“SAMVED” HACKATHON 2026

Smart Traffic and Parking Management System

MIT Vishwaprayag University

- **Problem Statement ID – 05**
- **Problem Statement Title-Smart Traffic and Parking Management System**
- **Theme- Smart Urban Mobility**
- **Team ID-30EFF1D1**
- **Team Name - HackSphere**

सोलापूर महानगरपालिका, सोलापूर

❖Proposed Solution

- Smart Parking Systems:

- Lifting parking s a specialized, space-saving solution designed to park vehicles on top of each other using mechanical or hydraulic systems.

- Adaptive Traffic Signals :

- Adaptive Traffic Control Systems (ATCS) are intelligent, sensor-driven systems that adjust traffic signal timings in real-time based on actual traffic demand, rather than using fixed schedules

- Infrastructure development:

-Infrastructure development involves constructing and upgrading essential physical and social systems to drive economic growth and improve living standards

- Smart Traffic Information Display:

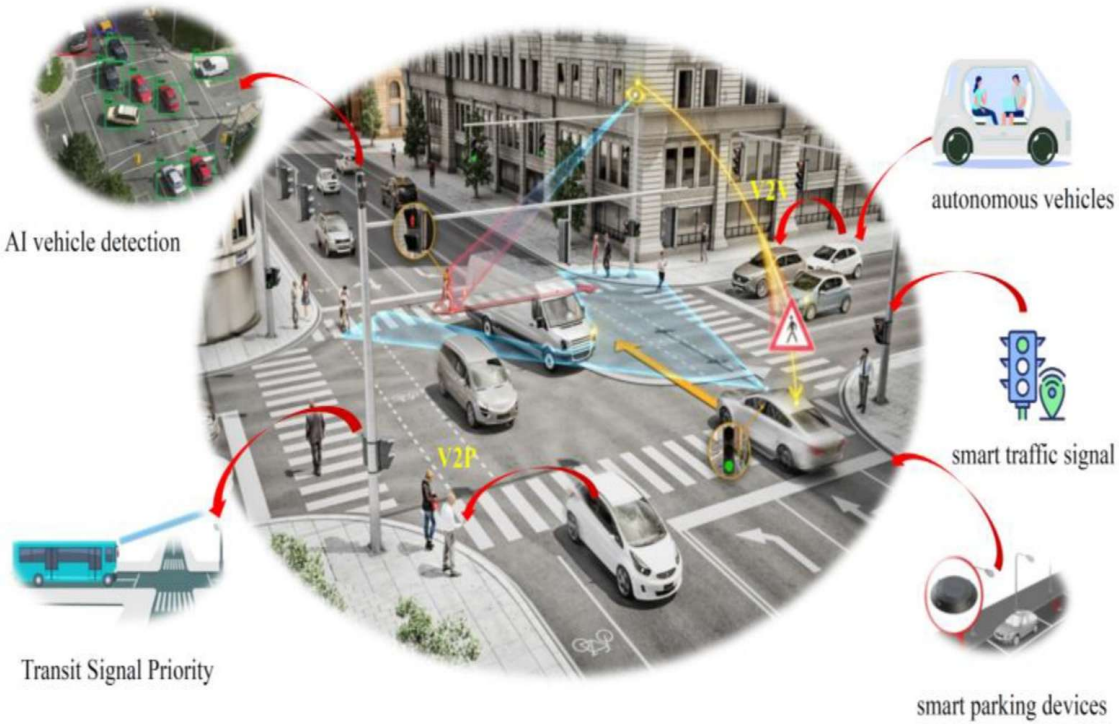
- Install Variable Message Signs (VMS) on main roads to display real-time updates on traffic conditions, alternative routes, and parking availability.

Hack Sphere

TECHNICAL APPROACH

सोलापूर महानगरपालिका, सोलापूर

MIT Vishwaprayag University



- Internet of Things
- Artificial Intelligence
- Machine Learning
- Computer Vision
- Smart Traffic Signal Controllers
- Smart Parking Technologies
- Communication Technologies
- Cloud Computing
- Big Data Analytics
- Mobile & Web Applications
- GPS & GIS Technologies
- Cybersecurity

Hack Sphere

FEASIBILITY AND VIABILITY

सोलापूर महानगरपालिका, सोलापूर

MIT Vishwaprayag University

FEASIBILITY:

- Availability of **CCTV cameras, traffic signals, and road junctions** at major areas like bus stands, markets, and main roads
- Existing **municipal parking spaces** can be upgraded with smart sensors
- Integration possible with **Solapur Traffic Police** and municipal control rooms
- Affordable implementation through **phase-wise deployment**
- Availability of **central/state Smart City & urban development funds**

VIABILITY:

- Reduces **traffic congestion** in busy commercial and market areas
- Minimizes **parking chaos** near temples, hospitals, and shopping zones
- Saves **fuel and travel time** for citizens
- Improves **emergency vehicle movement**
- Generates revenue through **smart parking fees and traffic violation management**
- Supports **eco-friendly and smart city development goals**

Hack Sphere

IMPACT AND BENEFITS

सोलापूर महानगरपालिका, सोलापूर

MIT Vishwaprayag University

IMPACT:

- Reduced Traffic Congestion
- Faster Emergency Response
- Optimized Parking Utilization
- Environmental Impact

BENEFITS:

- Citizens
- Cities & Governments
- Businesses
- Public Safety

Hack Sphere

RESEARCH AND REFERENCES

सोलापूर महानगरपालिका, सोलापूर

MIT Vishwaprayag University

- Smart Parking: https://ieeexplore.ieee.org/document/8753862
- Traffic Management System: https://ieeexplore.ieee.org/document/10939106