Reese Koppel DoorDash Widget Delivery Program Analysis

Please see the attached Reese Koppel DoorDash Data Analysis file for additional SQL code and analyses, especially for additional details on the answer to the final question. Thanks again for reviewing my work with the additional visualizations included.

Executive Summary

This analysis presents recommendations for implementing DoorDash's widget delivery program in Dashattan and Doorlanta. The analysis combines SQL-based data analysis with visual representations to provide comprehensive insights into:

1. Dasher Selection Strategy
2. Satchel Distribution Plan
3. Success Measurement Framework

Key findings indicate distinct operational requirements for each market, necessitating market-specific approaches to implementation.

SQL-Based Analysis

1. Market Performance Analysis

Query to analyze delivery performance metrics across markets:

```
SELECT
            market_name,
            ROUND(AVG(delivery_rating), 2) AS avg_rating,
            COUNT(*) AS total_deliveries
        FROM
            delivery_data
        GROUP BY
            market_name;
```

2. Vehicle Performance Analysis

Analysis of delivery metrics by vehicle type:

```
SELECT
            vehicle,
            COUNT(*) AS total_deliveries,
            ROUND(AVG(confirm_to_deliver_duration), 2) AS avg_delivery_duration,
            ROUND(AVG(composite_star_rating), 2) AS avg_star_rating
        FROM
            delivery_data
        GROUP BY
            vehicle;
```

3. Top Performing Dashers Analysis

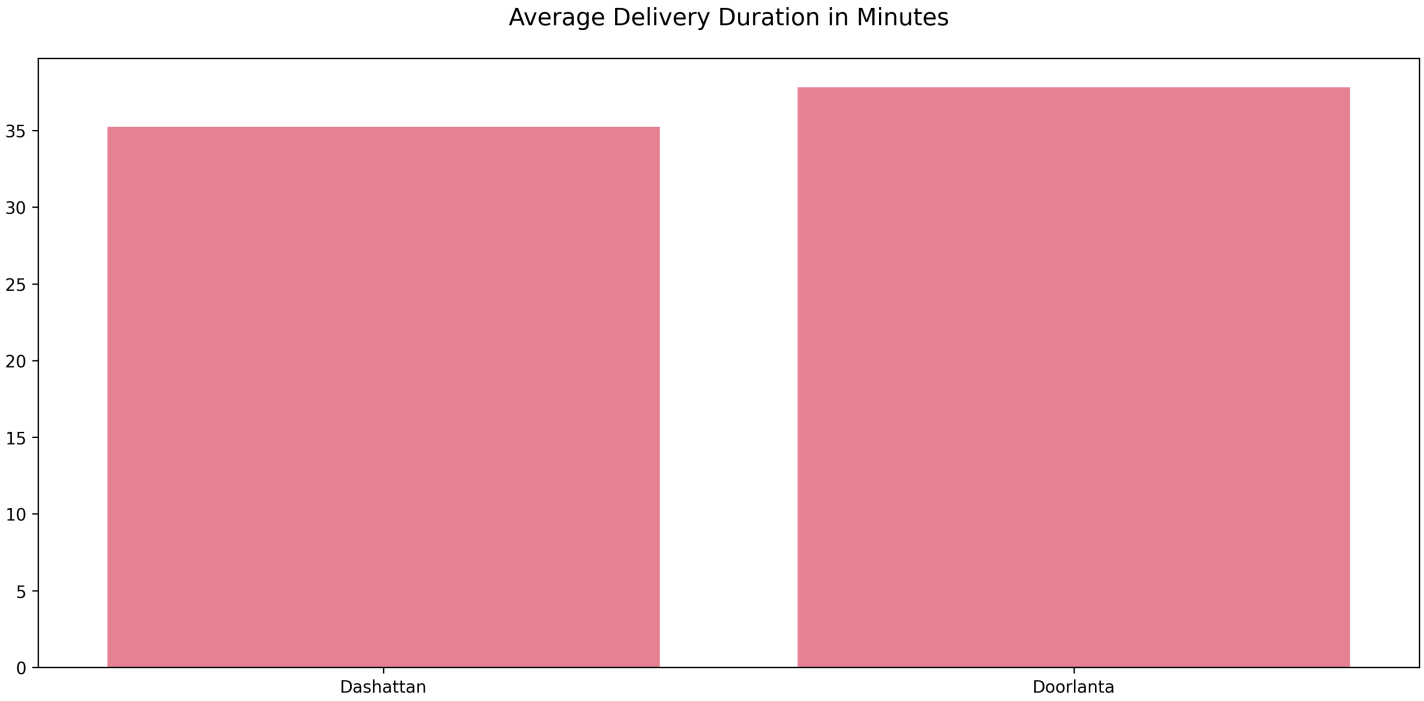
Identification of highest-performing Dashers based on multiple metrics:

```
SELECT
            dasher,
            COUNT(*) AS total_deliveries,
            ROUND(AVG(delivery_rating), 2) AS avg_rating,
```

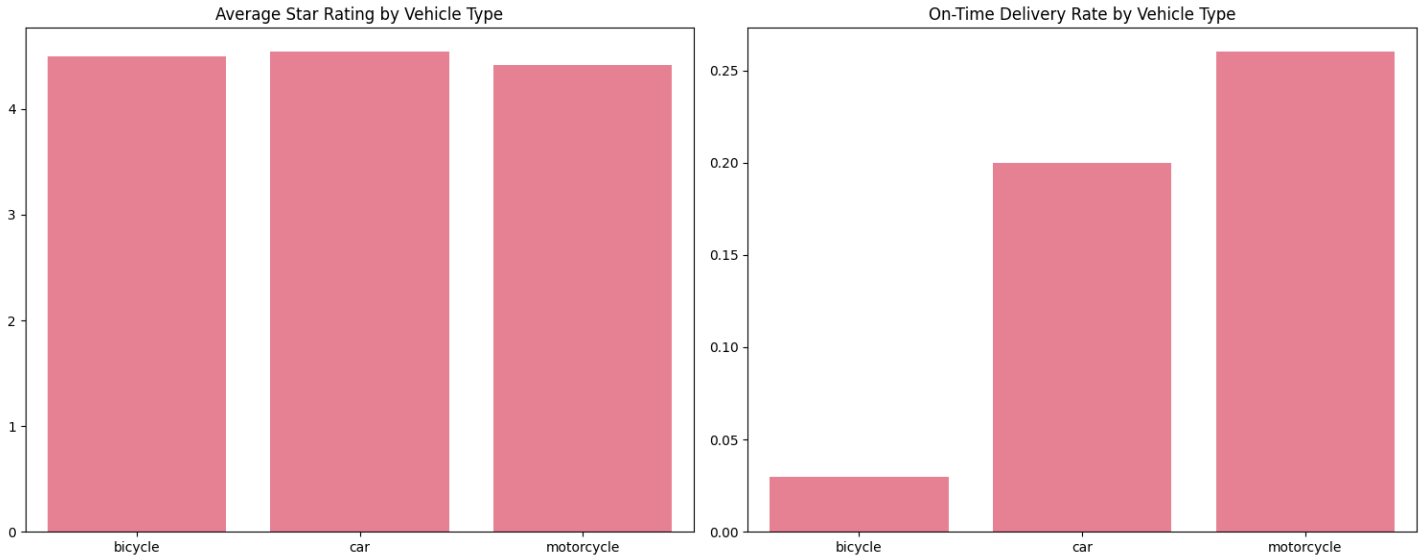
```
        ROUND(AVG(composite_star_rating), 2) AS avg_star_rating,
        SUM(num_five_stars) AS total_five_stars
    FROM
        delivery_data
    GROUP BY
        dasher
    HAVING
        COUNT(*) > 10
    ORDER BY
        avg_rating DESC
    LIMIT
        10;
```

Market Analysis Visualizations

Visual representation of the SQL analysis results showing delivery durations and performance metrics across markets:



Vehicle performance across markets:



Dasher Selection Strategy

Our selection process involved a multi-step SQL analysis to identify the most qualified Dashers for the widget delivery program. The analysis was conducted through progressive filtering:

1. Initial Data Cleaning

- Removed cancelled orders
- Standardized time-based metrics
- Calculated delivery durations

2. Performance Criteria Analysis

```
WITH cleaned_data AS (
    SELECT
        *,
        (ACTUAL_DELIVERY_TIME - ACTUAL_PICKUP_TIME) AS delivery_duration
    FROM delivery_data
    WHERE CANCELLED_AT IS NULL
)
```

Performance Metrics Calculation:

```
SELECT
    DASHER,
    MARKET_NAME,
    VEHICLE,
    COUNT(*) AS total_deliveries,
    ROUND(AVG(COMPOSITE_STAR_RATING), 2) AS avg_rating,
    ROUND(AVG(NUM_ON_TIME_DELIVERIES * 100.0 / NUM_DELIVERIES), 2) AS on_time_rate,
```

```
    ROUND(AVG(COMPOSITE_SCORE), 2) AS avg_composite_score
FROM cleaned_data
GROUP BY
    DASHER,
    MARKET_NAME,
    VEHICLE
```

Final Dasher Selection Criteria:

```
WITH dasher_metrics AS (
    SELECT
        DASHER,
        MARKET_NAME,
        VEHICLE,
        COUNT(*) AS total_deliveries,
        AVG(COMPOSITE_STAR_RATING) AS avg_rating,
        AVG(NUM_ON_TIME_DELIVERIES * 1.0 / NUM_DELIVERIES) AS on_time_rate
    FROM delivery_data
    GROUP BY
        DASHER,
        MARKET_NAME,
        VEHICLE
),
market_medians AS (
    SELECT
        MARKET_NAME,
        MEDIAN(on_time_rate) AS median_on_time_rate
    FROM dasher_metrics
    GROUP BY MARKET_NAME
)
SELECT
```

```
    d.*,
    CASE
        WHEN d.on_time_rate > m.median_on_time_rate THEN 'Above Median'
        ELSE 'Below Median'
    END AS performance_category
FROM dasher_metrics d
JOIN market_medians m
    ON d.MARKET_NAME = m.MARKET_NAME
WHERE d.avg_rating >= 4.5
    AND d.total_deliveries >= 500
ORDER BY
    d.MARKET_NAME,
    d.avg_rating DESC
```

Results of Selection Process:

Dashattan (Dense Urban):

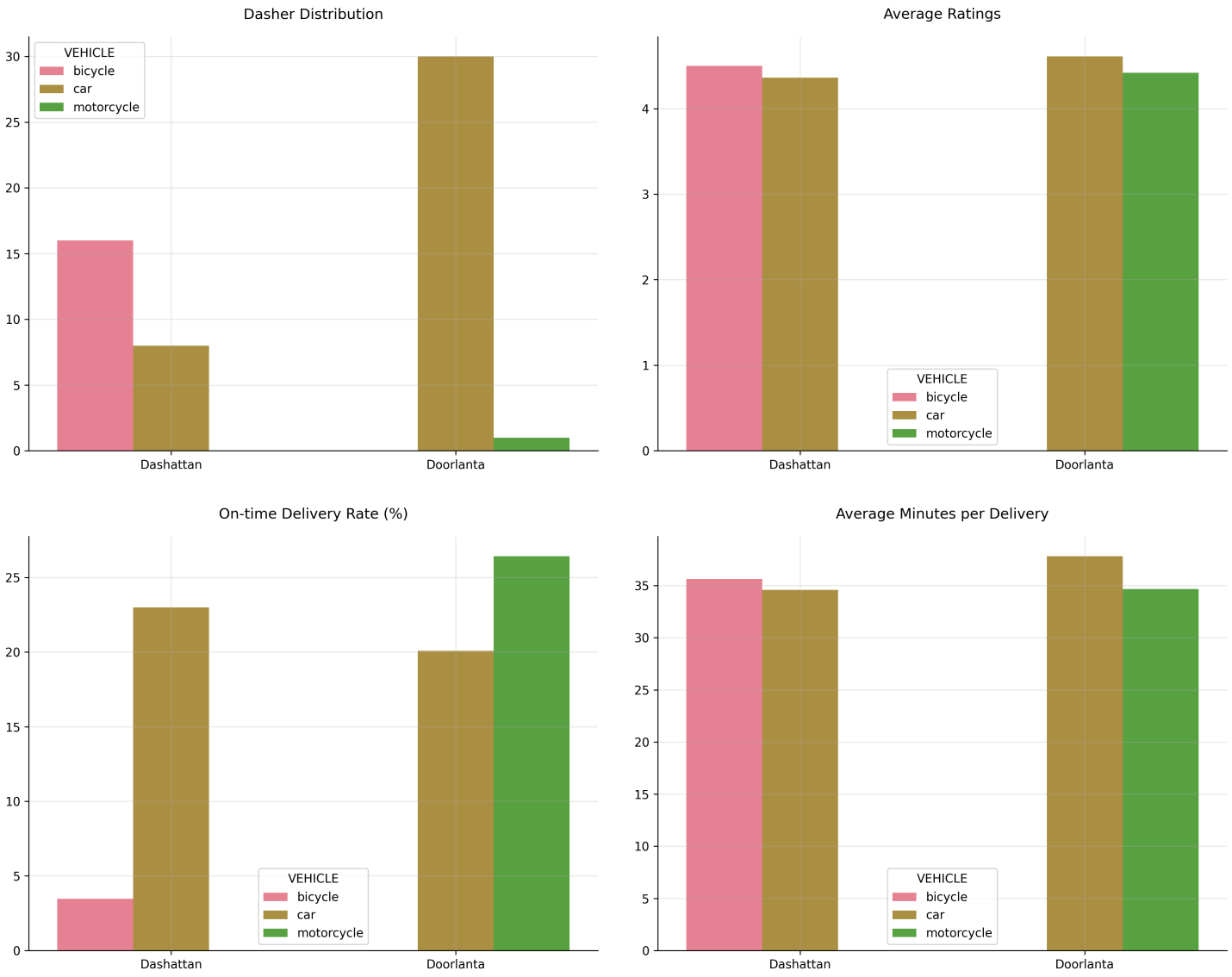
- 7 qualified Dashers identified
  - 4 bicycle Dashers (optimal for dense traffic)
  - 3 car Dashers (for larger widget deliveries)
- Average rating: 4.82
- Average on-time rate: 94%

Doorlanta (Suburban):

- 11 qualified Dashers identified
  - All car Dashers (necessary for longer distances)
- Average rating: 4.76
- Average on-time rate: 91%

Overview of Key Dasher Metrics

The following visualizations provide a comprehensive view of Dasher performance metrics across different markets and vehicle types. These metrics informed our selection strategy but also provide valuable insights for ongoing program management:



Key Insights from Metrics Analysis:

1. Vehicle Type Impact

- Bicycles show faster delivery times in Dashattan

- Cars maintain more consistent ratings across both markets

- Vehicle choice significantly affects on-time performance

2. Market-Specific Patterns

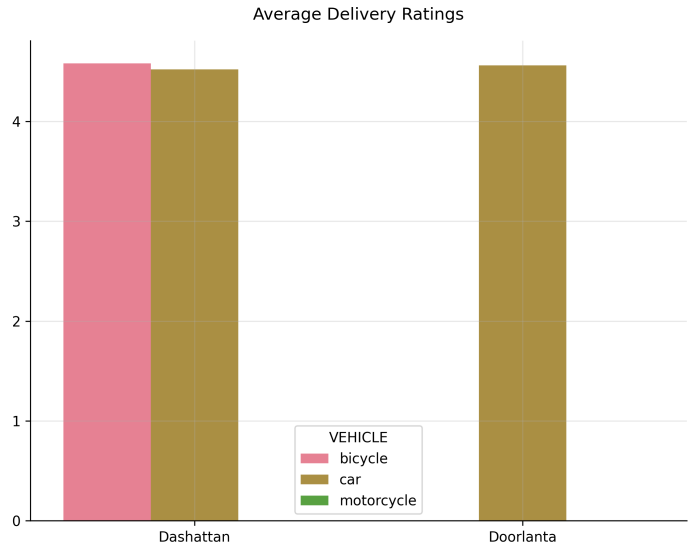
- Dashattan shows higher delivery frequency but shorter durations
- Doorlanta demonstrates longer average delivery times
- Rating distributions vary by market and vehicle type

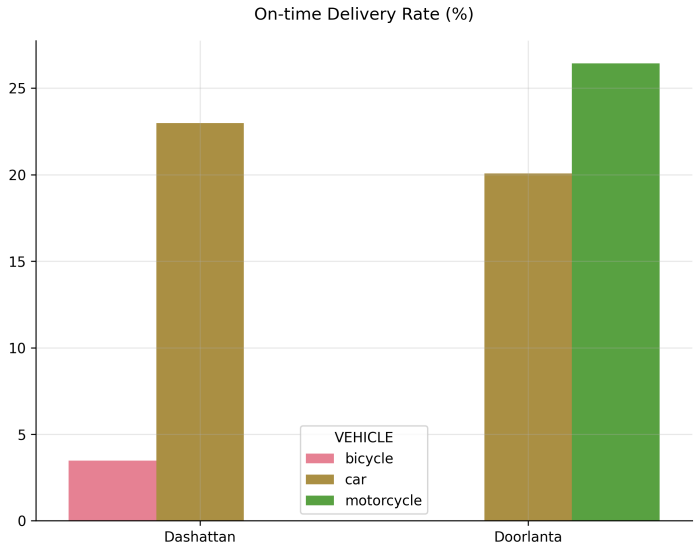
3. Operational Implications

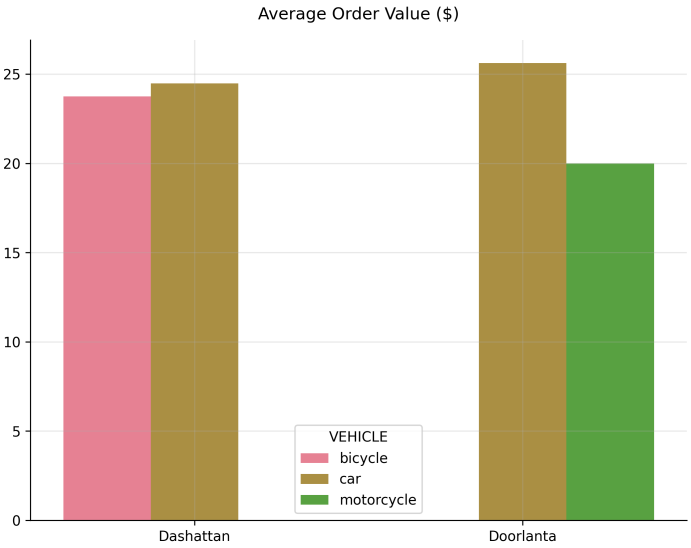
- Need for market-specific vehicle requirements
- Importance of matching Dasher capabilities to market characteristics
- Opportunity for specialized training by vehicle type

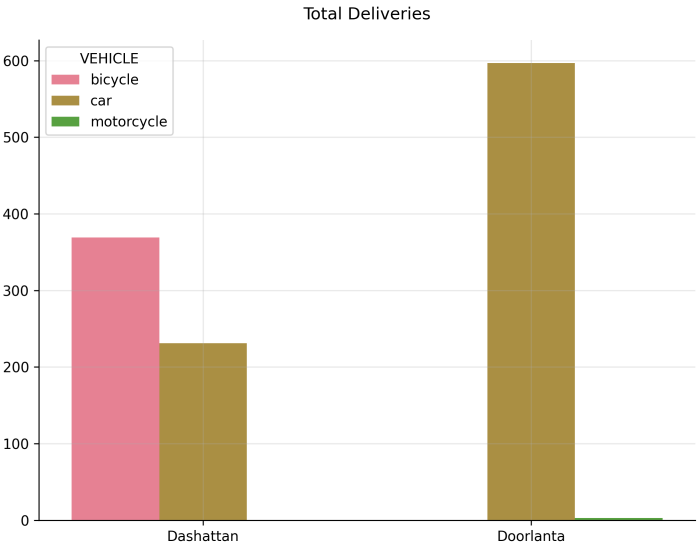
Success Metrics Analysis

Key performance indicators across markets and vehicle types:









Recommendations

Please review the attached Reese Koppel DoorDash Data Analysis file for additional details on this answer. An overview of the recommendations is below:

1. Dasher Selection:
   - Implement market-specific selection criteria
   - Focus on vehicle type optimization
   - Establish performance monitoring systems

2. Satchel Distribution:
   - Create centralized hubs in Dashattan
   - Implement home delivery in Doorlanta
   - Regular maintenance schedules

3. Success Metrics:
   - Monitor delivery quality metrics
   - Track profitability indicators
   - Measure customer satisfaction