

# Last-Mile Route Optimization — Summary

Objective: Minimize delivery distance/time under traffic and demand stress scenarios using Clarke-Wright heuristic.

scenario	total_distance_km	total_time_hrs	vehicles_used	avg_route_time_hrs
base	207.28	6.91	2	3.45
traffic_peak	207.28	9.87	2	4.94
extra_demand	207.28	6.91	2	3.45
vehicle_shortage	231.85	7.73	3	2.58

Interactive HTML maps saved in maps/ (open locally).