Technical Leadership

Group Members of TripleS

Vibha Garg
Vansh Tandon
Tushar Rajput

TECHNICAL METHODOLOGY

Data Import and Type Definition

Imported the Namma Yatri dataset as an Excel file into Power BI, loading all relevant tables (Assembly, Duration, Payment, Trip Details, Trips). Explicitly defined data types for each column using Power Query to ensure consistency and integrity.

Data Modeling and Relationships

Established and verified relationships between tables in the Power BI Model view, linking them via key columns (e.g., tripid, assembly ID). Created extended tables (Merger1 and Merger2) for optimized analysis and ensured proper integration and alignment within the unified data model.

Data Cleaning

Addressed inconsistencies by setting ID fields to “Do not summarize,” removed duplicates and irrelevant records, and filtered out erroneous entries to maintain data quality.

Calculated Fields and Analytical Enhancement

Developed calculated fields such as conversion rate to derive operational insights, ensuring the dataset is robust and ready for accurate analysis in Power BI.

RIDE DEMAND OVER TIME

Ride Demand Rises Steadily All Day

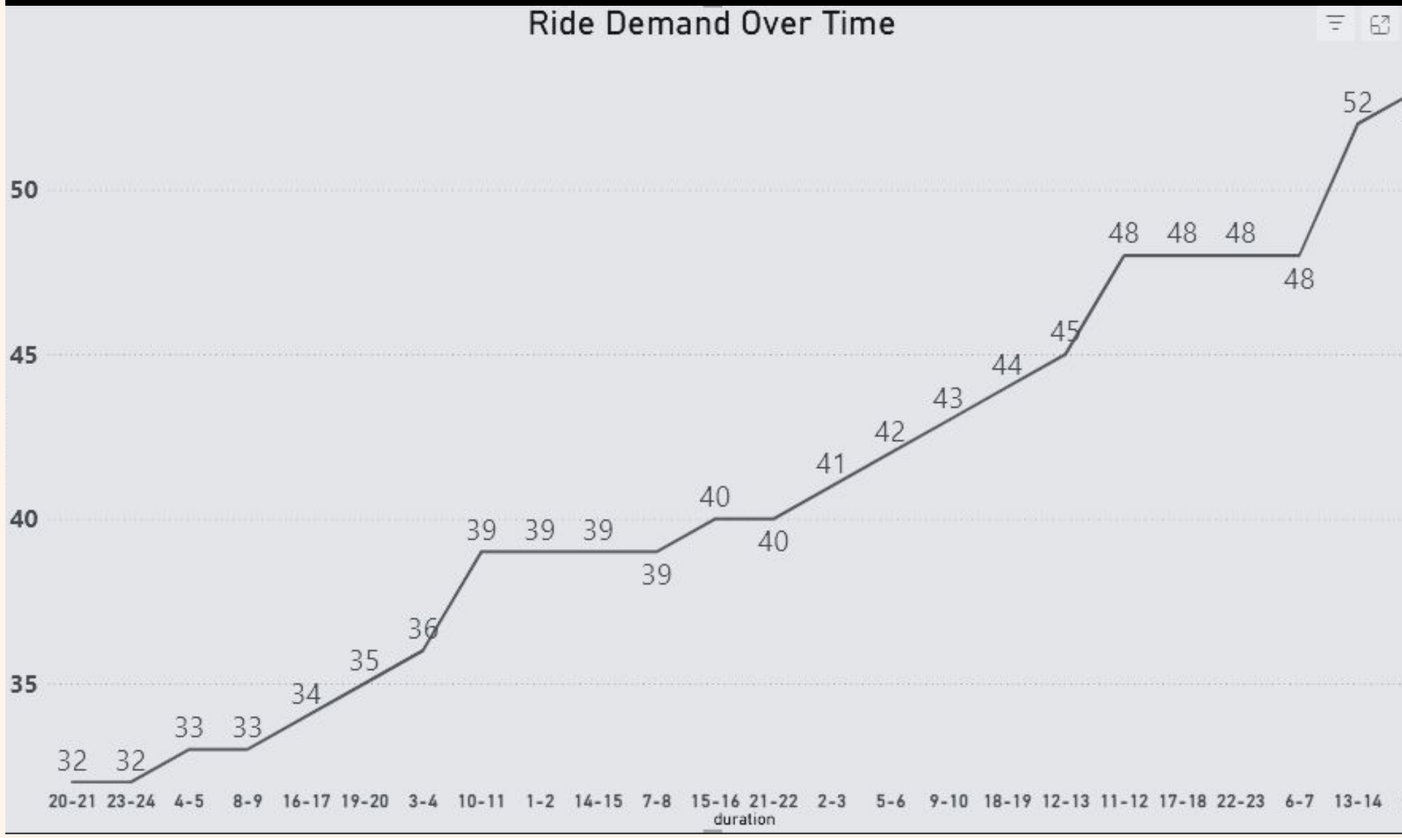
Ride demand remains low and stable during late night and early morning hours (completed rides in the low 30s), then shows a steady upward trend from 8–9 AM onward, reflecting increased activity as the day progresses.

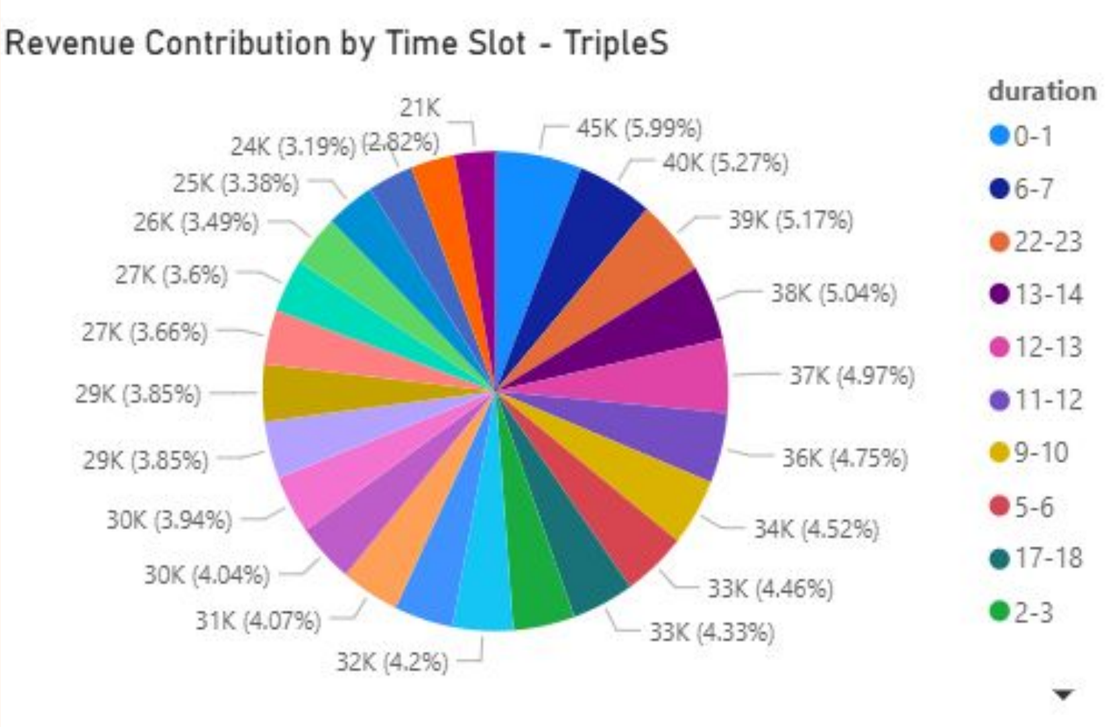
Afternoon and Evening Surge

Demand rises significantly through the afternoon, reaching the mid-40s by midday and peaking at 48 rides during the late morning, early afternoon, and late evening slots (11–12, 12–13, and 22–23).

Identified Peak Periods for Operations

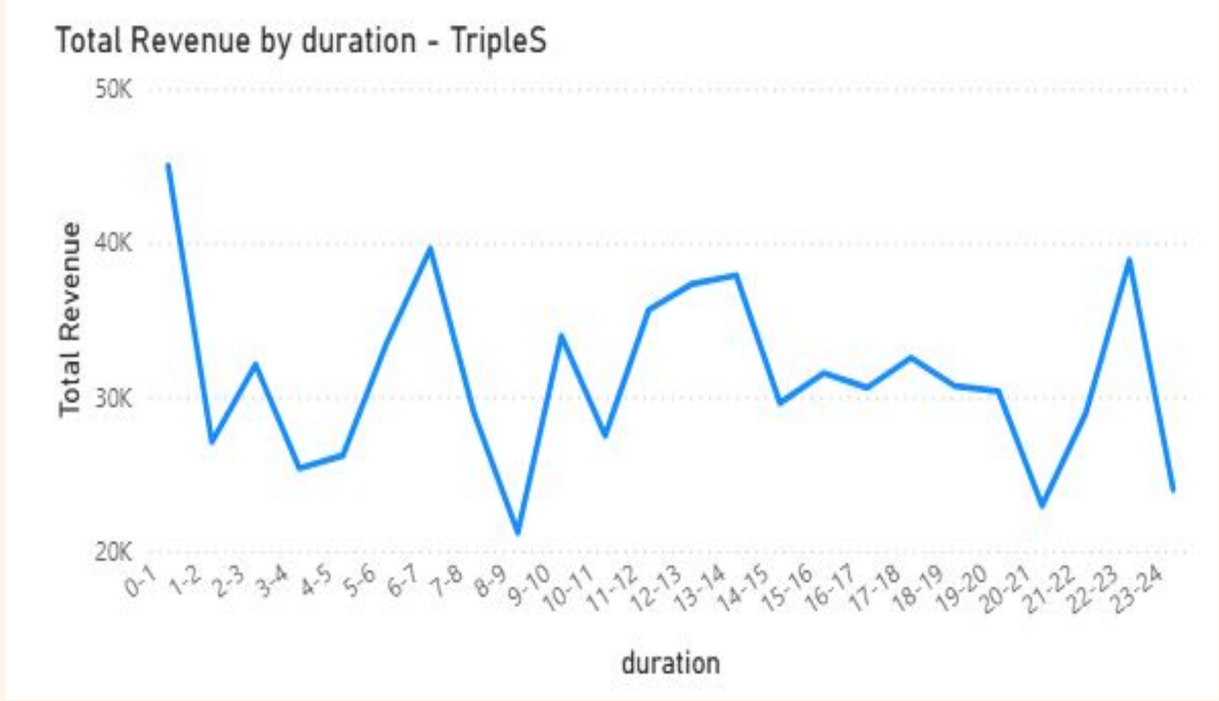
The highest ride demand occurs during 13–14 (1–2 PM) and 0–1 (12–1 AM) with 52 and 53 completed rides respectively, as measured by the sum of completed rides (end_ride), providing clear targets for resource allocation and operational focus.





The pie chart highlights that the **0–1 AM time slot** contributes the **highest proportion of revenue** at **5.99%**, with a total of ₹45,000. This suggests strong late-night demand, possibly from airport trips or night-shift workers.

In contrast, the **8–9 PM slot** contributes just **2.82%** (₹21,000), indicating either **lower demand** or **shorter rides** during this period. This proportion analysis reveals that revenue is not evenly distributed across the day, and **late-night hours can outperform traditional peak hours** in revenue contribution.



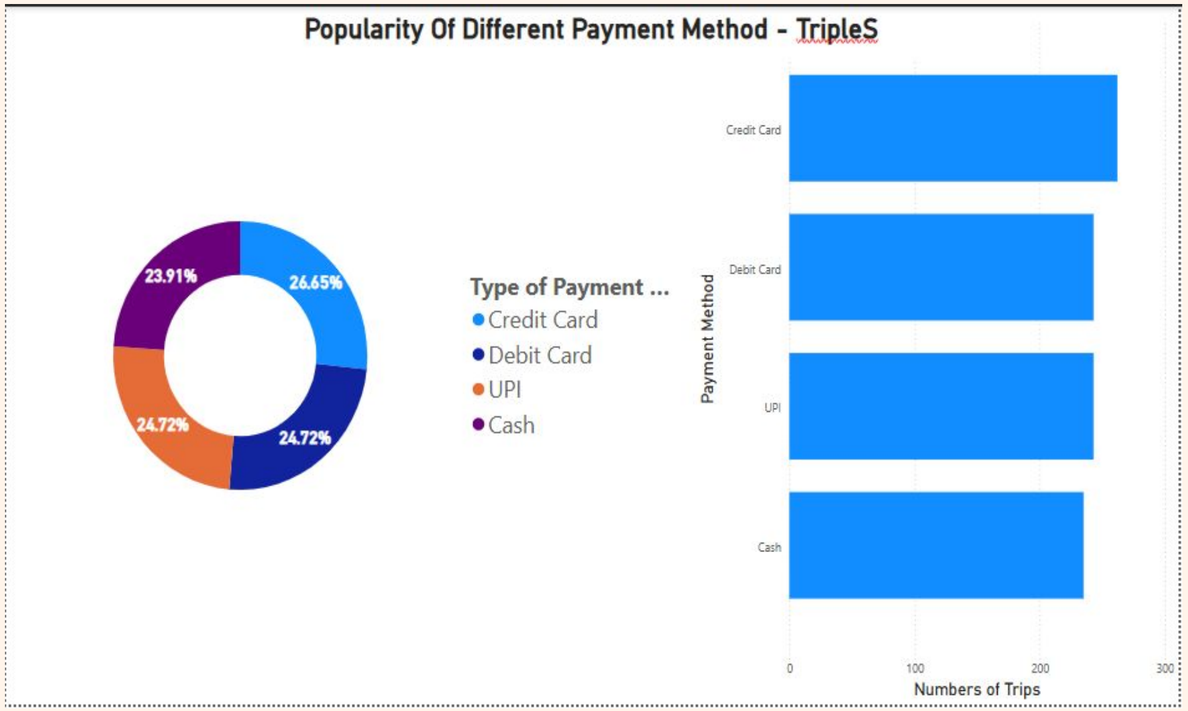
The line chart shows how revenue changes throughout the day based on trip hour.

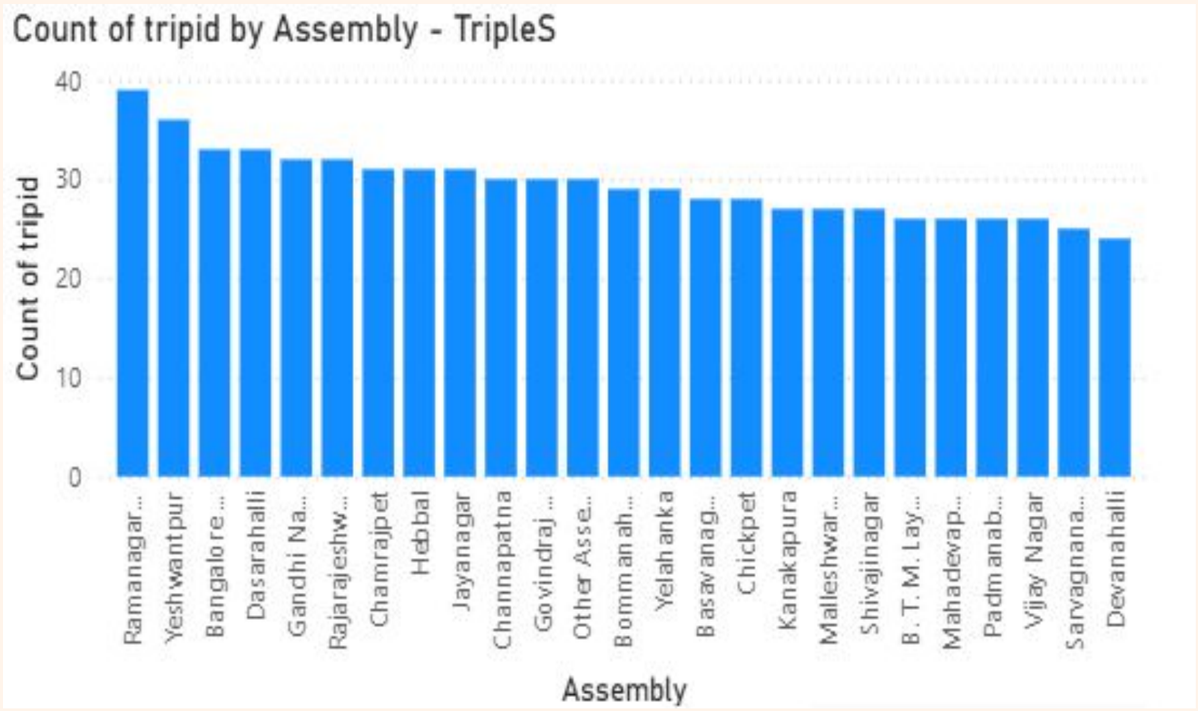
- The **highest revenue** was generated between **12–1 AM (0–1)** with **₹45,000**, highlighting strong late-night demand, possibly due to **airport transfers**, **late-shift workers**, or **intercity travelers**.

- In contrast, the **8–9 PM (20–21)** time slot brought in only **₹21,000**, which is unexpectedly low for a typical evening rush hour. This suggests either **fewer trips** or **shorter ride distances** during that period.

Pattern Observed:

- Revenue is **not uniformly distributed** across hours.
- Specific slots like **midnight** and **early morning** tend to contribute more.
- This insight can help in **driver scheduling** and **promotional planning** for high-revenue time slots.

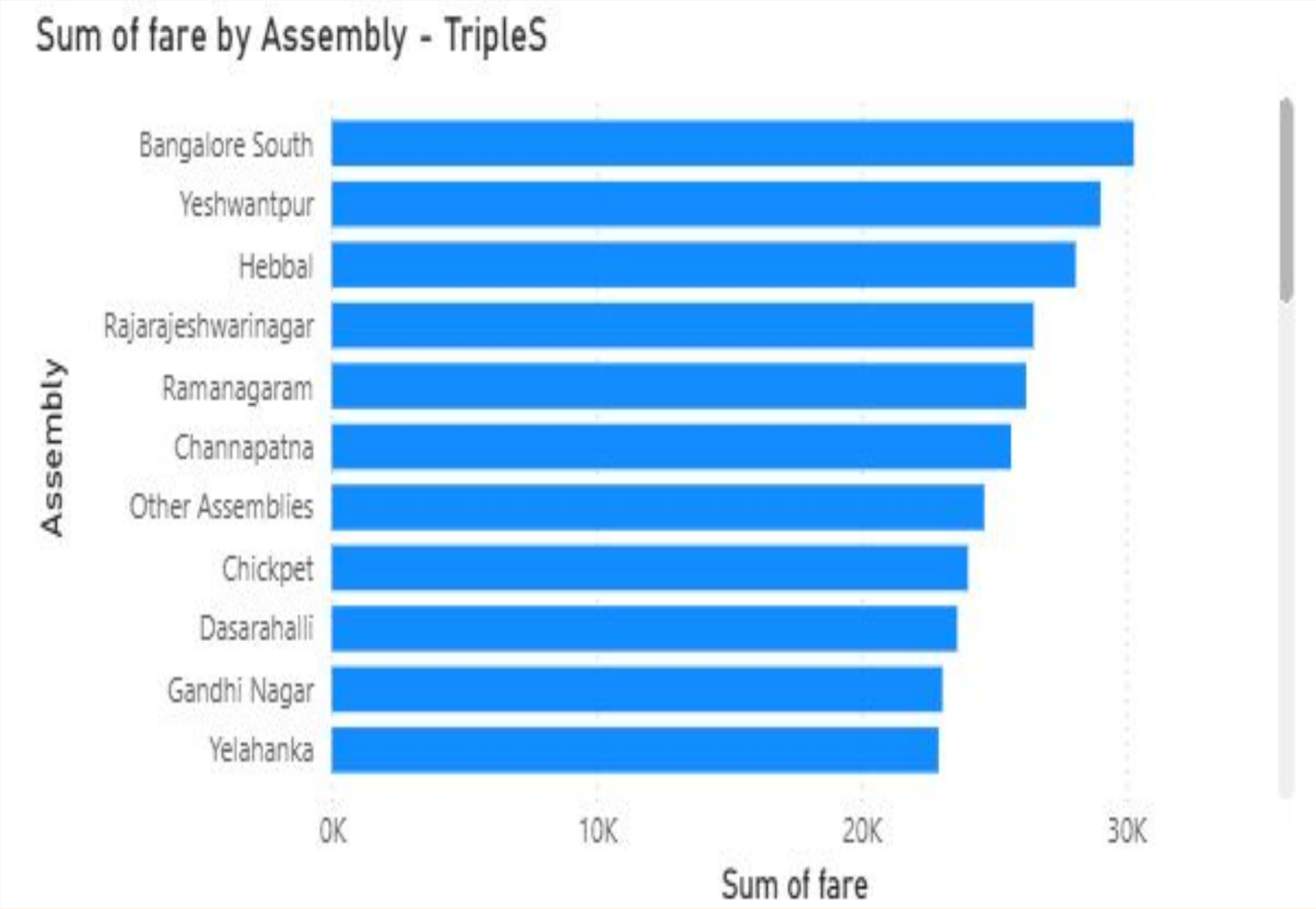




- Payment methods (Credit Card, Debit Card, UPI, Cash) are almost equally popular, each accounting for about 24–27% of rides.
- No single payment method dominates; usage is well balanced across all options.
- Ride frequency is similar across payment methods, indicating payment choice does not affect how often customers take rides.
- This balanced distribution suggests strong payment flexibility and customer preference diversity.
- Maintaining multiple payment options supports customer satisfaction and consistent ride volume.

The analysis shows that **Ramangaram** and **Yeshwantpur** are the top-performing pickup zones, with 39 and 36 trip requests respectively. These areas likely see high demand due to:

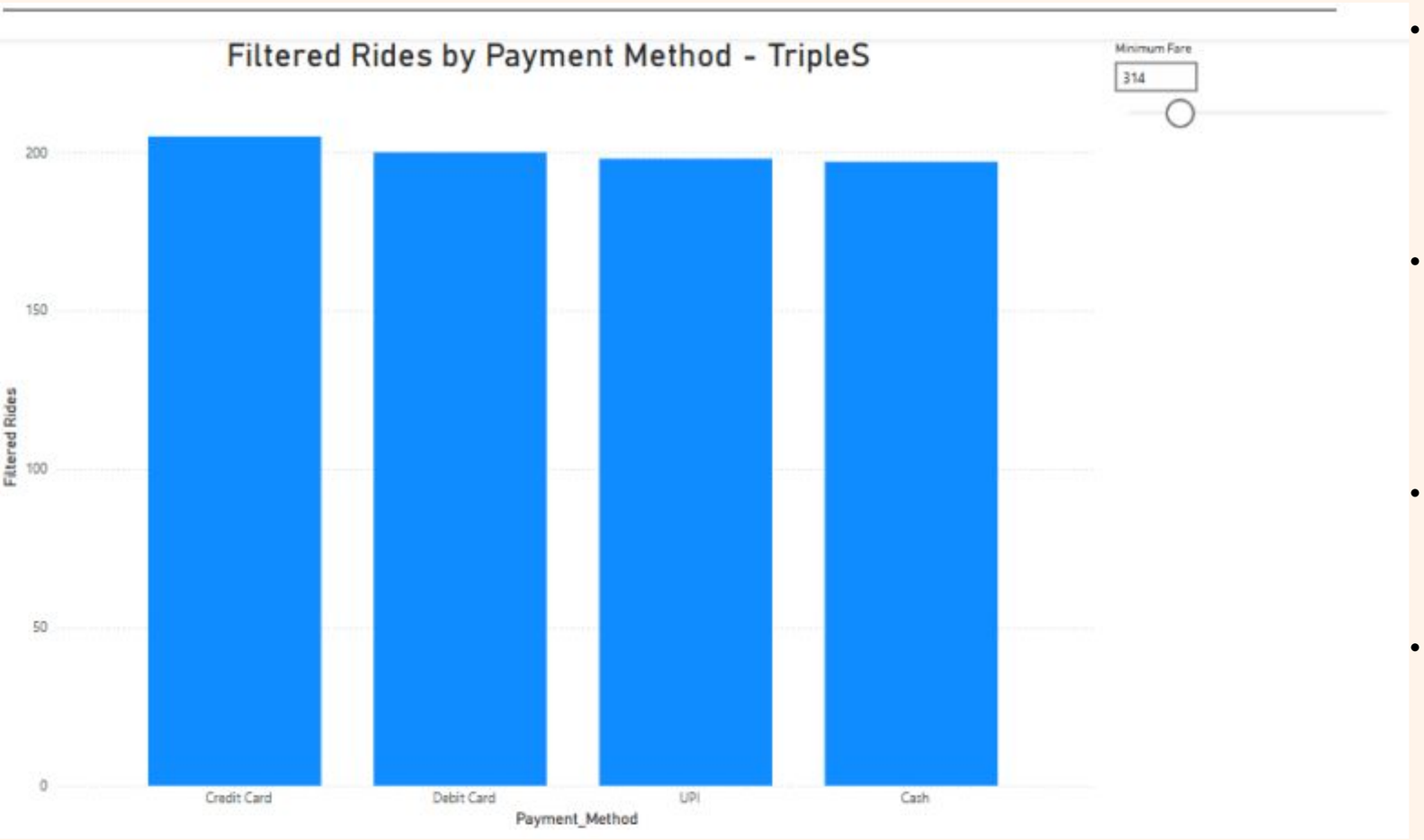
- Proximity to major transport hubs (e.g., highways or industrial areas)
- Limited local transport options, leading to higher app-based ride usage
- Possibly more long-distance or intercity trip bookings (like outstation rides)



The analysis of revenue by pickup zone reveals that:

- **Bangalore South** is the highest revenue-generating zone with a total of **₹30,000**.
- **Yeshwanthpur** follows closely with **₹29,000**.
- On the lower end, **Neelamangala** generated the least revenue at only **₹11,000**.

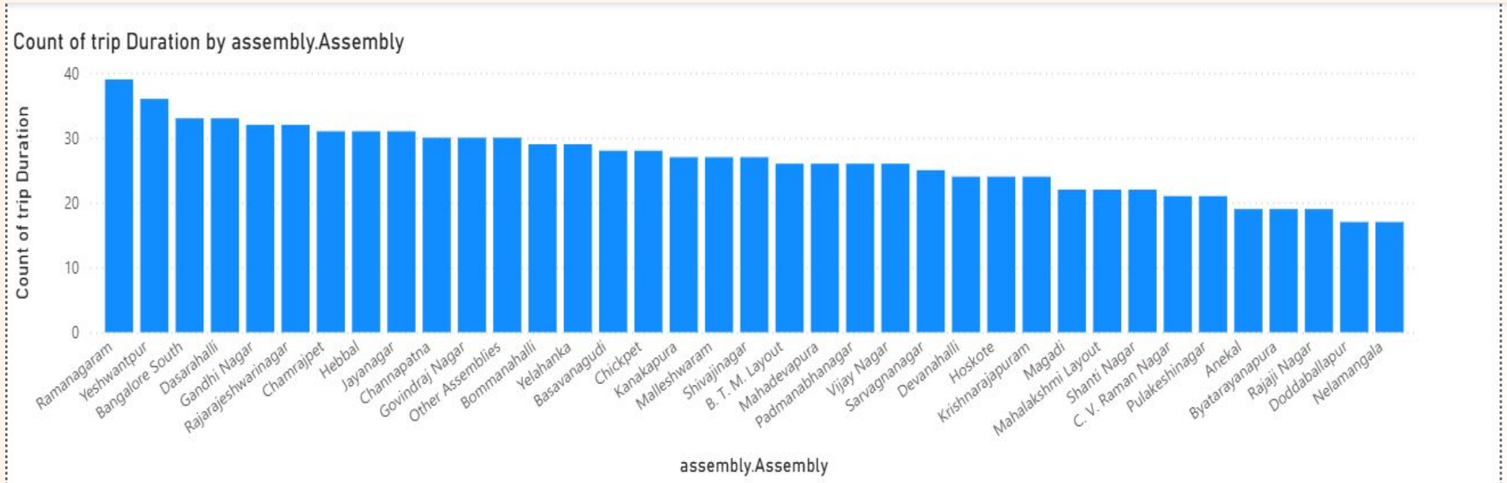
These findings suggest that **Bangalore South and Yeshwanthpur** are strategic hubs with high ride volume or longer trip distances, leading to greater revenue. In contrast, **Neelamangala** may see fewer trip requests or primarily shorter, low-fare rides.



- **Parameter Setup:** We created a parameter in Power BI (e.g., "Minimum Fare") using the Modeling DO NOT edit any part of the questions Write the answers in the designated area only tab's parameter feature. This parameter allows interactive selection of a fare threshold
  .
- **Filter Application:** We used the parameter as a filter on the Trips data, so only rides with a fare equal to or above the selected threshold are displayed in the visuals. The parameter was added as a slicer, enabling dynamic adjustment.

- **Reason for Filter Choice:** Filtering by fare amount helps focus analysis on higher-value trips, revealing patterns among premium rides and customer segments.

- **Insights Drawn:** By adjusting the parameter, We observed how the distribution of rides, payment methods, and demand trends change for different fare levels. For example, as you can see the visual fares may correlate with the payment methods.

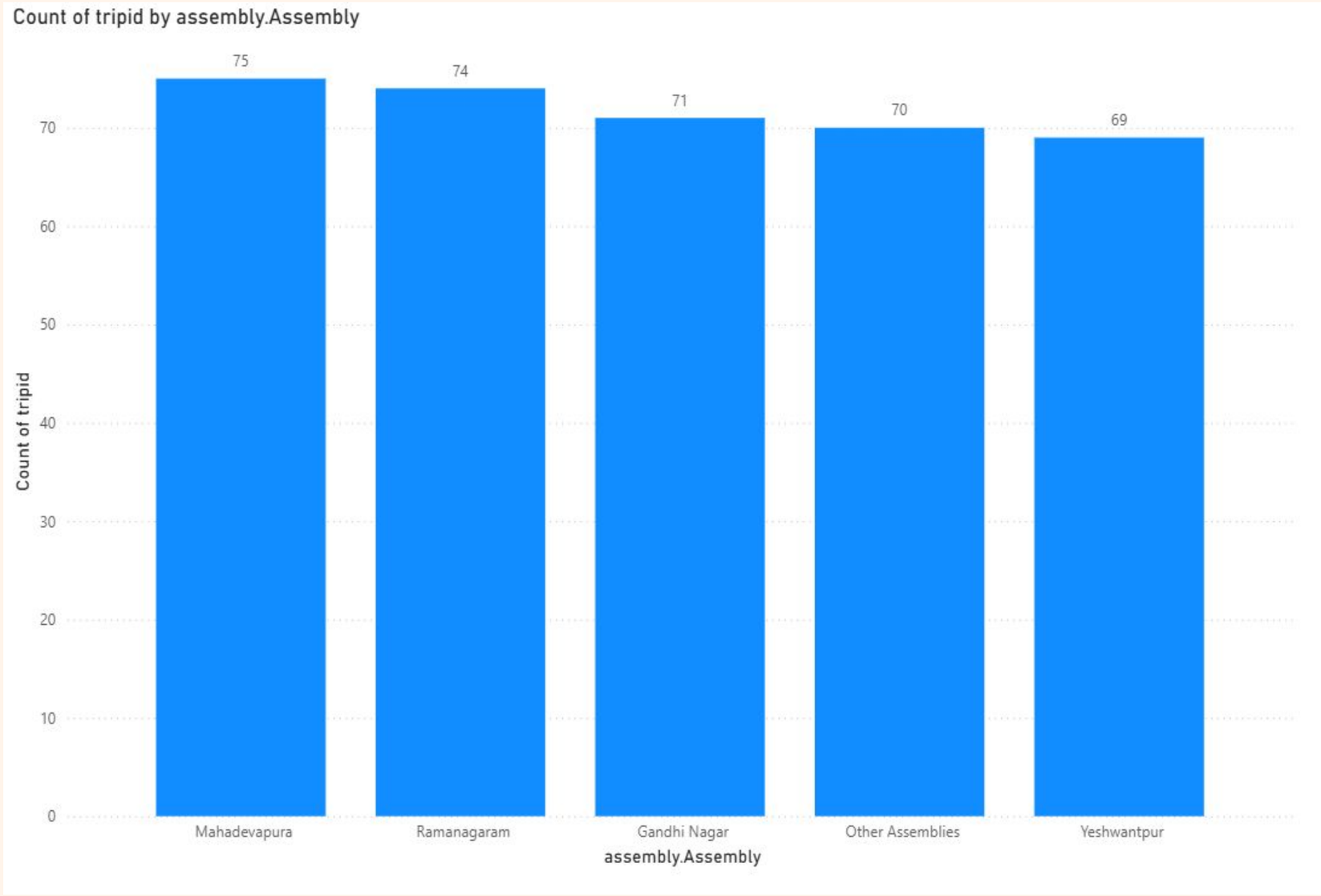


assembly.Assembly		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
Mahadevapura	49	1		1	1	1	2	2	1	1	2		1	2	3	2				1			2	1	2	75
Ramanagaram	35	2	1	1	2	1	3	1	3	4	1					1		4	1	1	1	3	3	1	5	74
Gandhi Nagar	39	3	2	1			1	3			2	1	1	2	1	2	3		3	2	1	1		2	1	71
Other Assemblies	40	2		1			1		1	2		4	1	2	2	2	1	1		1	1	1	2	4	1	70
Yeshwantpur	33		1	1	2	1	2		1	1	1	1	5	2		1	2	1	2	4		1	2	2	3	69
Dasarahalli	33	4	1		2	1		1		1	5		4	1	1	3	1	1	3	1	1	1		1		66
Jayanagar	34	2	5		2		4	2	2		2				3	1		1	2	1		1	1	1	1	65
C. V. Raman Nagar	43		1		3		2	1	3	1	1		1	1		1			1				2	3		64
Rajarajeshwarinagar	32	1	2	2		3	1		1	3			1	3	1	1	2	2		2		3	1	2	1	64
Yelahanka	34	2	1	1	2	1	1	3		1	1	2			1		1	1	1	3	1	3	1	2		63
Hebbal	31		2	1		1	1	1	1			2	2	3	1	1	3	2	1	2	4	1		1	1	62
Chickpet	33	2		3				3	1		2		3	2	2		2		2		2		2	1	1	61
Kanakapura	34	1		1	2	1			2	3	1	3	1	3	2	1	1	1	1			1	1	1		61
Anekal	41	1	1	1	1	1		1	2		3		2	1	1				2			1	1			60
Malleshwaram	33	1	1	1		2	2			1		3	3			1	2	3	2	2		1		1	1	60
Basavanagudi	31	2	2		2		2	7	1	1	1	2				1		1		1	1	2			2	59
Total	**1178**	**53**	**39**	**41**	**36**	**33**	**42**	**48**	**39**	**33**	**43**	**39**	**48**	**45**	**52**	**39**	**40**	**34**	**48**	**44**	**35**	**32**	**40**	**48**	**32**	**2161**

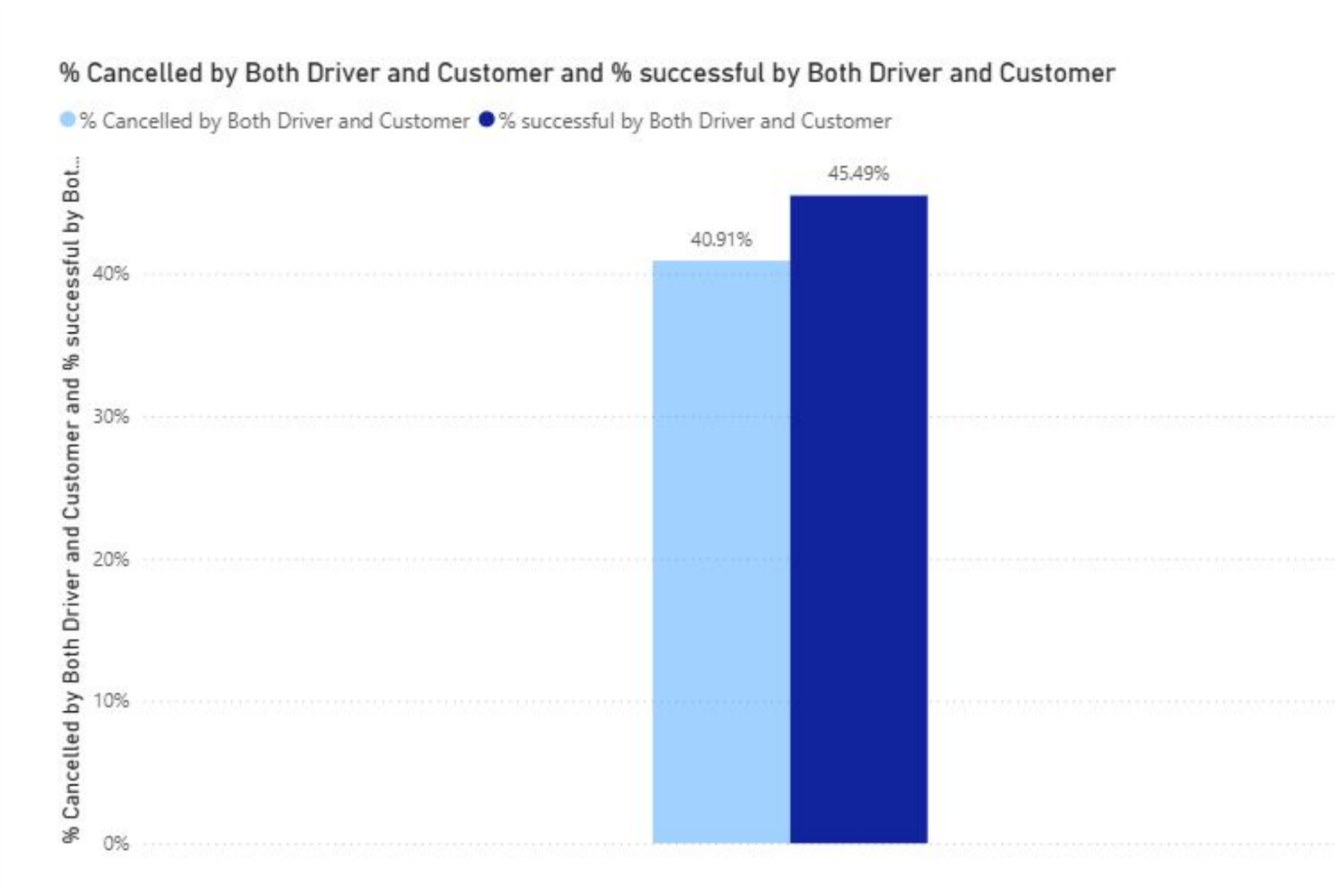
- The heatmap shows that trips are distributed across all duration periods, indicating a mix of short, medium, and longer journeys ending in various zones.
- There isn't one single duration period that overwhelmingly dominates across all zones, suggesting a diverse range of travel needs.

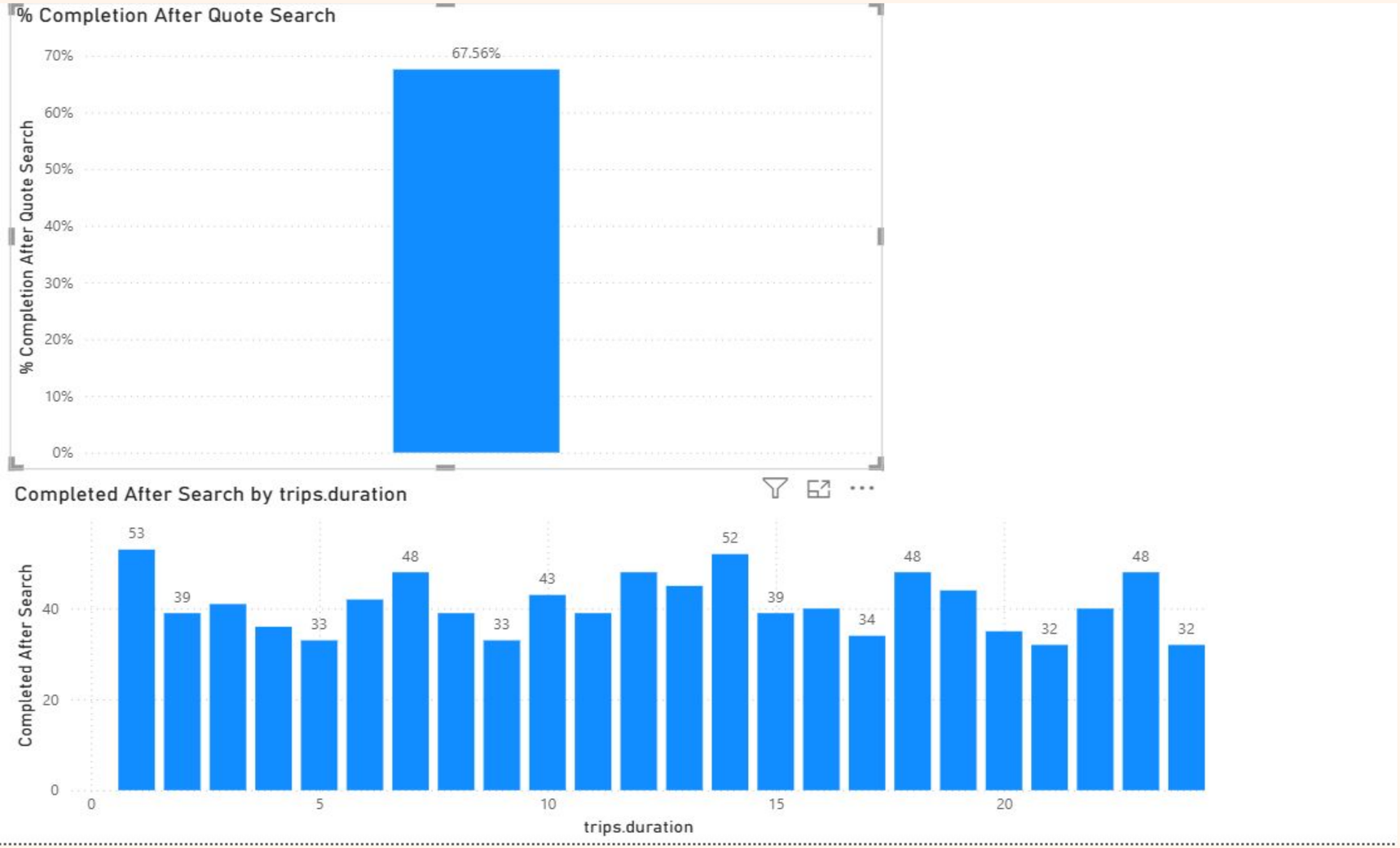
- B. T. M. Layout and Yeshwantpur appear to be among the most active dropoff zones overall.

Top 5 zones where maximum trips have been planed are Mahadevapura, Ramanagaram, Gandhinagar, other assemblies and Yeshwantpur.

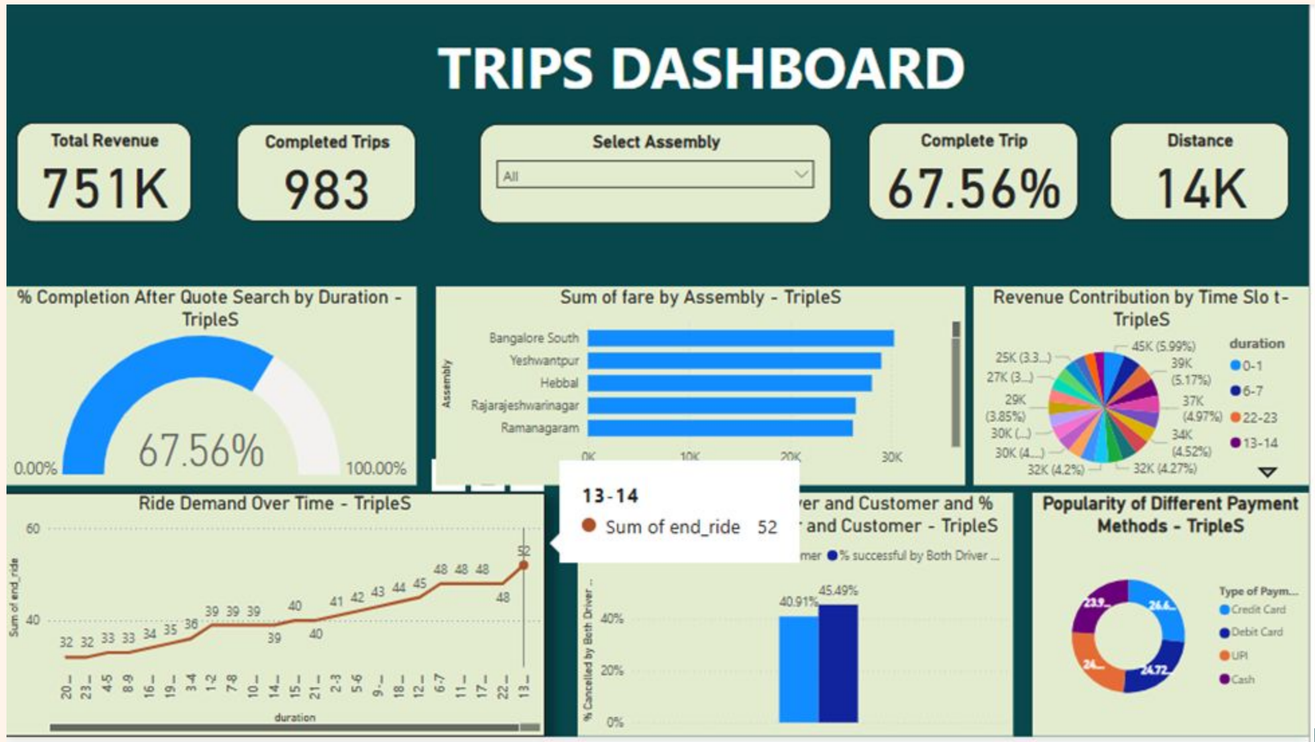


- Drivers and customers share an identical cancellation rate of 40.91%.
- Both groups also mirror each other with a 45.49% successful transaction rate.
- Successful trips exceed cancellations by just 4.58 percentage points for each Cohort.
- The remaining 13.6% of activity isn’t captured by these two metrics, hinting at other outcomes (e.g., no-shows or pending).





- The overall completion rate after searching for quotes stands at 67.56%.
- Completions peak for immediate trips (0 min lead time) with 53 successful bookings.
- As lead time increases, completions decline, falling to 38 by the 10 min mark and 32 at 20 min.
- A mid-range uptick occurs at 15 min (40 completions), indicating moderate wait times still convert well.



- **Strategic Driver Deployment**
  Utilize demand insights to proactively allocate drivers in high-demand zones and during peak hours. This will help reduce passenger wait times and lower the number of missed ride opportunities.

- **Minimize Ride Cancellations**
  Identify cancellation-prone areas and time slots. Improve real-time communication between riders and drivers, introduce timely ride updates, and provide incentives for successful ride completion to reduce cancellations.

- **Route Optimization**
  Integrate intelligent routing systems that factor in real-time traffic conditions to shorten travel times and enhance trip efficiency.

- **Improve Payment Flexibility**
  Maintain a variety of secure and convenient payment methods. Ensure seamless transactions for both passengers and drivers to improve overall user satisfaction.

- **Data-Driven Operational Decisions**
  Leverage live dashboards to track performance metrics such as ride volume, cancellations, and revenue. Use these insights to make swift, data-informed decisions for optimizing service delivery and resource utilization.

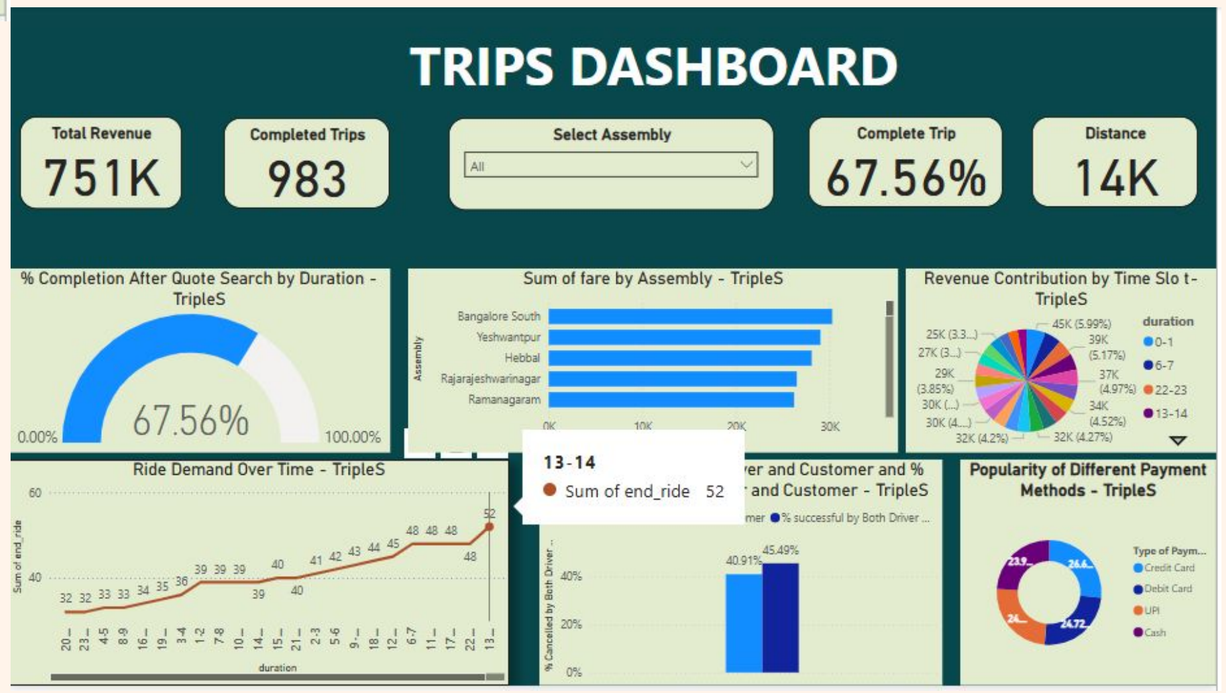
1. **Local Offers**
   Give special discounts in busy zones and during festivals to attract more users.

2. **Referral & Loyalty**
   Reward drivers and riders for referrals and regular use with bonuses or cashback.

3. **Partnerships**
   Work with metro stations, shops, and events for last-mile rides and promotions.

4. **Driver Incentives**
   Give bonuses and flexible timings to drivers during peak hours or low-service areas.

5. **Social Media & Influencers**
   Use Instagram, YouTube, and local influencers to promote the app and build trust.



Thank you

Conclude the presentation by
TripleS