



TRAFICON
TRAFFIC VIDEO DETECTION

PROJECT IN THE SPOTLIGHT:

Ngauranga Gorge Wellington, New-Zealand



The “Ngauranga Gorge”, East of Wellington, is situated along the gorge between two geological plates. Daily, about 60.000 vehicles pass along the 2-km long gorge. A steep, winding road with dense rush hour traffic, lots of weaving (continuous lane changing) and extreme weather conditions (torrential rains), motorists are faced with drastically reduced visibility. This resulted in recurring rush hour accidents. Moreover, incident levels were multiplied by secondary accidents caused by rear end and queue collisions or by vehicles crashing into the emergency crews.

When reviewing the dramatic traffic statistics along the Gorge, Transit NZ decided that drastic actions had to be taken.



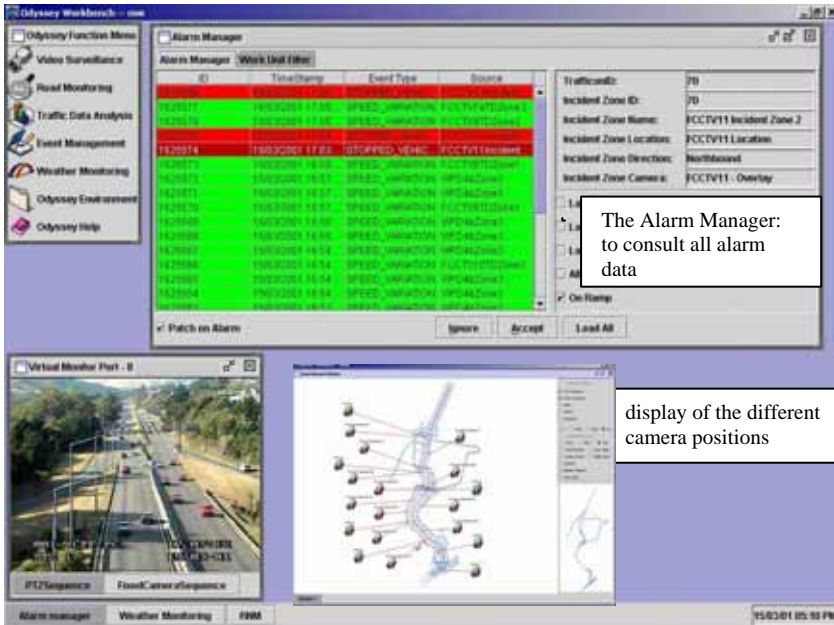
Since the beginning of 2001, an Automatic Incident Detection system (Traficon) linked to the Odyssey Traffic Management System (Tyco) is monitoring traffic. The main objective of this Advanced Traffic Management System is to improve traffic safety by fast incident detection and by warning oncoming motorists through Variable Message and Mandatory Speed Signs.

The complete project includes:

- 12 Fixed Direct Incident Detection Cameras combined with a video detection system for traffic data acquisition.
- An Odyssey Management system in the two control centres (Johnsonville ; Auckland) for supervision of all control systems.
- 7 Pan/Tilt/Zoom CCTV Cameras for supervision of traffic.
- 6 Variable Message Signs for guiding the traffic and informing the users.
- 23 Variable Mandatory Speed Signs / Lane Control Signs for guiding the traffic and informing the users.
- 2 Weather Monitoring Stations.



The Traficon video detection system with 12 VIP/I detection boards provides direct incident detection on 12 fixed cameras. The system also provides standard traffic data for all vehicles in the Gorge, using 3 VIP/D boards.



Display of Fixed Camera 4.



Display of Fixed Camera 10.

Display of the Advanced Odyssey Traffic Management System: the operator receives traffic data and alarms. In case of an incident alarm, the operator clicks on the specific camera icon to view the details of the incident.

Operation of the Management System:

1. The Odyssey system alerts the operator that an incident has occurred through the video based automatic incident detection system.
2. The operator uses the CCTV system to verify the details of the incident.
3. The system immediately suggests driver advisory actions (signs, messages and speed limits).
4. The operator confirms or modifies driver advisory actions for the system to implement.
5. The operator dispatches Police resources using information gained from CCTV.
6. The system monitors the incident and advises changes in conditions for the operator.
7. The system records actions of the operator and stores the information in a database.

During rush hours, surveillance is done from the local police control room located up-hill in Johnsonville. At off-peak hours, surveillance is carried out from the traffic control centre situated in Auckland. However, from both control rooms, the operators can take the same swift actions and dispatch emergency crews in an equally short time. This short response time is critical to prevent secondary accidents.

SYSTEM AT A GLANCE

3 VIP/D boards
for standard traffic data acquisition (such as volume, speed and length class)

12 VIP/I boards
for flow monitoring, queue and stopped vehicle detection

Odyssey Traffic Management System
for supervision of all control systems

7 Pan/Tilt/Zoom CCTV Cameras

6 Variable Message Signs

23 Variable Mandatory Speed Signs / Lane Control Signs

EXTRA SINCE 2002:

6 VIP/I boards
to monitor traffic and smoke in Wellington's Mt. Victoria Tunnel

FOR MORE INFORMATION, PLEASE CONTACT MR. NICO VERSTRAETE – TRAFICON (NV@TRAFICON.COM).
THE NGAURANGA GORGE PROJECT IS A JOINT REALISATION OF TYCO INTEGRATED SYSTEMS AUSTRALIA AND TRAFICON.