PragatiDhara App Pitch Deck

INNOVATIVE SOLUTIONS DRIVING PROGRESS AND GROWTH

Vision & Mission

Transforming Urban Mobility in India

Citizen-Driven Traffic Management

Citizens move from passive drivers to **active data contributors**, sharing real-time telemetry to directly **alleviate congestion and emissions.**

Integration of Green AI Models

PragatiDhara leverages green AI technologies to optimize urban traffic for sustainability and smarter mobility solutions.

Green AI (Federated & Low-Carbon) delivers real-time route optimization, ensuring every decision is **smarter, faster, and cleaner.**

Alignment with National Sustainability Goals

Directly supports **India's Smart City Mission** and **Green Credit Program,** making us a strategic partner in achieving national sustainability targets.

Behavioral Change and Environmental Stewardship

We foster a culture of **Environmental Stewardship** by rewarding eco-conscious choices, turning commuters into **urban environmentalists.**

Solution Architecture and Design

CrowdSourced Intelligence Meets Scalable AI

Cloud-Native Modular Framework

▶ **Dynamic Scalability:** Utilizes a modern, secure **Cloud-Native architecture** for elastic scaling, managing millions of dynamic data streams simultaneously.

▶ **Modular API Design:** Enables rapid integration and deployment across various **Smart City systems** and partner platforms.

Real-Time Data Collection

▶ **Instant Traffic Visibility:** Collects precise, **real-time mobile telemetry** from commuters, transforming every phone into a dynamic sensor.

▶ **Proactive Prediction:** Moves beyond simple reporting to **predict congestion minutes in advance**, enabling true proactive traffic optimization
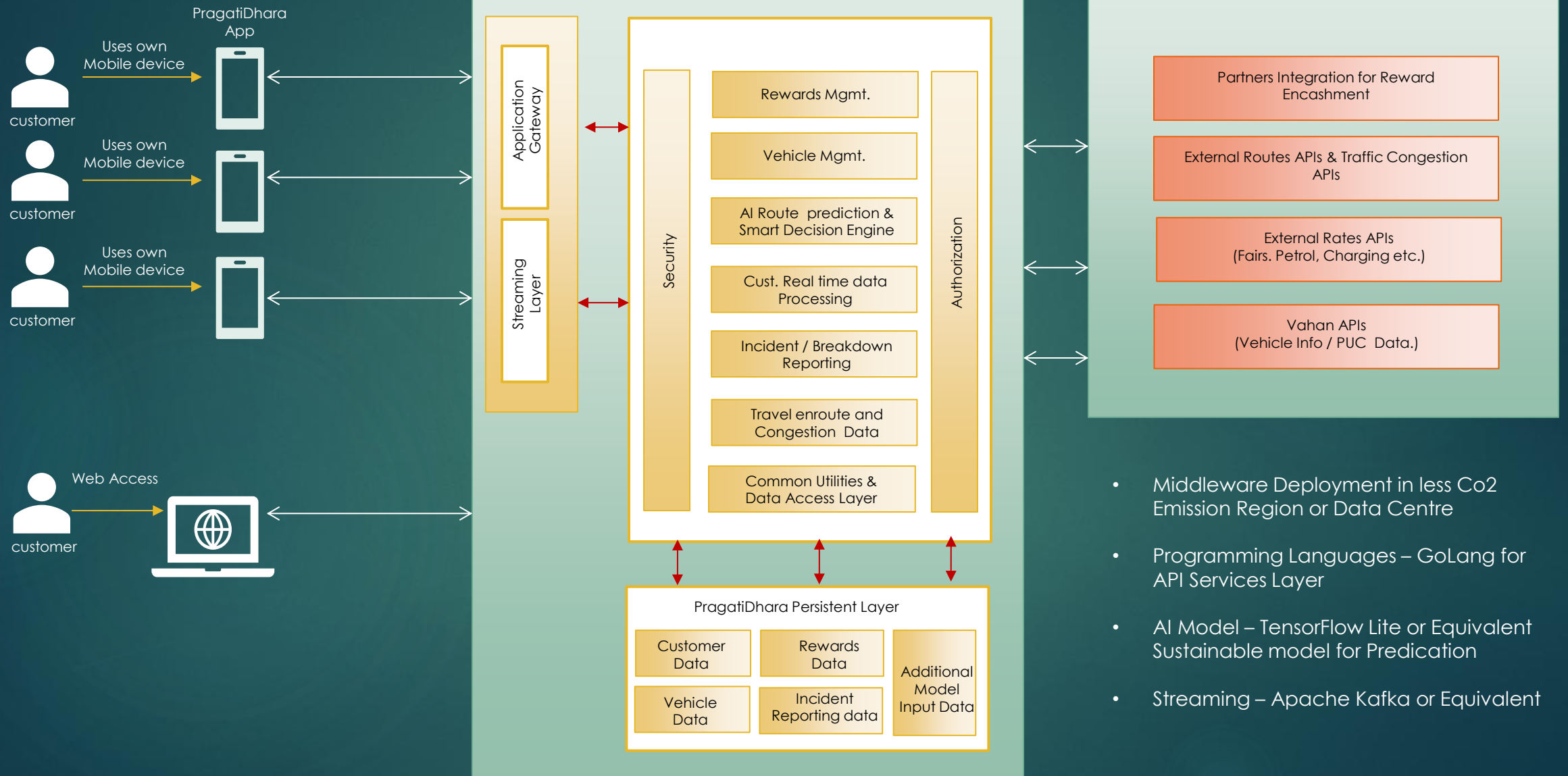
Privacy-Preserving Federated Learning

▶ **Privacy by Design:** Uses cutting-edge **Federated Learning** techniques to analyze patterns without ever centralizing raw user data.

▶ **Secure Pattern Recognition:** Ensures user privacy is **absolutely guaranteed** while generating highly accurate models for dynamic re-routing.
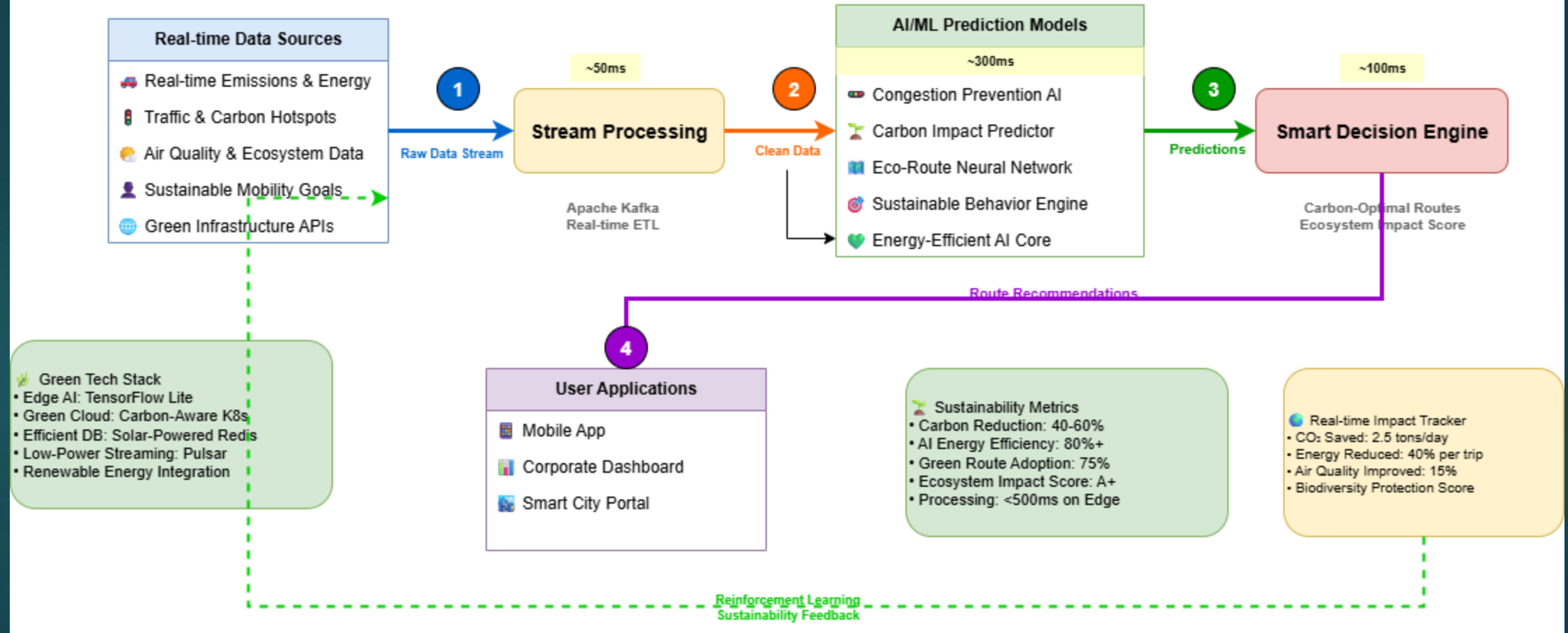
Interoperability & Accessibility

▶ **Seamless Integration:** Full API support ensures **seamless connectivity** with all major navigation and city management systems.

▶ **Inclusive User Experience:** Features a **Vernacular AI Voice Interface** to ensure accessibility and ease of use for diverse users across India.
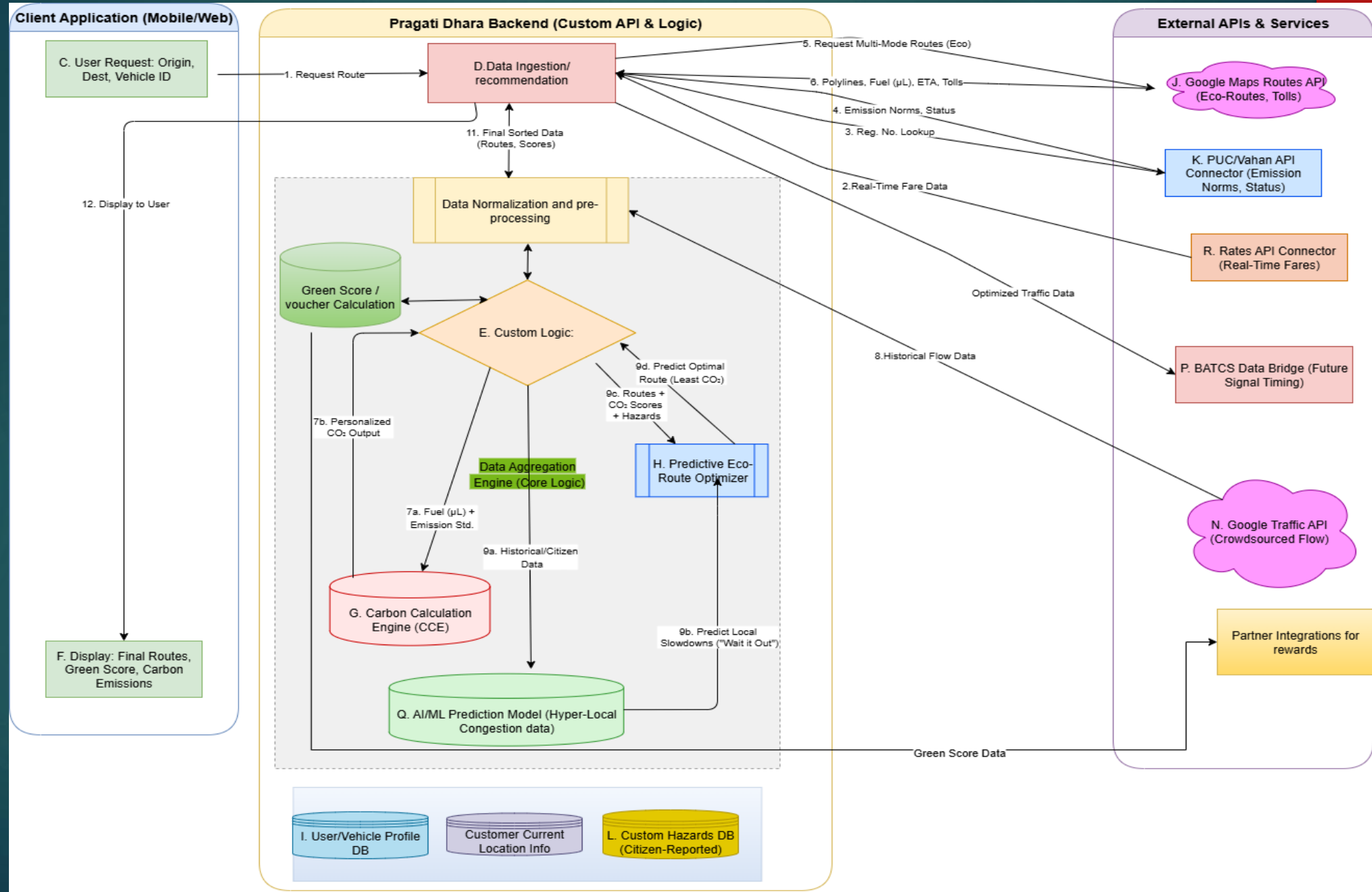
High Level Solution Design

11/6/2025

PragatiDhara: Sustainable AI-Driven Traffic Intelligence & Carbon Reduction System

Detailed Solution Sketch

Client Application (Mobile/Web)

- C. User Request: Origin, Dest, Vehicle ID
- F. Display: Final Routes, Green Score, Carbon Emissions

Pragati Dhara Backend (Custom API & Logic)

- D. Data Ingestion/ recommendation
- Data Normalization and pre-processing
- Green Score / voucher Calculation
- E. Custom Logic:
- Data Aggregation Engine (Core Logic)
- H. Predictive Eco-Route Optimizer
- G. Carbon Calculation Engine (CCE)
- Q. AI/ML Prediction Model (Hyper-Local Congestion data)
- I. User/Vehicle Profile DB
- Customer Current Location Info
- L. Custom Hazards DB (Citizen-Reported)

External APIs & Services

- J. Google Maps Routes API (Eco-Routes, Tolls)
- K. PUC/Vahan API Connector (Emission Norms, Status)
- R. Rates API Connector (Real-Time Fares)
- P. BATCS Data Bridge (Future Signal Timing)
- N. Google Traffic API (Crowdsourced Flow)
- Partner Integrations for rewards

Flow labels:
- 1. Request Route
- 12. Display to User
- 11. Final Sorted Data (Routes, Scores)
- 5. Request Multi-Mode Routes (Eco)
- 6. Polylines, Fuel (μL), ETA, Tolls
- 4. Emission Norms, Status
- 3. Reg. No. Lookup
- 2. Real-Time Fare Data
- Optimized Traffic Data
- 8. Historical Flow Data
- 7b. Personalized CO_2 Output
- 9d. Predict Optimal Route (Least CO_2)
- 9c. Routes + CO_2 Scores + Hazards
- 7a. Fuel (μL) + Emission Std.
- 9a. Historical/Citizen Data
- 9b. Predict Local Slowdowns ("Wait it Out")
- Green Score Data
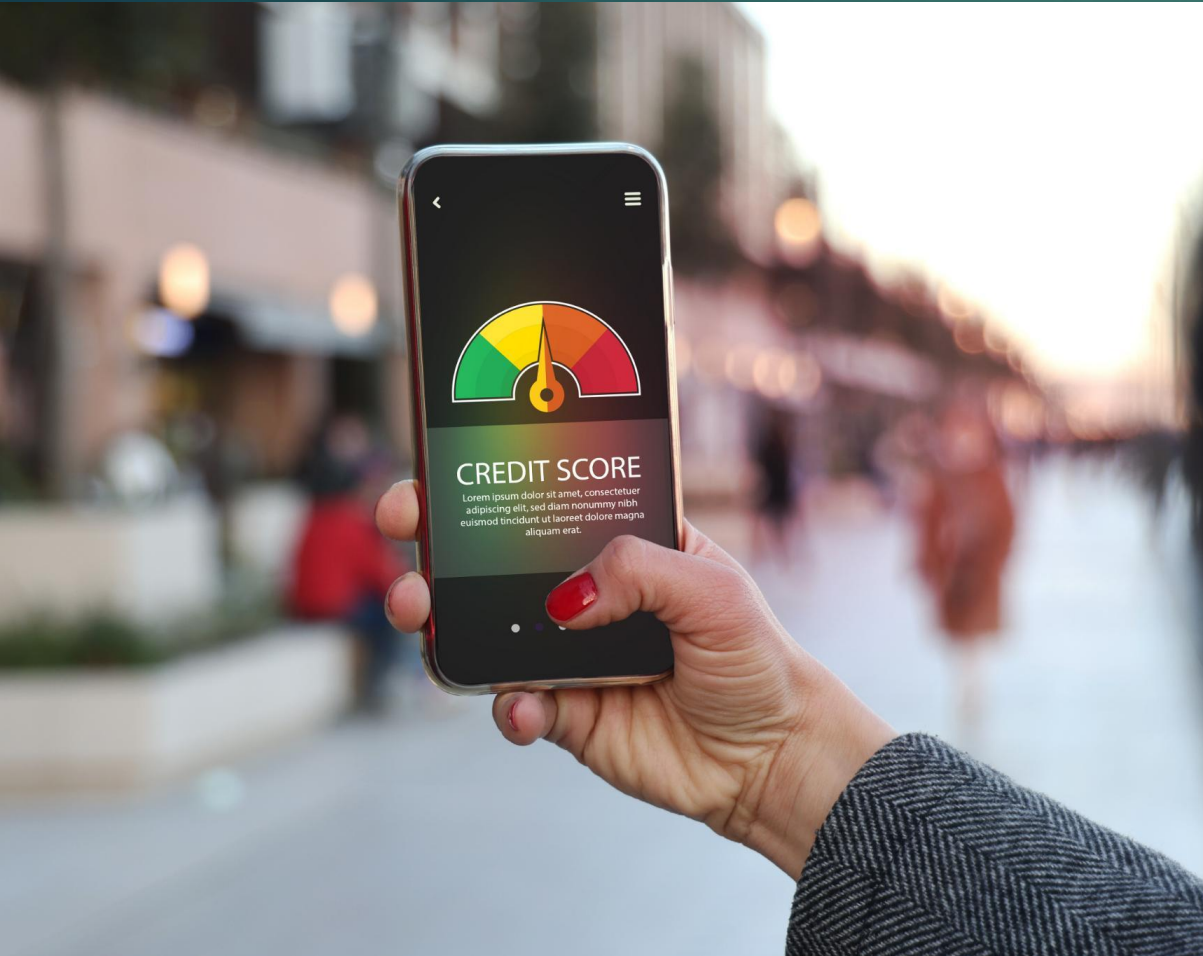
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Sustainable AI Implementation

Eco-Friendly Routing and Emission Reduction

Privacy-First Sustainable AI

▶ **Decentralized Intelligence:** Leverages **Federated Learning** to process data locally, dramatically reducing cloud usage and the associated carbon footprint.

▶ **Guaranteed Privacy:** Analyzes traffic patterns without ever accessing or storing raw, personal user location data.

Actionable Environmental Impact

▶ **Instant CO_2 Visualization:** Calculates and displays **real-time CO_2 savings per route**, making the environmental benefit tangible and personal for the user.

▶ **Fuel & Time Savings:** Utilizes powerful **Predictive Traffic Analysis** to anticipate and re-route around congestion, immediately lowering fuel consumption and emissions.

The GreenPoints Incentive Engine

▶ **Driving Behavior Change:** Users earn **GreenPoints** for every sustainable choice (eco-routing, ride-sharing, etc.).

▶ **High-Value Rewards:** Points are redeemable for direct financial benefits, including **fuel discounts, EV charging credits,** and retail coupons.

Innovation and Differentiation

Gamified Engagement & Hyperlocal Intelligence

AI-Powered Hyperlocal Intelligence

▶ We go beyond typical traffic data using unique, real-time insights:

▶ **Hyperlocal Hazard Reporting:** Users submit real-time data on unique Indian traffic hazards like potholes, illegal parking, and stray cattle, drastically improving map accuracy and safety.

▶ **Green Route Priority:** Our algorithms prioritize **green route options** using crowdsourced data, not just the fastest, ensuring navigation actively reduces congestion and emissions.
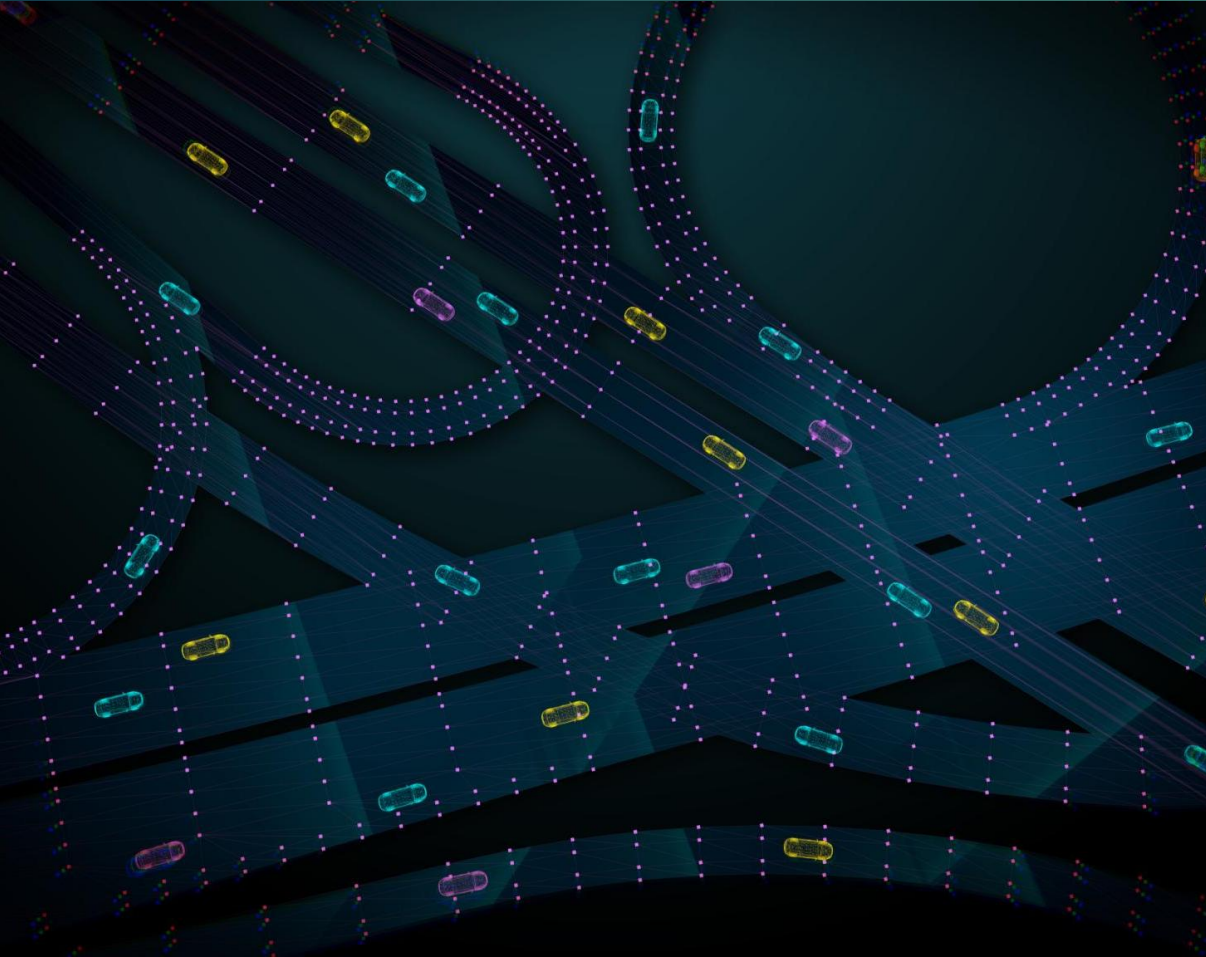
Ecosystem & Accessibility

▶ We integrate seamlessly and are built for all of India:

▶ **Seamless Integration:** Full API support for partners including **Google Maps, Smart City Systems, and ride-hailing apps**, enabling instant reporting for ESG dashboards.

▶ **Vernacular AI Support:** Features native language support via **Vernacular AI**, making the entire system accessible and usable across India's diverse communities.

Gamified Behavior Change

▶ We transform the user experience from passive driving to active participation.

▶ **Gamified Eco Rewards:** Our **GreenPoints** ecosystem rewards users for sustainable actions, creating a high-retention loop that directly encourages eco-friendly behavior and civic engagement.

Implementation and Roadmap

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Phased Rollout Strategy

Phase 1: Prototype and Pilot

Launch prototype and pilot in Pune and Hyderabad with 50,000 users and key partnerships.

Phase 2: Metro Expansion and Rewards

Expand app to five major metros and introduce GreenPoints rewards marketplace for users.

Phase 3: Scale and Integration

Scale platform to ten cities integrating Smart City ATCS and enhancing ESG analytics.

Strategic Roadmap Benefits

Phased rollout ensures measurable impact, validates solutions, and builds a strong ecosystem.

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Market Validation and Impact Potential

Addressable Market and Growth Forecast

Massive Opportunity, Measurable ROI

The challenge is enormous, making the market potential even larger.

Metric	Investment Thesis	Data Point
National Economic Drag	Congestion is costing India billions in wasted fuel and productivity loss annually.	₹1.5 Lakh Crore (or $18 Billion) annual economic loss from congestion in four major cities alone.
Total Addressable Market (TAM)	The total Indian Mobility market, which we disrupt and support.	₹55,000 Cr (~$6.6B) – Urban Mobility (Your original figure, conservative and focused on the immediate segment).
Serviceable Market (SAM)	Smartphone users in target cities ready for app adoption and incentives.	₹15,000 Cr (~$1.8B) – Smartphone users in Tier-1 & Tier-2 cities.
Obtainable Market (SOM)	Our conservative 3-year revenue target.	₹500 Cr (~$60M) – Projected from 2M active, monetized users.

Addressable Market and Growth Forecast

PragatiDhara's Quantifiable Impact (Projected in 3 Years)

We don't just reduce traffic; we deliver measurable results that align with national environmental goals.

Impact Area	Target Metric	The Financial/Environmental Outcome
Efficiency	40% faster commute times	Recovering up to 70 hours of productive time per commuter annually.
Sustainability	25% CO_2 reduction per user annually	Smart traffic solutions can globally cut up to 923 MMT of CO_2 by 2030—we lead this charge in India.
Profitability (B2B)	₹100K+ savings for fleet partners	Direct cost reduction via optimized routes, lower fuel consumption, and minimized vehicle wear-and-tear.
Adoption	2M+ Active Users	Creating the largest incentivized civic-data network in India.