

# Agentic AI for Route Planning and Dispatch Optimization

## Business Problem



- Route planning is often impacted by changing order volumes, traffic, delivery windows, fuel prices, and fleet availability
- Dispatch teams rely on static planning rules and manual decisions, limiting agility during day-to-day disruptions
- Poor route and load planning leads to empty miles, underutilized vehicles, and higher transportation costs
- Last-minute changes such as urgent orders, vehicle breakdowns, and congestion create frequent replanning challenges
- Teams lack a dynamic decision system that can balance cost, service levels, and capacity utilization in real time

## Solution



- Implement Agentic AI to continuously evaluate orders, vehicle capacity, delivery commitments, and route constraints
- Use AI agents to generate and refine delivery plans dynamically based on live traffic, customer priority, and operational changes
- Enable agents to optimize load consolidation and dispatch sequencing to improve truck utilization
- Allow the system to automatically replan routes when disruptions occur and surface only critical exceptions for planner approval
- Provide explainable recommendations so planners can understand why routes, loads, or dispatch assignments were changed

## Value Delivered



- ✓ **8–15% reduction** in transportation cost per shipment through smarter dispatch and route optimization
- ✓ **10–18% reduction** in empty miles by improving route efficiency and load planning
- ✓ **8–12% improvement** in fleet utilization through better vehicle and load allocation
- ✓ **20–25% faster planning** and replanning cycles compared with manual dispatch processes
- ✓ **5–10% reduction** in fuel consumption through optimized routing and fewer unnecessary route deviations

 **15%**

Lower Transportation Cost through Smarter Dispatch and Route Optimization

 **18%**

Fewer Empty Miles through Better Route and Load Planning

 **25%**

Faster Planning and Replanning than Manual Dispatch Processes