VICTORIA’S EMERGENCY MANAGEMENT LONG TERM COMMUNICATIONS PLAN
PAST REVIEWS AND REFORMS


2009 Victorian Bushfire Royal Commission (Jul 2010)

Review of the 2010–11 Flood Warning and Response (Dec 2011)

Fire Services Commissioner Information Interoperability Blueprint (May 2013)

Victoria’s Emergency Management Long Term Communications Plan

Council of Australian Governments National Strategy for Disaster Resilience (Dec 2009)

Emergency Services Communications Strategic Framework (Apr 2011)


Victorian Government ICT Strategy (Feb 2013)

1999 2009 2010 2011 2012 2013

Acknowledgements
Department of Environment and Primary Industries
Department of Justice

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If you would like to receive this publication in an accessible format, please telephone Emergency Management Victoria on 8684 1388 or email ltcp@emv.vic.gov.au
Police and emergency services organisations serve Victorian communities every day by managing the devastating impact of emergencies on the Victorian community. Their effective response helps to save lives, avoid injuries and minimise damage to the built and natural environment.

Increasingly, Victoria’s police and emergency services are being challenged by rapidly growing demand and the frequency of large scale emergency events and significant natural disasters. The Victorian Government has endorsed reforms to improve the integration of service delivery.

At the same time, there have been very significant changes in mobile technology capabilities. The increased capacity and coverage of mobile networks and mobile data applications have driven effectiveness and efficiency gains. This offers opportunities for service innovation that can enable Victoria’s police and emergency services organisations to better respond to the changing needs of the community.

The Emergency Management Long Term Communications Plan is intended to provide a strategic framework for the important investment decisions that will need to be made in the next 10 to 15 years.

Ensuring we can help our community when it is most vulnerable during emergency events, such as bushfires and floods, is my highest priority. By putting this plan in place now, our emergency responders will be able to use the best devices and applications to access the right information at the right time.

Implementation of this plan will enable the sector to innovate, influence and shape the future direction of emergency services operational communications in Victoria.

The Hon. Kim Wells MP
Minister for Police and Emergency Services
Minister for Bushfire Response
Victoria’s needs are changing. An ageing community is increasing the pressure on our health services. Population growth is helping drive the volume of emergency assistance calls. Natural disasters can take a devastating toll through loss of life, injuries and property damage. As the demand for emergency services increases each year, this places a heavier burden on our operational communications networks, systems and personnel.

Smart devices and even smarter applications are increasingly embedded in our community and businesses. Many everyday activities are being performed through mobile applications, and the community is looking to our government agencies to do the same.

There has, and will continue to be a fundamental shift in how people communicate, shifting from voice-centric to data-centric communications. As a result, the emergency services sector needs to adapt and embrace the opportunities presented by the rapid evolution of operational communications or risks being left behind.
The community, government and police and emergency services are united by a commitment to prevent loss of life, injury and property damage as a result of emergency events and need to work together to improve operational communications and support this common goal.

Broadband data capabilities will support the exchange of timely and accurate information in the field. Integrating agency networks enables better coordination and improved service delivery outcomes for the community. Common governance and procurement services can improve service efficiency and value for money for taxpayers. Better support for our emergency services staff and volunteers will help prevent the loss of life, injury and property damage.
WHAT IS THE FUTURE OF OPERATIONAL COMMUNICATIONS?

- Response plan display on devices in the field
- Video conferencing between fire crew and chemical experts
- Biometric monitoring, environmental monitoring and vehicle telemetry
- Field access to hospital beds viewer
- Ambulance inventory control
- Video conferencing between paramedics and hospitals
- Field access to community plans and fire plans
- Field access to airborne video stream
- Telemedicine
- Biometric monitoring

HEALTH
- Videoconferencing between fire crew and chemical experts
- Video sensors to capture footage from fixed locations
- Handheld cameras to capture/stream footage
- Biometric monitoring, environmental monitoring and vehicle telemetry
- Centralised information repository with real time data
- Vehicle mounted cameras to capture/stream footage
- Geospatial image display
- Geospatial image and response plan display on devices in the field
- Biometric monitoring

FIRE FLOOD RESCUE STORM
- Video conferencing between field and command
- 43º

BUSINESS AS USUAL EVENT
- Sending/receiving richer information
- Tracking vehicles & personnel

EMERGENCY EVENTS
In the future emergency responders will need to be more interconnected with access to richer information in the field, supporting enhanced interoperability and better coordination.
The Emergency Management Long Term Communications Plan (referred to as the LTCP) articulates the State’s 2025 operational communications vision for the sector and a high-level plan to progressively move towards that vision. This vision is to provide broadband data services and a resilient voice and narrowband network for all agencies state-wide, to enhance interoperability and provide better support to operational personnel in the field. The ongoing collaborative efforts of Victorian police and emergency services will be critical to successful implementation. The LTCP consists of four key actions:

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<th>WHAT IS THE EMERGENCY MANAGEMENT LONG TERM COMMUNICATIONS PLAN?</th>
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<tbody>
<tr>
<td>1</td>
<td>LEVERAGE NEW STATE CONTRACTS TO MOVE TO A SINGLE INTEGRATED VOICE NETWORK</td>
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<tr>
<td>2</td>
<td>ESTABLISH A STATEWIDE, SECTOR-WIDE BROADBAND CAPABILITY</td>
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<td>3</td>
<td>ADOPT A PHASED IMPLEMENTATION PLAN</td>
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<td>4</td>
<td>DELIVER THE LTCP THROUGH CENTRALISED GOVERNANCE</td>
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WHAT DOES THIS PLAN COVER?

The LTCP focuses on improving wireless operational communications between personnel in the field and with command. Currently there are multiple voice and narrowband data networks that are accessed across the state with very limited broadband data capability available to agencies. The LTCP proposes these networks be consolidated to provide a single integrated voice and narrowband network and high quality broadband data services for all agencies statewide.

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<th>TODAY</th>
<th>TOMORROW</th>
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<tr>
<td>Communications from Community</td>
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<tr>
<td>Operational Communications</td>
<td>Data Voice</td>
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<td>Information systems</td>
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<td>Communications to Community</td>
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The LTCP will affect the community and emergency services organisations in different ways. These characters are based on real life examples to show how better operational communications can improve emergency response and community safety.

**Anna**
Community member

Noticing a violent brawl across the street, Anna calls triple zero to report the event. She also records the scene on her smartphone. This footage may be uploaded and shared with the responding police officers.

**Reeva**
Triple Zero call taker

When taking a call from a community member, Reeva advises the caller to capture photo or video footage on their smartphone if possible to share with the emergency responder upon arrival so they can better manage the situation.

**Stuart**
State/Incident Control Centre commander

During a large-scale event, Stuart uses richer information such as location tracking for vehicles and personnel, overlaid with weather data and video footage from airborne drones to support the response.

**George**
State Emergency Service volunteer

When George’s assistance as storm and flood volunteer is requested, he is sent a data message to his smartphone that includes a brief description of the event, along with a map and images.

**Kane**
Metropolitan Fire Brigade fire fighter

Kane is called to an industrial fire and sets up a videoconference with a chemicals expert to ensure he uses the safest tools and processes to contain the hazardous fire.
INTEGRATED. MOBILE. AWARE  
EMERGENCY MANAGEMENT LONG TERM  
COMMUNICATIONS PLAN

Margie  
Country Fire Authority  
fire fighter

Working in rural Victoria during bushfire season, Margie can stream footage of a blaze from an airborne drone to check for any unpredictable wind changes and move her team to safety.

Ida  
Sheriff’s Office of Victoria  
officer

When Ida is called to enforce a criminal warrant, she accesses data on her tablet to search all available information to ensure she is aware of potential risks.

Helena & Victor  
Victoria Police officers

While Helena uses vehicle location tracking to navigate when responding to a call for immediate back-up from a nearby patrol car, Victor begins electronically completing relevant forms to be easily filed after the incident.

Michael & Sonya  
Ambulance Victoria  
paramedics

Providing treatment to a patient suffering from a heart attack, Sonya and Michael are able to transmit the ECG directly to the hospital so that staff and equipment are ready to provide specialist care when they arrive. This early notification helps save lives.

Jamie  
Department of Environment and Primary Industries fire fighter

In the lead-up to fire season, Jamie receives helpful geospatial data on his smartphone in the field to stay aware of any critical changes to planned burns.

Anthony  
Life Saving Victoria volunteer

Anthony works full time and volunteers as a local lifesaver during the summer. He accesses his volunteering schedule remotely to ensure his work and volunteering commitments can be met.
# EMERGENCY MANAGEMENT LONG TERM COMMUNICATIONS PLAN ROADMAP TO 2025

<table>
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<tr>
<th>Today</th>
<th>Horizon 1 2014–2016+</th>
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| **Objectives** | Establish initial broadband network leveraging public and private assets  
Commence consolidation to single voice and narrowband data network arrangements |
| **Network capabilities** | Migrate to:  
1 voice and narrowband  
1 paging  
1 broadband data  
+ specialist networks |
| 13 voice and narrowband  
2 paging  
1 data  
+ specialist networks |  
Migrate various (agency and state) voice and narrowband networks to a single non-partitioned integrated network operating state-wide.  
Narrow band data will be enhanced with commercial broadband data. |

### Paging

- **Narrowband (Voice)**  
- **Narrowband (Data)**  
- **Broadband (Data)**

### Transition activities

1. Migrate various (agency and state) voice and narrowband networks to a single non-partitioned integrated network operating state-wide.  
Narrow band data will be enhanced with commercial broadband data.  

2. Leverage centralised governance, procurement and investment planning services through Emergency Management Victoria.

### Governance

Leverage centralised governance, procurement and investment planning services through Emergency Management Victoria.
The LTCP will be delivered across three transition horizons. This phasing will help manage risk and delivery in a way that is achievable for the sector, government and community.

Horizon 2

- Enhance broadband data access across State – investing to increase capacity and coverage
- Maintain separate voice network

Horizon 3

- Evaluate options for transition to single network solution
- Optimise networks

Migrate to:
1 voice and narrowband
1 public safety grade broadband data
+ specialist networks

The broadband data footprint will be scaled state-wide and enhanced to meet public safety grade standards.

Transition paging services onto the broadband data service OR the voice and narrow band network, pending options assessment.

Transition all mission critical narrowband data and voice to a dedicated state-wide network.

Migrate to:
1 voice and narrowband
1 public safety grade broadband data and voice
+ specialist networks

Transition business critical data and voice to public safety grade broadband services.

Into the future, there will be a public safety grade broadband service for business critical voice and data capabilities, supplemented by a mission critical voice and narrowband network to meet redundancy and fall back needs.
GLOBAL TRENDS IN OPERATIONAL COMMUNICATIONS

Public safety and emergency service agencies worldwide are facing similar challenges. Recognising the opportunities presented by technology development and a global community shift from voice to data-based communications, many nations are partnering with commercial providers to deliver more affordable solutions. All agencies are committed to providing richer information to their operational personnel in the field to support their efforts to safely protect the public.

Canada is exploring the implementation of a nationwide public safety mobile broadband network to provide enhanced data capabilities to responders in the field. Technical assessments and public consultation has been conducted to determine how much spectrum is required to meet the needs of the public safety community within a 20-year time period. This analysis is considering data demand, Long-Term Evolution technology capability and improvements to spectral efficiency projected into the future.

UK has developed the Emergency Services Mobile Communications Programme which will replace the current communication service with a new national mobile communication service for all three emergency services and other organisations that will be called the Emergency Services Network. This network will take advantage of the latest mobile technologies to provide a national critical voice and broadband data service.

US has established FirstNet to provide emergency responders with the first dedicated nationwide, high-speed broadband data network. FirstNet will meet public-safety grade standards using Long-Term Evolution wireless technology, leveraging commercial service providers to deliver benefits sooner. Emergency services will continue to rely on land mobile radio for mission-critical voice communications.

Europe nations are developing plans for broadband services and considering innovative commercial models that utilise multiple service providers to meet public safety agency needs.

Middle East nations are investigating broadband services for use by public safety agencies.

GLOBAL TRENDS IN OPERATIONAL COMMUNICATIONS
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Europe nations are developing plans for broadband services and considering innovative commercial models that utilise multiple service providers to meet public safety agency needs.

Asia nations are testing broadband options across different frequencies for public safety agencies requirements.

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New Zealand is rolling out Apple iPhones and iPads to police officers as part of the New Zealand government’s Better Public Services strategy. This roll-out comes after an 11-month pilot to trial new technologies that could assist the police force. It is expected to deliver 520,000 additional frontline hours to the police force.

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