



## CASE STUDY

Bengaluru, the Silicon Valley of India, now has future-ready and resilient AI-powered traffic solutions. Thanks to Videonetics.

**Organisation:** Bengaluru Traffic Authority

**Project Location:** Bengaluru, Karnataka

**Industry Segment:** Traffic

**Solution:** • AI powered Traffic Management System (TMS)

## The Challenge

The capital city and the largest city of Karnataka, Bengaluru, is a city of stark contrasts. It's a city that effortlessly marries the old and the new, the traditional and the modern. Being the nation's IT hub and a thriving metropolis, Bengaluru has inevitably attracted people from all over the nation. The increase in population has subsequently led to problems like traffic congestion and management problems, violations of rules and regulations, and accidents. Local authorities were dependent on measures like manual tickets, human interventions, and an automated red light violation system at a few junctions. The Bengaluru Traffic Authority also observed that violations like riding without a helmet, triple riding on two-wheelers, over-speeding, etc. still need to be mitigated with a silver-bullet solution that holistically makes Bengaluru roads safer and more lawful. They were looking for a hypermodern solution that automated traffic management and had round-the-clock coverage for monitoring traffic conditions along with frequent data analysis.



## The Solution

The Bengaluru Traffic Authority wanted an advanced AI-based solution that is both scalable and delivers accurate results. The increased traffic problems and violations have also led to an increase in the number of accidents. This situation demanded a solution that captured multiple violations in real-time, enhanced situational awareness, inculcated discipline among citizens, and most importantly, made Bengaluru roads safer.

After identifying the problem and formulating a proposed solution, the next and most crucial part of the process was finding the ideal technology partner for this project. After rigorous evaluation and intensive discussions, the Bengaluru Traffic Authority, the stakeholders, and a panel of traffic authorities zeroed down on Videonetics as the perfect technology partner in collaboration with MATRIX Security and Surveillance Pvt Ltd as the system integrator. Acclaimed as a market leader, Videonetics has secured 150+ cities and monitored 25K+ traffic lanes across many geographic areas. The administration was keen to have an open platform that would help them add more capabilities and applications over time. With these goals in mind, the AI-powered Videonetics Traffic Management System (TMS) comprising various use cases such as Automatic Number Plate Recognition, Red Light Violation Detection, Speed Violation, and No Helmet Detection to name a few deployed at 50 significant junctions, covering more than 250 locations.

**1) Automatic Number Plate Recognition:** This solution helped the local authorities identify all suspicious, wanted, and stolen vehicles by accurately capturing and recognising the number plates of cars, taxis, buses, trucks, and autorickshaws (tuk-tuk). This enabled the operators to identify and stop all such vehicles as soon as they were captured by ANPR.

**2) Red Light Violation Detection:** An end-to-end solution that revolutionised road monitoring by generating round-the-clock alerts in various forms whenever a vehicle violates a red light at a traffic intersection.

Videonetics AI powered Traffic Management System also addressed plethora of other traffic violations that had been a pressing issue for the Bengaluru Traffic Authority, such as over speeding, riding a two-wheeler without a helmet and triple riding, driving without a seatbelt, a driver using a cellphone while driving. The solution also helped the city's law enforcement monitor traffic round-the-clock, record traffic violations in real-time and send alerts to authorities for further action.

The first phase of the project has successfully reached completion and covered 50 traffic junctions, which included entry and exit points, various accident-prone areas, and the busiest junctions in the city during their peak hours.



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We are elated to be working with Videonetics on this project. Their AI-based video management solution is revolutionary for government entities, especially in terms of road monitoring. They offer holistic and scalable solutions that empower local authorities to maximise the use of their visual data. Additionally, these solutions ensure enhanced security and governance, promote law-abiding behaviour among citizens, and contribute to making the roads safer.

**Aditya G, Vice President – Technical,  
MATRIX Security and Surveillance Pvt Ltd.**

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# The Impact

The insightful collaboration between Videonetics, MATRIX Security and Surveillance Pvt. Ltd. and Bengaluru Traffic Authority has become an exemplary model for other metropolises. The project's success can be measured by its visible impact in various realms related to road traffic safety and reductions in the number and frequency of violations.

1. There have been significant reductions in red light/stop line violations.
2. The number of traffic accidents and violations, such as no helmet, triple riding, driving without a seatbelt, and using phones while driving
3. 24x7 active monitoring of traffic and reduction in overall traffic congestion in the city, has helped law enforcement to manage traffic efficiently.
4. The city traffic authority receives thorough insights about each junction, which has facilitated traffic management, especially in chaotic conditions. It has also increased awareness and, more importantly, sensitivity towards traffic rules amongst the citizens of Bengaluru.
5. The increased awareness about the traffic rules amongst the citizens of Bengaluru has made them more law-abiding and the roads of Bengaluru are now more organised and safer than ever before.
6. The Videonetics Traffic Management System has also hugely aided the local police in solving cases of stolen or hot-listed vehicles, as they can now trace vehicles in real-time using ANPR technology.
7. With Videonetics TMS, operators keep a 24x7 watchful eye on the traffic situation, gaining insights about traffic data and responding to threats and accidents proactively, from the Bengaluru Management Center.
8. The holistic success of the project stands as a model for other city departments to improve their traffic awareness and make their roads
9. The open and modular architecture of the Videonetics TMS empowers city authorities to continue adding more applications for robust traffic management, making it future-ready for expansion.

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