



SMART INDIA HACKATHON 2025

Problem Statement ID: SIH 25013

Problem Statement Title: Real-Time Public Transport Tracking
for Small Cities

Theme: Transportation & Logistics

Problem Statement Category: Software

Team ID:

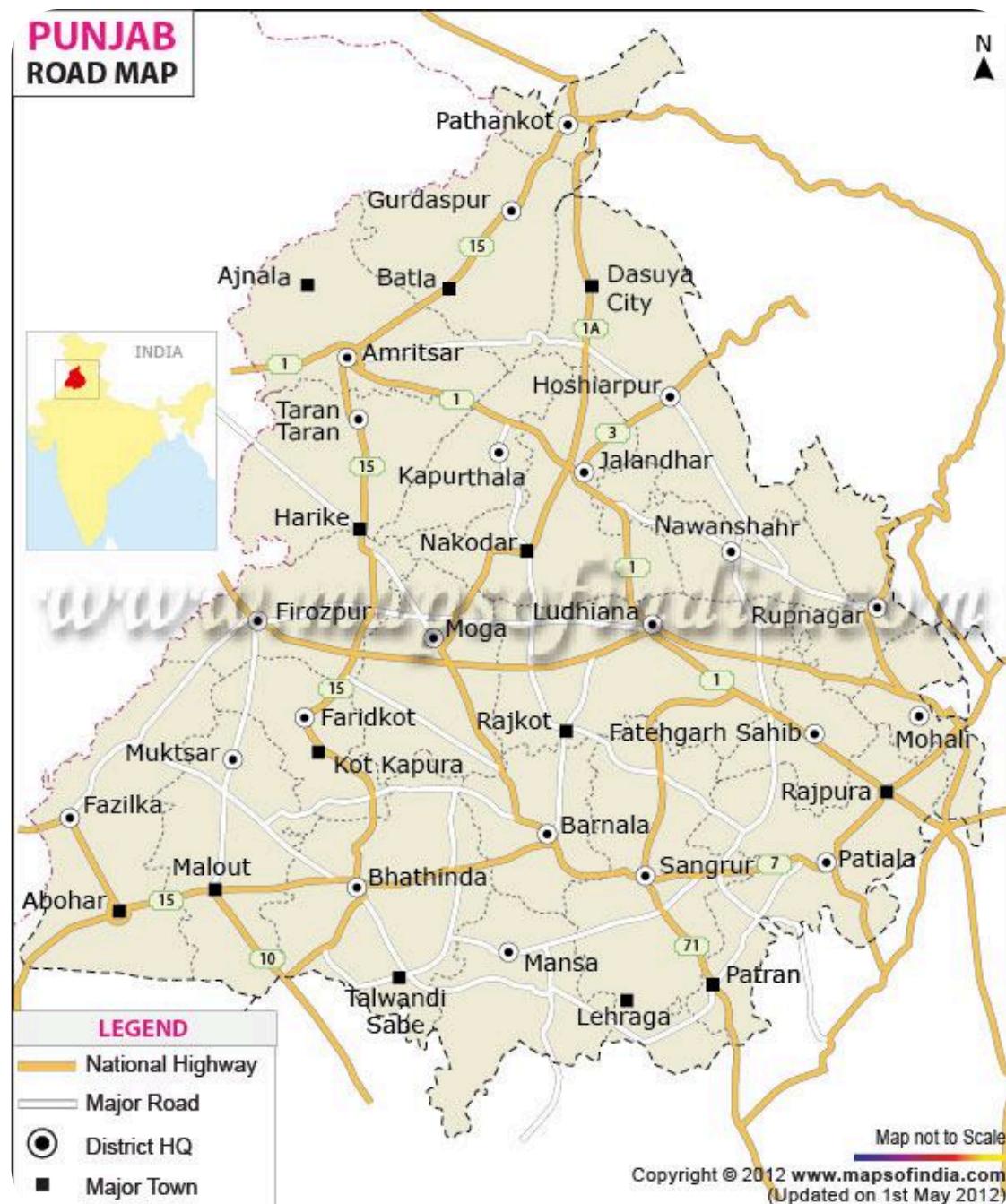
Team Name: TranspoTrackers

TranspoTrackers

Real-Time Public Transport Tracking for Small Cities

Proposed Solution:

- Mobile and web app showing live bus/metro locations, ETAs, and next departures.
- Multi-modal trip planner (bus, shared auto/e-rickshaw, walking) with turn-by-turn guidance.
- Data fusion: agency GTFS/GTFS-RT + vehicle GPS + crowdsourced rider reports.
- Offline-first: cached routes/schedules and vector tiles for low connectivity
- City dashboard: route health, on-time performance, crowding, bottlenecks, alerts .
- Constraint-aware trip planning (min time/cost/transfers; accessibility and safety options).
- Increases trust and usage of public transport; reduces private vehicle dependence



Dashboard:

Admin

- Create/manage agencies, depots, routes, stops, users, and roles

User

- Plan routes, trips, headways, and timepoints with map-based editor .

Driver

- Start/stop trip, report incidents, crowding level, and road closures

Models & Functionality

Route Optimization

- Learns the fastest and most reliable paths using live GPS + GTFS-RT + crowd reports

Dynamic Demand Prediction

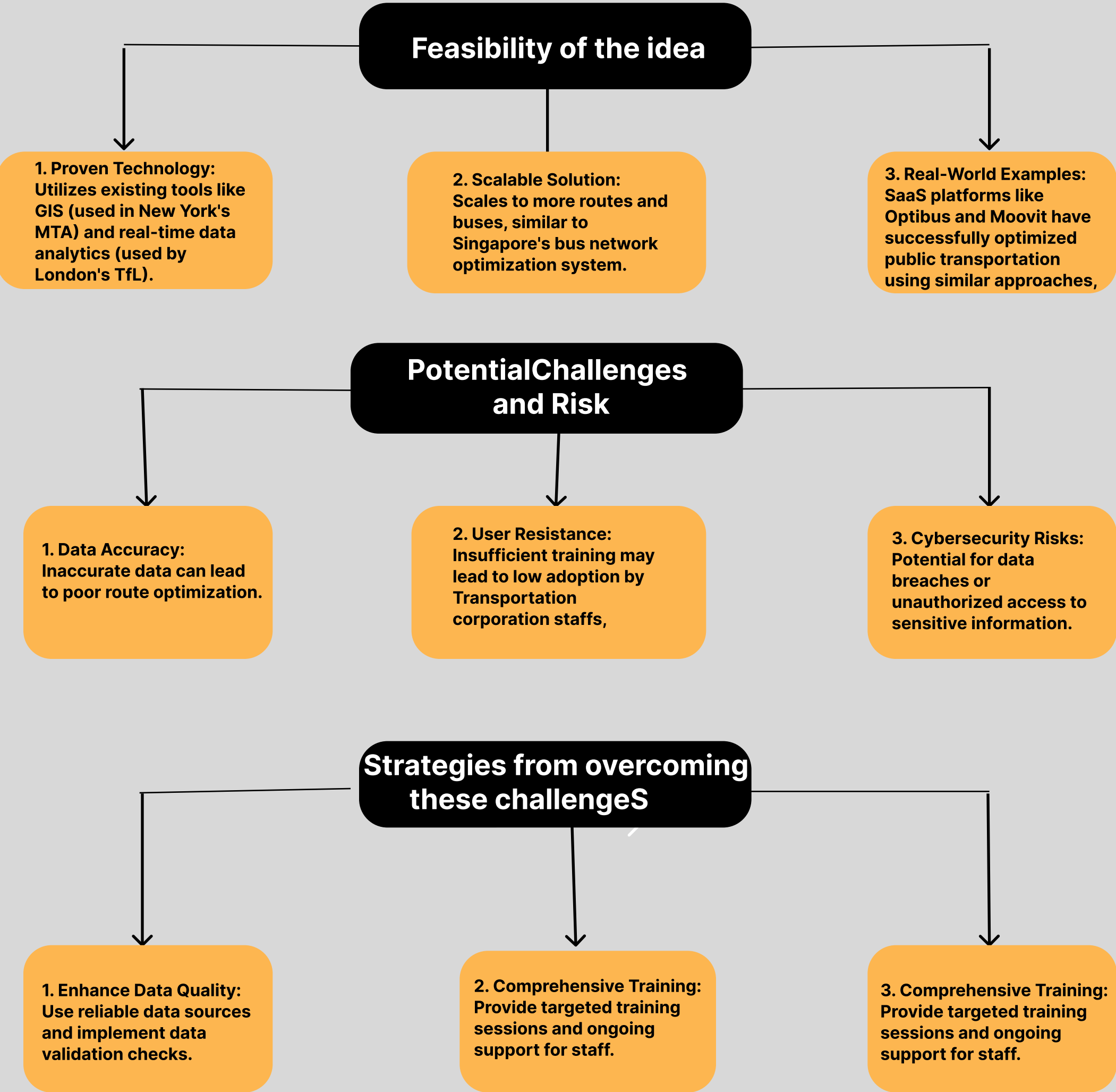
- Predicts congestion and dwell time to improve ETA accuracy

Scheduling

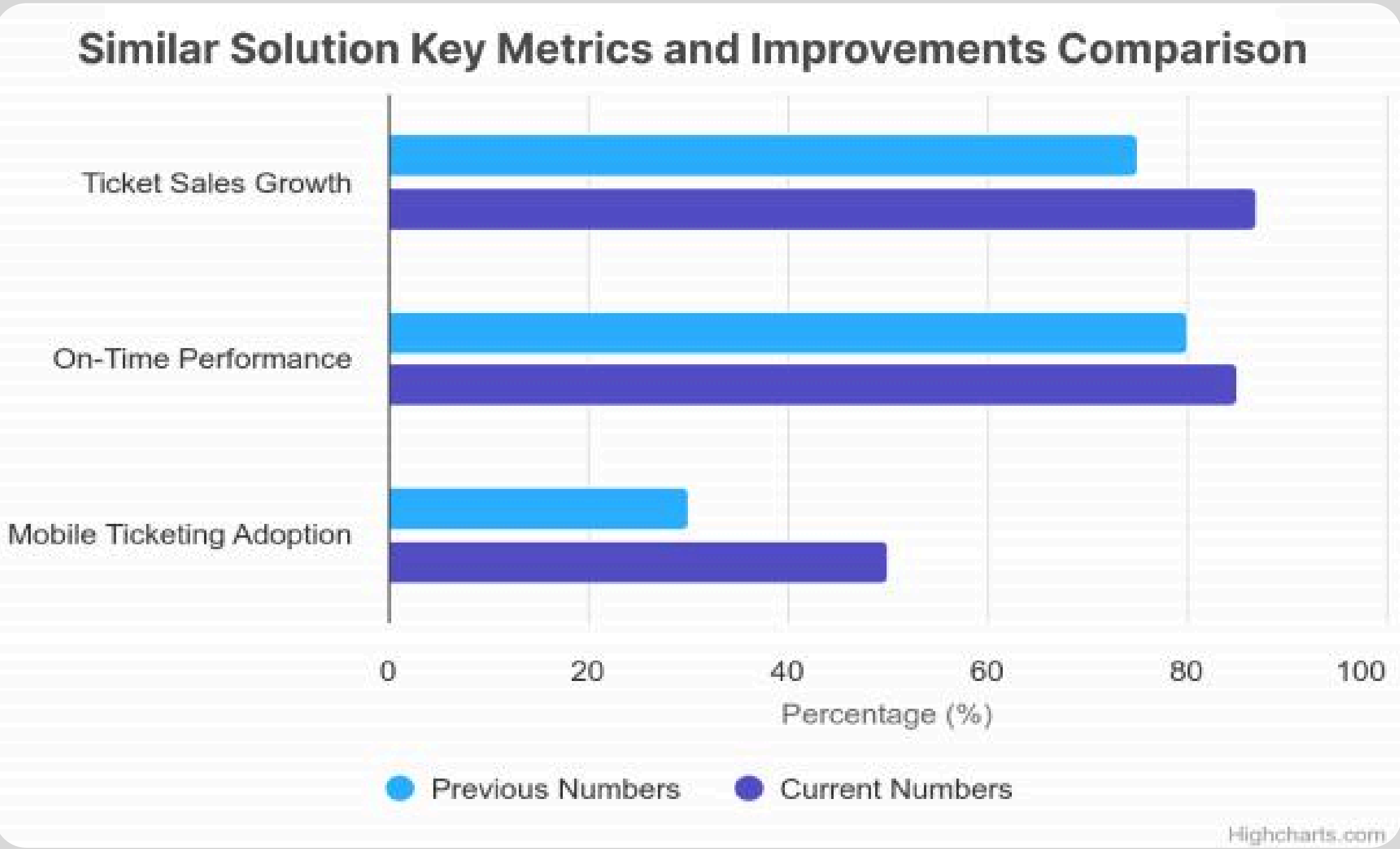
- Constraint-based auto scheduler generates timetables, trip blocks, and driver duties



Feasibility and Visibilty

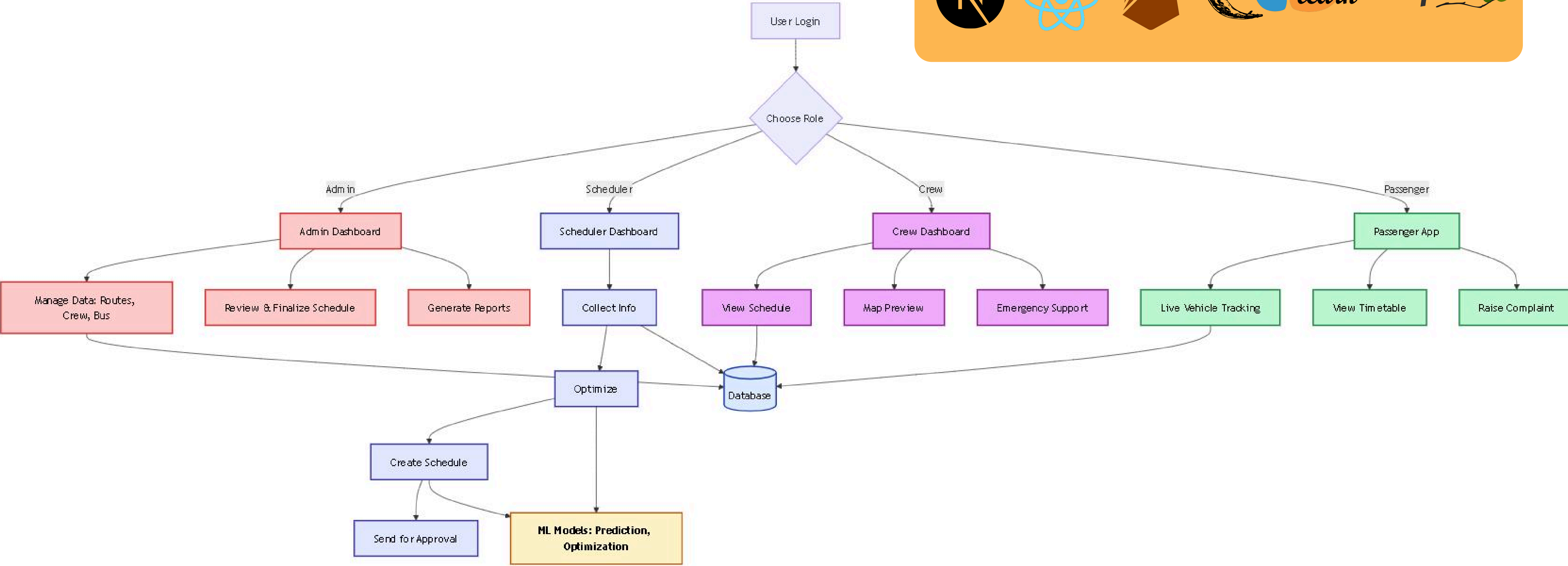
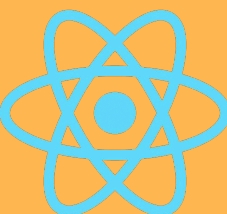


Graphs & Metrics

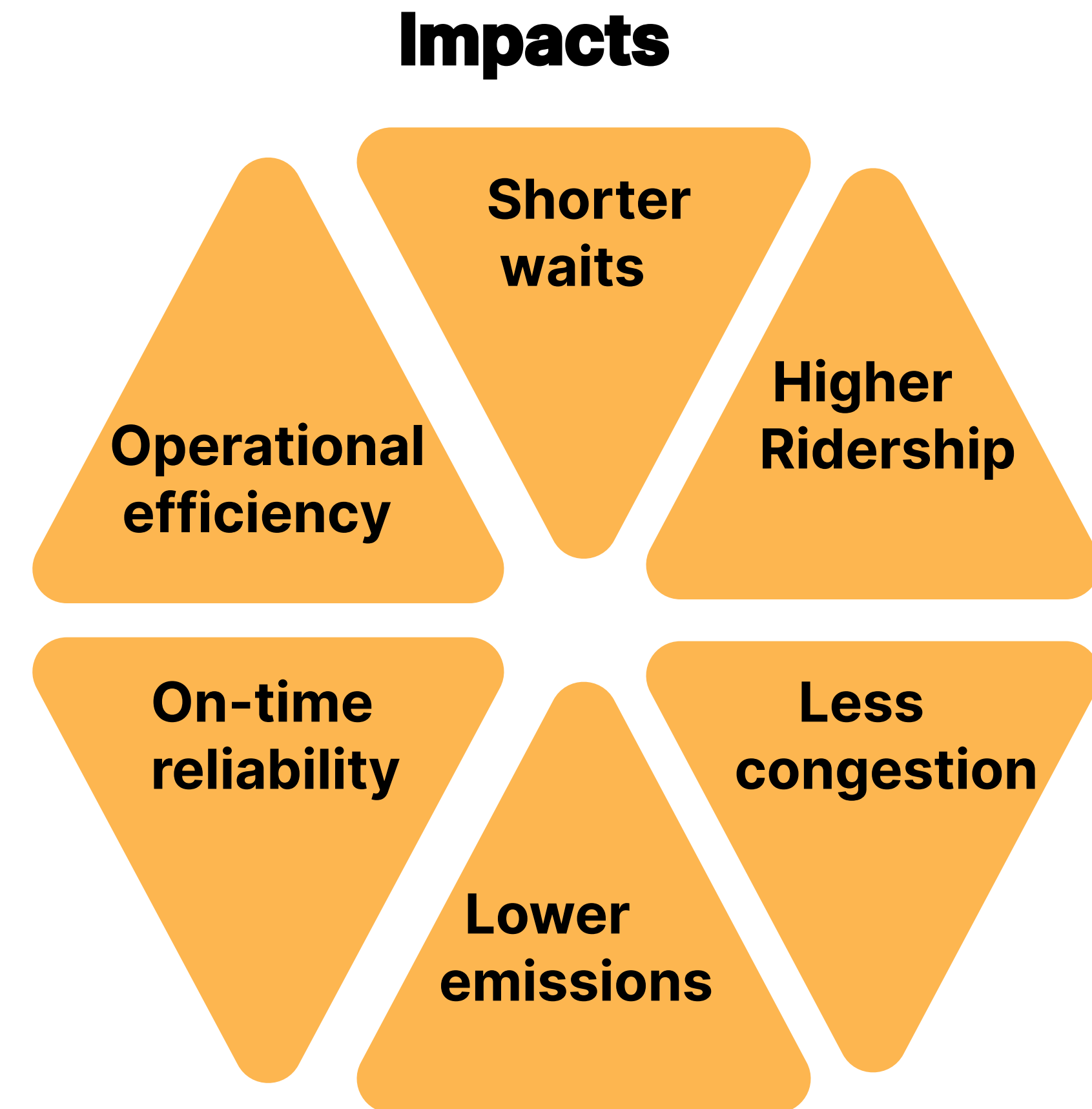
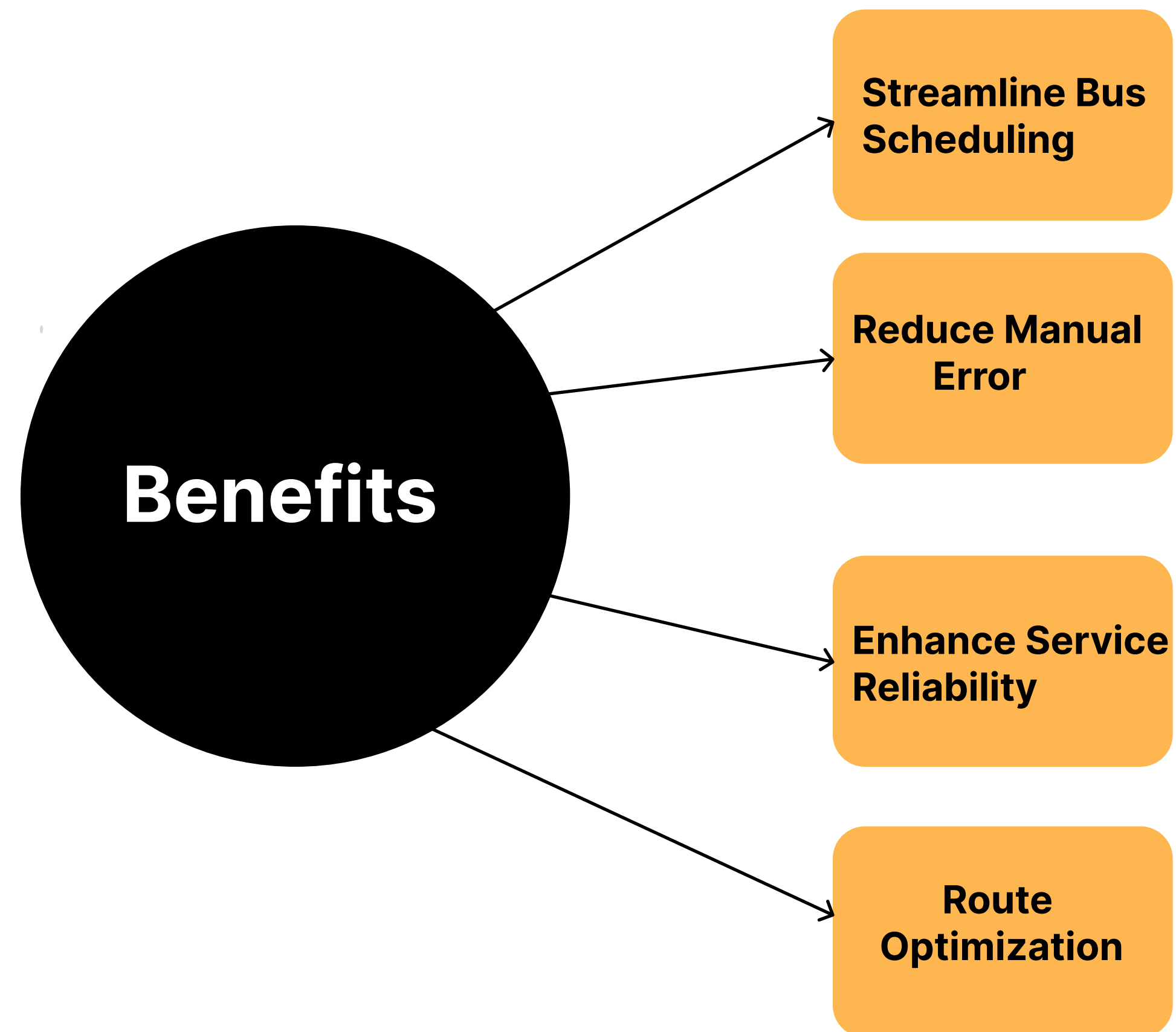


Ref. No. : 9
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Tech Stack



Benefits and Impacts



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