

## Case Study: VIDS Deployment At Purvanchal Expressway

### Introduction

The Purvanchal Expressway, a vital route for regional connectivity, encountered a series of challenges that demanded immediate attention to safeguard both the safety and efficiency of its operations. With the development of technology, corporations are upgrading the expressway to ensure social, economic, and physical well-being. The issues not only posed substantial risks to the well-being of commuters but also led to traffic congestion, undermining the expressway's overall reliability. Addressing these issues was imperative to ensure the smooth and secure functioning of the Expressway, thereby enhancing the quality of transportation for all commuters.

### Problem Statement

The Purvanchal Expressway struggled with safety and efficiency shortcomings. The identified issues included slow-moving vehicles, vehicles moving in the wrong direction, reverse traffic flow, fallen objects on the roadway, low visibility conditions, and occurrences of stopped vehicles. Safety was compromised, congestion mounted, and reliability declined when these issues came forward.

Given these difficulties, a thorough and integrated solution that addressed these issues was essential. Raising the Purvanchal Expressway to its intended state of efficiency and dependability required a calculated strategy to improve safety precautions, optimize traffic flow, and reduce the hazards that have been identified.

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Fig.1 VIDS deployment | Purvanchal Expressway

# Solution: Video Incident Detection System (VIDS)

## Features

- Monitors road & traffic conditions
- Records incident Videos and images
- Retrieves incident data
- Reporting & alerting module
- Capable of operating on a 24x7 basis
- Incident detection
- Heartbeat functionality to check
- Camera status & connectivity



## Vehant's Advanced AI Driven Video Analytics Platform

Vehant's team interacted with the client to encourage the adoption of cutting-edge algorithms for image recognition, object tracking, and pattern recognition. The objective was to provide supplementary features designed to address the pain points and challenges experienced by the Purvanchal Expressway. We aimed to mitigate the challenges through the deployment of a Video Incident Detection System (VIDS), in 150 cameras along the expressway. The solution is continuously leveraging technological innovations to solve various safety & security-related issues. Video Incident Detection System is used for automatic incident detection and generation of local visual alerts as flashing lights. The images taken by the VIDS camera are transmitted to the control center through an Optical Fibre cable or wireless transmission system in real-time. It automatically reports risky situations and irregular traffic conditions. Based on the information appropriate help can be provided. These algorithms offered top-notch solutions for object recognition. This proactive approach aids the operators at Purvanchal Expressway in swift responses to prevent accidents and maintain the intended traffic direction.

Purvanchal Expressway has significantly enhanced safety, optimized traffic flow, and boosted the expressway's overall dependability by implementing the suggested method. Modern technology combined with real-time monitoring and reaction capabilities guaranteed a proactive and successful strategy for resolving the issues that have been detected.

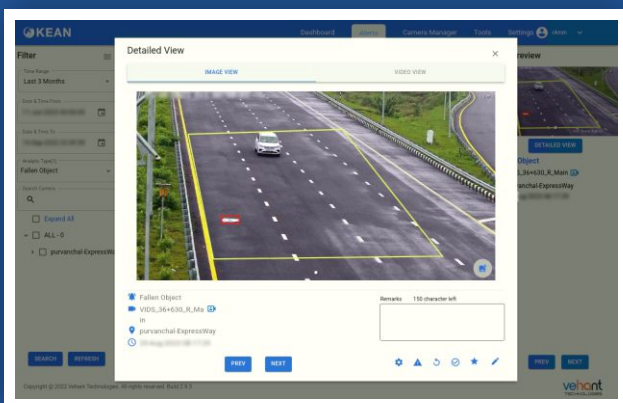


Fig.2 OKEAN interface view for fallen object detection

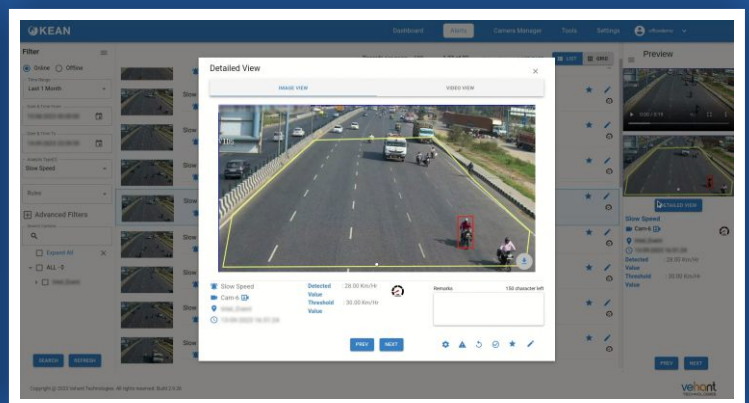


Fig.3 OKEAN interface view for slow speed detection