



Safira by Auriga: AI-Powered Advanced Traffic Management System

SAFIRA revolutionizes highway management with intelligent analytics and real-time integration to ensure safer roads, smarter enforcement, and smoother traffic flow.

Auriga ITTM

Introducing Safira: AI-Powered Traffic Management

1.2L

Vehicles Monitored Daily

Comprehensive coverage across highway networks

5TB

Video & Image Data

Processed daily for actionable insights

1000+

Daily Events

Real-time detection and response

Safira leverages AI-powered video analytics, radar-based speed detection, and event-driven messaging to enhance road safety and efficiency. The system enables automated violation detection, congestion monitoring, and smart traffic control for improved urban mobility across India's highway network.

Key Features of Safira



Vehicle Detection Systems

- Vehicle Incident Detection System (VIDS)
- Vehicle Speed Detection System (VSDS)
- Automatic Traffic Counter and Classifier (ATCC)



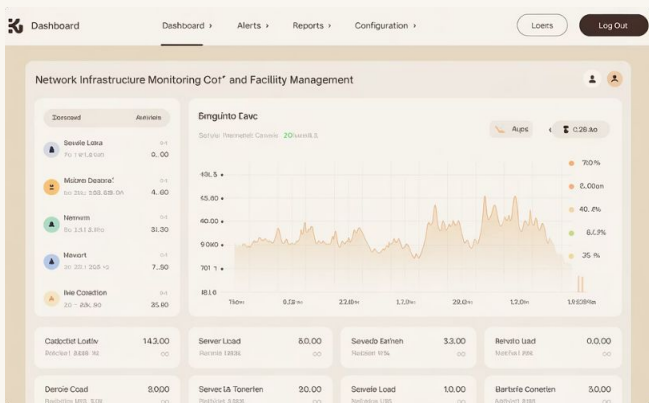
Communication Systems

- Variable Message System
- Emergency Call Box



Management & Control

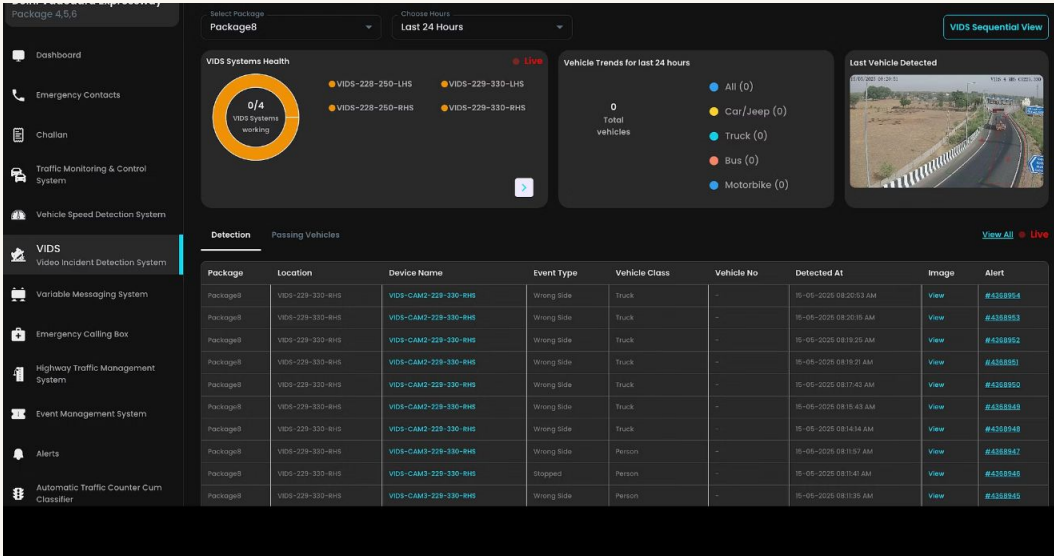
- Traffic Management Control System
- Travel Time Management System
- Traffic Monitoring Command Centre



Monitoring & Analytics

- Network Monitoring System
- Facility Monitoring System
- e-Challan Integration with Parivahan NIC

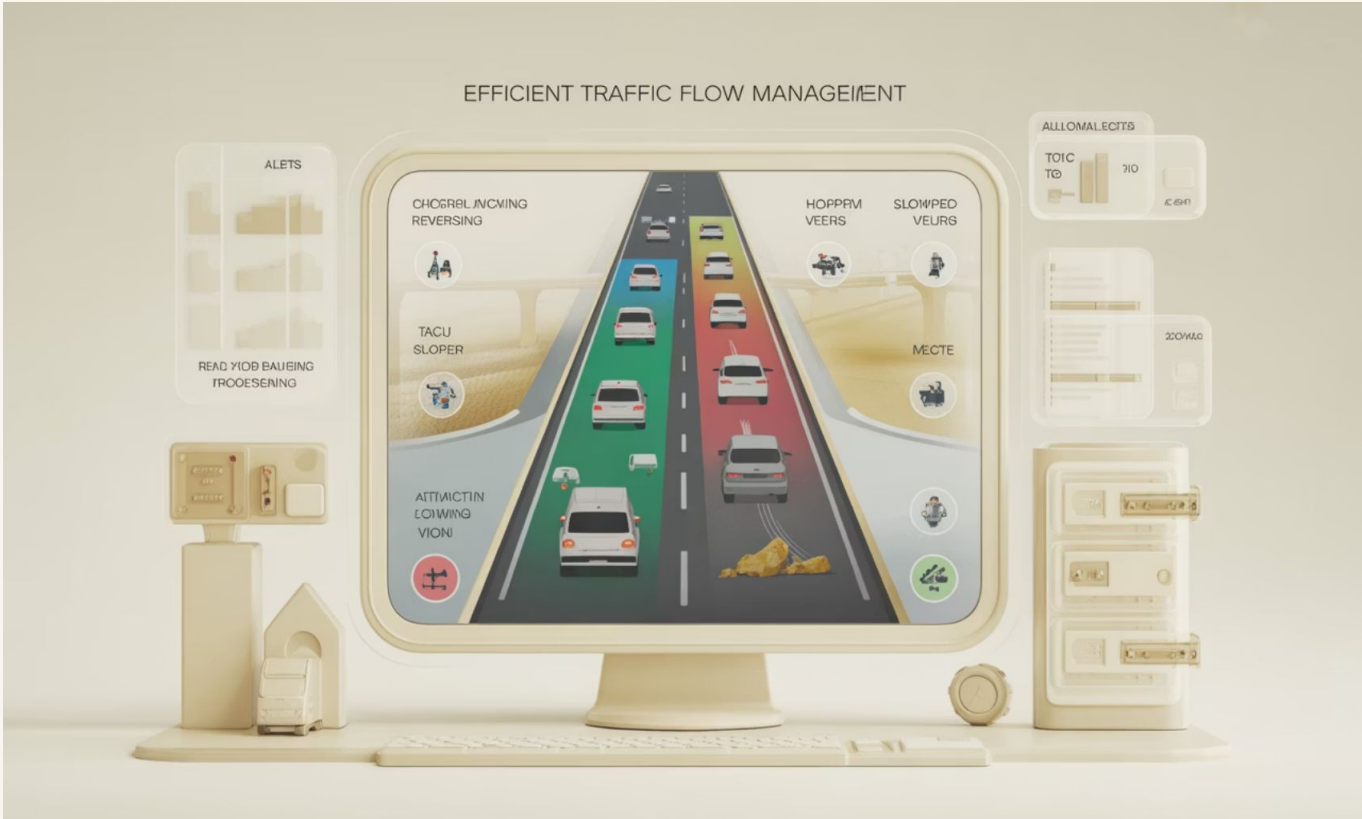
VIDS: Vehicle Incident Detection System



Incident Detection

Automatically identifies the following incidents:

- Vehicles in reverse
- Stopped vehicles
- Slow-moving traffic
- Poor visibility conditions
- Fallen objects



Automated Alerts

Generates real-time alerts and tickets for immediate response to traffic events



Live Processing

Deployed on Local Processing Units with configured cameras, providing analysis on ATMS dashboard

System Health Monitor

System	Health	Total Devices	Active	Inactive
VIDS	75%	10	7	7
VMS	89%	13	12	12
VSDS	90%	13	12	12
TMCS	90%	13	12	12

Alerts & Tickets

In last 12 hours

Vehicle Speed Detection System

Traffic trends recorded

All packages

All

Car

Bus

Truck

Violations recorded

Wrong Direction

Slow Moving

Stopped Vehicle

Video Incident Detection System

incidents recorded

All packages

Incidents

Traffic trends recorded

Traffic

VSDS: Vehicle Speed Detection System



Radar Technology

Detects vehicle speed with precision for accurate monitoring of traffic flow



ANPR Integration

Incorporates Automatic Number Plate Recognition to identify and log vehicle information



Event Processing

Combines radar and ANPR data to create comprehensive VSDS events for enforcement



Real-Time Display

Shows vehicle speed on dedicated boards with visual alerts for overspeeding detection

VMS: Variable Message System



Dynamic Traffic Information Display

Safira's VMS provides real-time communication to drivers through strategically placed digital sign boards across the highway network.



Displays critical traffic updates, congestion alerts, and safety messages



Automated content changes based on real-time traffic conditions



Integrated with VIDS and VSDS for coordinated traffic management



Remote control capabilities from command centre



Traffic Management Control System (TMCS)



Centralized Dashboard

Unified interface for monitoring all traffic systems with real-time data visualization and interactive highway mapping



Intelligent Routing

AI-powered congestion prediction and automatic route optimization based on current traffic patterns



Response Management

Automated incident response protocols with emergency service coordination and predefined action plans

TMCS serves as the brain of Safira, integrating data from all subsystems to enable comprehensive traffic management and quick response to highway events across India. The system provides seamless coordination between field equipment, emergency services, and control center operators.

Integrated Support Systems



Travel Time Management System

A smart traffic monitoring solution that collects and analyzes real-time data to estimate and display travel times on road segments, helping commuters plan routes efficiently.

- It uses technologies like ANPR and sensors to calculate and monitor average travel times accurately.



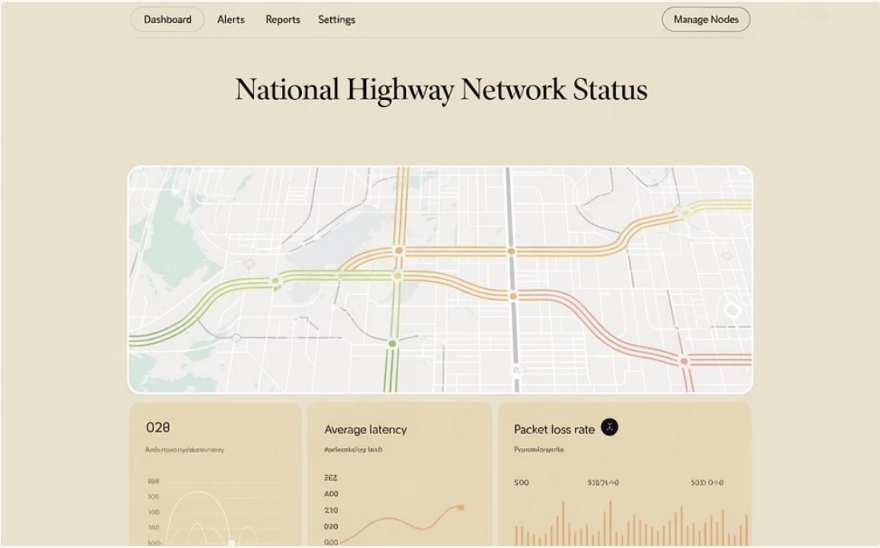
Automatic Traffic Counter & Classifier

Advanced sensors categorize vehicles by type, weight, and size in real-time

- Processes over 5,000 vehicles per hour
- 7 different vehicle classification categories

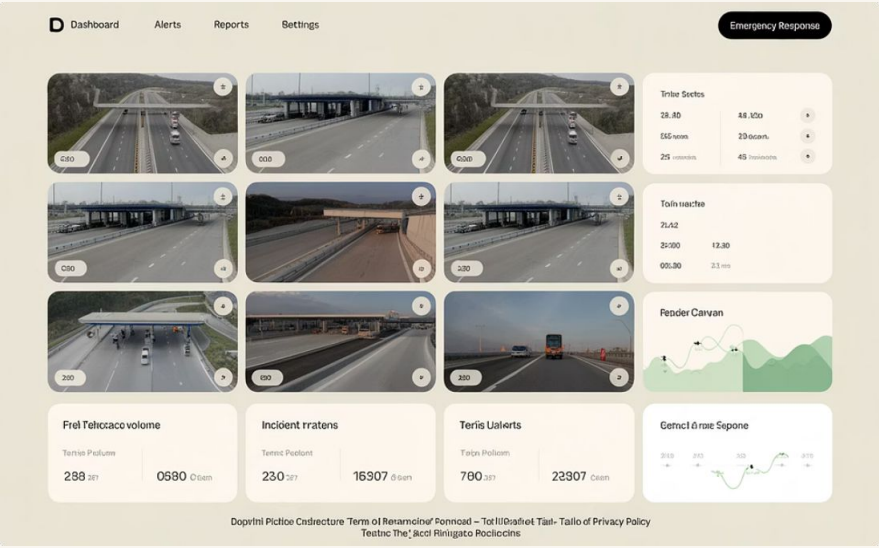


Integrated Support Systems



Network Monitoring System

Continuous monitoring of all connected devices and network infrastructure to ensure seamless operation of the entire ATMS ecosystem



Facility Monitoring System

Comprehensive oversight of physical infrastructure including toll plazas, rest areas, and equipment housings



Emergency Call Box

Direct communication system for motorists requiring urgent assistance, integrated with command centre for rapid response



Traffic Monitoring & Command Centre

Centralized Operations

- Integrated dashboard for all ATMS modules
- Unified access to alerts and notifications
- Advanced ticketing system with assignment capabilities

Management Features

- Role-based access control for enhanced security
- Real-time ticket status tracking
- Cloud-based accessibility for remote operations

Command Centre Advanced Capabilities

Automated Alerts

System generates automatic reminders for unresolved tickets beyond assigned timeframes

System Integration

Seamless connection with all ITMS components for automatic ticket generation



Integrated Communication

Internal collaboration tools for team coordination on incident response

Analytics & Reporting

Detailed performance metrics on ticket history, response times, and resolution effectiveness

The command centre serves as the nervous system of Safira, enabling comprehensive monitoring and management of all traffic-related incidents across the highway network through an intuitive, powerful interface.

e-Challan Integration with Parivahan NIC

Seamless Enforcement Integration

Safira connects directly with the National Informatics Centre's Parivahan system for efficient traffic violation processing.

- Automatic or manual transmission of violation events to NIC servers
- Specialised access for external stakeholders to verify traffic rule violations
- End-to-end digital challan processing reducing administrative burden
- 600+ e-challans processed per day



Advanced Analytics & Management Tools

Business Intelligence Tools

Advanced analytics implemented over data lake architecture for comprehensive traffic pattern analysis and predictive insights

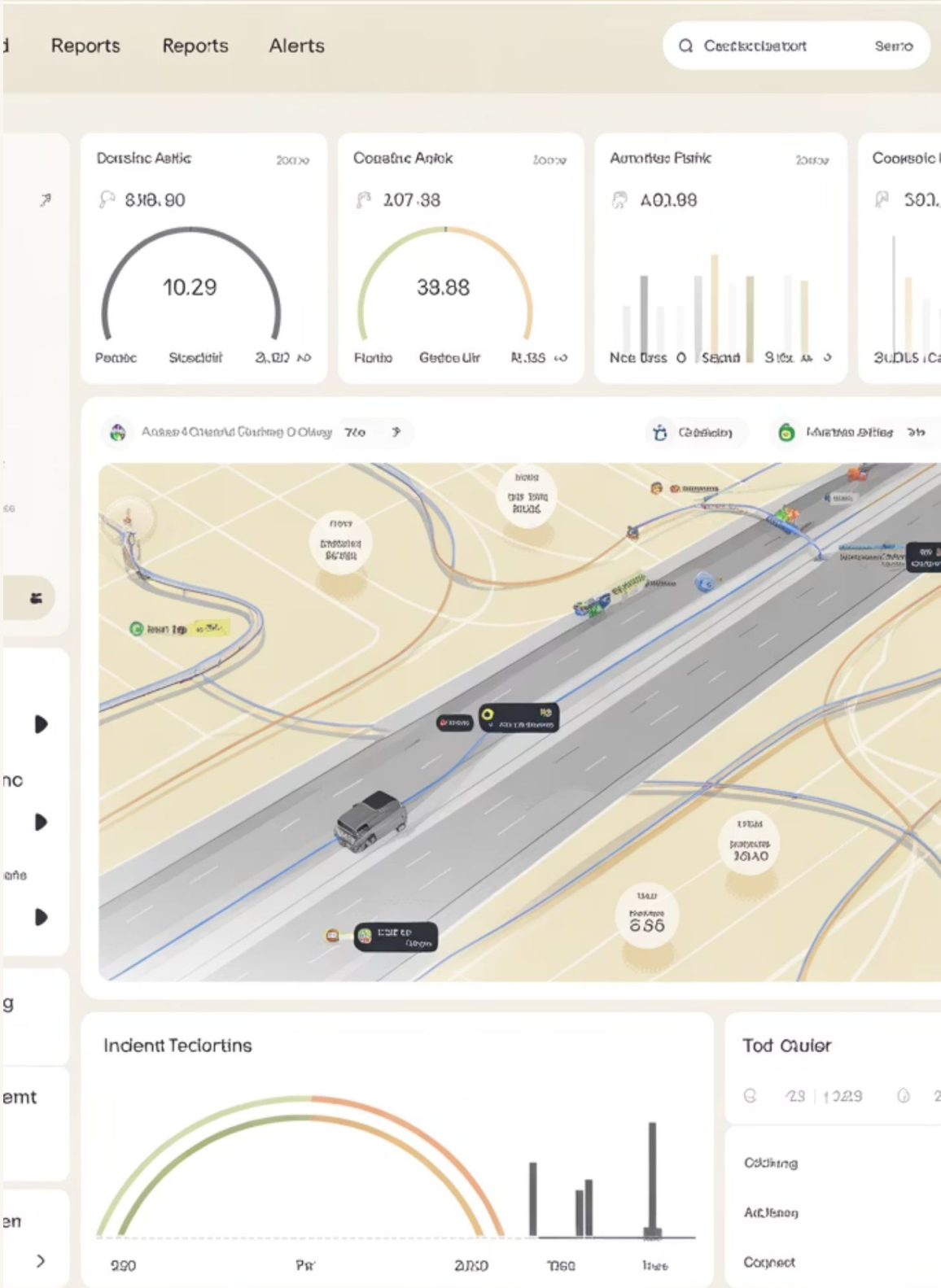
Incident Ticketing System

Sophisticated workflow management for traffic incidents with prioritization, assignment and resolution tracking

Video Wall Integration

Large-format display systems for comprehensive visual monitoring of traffic conditions across multiple highway segments

Safira's advanced tools transform raw traffic data into actionable intelligence, enabling proactive management and strategic planning for highway authorities.



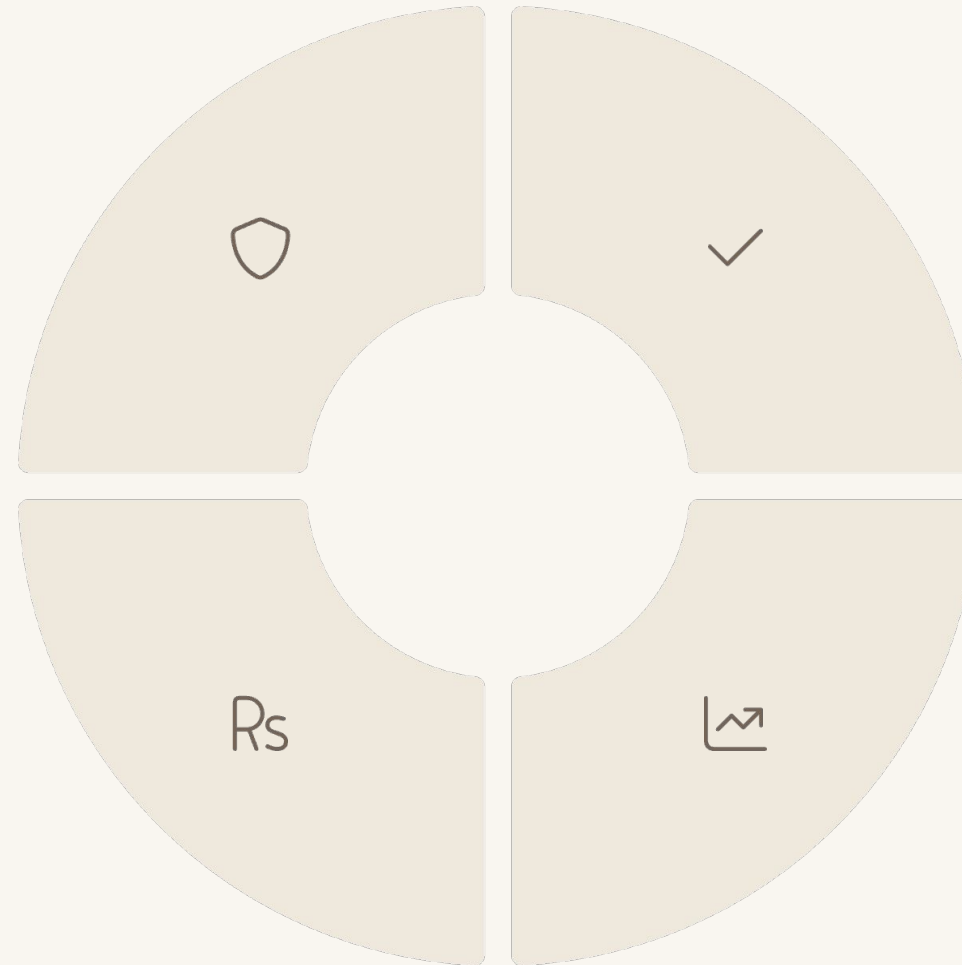
Why Choose Safira?

Enhanced Safety

Proactive incident detection and response significantly reducing accident rates and improving emergency management

Cost Efficiency

Optimized resource allocation and reduced manual monitoring requirements delivering long-term operational savings



Improved Compliance

Automated violation detection leading to better driver behavior and consistent rule enforcement

Data-Driven Decisions

Comprehensive analytics enabling informed infrastructure planning and traffic management strategies

Thank you for considering Safira - transforming India's highways with intelligent traffic management

Thank You

We appreciate your interest in transforming India's highways with Safira



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