✅ Overview Analysis Insights

1. Overall Performance

- **Total Bookings**: 103.7K
- **Total Booking Value**: $1.6M
- **Average Trip Value**: $15.0
- **Total Trip Distance**: 349K miles
- **Average Trip Distance**: 3 miles
- **Average Trip Time**: 16 minutes

2. Peak Patterns

- **Most Active Days**: End of the month (days 25–30) show higher booking volumes.
- **Day vs Night Trips**: 61.7% of trips occur during the **day**, and 38.3% at **night**.

3. Popular Locations

- **Most Frequent Pickup**: Penn Station / Madison Sq West
- **Most Frequent Drop-off**: Upper East Side North
- **Farthest Trip**: 144.1 miles (Lower East Side → Crown Heights North)

4. Vehicle Performance

- **UberX dominates**:
  - 38.7K bookings (≈37.4%)
  - Total value: $583.9K
- **Least Used**: Uber Green (≈14.5K bookings, $210.6K)

5. Payment Methods

- **Most Used**: Uber Pay (~67%)
- **Least Used**: Google Pay (~0.17%)

✅ Recommendations

1. Marketing & Promotions

- **Focus campaigns on peak days** (last week of the month).
- **Promote night-time bookings** to balance trip loads.

2. Vehicle Strategy

- **UberX**: Maximize this fleet—it's clearly the most preferred.
- **Uber Green**: Consider promoting eco-rides with discounts or incentives.

3. Payment Partnerships

- Since **Uber Pay dominates**, consider:
    - **Cross-promotions** with Uber Wallet.
    - **Incentives for using alternate payment methods** (Google Pay, Amazon, etc.) to diversify dependency.

4. Location Optimization

- **Strategic driver placement** in/around:
    - **Penn Station** and **Upper East Side North** to reduce rider wait times.
- Highlight these zones in driver apps for improved efficiency.

🔍 Time-Based Insights (With Filters Applied)

🕐 1. Booking Trends by Time of Day

Across all metrics (Bookings, Value, Distance), there's a **strong peak between 10 AM to 6 PM**, tapering off in the evening. This aligns well with:

- **Workday commutes**
- **Midday errands**
- **Afternoon travel**

✅ **Recommendation**: Increase driver availability during peak hours, especially 10 AM–6 PM. Consider surge pricing or promotions post-6 PM to flatten the curve.

📆 2. Booking Patterns by Day of Week

a. Total Bookings

- **Highest**: **Saturday (19.2K)** and **Sunday (19.1K)**
- **Lowest**: **Friday (9.3K)**

b. Total Booking Value

- **Highest**: **Saturday ($276K)** and **Sunday ($283K)**
- **Lowest**: **Friday ($146K)**

c. Total Trip Distance

- **Highest**: **Sunday (62K miles)** and **Saturday (62K miles)**
- **Lowest**: **Friday (36K miles)**

📌 **Insight**: Fridays consistently underperform across all metrics—possibly due to reduced demand or fewer available drivers.

✅ **Recommendations**:

- **Boost Friday performance**: Launch "Friday ride deals" or promo codes.
- **Weekend surge planning**: Ensure more drivers are available Saturdays & Sundays.

🕛 3. Hour & Day Heatmap Analysis

All three heatmaps show that:

- **Most active hours**: 10 AM – 7 PM
- **Most active days**: Saturday & Sunday
- **Least active**: Early morning hours (12 AM – 6 AM), especially Monday through Friday

✅ **Recommendation**:

- Leverage heatmap data for **driver scheduling and dynamic pricing models**.
- Explore **targeted marketing** to promote off-peak hour bookings with discounts.

📌 Overall Summary

📊 **High-Level Findings:**

- **Daytime (10 AM–6 PM) and weekends (Sat-Sun)** dominate bookings.
- **Friday** is an outlier with low performance—needs strategic intervention.
- **User habits** suggest non-commuter, casual ride patterns (e.g., shopping, leisure).