Unit 6: Network Performance Monitoring and Management

Module 6-3

Traffic Incident and Event Management

Austroads

Today's presenter

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Outline of this Module

- Traffic Incident Management

- Planned Events Management

- Road Closure Devices

Traffic Incident Management

Traffic Incident Management (TIM)

See Section 5, Austroads (2020)

The process of managing multi-agency, multi-jurisdictional responses to road traffic disruptions with an aim to:

- Reduce the duration of incident and the resulting incident-related delay

- Improved safety of road users and responders

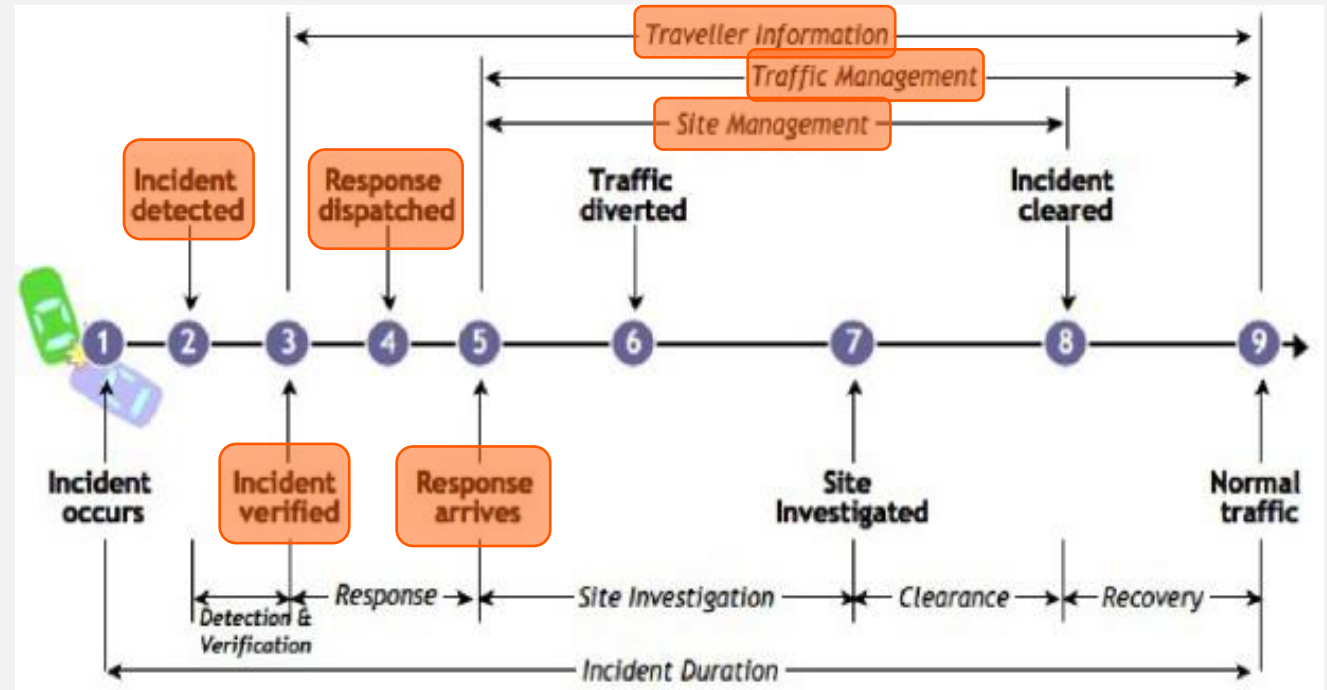- Lower fuel consumption and emissions

Source: News (2020)

Traffic Incident Management (TIM)

Austroads

Components:

1. Detection and verification

2. Response

3. Site management, investigation and clearance

4. Traffic management

5. Traveller information

Source: Austroads (2020)
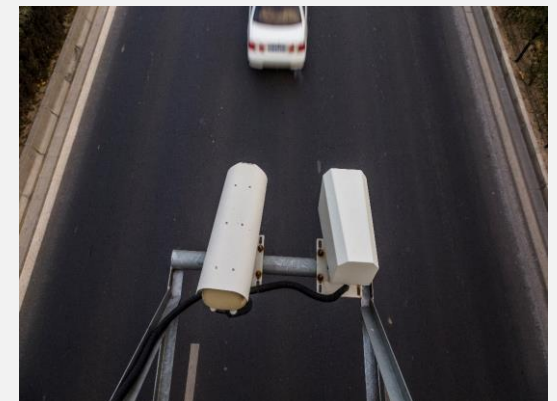
Traffic Incident Management (TIM)

1. **Detection and verification:** Collecting data and determining whether an incident has occurred

Detection technology used:

- Automatic Incident Detection (AID)

- CCTV

- Traffic congestion display systems

- Emergency phone

- Police patrols

Source: Video (2016)

Traffic Incident Management (TIM)

1. **Detection and verification:**

Recommended practice:

- Maintain working relationships with other agencies involved in incident mitigation/response

- Greater use of real-time data on traffic incidents

- Using data collection and analytics to predict potential incidents and alert agencies

- Ensure provision of systems for rapid incident detection in tunnels

- Raising general awareness towards reporting incidents

- …

Time to Reflect

1. What is the fail percentage of the Automatic Incident Detection technology?

A. 0.1   B.   10

C. 1   D.   None of these

Answer:

Option A is correct!

The false alarm rate for the Automatic Incident Detection technology is generally less than 1%.

Traffic Incident Management (TIM)

2. **Response:** To timely deliver correct resources to the incident location

Recommended practice:

- Establish response procedures, including standard responses to broad categories of incidents

- Undertake multi-agency training to improve communication

- Develop agreed communication and response protocols between agencies

- Provide quickest route guidance to the response team and provide signal priority if warranted

- Ensure appropriate manpower is available, especially during peak periods

- …

Traffic Incident Management (TIM)

3. **Site management:** Managing the resources to remove the incident and reduce the impact on traffic flow

Involves managing traffic flow at the scene, maintain responder and public safety

Sub-tasks:

- Investigation: documenting causes of incident, assign liability to damage, etc. Using cost-effective reporting methods to minimise road closure time

- Clearance: Safe and timely removal of wreckage, debris, etc. and restore the road to its full capacity. The most time-consuming step.
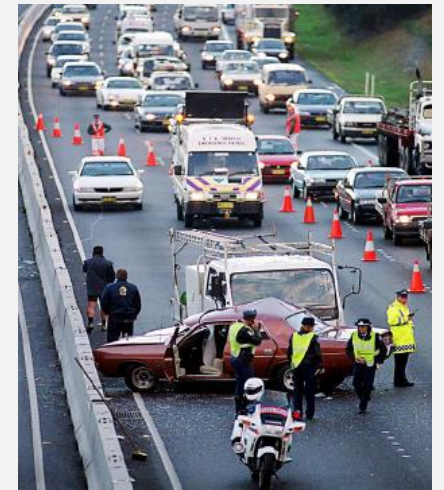
Source: Austroads (2020)

Traffic Incident Management (TIM)

3. **Site management:**

Recommended practice:

- Agree upon a protocol for who controls the site/event

- Establish quick clearance targets, e.g. clearing all incidents within 90 minutes

- Improve crash investigation procedures and provide appropriate technologies

- Collect and analyse better data and information

- Contract heavy towing/salvage equipment on stand-by during peak periods

- …

Traffic Incident Management (TIM)

4. **Traffic management:** Application of traffic control measures at the incident site and on the road network affected by the incident

Roles:

- Establishing active traffic control at the scene

- Managing road space

- Actively managing traffic control devices in the affected area

- Determining and operating alternative travel routes

Source: Austroads (2020)

Traffic Incident Management (TIM)

5. Traveller information: Disseminating incident-related information to affected road users

Information Channels

Technology	Target user category
Variable Message Signs (VMS)	Car, motorbikes, cyclists
Trip planning apps	Public transport
Websites	All users
Social media	All users
SMS service	All users
Commercial radio broadcasts	All users
Traffic hotline	All users

Source: Live Traffic Sydney (2020)

Traffic Incident Management (TIM)

Traffic management and **traveller information:**

Recommended practice:

- Use traffic management centres to coordinate incident notification and response

- Have specific traffic management procedures during incident response

- Identify alternative routes and develop maps, diversion signs, revised signal timing, etc.

- Improve communication to provide accurate, timely traffic information to users

- Train all responders in effective traffic control

- …

Time to Reflect

2. Which stage of the Traffic Incident Management looks at 'Identifying detours for affected road users'

A. Response

B. Site Investigation

C. Traveller Information

D. Traffic Management

Answer:

Option D is correct!

Traffic Management looks at finding alternative routes of travel for the impacted road users. The traveller information stage then disseminates the detour information.

Planned Events Management

Planned Events Management

- Managing in advance for the known events

- More preparation time, i.e. greater certainty in managing road network

Categories:

- Special events

- Road development

- Road occupancy

Planned Events Management

Special events: Any planned activity that is wholly or partly conducted on roads, requires special traffic management arrangements, and may involve large numbers of participants and/or spectators.

• Scale of the event determines the level of planning required

• Execution of management plan requires coordination among multiple agencies

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Planned Events Management

Road occupancy: Usually involves the closure of one or more traffic lanes.

Activities:

- Development works
  - Road construction
  - Road maintenance

- Non-development works
  - Public utility installation and maintenance
  - Lane closures around an under-construction building

Traffic management plan

Identify vehicle movements around work sites including:

- Scope – Not just the event location, but surrounding area as well
- One-way streets
- Lane widths
- Traffic signals
- Pedestrian crossings
- …

Planned Events Management

Planned events checklist

Source: Austroads (2020)

Transport issues covered:

- Parking
- Public transport
- Traffic management requirements
- Contingency plans
- …

See Appendix A, Austroads (2020)

Planned Events Management

Traffic management plans:

Recommended practice:

- Any construction that might conflict with the occupancy

- Any traffic calming devices required

- Any impacts on public transport, local residents and businesses

- The hours during which the occupancy will be in effect

- Identify detour routes

- Assess the impact on a *wider horizon* – not just local impacts, but surrounding areas too

- …

Road Closure Devices

Road Closure Devices

- To separate incidents/road occupancy works from general traffic lanes

- Maintain safety of users and responders, and reduce traffic delays

- Guide road users to make detours

- Applied for
  - Partial closure, *e.g. closing down the lane where incident took place*
  - Complete closure, *e.g. road development work*

Road Closure Devices

Signs

Barriers

VMS

Time to Reflect

3. Select the odd one out:

A. Lane marking

B. Relaying road surface

C. Building construction

D. Repairing streetlights

Answer:

Option B is correct!

All other options except relaying road surface only occupy a lane.

References

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Thank you for participating