

STREAMS Incident and Event Management System

The STREAMS Incident and Event Management System provides detection, verification, logging and response for incidents and faults and management of planned events.

BENEFITS

STREAMS Incident Management improves the response to incidents and this reduces recovery times. Quick and effective response is critical because it typically takes an additional four minutes for traffic to recover for every minute an incident remains uncleared.

The community benefits from rapid incident clearance including:

- » Improved safety, with reduced secondary incidents
- » Reduced travel times
- » Reduced fuel consumption and emissions

INCIDENT AND EVENT MANAGEMENT

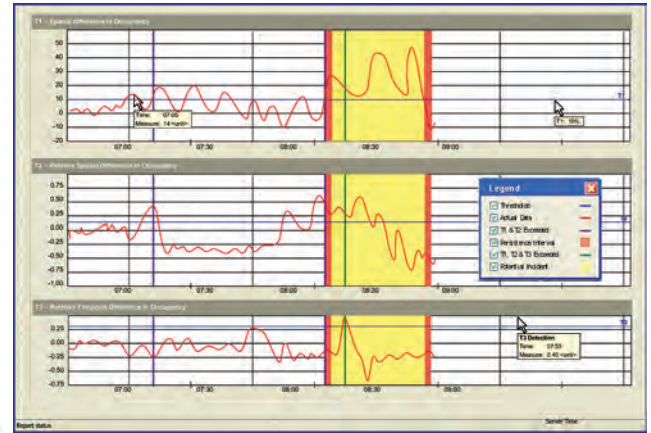
STREAMS Incident and Event Management is used by Traffic Management Centres to manage road networks through detection, verification, logging and response to unplanned incidents (e.g. accidents), planned incidents (e.g. roadwork) and equipment faults.

The STREAMS Incident and Event Management system reduces the impact of incidents and faults by providing:

- » Automatic Incident Detection on motorways
- » Verification and logging of incident details
- » Automatic customisation of generic response plans to create tailored response plans for each incident
- » Management reports that facilitate the review of trends and performance and lead to improved response

AUTOMATIC INCIDENT DETECTION

STREAMS provides Automatic Incident Detection on motorways using a multi-algorithm approach. This minimises the time to detect incidents and minimises the false alarm rate. STREAMS currently uses a modified California style comparative algorithm and time series analysis. The modular STREAMS architecture makes it easy to implement additional or alternative algorithms if required.



Incident Detection Algorithm Output

INCIDENT VERIFICATION AND LOGGING

All incidents automatically detected by STREAMS and all reported incidents are verified during the incident logging process. An incident logging form is used to record details of incidents. CCTV surveillance cameras can be managed by STREAMS to assist with incident and fault detection and verification.

STREAMS Incident Logging Form

Users may log incidents from the map view. This allows the geographical information related to the incident to be generated automatically. Similarly, if STREAMS detects the incident, geographical information is supplied automatically. This reduces incident logging time and improves accuracy of logged data.

INCIDENT RESPONSE

STREAMS Incident Response is based on a small set of generic response plans predefined for each type of incident. The appropriate generic response plan is automatically customised during the incident logging and verification process using the logged data and the Geographic Information System (GIS). The GIS has a layer for service provider regions and the appropriate service provider's contact details can be provided automatically when the coordinates of the incident are known.

The customised incident response plan contains the list of actions required for the incident. This is reviewed by the user and can be edited if required. The response actions include:

- » Messages to emergency and other service providers
- » Traveller information via VMS, SMS and the Web
- » Diversion routes with signal coordination
- » Emergency vehicle pre-emption
- » Ramp metering

The Strategy Manager supplements the Incident Response plans by automatically implementing strategies. The Strategy Manager is a general purpose stimulus – response engine. Actions can be triggered when defined conditions have been satisfied.

Web Alerts



A Traffic Report Web Site

Current incident information can be provided to the public via Web sites.

OTHER SERVICES

Fault Management

The STREAMS Incident and Event Management System also has provision for logging TMC fault and call statistics. A TMC Incident, Fault and Call Log report can also be generated by the system for review by senior management. Other, smaller reports are also available.

Call Logging

All incoming and outgoing telephone calls, including incident and fault reports can be logged using this system. Call logs can then be used to generate reports on TMC operations.

Call logs are a useful tool for both budgeting and risk management, allowing for accurate record keeping on calls relating to incidents and other events.

Contacts List

A contacts list is provided in STREAMS to allow TMC Operators to maintain a large database of contacts.

Contacts may be grouped together for broadcasts of information generated by the TMC.

Cost Recovery

Where it's possible to determine the person responsible for damage to equipment as a result of an incident, the cost recovery forms allow the recording of such details, including costs associated with the repair.

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