

STREAMS Temporary Traffic Management System

STREAMS Temporary Traffic Management System (TTMS) combines wireless communications technologies with roadside ITS equipment and the STREAMS Enterprise Intelligent Transport System to assist with traffic management during construction of major road infrastructure projects. The system can also be used to manage road closures for special events such as the Olympic torch relay or street festivals.



An example of a typical STREAMS Temporary Traffic Management System used during construction of a major road infrastructure project.

BENEFITS

Implementation of STREAMS Temporary Traffic Management System will help to:

- » Minimise the impact of construction on the surrounding road network and the community
- » Integrate the construction traffic management requirements with the surrounding road network
- » Allow Traffic Managers to monitor the impact of construction on the broader road network
- » Improve construction zone safety for motorists and construction personnel
- » Provide integrated management of traffic in the construction zone and the surrounding area
- » Provide accurate and timely information to road users
- » Reduce infrastructure and communications costs

OVERVIEW

STREAMS Temporary Traffic Management System uses wireless communications to link all ITS field devices required for:

- » The management of traffic during the construction phase of a major road infrastructure project,
- » Road closures due to a special event.

This allows the system to become portable and move with the project or event. It also eliminates the need for costly semi-permanent communications infrastructure which becomes obsolete once construction is complete.

Intelligent Transport System (ITS) devices which can be incorporated into STREAMS TTMS include, but are not limited to:

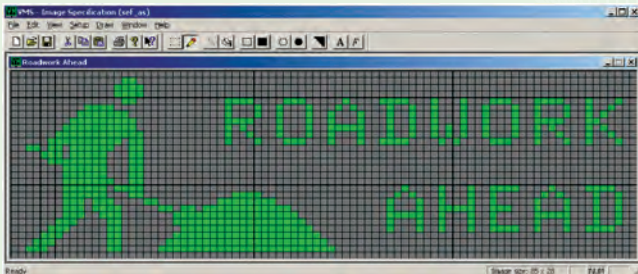
- » Traffic Signals
- » CCTV Cameras
- » Variable Message Signs
- » Variable Speed Limit Signs
- » Environmental / Weather Monitoring Stations
- » Vehicle Detectors
- » Emergency Phones
- » Ramp Metering
- » Boom gates to monitor and control access to construction sites.

STREAMS TTMS can also post information on a web-site or send information via SMS to inform the public about changes to road conditions, or congestion due to construction.

This helps motorists to make more informed decisions about trip planning.

Examples of applications include:

- » Warning motorists of upcoming changes to the road environment;
- » Posting variable speed limit information to motorists;
- » Informing motorists of diversion routes;
- » Notifying road users of the specific purpose and length of time of a road closure for a special event, festival etc.



Variable Message Signs are used to provide real time information to motorists about construction zones

FEATURES

Key features of STREAMS Temporary Traffic Management System include:

Secure Wireless Connection

STREAMS TTMS incorporates the latest developments in wireless communications technology.



A traffic signal connected to a TMC using wireless communications technology

Two wireless topologies currently being used are the Star Topology provided by systems such as Motorola's 5.8GHz Canopy System, and the mesh Topology delivered by PCom's 2.4GHz Wave Wireless System.

Both systems provide highly secure IP based communications, based on AES encryption methods.

The architecture incorporates a 'fan-out' to the ITS field equipment from each wireless access point (interfaced via a field processor as required), and uses a wireless link to send the required information back to the construction site office.

The wireless communications technology used will depend on the surrounding terrain and whether line of site is achievable. A wireless site survey is recommended. A temporary xDSL link may be used to deliver the information to a traffic management centre.

Ability to Monitor the Impact of the Construction Project on the Surrounding Road Network

A key concern to road network managers during construction of infrastructure projects, particularly in major cities, is the increased number of heavy vehicles entering and leaving the construction site. Often restrictions are placed on the number of heavy vehicles permitted to enter the construction area, and specific times are nominated (e.g. peak hour traffic) when heavy vehicles are not permitted to enter the site or the surrounding road network.

These activities can be monitored by STREAMS Temporary Traffic Management System and reports provided as necessary.

Integration with the Surrounding Traffic Management System

STREAMS TTMS can connect the temporary system to the nearest traffic management centre and ensure the system is integrated with the surrounding traffic management system. This approach minimises the impact of construction on the surrounding road network and the community.

The system can then be managed from the construction site office or the closest TMC.