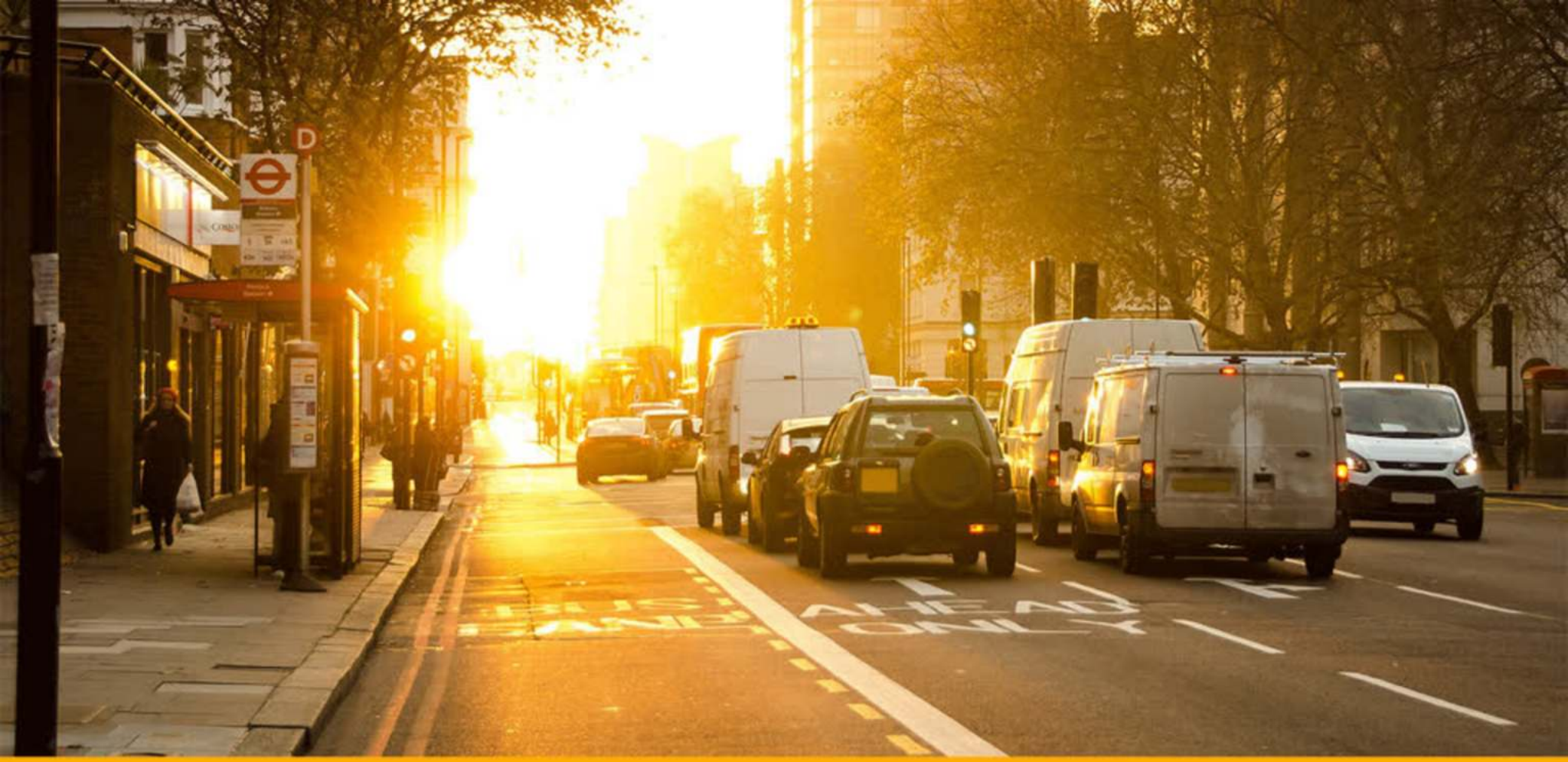

Coimbatore Road Safety Challenge

Accident Hotspot Prediction and Prevention Systems

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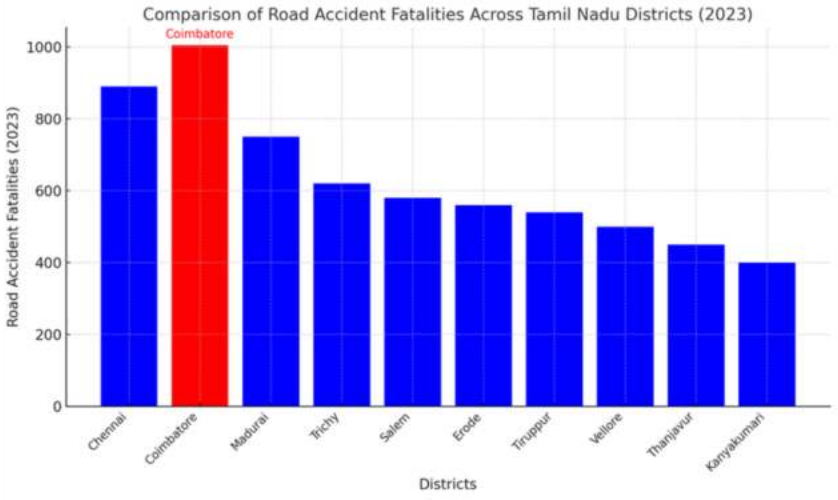
Accident Hotspot Prediction and Prevention Systems

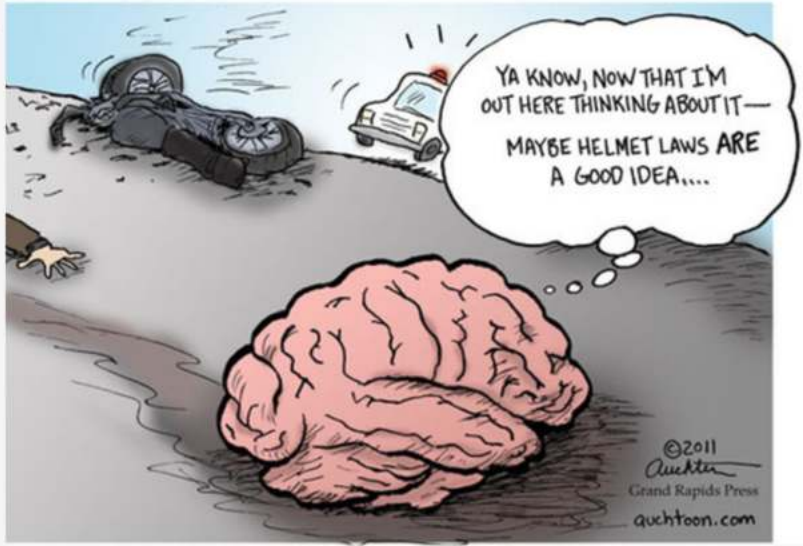
"Smart Roads, Safer Lives"

Overview: Coimbatore faces an increasing road safety challenge with rising accident rates, fatalities, and traffic density.
Objective: To provide an AI-driven solution for identifying and mitigating accident hotspots, ensuring safer roads and improved traffic management.

Road Safety Challenges in Coimbatore

1. ***High Fatality Rates:***
    a. *In 2023, Coimbatore reported over 1,000 road accident fatalities, surpassing Chennai as the district with the highest number of such deaths in Tamil Nadu.*
2. ***Evening Accidents Surge:***
    a. *There was a s*ignificant spike in accidents between 6 PM and 9 PM, with 47 fatal and 104 non-fatal incidents recorded during these hours.
3. ***Two-Wheeler Incidents:***
    a. Tamil Nadu recorded 8,113 two-wheeler accident deaths in 2023, with many attributed to non-helmet use.
4. ***Infrastructure Gaps:***
    a. Poorly managed intersections, insufficient road infrastructure, and limited real-time traffic monitoring systems exacerbate the problem.





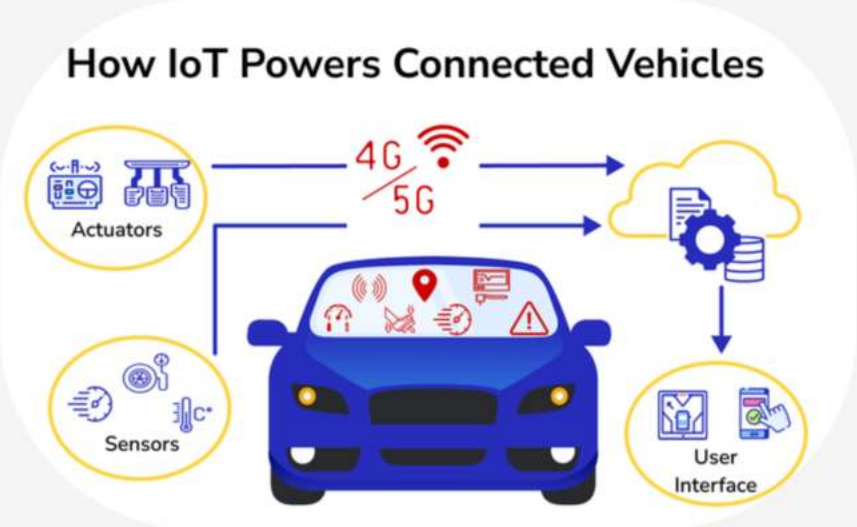
Our Mission

1. ***Primary Goal:*** *Reduce accidents and fatalities by 30–40% at identified hotspots.*
2. ***Key Focus Areas:***
    a. Predict accident hotspots using AI and data analytics.
    b. Prevent accidents with real-time interventions and community awareness.
    c. Enhance road safety and urban planning through actionable insights.

a person who was saved and is feeling relieved and happy

Accident Hotspot Prediction and Prevention System

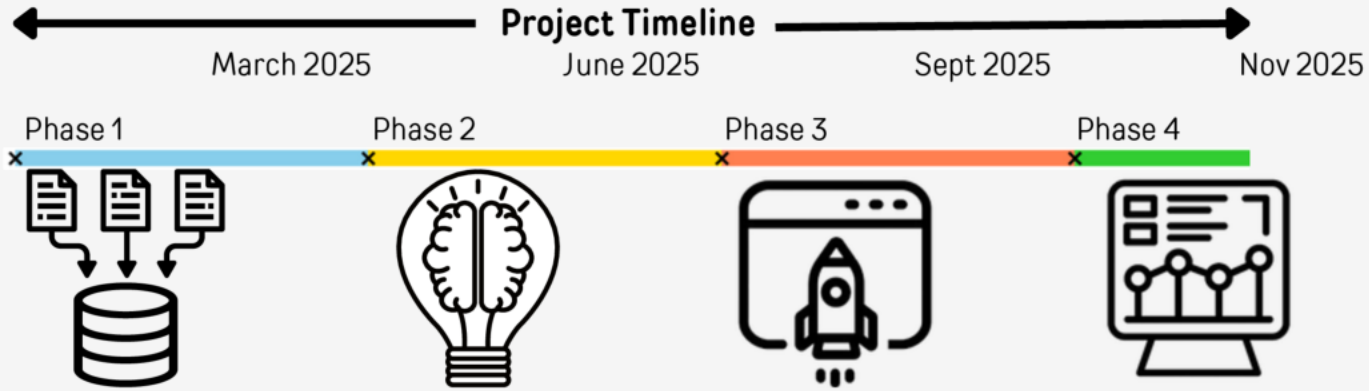
1. ***Data Collection:***
    a. Traffic data from IoT sensors, GPS devices, and cameras.
    b. Historical accident data and environmental factors.
2. ***Prediction Model:***
    a. AI/ML algorithms (e.g., Random Forest, Gradient Boosting) for hotspot forecasting.
3. ***Real-Time Monitoring:***
    a. IoT devices and camera feeds for tracking speed, density, and conditions.
4. ***Prevention Mechanisms:***
    a. Dynamic warning signs, mobile app notifications, and smart traffic lights.
5. ***Government Dashboard:***
    a. Interactive interface for traffic officials to plan interventions.



Dynamic warning signs

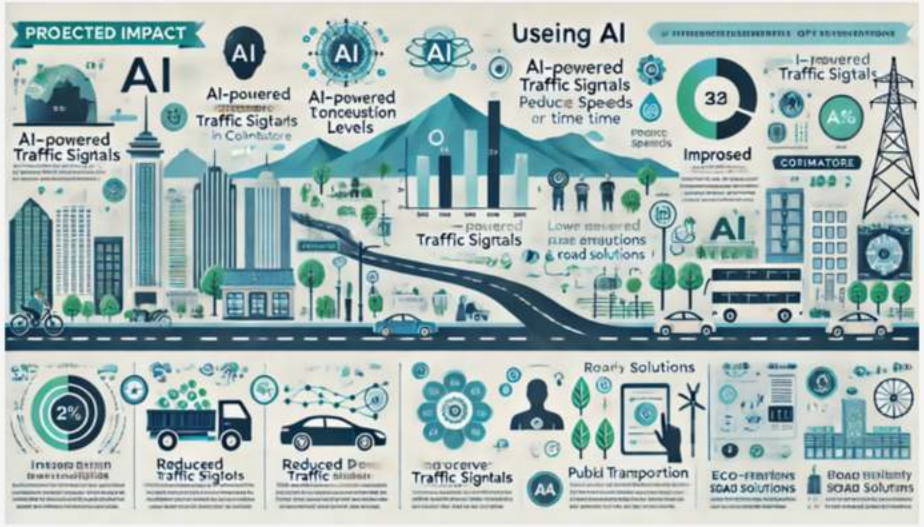
Phased Execution Strategy

1. ***Phase 1:*** *Data Collection*
    a. Collaborating with authorities for traffic data.
    b. Deploy sensors and cameras at key locations.
2. ***Phase 2:*** *Model Development*
    a. Train AI/ML models on historical and real-time data.
    b. Validate predictions with ground data.
3. ***Phase 3:*** *Prevention System Deployment*
    a. *Install warning systems, optimize traffic lights, and enable app notifications.*
4. ***Phase 4:*** *Dashboard Launch & Community Engagement*
    a. *Provide tools for traffic management.*
    b. Conduct awareness campaigns about accident hotspots.



Transforming Road Safety in Coimbatore

1. ***Reduction in Accidents:***
   a. *Fatalities at hotspots reduced by 30–40%.*
2. ***Improved Planning:***
   a. *Enhanced infrastructure and resource allocation.*
3. ***Driver Awareness:***
   a. *Increased knowledge of accident-prone areas and safety measures.*
4. ***Data-Driven Governance:***
   a. *Better traffic management and policy formulation.*



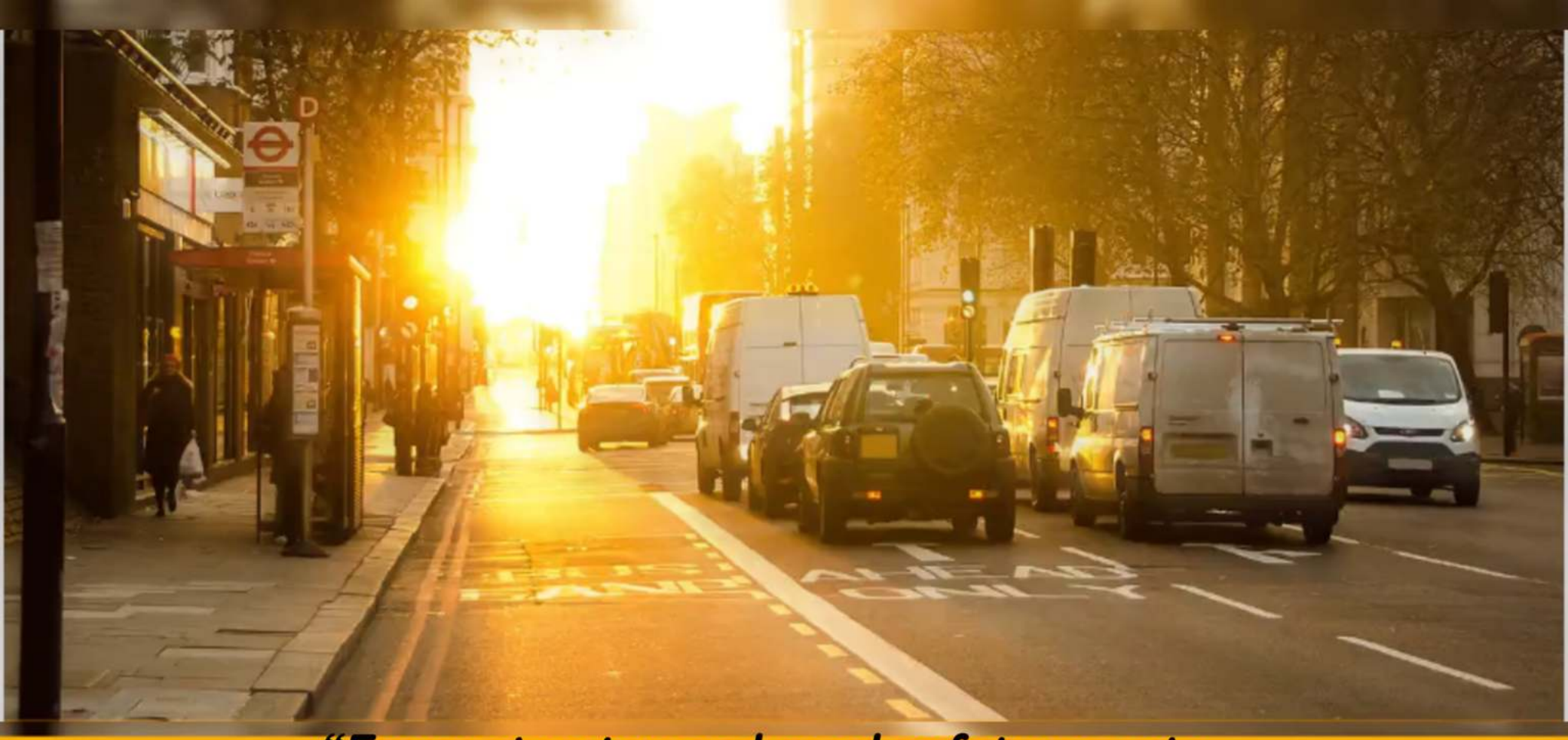
Before: 1.0 ★

After: 4.0 ★★★★

Join Us in Building Safer Roads

1. *The proposed solution combines AI, IoT, and community involvement to address Coimbatore's road safety challenges effectively.*
2. *With data-driven insights and preventive mechanisms, this system aims to set a benchmark for road safety initiatives.*

"Together for a Safer Tomorrow."



"Every step toward road safety counts—
thank you for inspiring us to take this one"

THANK YOU

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