Operations Efficiency Business Report

Merchant & Logistics Performance Optimization

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Project Overview

- This case study explores operational efficiency across order and delivery workflows.
- Using Excel and Power BI, we analyzed merchant and logistics performance to uncover key bottlenecks.
- The dashboards highlight delays, cost inefficiencies, and delivery reliability by vehicle and merchant.
- Data-driven recommendations were developed to optimize speed, cost, and customer experience.

Project Objective

Improve operational efficiency by analyzing order flow and delivery performance using data

Tools Used

Microsoft Excel

Power BI

Pivot Tables, DAX, Charts

Analytical Method

Used Excel for KPI calculations and Power BI for interactive dashboards.

Analyzed both merchant and logistics data using metrics like delivery time, cost, and success rate.

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We analyzed merchant-wise order data to measure performance across time and volume metrics.
Key KPIs included average order time, total orders, and stage-wise delays (prep, pickup, delivery).
This helped identify both high-performing merchants and those with critical bottlenecks for further action.

Descriptive Analysis

Efficient Merchants

Merchant 13, 24, and 1 had the lowest average order time, with consistently fast processing and delivery.

High Volume

Merchant 4, 16, and 8 handled the most orders, with Merchant 4 fulfilling over 6,000 deliveries.

Underperformers

Merchant 19, 20, and 14 had the highest average order times, signaling delays in prep or dispatch.

Dashboard Insights

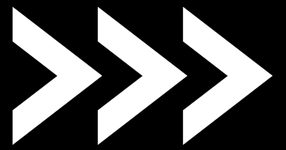
Insights based on Power BI analysis of Merchants Data.

Merchant Performance

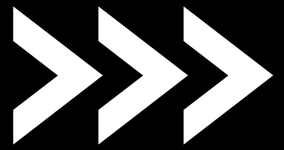
Descriptive Analysis	
Total Orders	31297
Avg.Acceptance Time	0.94
Avg. Preparation Time	10.28
Avg. Pickup Time	8.85
Avg. Delivery Time	16.7
Avg. Total Order Time	35.57

Merchant Performance Comparison (Total Orders & Avg Order Time)

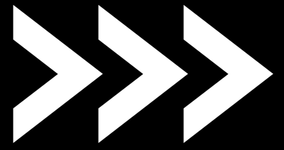
Merchants	Total Orders	Avg Order Time
Merchant 19	43	48.36
Merchant 20	275	47.17
Merchant 14	138	46.41
Merchant 10	653	46.40
Merchant 22	978	44.18
Merchant 7	1229	42.57
Merchant 9	147	42.08
Merchant 17	75	40.87
Merchant 5	393	40.22
Merchant 3	1283	39.94
Merchant 16	4889	39.94
Merchant 18	446	39.60
Merchant 21	112	38.35
Merchant 15	342	37.81
Merchant 8	4247	37.39
Merchant 23	413	35.20
Merchant 6	465	35.15
Merchant 12	1661	34.30



Slowest Delivery Merchants

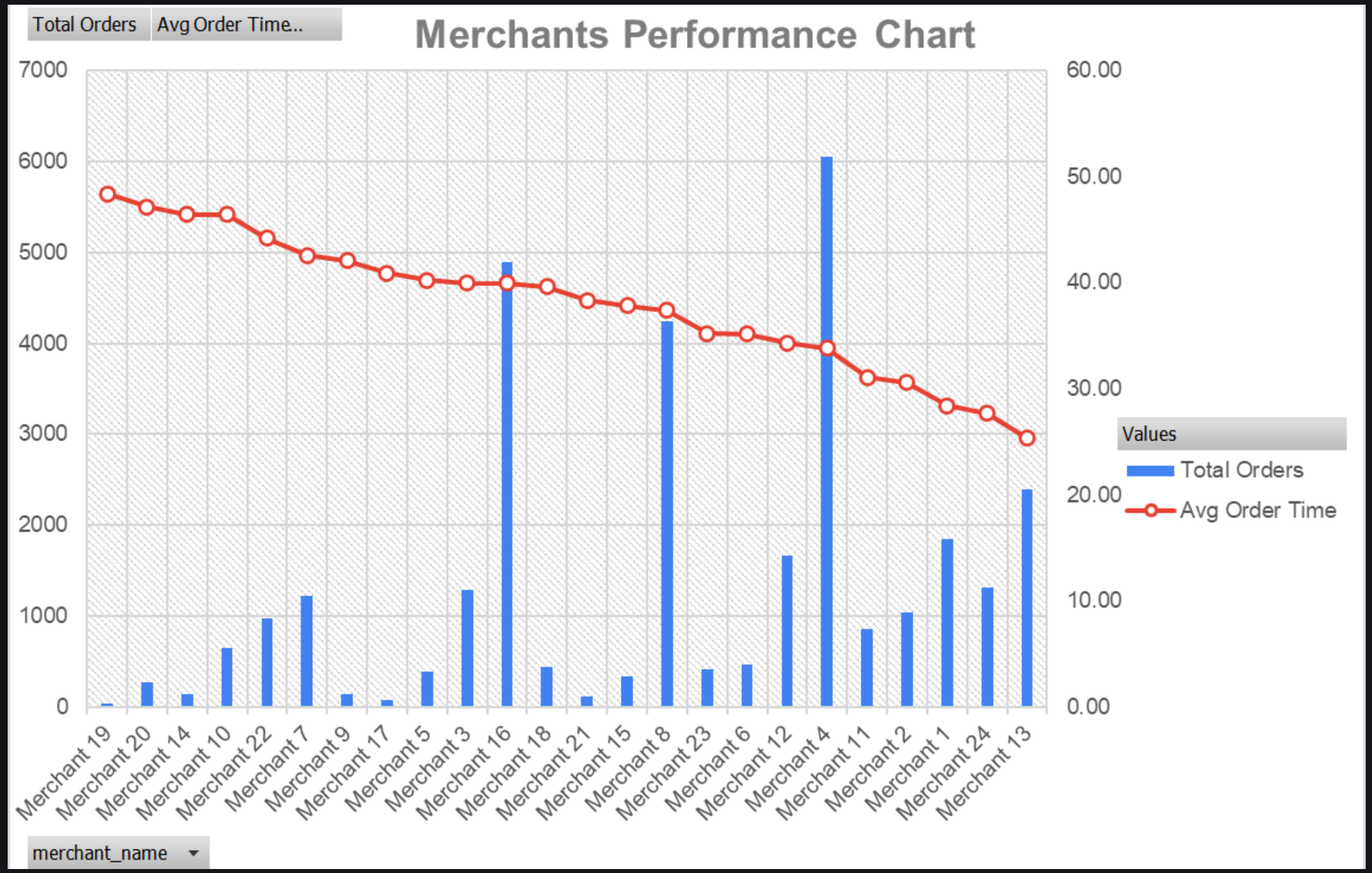


Needs Monitoring



Top Performers Merchants

Merchants Performance Comparison



Insight

A comparison of merchant volume vs. order time reveals inefficiencies in low-volumemerchants like M19, M20, and M14. Top performers combine speed with scale.

Prescriptive Recommendations: Merchant Performance Plan

Slowest Performers (Critical Bottlenecks)

Merchant	Total Orders	Avg Order Time	Notes
Merchant 19	43	**48.36**	Very high time, low volume – likely inefficiencies or data issue
Merchant 20	275	**47.17**	Consistently slow – investigate kitchen or driver delays
Merchant 14	138	**46.41**	Needs review – possibly delayed prep or late pickup
Merchant 10	653	**46.40**	Medium volume + high delay – deserves focus

Needs Monitoring (Above-Average Time)

Merchant	Total Orders	Avg Order Time	Notes
Merchant 22	978	**44.18**	Consistent delays – medium-high volume
Merchant 7	1229	**42.57**	High volume + delay – process improvements could save time
Merchant 9	147	**42.08**	Medium delay, lower volume
Merchant 17	75	**40.87**	Outlier – may be an issue or a few bad orders

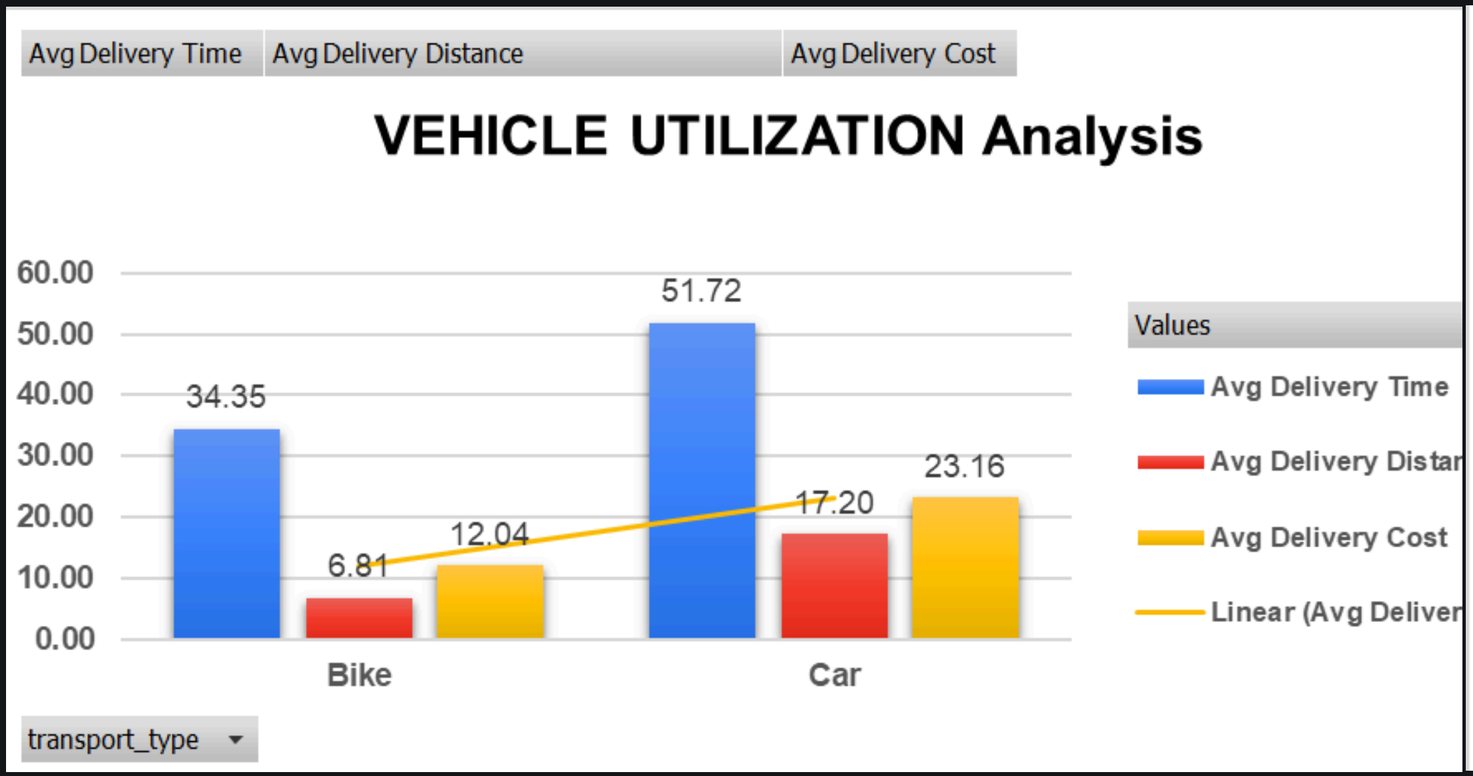
Top Performers (Efficient & Fast)

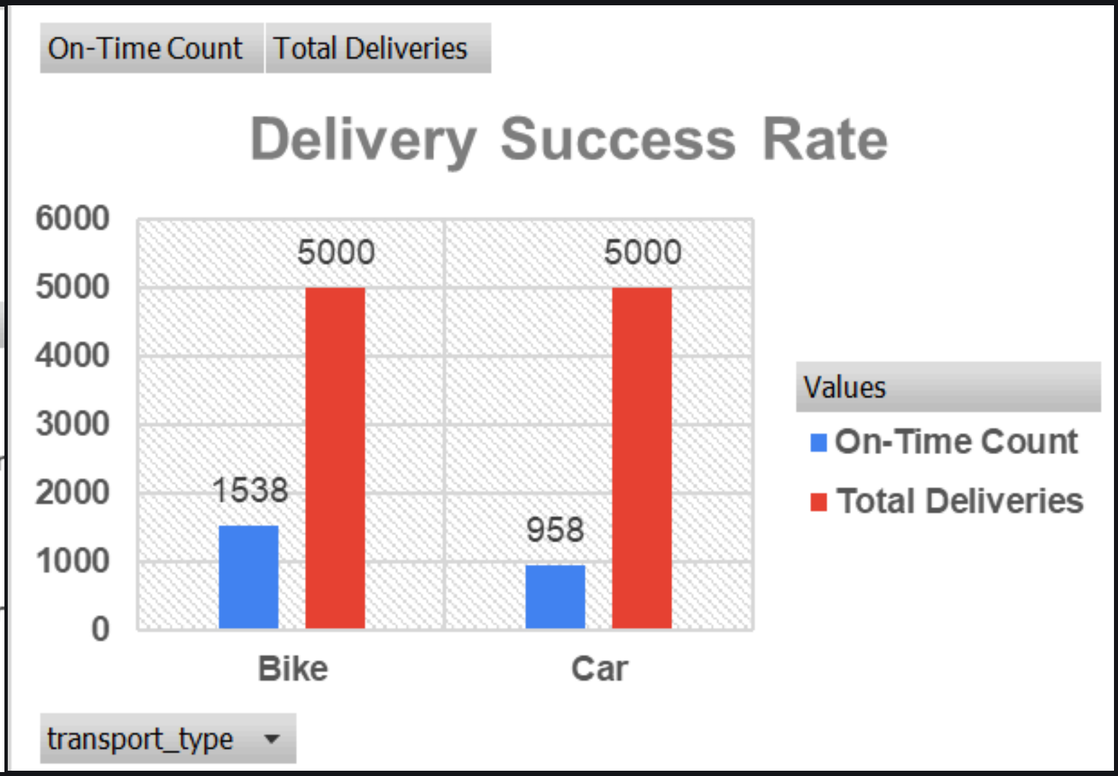
Merchant	Total Orders	Avg Order Time	Notes
Merchant 13	2398	**25.33**	Very efficient! High volume and low time – a benchmark merchant
Merchant 24	1314	**27.71**	Reliable, fast
Merchant 1	1854	**28.40**	Consistent speed at scale

Prescriptive Recommendations

- Audit delays
- Replicate top-performer practices
- Optimize prep–pickup timing
- Enable real-time driver alerts
- Monitor & report merchant KPIs

Logistics Performance





Prescriptive Recommendations – Logistics Optimization

Area	Problem	Recommendation
Merchant Ops	High Avg Order Time	Audit slow merchants, replicate fast ones
Logistics	Low On-Time Delivery (Cars)	Prioritize bikes for short deliveries
System	Delays at pickup	Improve alerts when food is almost ready

Implementation Plan

Short-Term Actions (0–3 Months)

- Audit slow merchants (Merchant 19, 20, 14) for prep/pickup delays
- Share merchant performance reports monthly to drive improvement
- Prioritize bikes for short-distance deliveries to cut cost and delay
- Enable driver alerts when orders are nearly ready for pickup

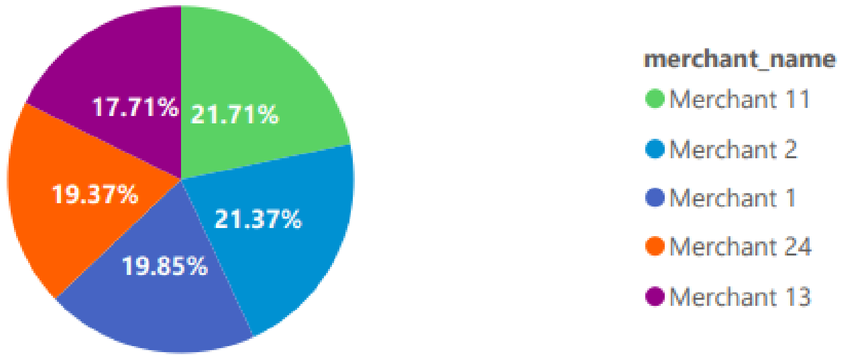
Long-Term Actions (3–6+ Months)

- Route optimization for cars to reduce delivery time and cost
- Automate KPI tracking dashboards for merchants and transport types
- Standardize best practices across top-performing merchants
- Pilot dynamic dispatch system to match agent + merchant timing

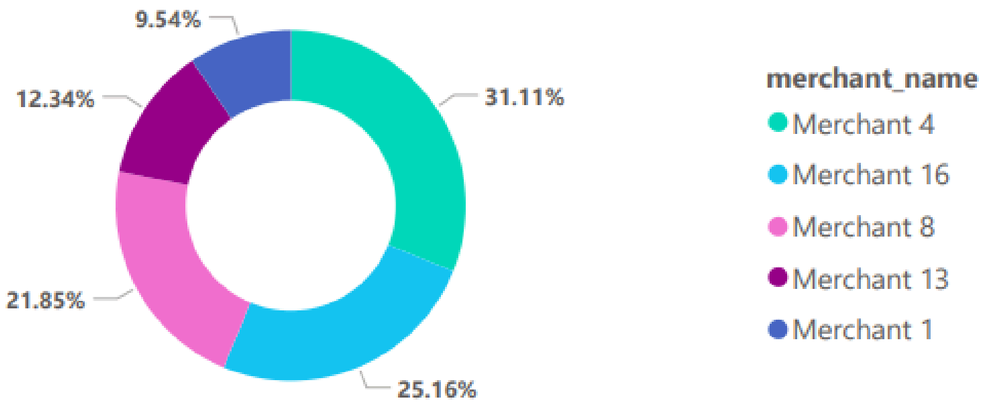
Merchant Performance Dashboard

31297	35.57
Total Orders	Average Order Time

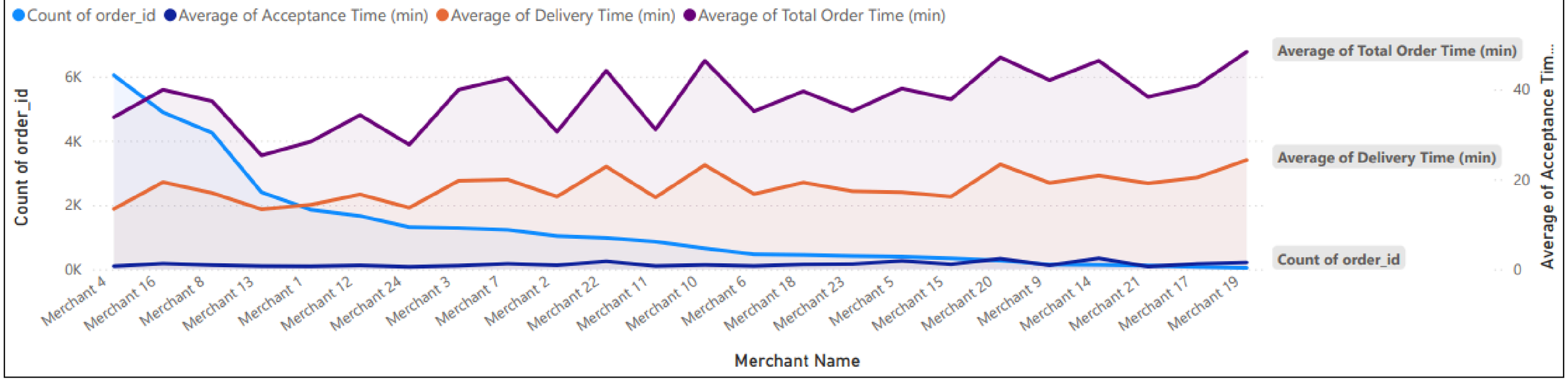
Top 5 Fastest Merchants by Avg Order Time



Highest Order Volume – Top 5 Merchants



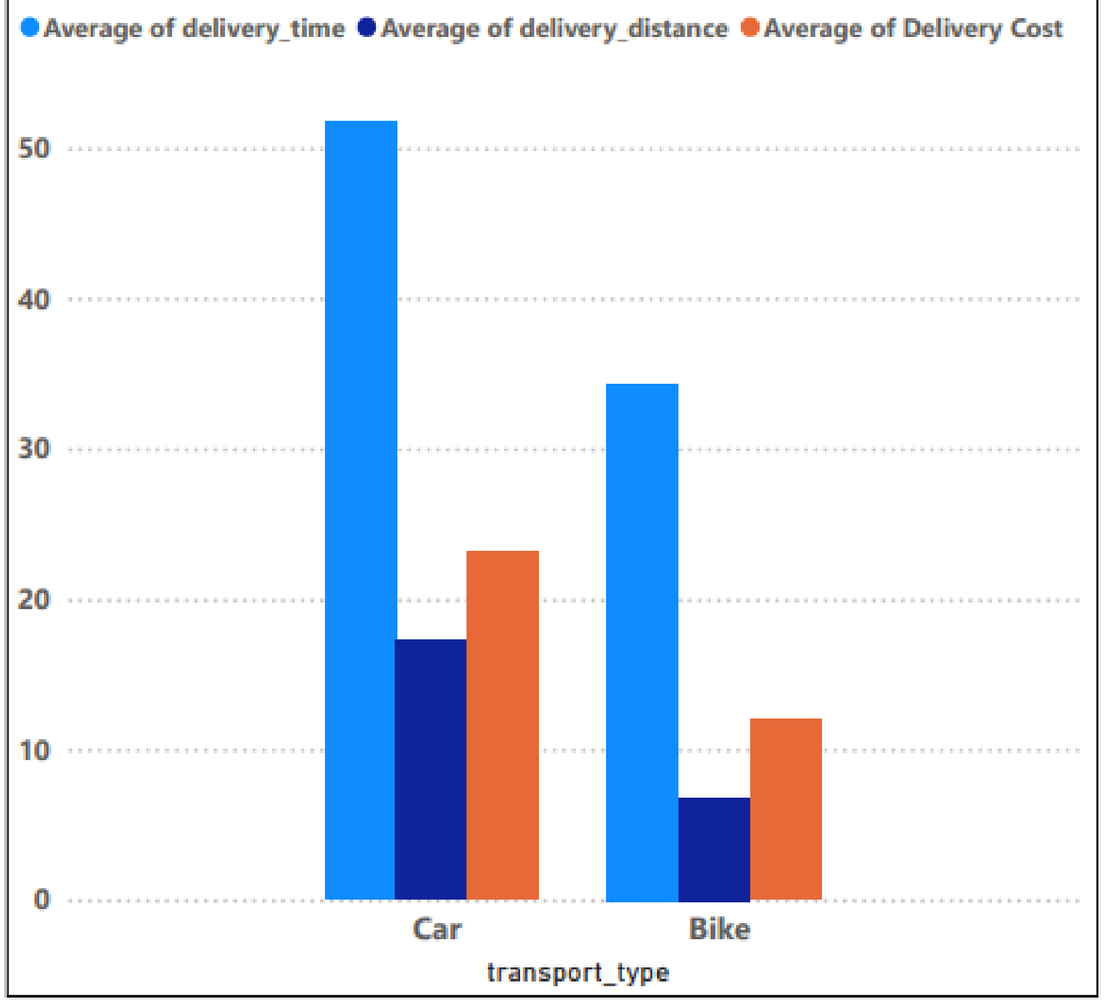
Order Stage Breakdown by Merchant



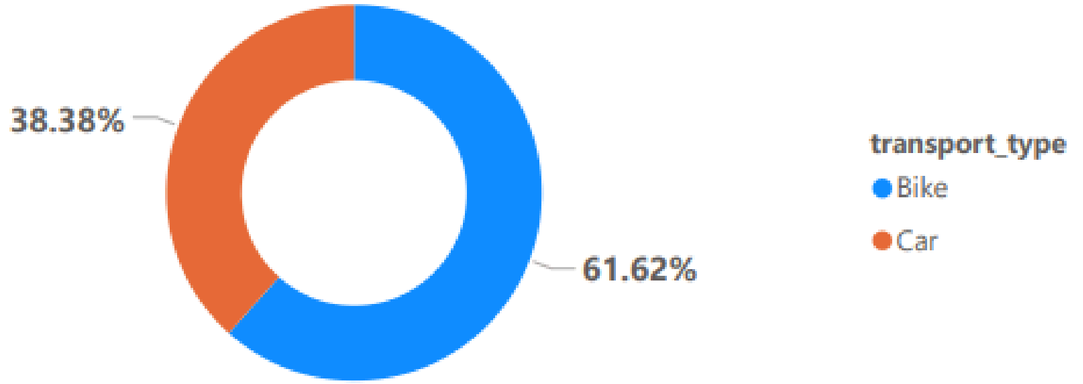
Logistics Performance Dashboard

43.04	17.60
Avg Delivery Time	Avg Delivery Cost

Delivery KPIs by Vehicle Type



On-Time Delivery Rate



Vehicle Performance Summary

transport_type	Avg Delivery Time	Avg Delivery Distance	Avg Delivery Cost	On-Time %
Bike	34.35	6.81	12.04	61.62%
Car	51.72	17.20	23.16	38.38%
Total	**43.04**	**12.01**	**17.60**	**100.00%**

31297	35.57	16.70	17.60
Total Orders	Avg Order Time	Avg Delivery Time	Avg Delivery Cost

Key Insights

- **Merchant 13, 24, 1** are top performers with low order times
- **Merchant 19, 20, 14** need operational audits due to delays
- **Bikes outperform cars** in speed, cost, and reliability
- **System-wide on-time rate is low (43%)** – process optimization needed

Recommendations Table

Area	Problem	Recommendation
Merchant Ops	High Avg Order Time	Audit slow merchants, replicate fast ones
Logistics	Low On-Time Delivery (Cars)	Prioritize bikes for short deliveries
System	Delays at pickup	Improve alerts when food is almost ready

Thank You