CUTTACK BUS STAND

End User: Cuttack Development Authority (CDA)
Location: Odisha, India
Vertical Market: Critical Infra
Features: Automatic Number Plate Recognition (ANPR) – Blacklist Identification and Parking Management.
System Integrator: Blue Harp Technologies Pvt. Ltd.

CUSTOMER REQUIREMENT

The Cuttack Bus Stand, a critical transit hub in Odisha, handles a high volume of both local and outstation buses. With limited parking space and constant vehicular inflow and outflow, the authorities needed a reliable and automated parking management solution. Their primary objective was to optimize the allocation of parking slots by accurately identifying buses using their number plates. This would reduce manual intervention, improve turnaround time, and ensure a smooth, congestion-free flow of vehicles within the facility.
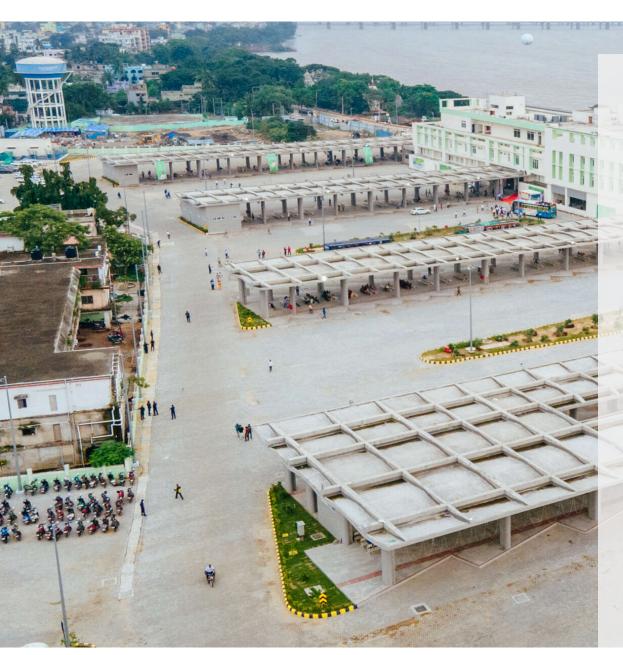
ALLGOVISION'S SOLUTION

In response to CDA's operational concerns, AllGoVision Technologies provided a solution powered by its robust video analytics software. The implementation focused on ANPR-based Parking Management system. However, due to the varied nature of buses—from private fleet operators to state-run transport services—the diversity in license plate formats posed a unique challenge. Upon on-ground analysis, AllGoVision's team identified a condition—many buses had hand-painted license numbers directly on the vehicle bodies. Over time, in an attempt to comply with regulation, these buses also began using standard metal number plates, but the original painted numbers remained visible. This resulted in a "double plate" scenario, where both the painted and the physical plates were simultaneously visible. The overlapping of visible number formats led to false detections, incorrect readings, and missed recognition by the system.

To overcome this challenge, AllGoVision's team synthetically generated dataset that replicated the specific double plate condition observed at the site. These datasets were used to retrain the ANPR models. By simulating real-world visual distortions and variations, the retrained models became more robust, adaptive, and capable of accurate plate recognition—under the complex visual noise of double plate scenarios.

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SOLUTION BENEFITS

The updated ANPR system delivered immediate and measurable improvements. It accurately filtered out false positives caused by the double plate configuration, ensuring only the correct license plate was registered for each bus. This enhancement translated into better allocation of parking slots, smoother flow of buses in and out of the terminal, and a marked reduction in manual intervention. Operational staff were able to rely on the system's automated readings without second-guessing its accuracy, boosting overall confidence in the digital infrastructure.

AllGoVision's tailored solution not only resolved a highly specific and localized problem but also showcased the adaptability and robustness of its video analytics capabilities. AllGoVision continues to be a trusted partner in enhancing urban operations worldwide.