



TATWEER

Real-time Intelligent Traffic Safety Management System (RITSMS)

RITSMS is an advanced traffic safety management system that integrates multiple relevant datasets with cutting-edge analysis techniques and AI-driven predictive analytics, enabling real-time monitoring, dynamic risk evaluation, and providing actionable insights to reduce crashes and enhance safety performance.

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RITSMS employs cutting-edge artificial intelligence (AI) and machine learning algorithms not only to provide deep analysis of historical data but also to perform real-time AI-driven predictive analysis, offering authorities actionable insights. Built on the Safe System Approach, RITSMS leverages evidence-based road safety methods to enable the effective and efficient deployment of interventions. The system's primary goal is to establish a robust foundation aimed at reducing deaths and serious injuries on our roads. By seamlessly connecting to various data sources, RITSMS enables comprehensive safety assessments, empowering authorities to promptly address critical safety issues. With AI-powered predictive analytics, the system forecasts potential hotspots and recommends the most effective and cost-efficient countermeasures, ultimately saving lives and improving traffic safety.



**Real-Time
Monitoring**



**Predictive
Analytics**



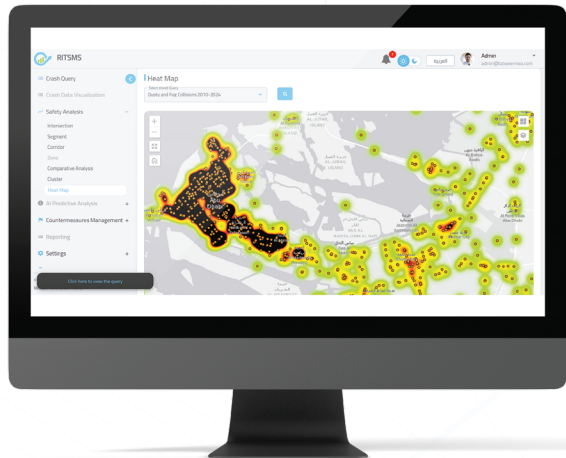
**AI-Powered
Insights**



**Dynamic Risk
Evaluation**



**Automated
Alerts**



Geospatial Web Services

Crash
Data

Traffic
Data

Weather
Data

Road
Network

Medical
Treatment

Driver
Characteristics

Socio-Economic
Data

Vehicle
Registration

Artificial Intelligence to Define Safety Improvement Countermeasures

Evaluation

Engagement

Emergency
Response

Enforcement

Education

Engineering

Key Features:



Real-Time Integration with Multiple Data Sources:

Seamlessly integrates data from crash records, traffic violations, vehicle registrations, registered drivers, traffic sensors, road networks, health data, weather condition, and more for a holistic view of road safety.



Automatic Alerts and Notifications:

Automatically issues real-time alerts to concerned authorities when high-risk conditions or incidents are detected, enabling swift interventions and proactive measures.



Real-Time Data Collection and Analysis:

Continuously collects, analyzes, and evaluates data, offering instant insights into traffic safety risks and conditions.



Safe System Approach:

Adopts international best practices in traffic safety, focusing on proactive measures to prevent accidents and protect road users.



Dynamic Safety Risk Evaluation:

Regularly assesses safety risks based on real-time traffic conditions, historical accident data, and predictive models.



User Access Control:

Ensures secure, role-based access for different stakeholders.



Big Data Techniques for Data Streams:

Employs advanced big data methods to efficiently manage, process, and analyze vast volumes of data.



Visualization Tools:

Provides intuitive data visualization, such as heat maps, dashboards, and charts, to enhance understanding and decision-making.



Predictive Analysis Using AI:

Leverages AI to predict traffic incidents, identify accident hotspots, and recommend measures before they occur.



Proven Evidence-Based Methods:

Based on proven road safety methods, the system deploys interventions that are grounded in research and real-world effectiveness.