Automatic Incident Detection helps reducing travel time on Villahermosa ring road

City of Villahermosa, state of Tabasco – Mexico.

Mission

Villahermosa is the capital and most populated city in the Mexican state of Tabasco. It is the business and administration hub of the oil industry in Southern Mexico.

As a connection between Mexico City and Cancún and Mérida, and also connected to Guatemala with the International Highway Tikal, traffic on the road is often extremely heavy.

The local authorities have been trying to alleviate traffic congestion for the past years and particularly reduce the lengthy waiting times at the toll plazas.

As part of the modernization project of the ring road, a new control center was built.

The Authorities aimed at centralizing all systems in one unique location for the monitoring and operation of the oad to be more efficient. The toll plazas and the signals (including Variable Message Signs) were also redesigned.

Being one of the significant companies in urban traffic in Mexico, SEMEX was chosen to be part of the consortium to execute the project.

SEMEX chose Citilog traffic video-analytics solutions for Citilog's experience in inter-urban traffic.

Solution

SEMEX deployed Citilog Automatic Incident Detection (AID) solution on 14 points along the ring road of Villahermosa.

The solution consists of Citilog's SmartTraffic -AID application for AID installed on 5 AXIS P5635-E PTZ cameras to report incidents and accidents to the control center and are then di splayed on dynamic message signs on gantries.

"The Citilog Automatic Incident Detection system reduced the waiting time at the Villahermosa ring road toll plaza, so it never goes beyond 30 minutes."

Mr. Adrián Galván, ITS Manager

Additionally, real time queue length measurement is performed by 9 of Citilog's XCam-ng sensors, allowing the system to automatically open an extra toll plaza when the waiting time exceeds the defined limits.

The customer requirements were to create an alarm whenever a queue is reaching a specific threshold (75 meters) for more than a given duration (30 minutes). A different alarm is generated for each lane.

Results

Citilog's AID system reports in real time incidents and accidents on traffic lanes and shoulders at critical points of the highway, so the operators are taking fast and efficient actions to mitigate the impact on the traffic.

Real time queue measurement allows a dynamic management of the toll plaza availability:

the number of operating toll booths is adjusted automatically based on the real time measurement of the queues.

Mr. Adrián Galván (ITS Manager) is really happy with the outcome: "Thanks to Citilog's video-analytics, we have managed to establish a reliable system for measuring real time queue lengths.

It provides alarms of great reliability when making decisions in the payment places, allowing us to achieve short waiting times for users."

"In the same way, we use CCTV cameras with Automatic Incident Detection.

This functionality provides configurable real time alarms that allow our operators team to activate the best scenario associated to each case, always pursuing the efficiency of the operation and the safety of our road users".

AID at critical locations