

Business Questions – Last Mile Delivery Optimization

Objective: Use SQL analysis to uncover performance insights and operational bottlenecks in last-mile delivery data.

◆ 1. Traffic & Weather Impact on Delivery Time

Question:

Which combinations of traffic conditions and weather result in the longest average delivery durations?

Why It Matters:

Understanding environmental factors helps in proactive delay management and better resource allocation.

◆ 2. Agent Performance & Rating Correlation

Question:

Is there a relationship between agent rating and their average delivery speed or idle time?

Why It Matters:

Helps evaluate if higher-rated agents are truly more efficient — important for incentives, training, and workforce planning.

◆ 3. Delivery Efficiency by Area

Question:

Which areas/zones consistently show lower delivery speeds, regardless of distance?

Why It Matters:

Identifies underperforming delivery zones for potential route optimization or staffing adjustments.

◆ 4. Vehicle Type Effectiveness Under Traffic

Question:

Does the type of delivery vehicle impact delivery times differently under high vs low traffic conditions?

Why It Matters:

Supports decisions on vehicle allocation and fleet management under varying congestion levels.

◆ 5. Idle Time Patterns Across the Day

Question:

How does idle time before pickup vary across different hours of the day?

Why It Matters:

Pinpoints inefficiencies in store-agent coordination during peak times, aiding in shift and schedule planning.

◆ 6. Age Group vs Delivery Performance

Question:

How does delivery performance (speed and duration) vary by agent age group?

Why It Matters:

Helps HR and operations teams understand if certain age brackets perform differently and tailor strategies accordingly.

◆ 7. Store-wise Delivery Time Analysis

Question:

Which store locations have the highest average delivery durations, and what factors (e.g., traffic, distance, agent behavior) contribute?

Why It Matters:

Helps diagnose store-specific inefficiencies and build targeted improvement strategies.

◆ 8. Category-wise Delivery Performance

Question:

How does delivery duration vary across different order categories (e.g., food, groceries, medicine)?

Why It Matters:

Useful for setting category-specific SLAs and customer expectations.