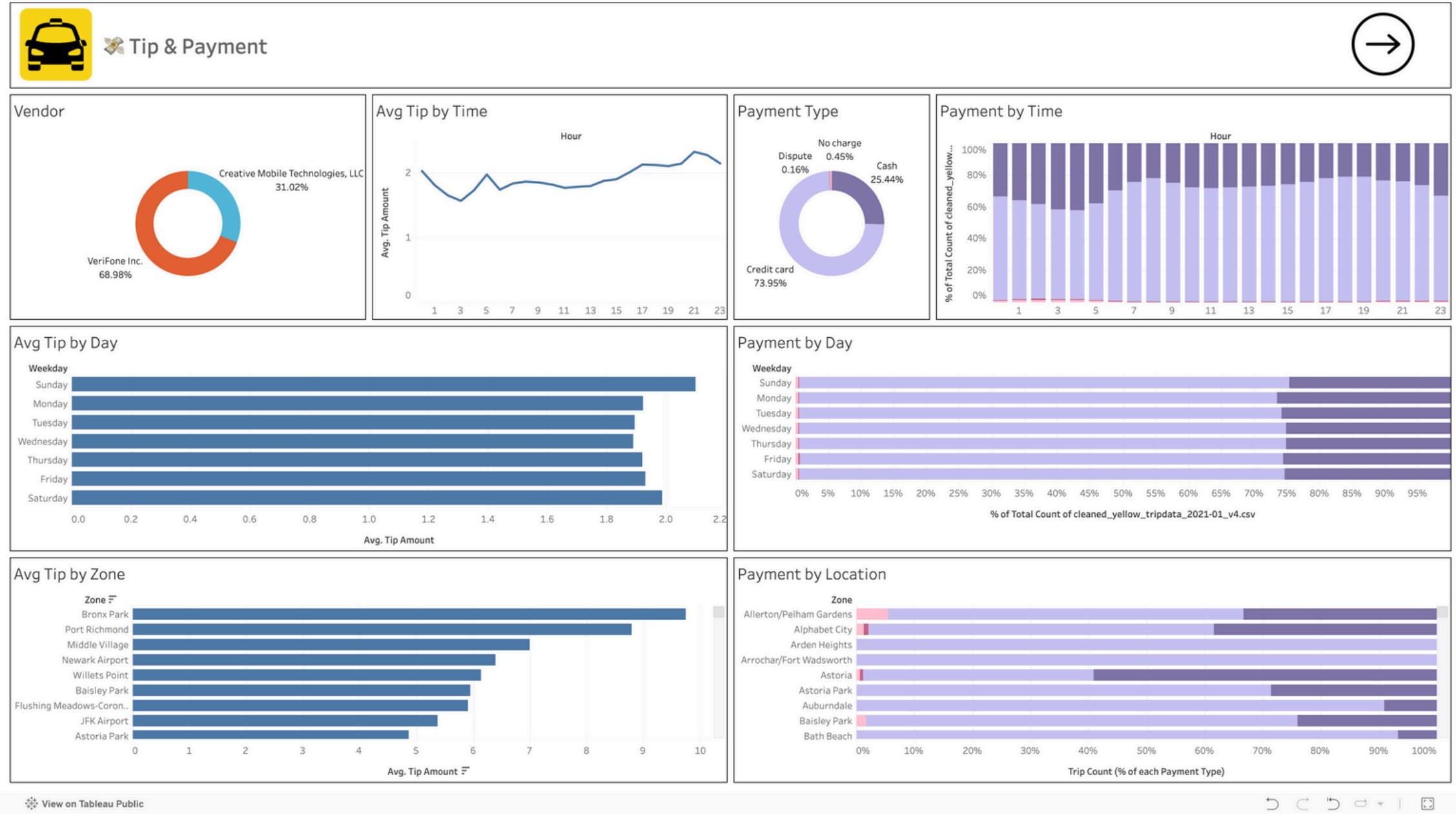
- Show important metrics
- Show Revenue Trend and its components (Avg Fare & Trip Count)
- Show proportion of revenue
 - by Day of Week & Time Range
 - by Zone

Trip Count Analysis

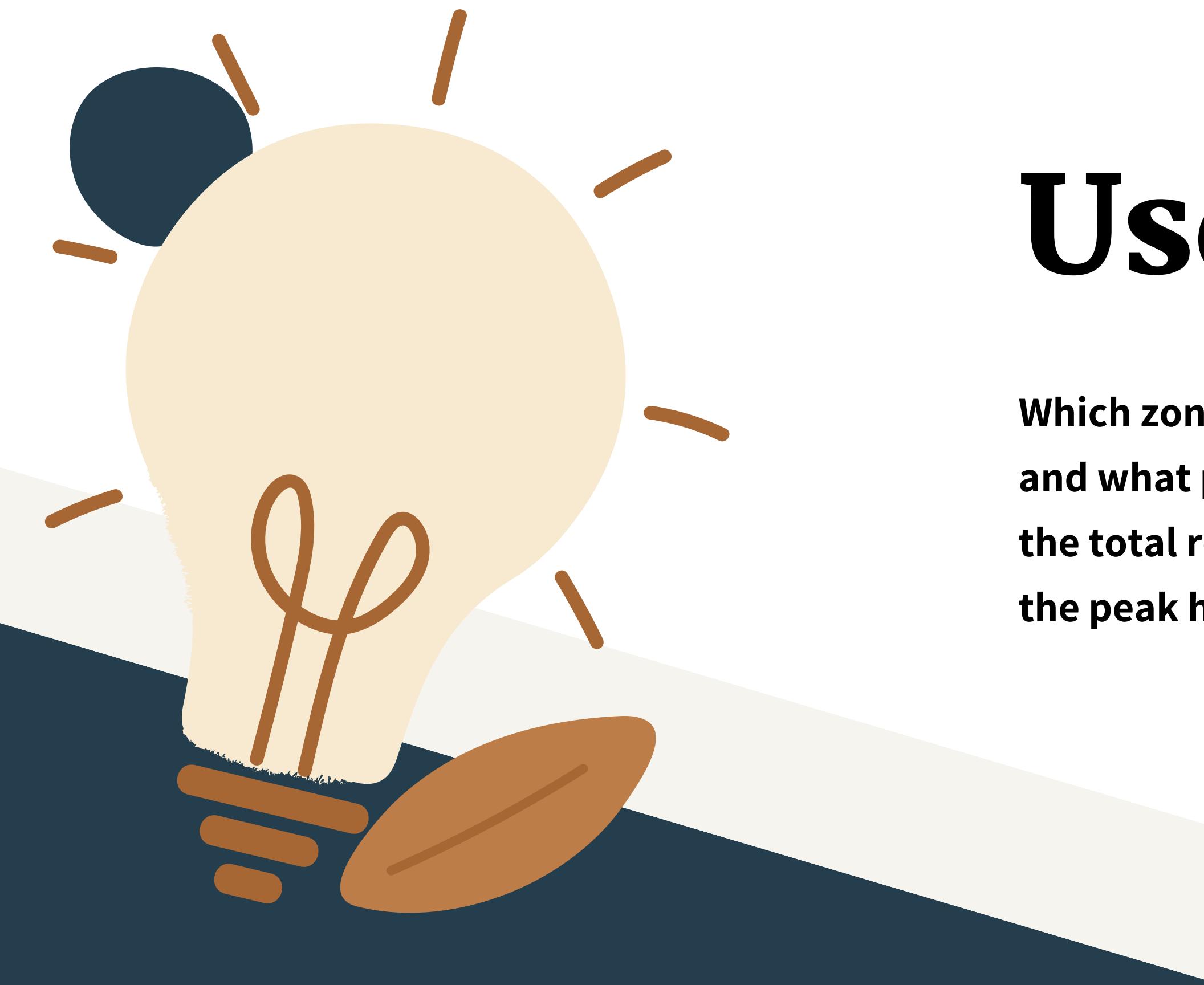


- Show trip count changing by time within each zone
- Show the busiest time of each day
- Show proportion of trip count for each Day of Week

Tip & Payment

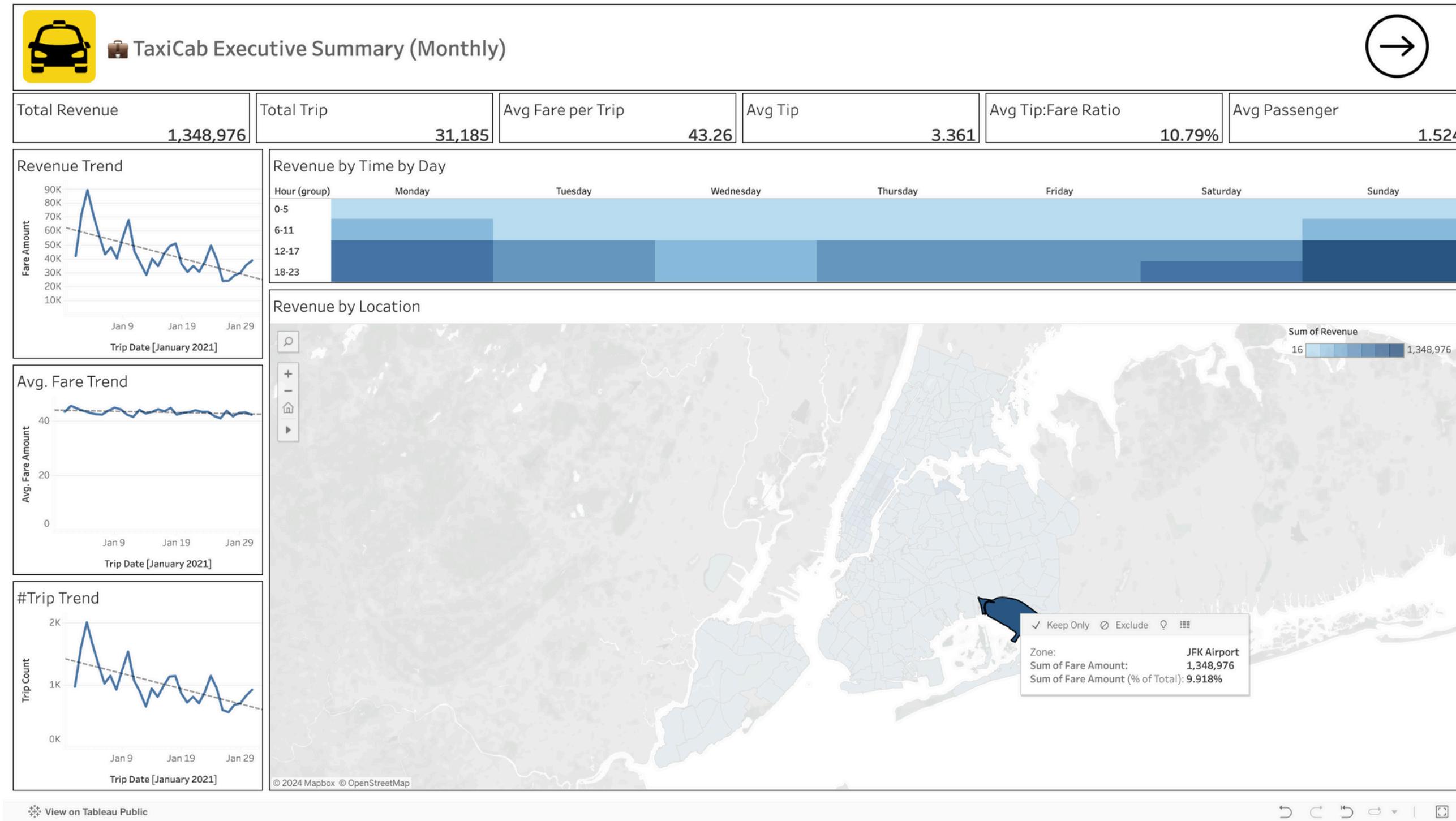


- Show avg tip in different dimension
 - by Vendor
 - by Time
 - by Day of Week
 - by Zone
- Show proportion of Payment Type in different dimension
 - by Vendor
 - by Time
 - by Day of Week
 - by Zone



Use Cases 1

Which zone generates the highest revenue and what percentage does it contribute to the total revenue? Additionally, what are the peak hours of activity within that zone?

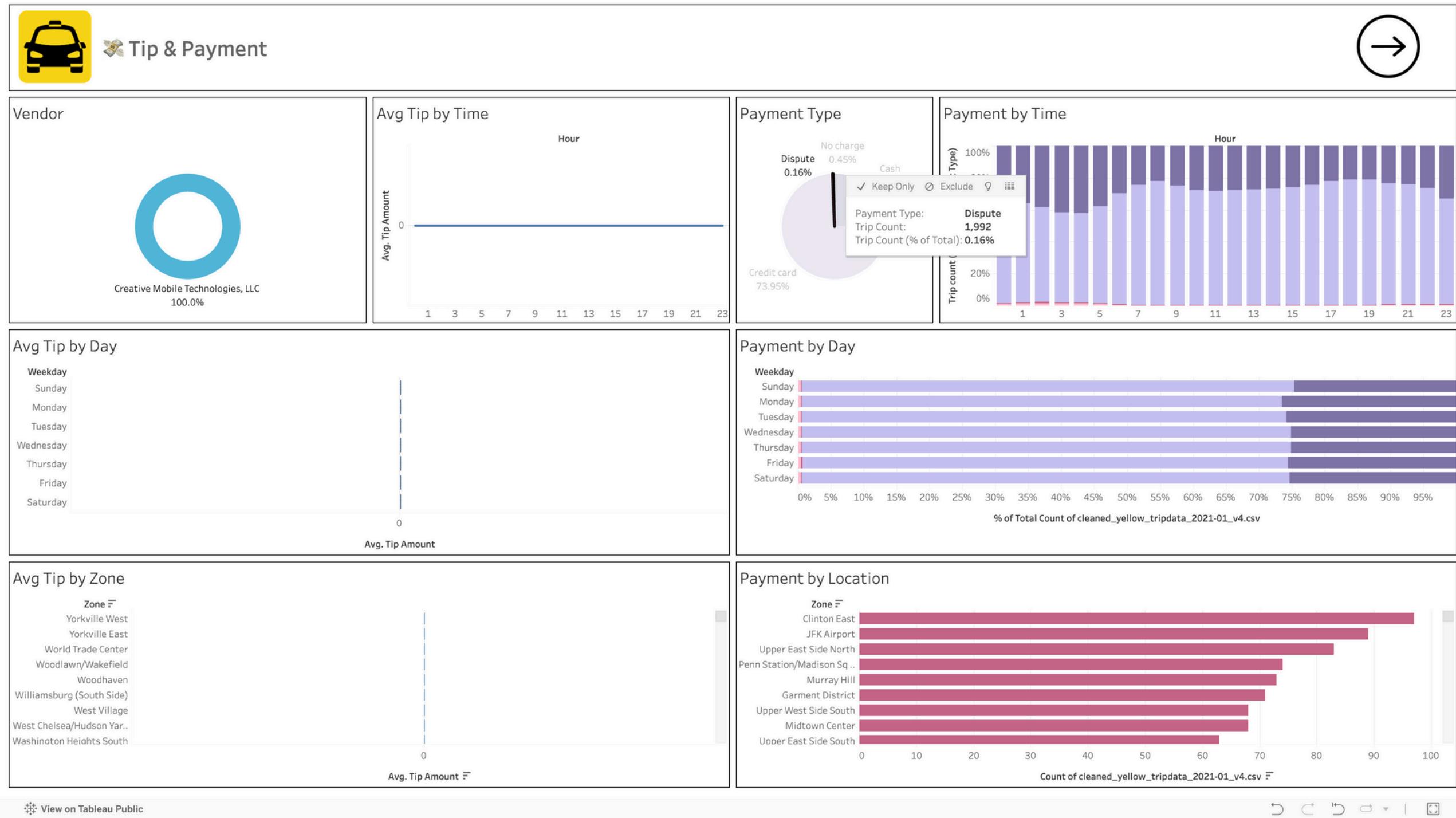


In January 2021, Company generated its highest revenue from trips originating at JFK airports, accounting for 9.9% of the total revenue for that month. The busiest hours for traffic were between 12:00 and 23:00, with particularly high volumes on Monday and Sunday. In contrast, Wednesday experienced the lowest traffic compared to other days of the week during the same time frame.



Use Cases 2

How many disputed payments occurred this month? Which zone had the highest number of disputed payments, and which vendor is responsible for them?



In January 2021, the Company experienced 1992 disputed transactions, primarily centered around Clinton East, JFK Airport, and Upper East Side North. All of these disputed transactions, totaling 1992, are attributed to CMT.