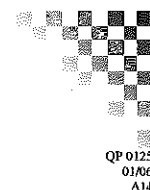




QUEENSLAND POLICE SERVICE  
STATEMENT OF WITNESS



Occurrence #: \_\_\_\_\_

Statement no.: \_\_\_\_\_ Date: **15/4/2011**

**Statement of**

Name of witness: **PITMAN, Grant Alan**

Date of birth: [REDACTED] Age: [REDACTED] Occupation: **Police Officer**

**Police officer taking statement**

Name: **PITMAN, Grant Alan**

Rank: **Chief Superintendent** Reg. no.: **3977**

Region/Command/Division: **Information and Communications Technology** Station: **Brisbane**

**Statement:**

Grant Alan Pitman states:

I am a Chief Superintendent in the Queensland Police Service (QPS). I am the Operations Coordinator and Director of Strategic Services, Communications and Major Projects within Information and Communications Technology (ICT).

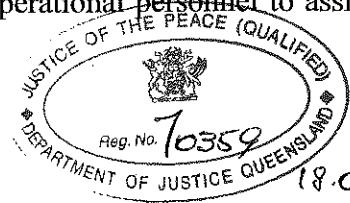
I have previously performed the roles of Superintendent (Communications) in Operations Support Command with responsibility for the Brisbane Police Communications Centre (PCC) and state Police Operations Centre (POC), and District Disaster Coordinator for the Brisbane Disaster District.

Commencing from the 20 December 2010 and until 14 January 2011 (inclusive), I was the Acting Assistant Commissioner for ICT. During the floods, and later for Cyclone Yasi, I was responsible for providing advice and support to the Senior Executive of the QPS and the coordination of communication systems (radio, satellite and telephones), computer systems, POLICELINK operations, and the Public Safety Network. ICT also provided additional operational personnel to assist with response during the disaster management period.

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(Witness's signature)

(Justice of the Peace (Qual.)/

Commissioner for Declarations's signature)

(Signature of police officer preparing statement)

Exhibit Number: 347  
Date: 12/05/11  
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CONTINUED STATEMENT OF: PITMAN, Grant Alan

Services provided through ICT included the provision of additional radios (handheld and mobile), mobile and satellite phones and coordination with telecom/radio vendors to manage black spots and operational needs. The POLICELINK centre was required to coordinate overflow, redundancy and evacuation capabilities to Police Communications and evacuation centres and stations in flooded areas. Other ICT services were provided to police and disaster management personnel upon request during the floods and cyclone. Geospatial Information System (GIS) applications also supported the disaster response and search and rescue activities.

In response to dot point in the Commission's Letter of Requirement: *provides all information in her [sic] possession and identifies the source or sources of that information*, I provide the following information:


A high-level summary of Triple Zero call data is provided to the QPS monthly. This data comprises the number of calls received, answer performance in percentage terms of length of time to answer (5 second increments to 30 seconds, 30 to 60 seconds and over 60 seconds) and the number of tries (presentations) required before a QPS operator answers the call (1<sup>st</sup> Try, 2<sup>nd</sup> Try, 3<sup>rd</sup> Try and More) also in percentage terms. This data has been provided for the period July 2007 to March 2011 inclusive and indicates that the re-presentation of calls on multiple occasions (up to 10 and over in some months) is not uncommon.


Summaries of this data are provided in the documents titled:

- QPS Answering Performance By Time as A Percentage for the Period July 2007 to March 2011.
- QPS answering Performance (in numbers of calls answered) BY Time for the Period July 2007 to March 2011.
- QPS Answering Performance (in numbers of calls answered and percentage of calls answered) By Attempts for the Period July 2007 to March 2011.



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(Justice of the Peace (Qual.)/  
Commissioner for Declarations's signature)

  
(Signature of police officer  
preparing statement)

CONTINUED STATEMENT OF: PITMAN, Grant Alan

Detailed data in relation to the Triple Zero calls presented to the QPS for a number of specific months between December 2008 and January 2011 (December 2008, March, July and December 2009, March and July to December 2010, and January 2011) has also been obtained by Acting Inspector Stephen Jenkins and his assistant, Research Officer Ms Gail Davidson (Administration Officer, Acting Grade 5 (A/AO5)), from Telstra's Emergency Service Answering Point Support Team.



Acting Inspector Jenkins and A/AO5 Davidson are currently members of the joint QPS / Department of Community Safety (DCS) Public Safety Front-line Communications (PSFC) Program team which is organisationally located within my area of responsibility. Both these members were previously members of the QPS Computer Aided Dispatch (CAD) Project team, and the Strategic Assessment of Public Safety Communications Project team.


Both were also two of the authors of the *Strategic Assessment of Public Safety Communications Report (2008)* (the SA Report) and assisted the preparation of the *QPS Communications Strategy for Frontline Policing 2015* prepared by the Service's Information Planning Branch.

A detailed study of QPS Communications Centre operations and QPS Triple Zero call answering performance has also been conducted by Acting Inspector Jenkins and Ms Davidson. Their final report is still being prepared.

The Triple Zero call data received from Telstra has been subject to rigorous analysis. The results of their study and analysis of Triple Zero call data, particularly concerning the Triple Zero calls received by the QPS, and specifically the Toowoomba PCC, on 10 January 2011, will be re-presented in documents to which I will refer.

In response to Point 1 of the Commission's Letter of Requirement: *a description of the way in which Queensland Police Service (QPS) '000' emergency communications systems operate generally*, I provide the following information:

  
  
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(Justice of the Peace (Qual.)/  
Commissioner for Declarations's signature)

  
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preparing statement)

CONTINUED STATEMENT OF: PITMAN, Grant Alan

The QPS presently has 22 PCCs / stations that perform PCC-related duties state-wide. Over time, communications-related activities have evolved from station to district functions, with regionally-based models now being implemented in some police regions.

Collectively, there are 170 sworn officer and 287.5 civilian personnel (Communications Officers) (CO) positions (total 457.5) permanently allocated to PCC-related duties state-wide. The number of personnel allocated to each PCC / station where PCC-related duties are performed varies.

A list of PCC / station locations and their respective approved staffing allocations, current as of April 2011, is included in the Table titled 'Police Communications Centre Staffing'. This list also depicts the PCCs that have communications responsibility for multiple police districts.

Some PCCs also have a small number of casual civilian operators that they are able to draw upon to perform duties when that Centre has CO vacancies, COs report sick or there is an event which requires additional staffing.

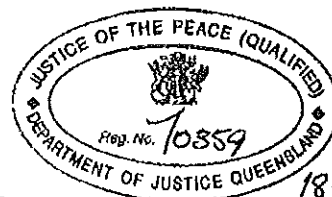
In Brisbane, the Brisbane PCC provides communications services to the Metropolitan North and Metropolitan South Regions. Brisbane PCC, which also has a Police Operations Centre attached, is located in Police Headquarters and is the responsibility of the Assistant Commissioner, Operations Support Command.

Outside Brisbane, PCCs are generally located at Police District headquarters establishments and District Officers have overall responsibility for their operations.

Regionally, at the smaller district PCCs / stations, no personnel are dedicated to performing PCC-related duties; they are generally performed by the on-duty shift supervisor.



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preparing statement)



CONTINUED STATEMENT OF: PITMAN, Grant Alan

At the locations where a small number of civilian personnel are allocated to perform call-taking and radio dispatching duties, these members are supervised by the on-duty station shift supervisor. Communications operators at these locations are required to multi-task, answering Triple zero emergency and non-emergency calls, and dispatching taskings whilst simultaneously providing support to operational police with a variety of enquiries / database queries (checks) requested over the police radio (multiple channels in some locations).

There is frequently only one civilian member on-duty at any one time at the smaller PCCs / stations.

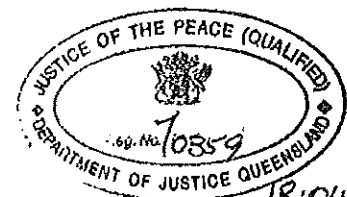
The medium to larger PCCs (excluding Brisbane), have a dedicated officer-in-charge at the rank of Senior Sergeant. Shift supervision is provided by dedicated PCC communications coordinators (Comco's) at the rank of Sergeant. At these locations, call-taking and radio dispatch duties (including enquiries from operational officers over the police radio) are frequently separated, however, multi-tasking may still occur, particularly on the quieter shifts.

Brisbane PCC is managed by two Inspectors; one is the appointed officer-in-charge, and the other is the operations coordinator. There is 24/7 shift supervision by an Inspector (State Duty Officer) and a Senior Sergeant (PCC Duty Officer). The functions of call-taking and radio dispatch / enquiry are fully separated.

In response to the next two points in the Commission's Letter of Requirement: (2) a detailed description of the way in which QPS '000' emergency calls are received by the QPS and actioned; and (3) a description of what happens where there are insufficient QPS emergency call operators to receive '000' calls originating from a certain State or Territory, where 'overflow' is sent to, and how interstate call operators action '000' personnel to jobs or incidents, I provide the following information:



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preparing statement)

CONTINUED STATEMENT OF: PITMAN, Grant Alan

Triple Zero calls are presented to the QPS by Telstra at 19 of the Service's 22 PCCs / stations that perform communications-related duties. Toowoomba receives Triple Zero calls on behalf of the Warwick and Dalby Districts, and Rockhampton receives Longreach's Triple Zero calls. Communications functions for the Coomera Police District are provided by the Broadbeach PCC, and for the Caboolture and Redcliffe Police Districts, the North Coast Region (NCR) PCC at Maroochydore.

The QPS also assists the Northern Territory Police in answering Triple Zero calls when required as the Mount Isa, Townsville and Brisbane PCCs are overflow points for Triple Zero calls not answered on first presentation at the Avon Downs Police Station (west of Camooweal).

Telstra present Triple Zero calls to the QPS Triple Zero call answering point (PCC or station where communications-related duties are performed) closest to the origin of the emergency call. The initial presentation of a Triple Zero call is referred to as the 'first presentation' or 'first try'. Each presentation is of 45 seconds duration.

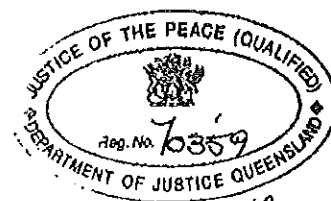
When a Triple Zero call is not answered on the 'first presentation', Telstra re-present the call to the next Triple Zero call answering location based on a pre-determined re-presentation sequence. Up to five re-presentation locations are included in the sequence for some Triple Zero call answering locations. This process is referred to as the 'Overflow Arrangements'.

A copy of these Overflow Arrangements (with the actual phone numbers removed) is included in a Table titled 'Queensland Police - Triple Zero Call Overflow Arrangements'.

The effectiveness of these Overflow Arrangements is contingent upon their being operator/s available at the overflow location to answer the call.



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(Justice of the Peace (Qual.))  
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preparing statement)

CONTINUED STATEMENT OF: PITMAN, Grant Alan

This Table also indicates that some lines on which Triple Zero calls are presented, are not dedicated Triple Zero lines. For example, the 2<sup>nd</sup> presentation line at the Toowoomba PCC is a 'Response line' ordinarily used for receiving non-emergency calls. Accordingly, when calls are received on these lines, the caller is required under the *Telecommunications (Interceptions and Access) Act 1979* (Cwth) to be advised that the call is being recorded. Consequently, calls received on these lines are played a short recorded message to provide this advice.


With the exception of Brisbane PCC, if a Triple Zero call remains unanswered after being presented to all locations listed in the overflow arrangements for that location, the call is re-presented to the first presentation location and the sequence is repeated until the call is answered. Triple Zero calls not answered on first presentation at the Brisbane PCC are only re-presented back to the Brisbane PCC. The re-presented calls are received on different numbers, which have an increasing level of priority, until such time as the call is answered.

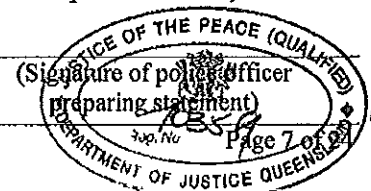
All Triple Zero calls received by Telstra that are required to be transferred to the QPS, are transferred, even if the call is disconnected, that is, even if the caller hangs up or is otherwise disconnected. Telstra continues to present / re-present the call as per the Overflow Arrangements until a QPS operator answers. Operators at the Emergency Services Answer Point (Triple Zero Call Centre) appear to be able to override the Overflow Arrangements in certain instances.

The number of Triple Zero calls received by the QPS monthly ranges between approximately 34,000 and 46,000 calls.

In January 2011, the QPS received 46,449 Triple Zero calls. Details of the distribution of these calls state-wide on a daily basis are included in the Table in the document titled 'Triple Zero calls received by QPS January 2011'.

The distribution of these calls to the various Triple Zero call answering locations and the answering performance of these locations is depicted in the Tables titled, 'Triple Zero Answer & Non-answer Performance - January 2011' and 'QPS Triple Zero Answer & Non-answer Performance - January 2011 (with Re-presentations)'.

  
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(Justice of the Peace (Qual.)/  
Commissioner for Declarations's signature)



CONTINUED STATEMENT OF: PITMAN, Grant Alan

This data is presented in greater details in the Table in the document titled 'Triple Zero Calls Received at QPS PCCs State-wide in January 2011 - Detailed Call Analysis'.

The general national and international standard (KPI) in respect to Triple Zero (emergency) call answering is that at least 90% of calls are to be answered within 10 seconds, and that all calls are answered on the 'first presentation'. This standard has also been adopted by the Australian National Emergency Communications Working Group (NECWG). Each of the Australian police and emergency service organisations has representation on NECWG.

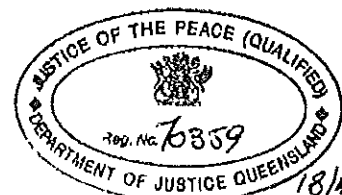
Telstra's Triple Zero Call Centre is an Emergency Call Answering Point under the *Telecommunications (Emergency Call Service) Determination 2009* which is issued by virtue of s. 147: 'Provision of emergency call service' of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (Cwth).


Section 34: 'Speed, efficiency and reliability for numbers 000 and 112 - emergency call person' of the Determination provides the benchmarks for performance measurement that emergency call persons at the emergency call answering points (Telstra Triple Zero Call Centre) must achieve in respect to the answering of emergency calls, namely, 85% in 5 seconds and 95% in 10 seconds.

Telstra is required to report performance against this KPI to the Australian Communications and Media Authority. Telstra is not required to report in respect to the transferring of emergency calls to the emergency service organisations.

The QPS does not have a KPI in relation to the answering of Triple Zero calls.

There are presently two types of Computer Aided Dispatch (CAD) systems used by the QPS, the Emergency Services Communications and Operational Response Tasking (ESCORT) System and the Incident Management System (IMS).



  
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preparing statement)

CONTINUED STATEMENT OF: PITMAN, Grant Alan

The ESCORT CAD system is used in the Brisbane, Broadbeach, Beenleigh, Townsville and Cairns PCCs. This system is centrally based in Brisbane and provides limited interconnectivity between these five PCCs. Operators in any one of these PCCs are able to enter jobs, broadcasts and messages on behalf of one of the other PCCs.


Therefore when a Triple Zero call first presented to one of these PCCs overflows to and is answered at another, operators at the answering PCC are able to enter the job details directly into the ESCORT CAD system. The job record is then displayed on the Comco and/or radio operators' work queue at the PCC where the response is required. Thus there is a limited level of interoperability and virtualisation between these PCCs.

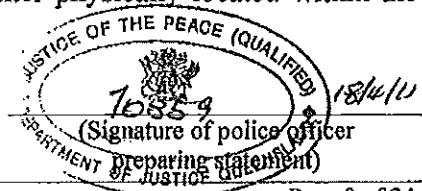
All other PCCs / stations where communications-related duties are conducted (except Longreach) use the IMS. The IMS is a standalone system and provides no interconnectivity between the locations where it is used. When job details are required to be transferred from one PCC / station to another, this is done via telephone, e-mail, facsimile or printed via the QPS computer network from the IMS to a printer physically located within the other PCC / station.

There is no interconnectivity between the ESCORT CAD and IMS.

There is also no interconnectivity between the ESCORT CAD or IMS, and the systems utilised by other emergency services in Queensland or interstate police agencies. When information is received at a communications centre of the Queensland Fire and Rescue Service (QFRS), Queensland Ambulance Service (QAS) or an interstate policing agency, information is only able to be transferred to a QPS PCC or station by telephone, e-mail or facsimile.

When an operator in a PCC utilising ESCORT CAD receives a Triple Zero call from an area where the IMS is used, the job details are required to be transferred to the other location via telephone, e-mail, facsimile or printed via the QPS computer network from the ESCORT CAD system to a printer physically located within the other PCC / station.

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CONTINUED STATEMENT OF: PITMAN, Grant Alan

The QPS does not presently have an incident command system or critical incident/information management system to assist with the management of major incidents, disasters or major planned events on a state-wide basis. The transfer of information in the lead-up to and during these types of events is presently conducted via telephone, e-mail or facsimile. The Wyvern incident command system is in use at the Brisbane POC only, however, this system has limited functionality.

The mobile voice radio networks throughout the state are police district centric. The radio network for the Metropolitan North and South Regions is based on ultra-high frequency (UHF) digital technology. In all other locations the radio networks operate on UHF analogue technology.

Radio networks for a police district terminate at the district PCC, or district headquarters station in those districts where there is no dedicated PCC. In some locations, the district's radio network is connected with the neighbouring district's network, however, there is no state-wide integration of the radio network.

All PCCs and regional district headquarters stations have a high frequency (HF) radio base station for long distance communications. Mobile HF units are fitted to vehicles that operate in remote localities.

Telephony systems in PCCs and at district headquarters stations are Alcatel-Lucent PABX (Private Automated Branch Exchange) systems. The PABX systems are location specific and operate independently to each other.

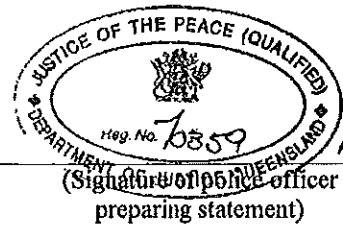
There is no interconnectivity between the individual PABXs.

There is no ability to load-share between PCCs or stations at the times when spikes in incoming calls (including Triple Zero) might be experienced, for example, during a disaster event.

All telephone calls (Triple Zero and non-emergency) received at, or made from PCCs, are recorded.



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CONTINUED STATEMENT OF: PITMAN, Grant Alan

A Zetron 'Acom' system is also utilised in PCCs. This system displays connections to the telephone and radio systems to operators as icons on a visual LCD screen at their workstations. The Acom display provides operators with the ability to distinguish Triple Zero emergency calls from non-emergency calls, and monitor radio channels. Operators are able to select the telephone line or radio channel they wish to use, which incoming call they answer (including Triple Zero), and which radio channel to use when performing radio operator duties.

Call accounting programs are also used at PCCs to record details of call volumes, and the phone number and duration of telephone calls received or initiated at that location.

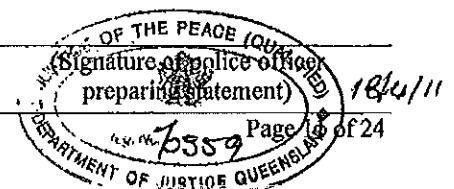
A Caller Line Identification (CLI) information feed is received from Telstra either directly into the ESCORT CAD system (Brisbane, Beenleigh, Broadbeach, Townsville and Cairns PCCs), or alternatively, at most of the locations using the IMS (including Toowoomba), displayed on a dedicated CLI feed monitor.

Operators in the PCCs using ESCORT CAD, and smaller locations without a direct CLI feed from Telstra (Charleville, Innisfail and Mareeba), are also able to obtain CLI information through a computer application accessible via an icon on the QPS computer located at their workstation. This is possible as CLI information for these locations is directed to Brisbane PCC. CLI information displayed on this system is available for all Triple Zero calls received in the previous few hours. Access to CLI information through this functionality is not available in the Toowoomba PCC.

Some PCCs also have other systems in place, for example, monitors to view local government closed-circuit television monitoring (CCTV) of public areas and traffic management systems, and police station / establishment security monitoring.

The Police Contact Centre (POLICELINK) performs a pivotal role in supporting and enhancing the QPS' capability to respond to major events, incidents and emergencies. Launched publicly in August 2010, POLICELINK provides the Queensland community with the ability to contact police for 'non-urgent matters' on a single nationally recognised number for non-urgent police contact – 131444.

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Commissioner for Declarations's signature)



CONTINUED STATEMENT OF: PITMAN, Grant Alan

Calls received at POLICELINK are 'triaged', and where an operational police response is required, information is transferred to PCCs either as a 'work ticket' which is transferred electronically to the relevant PCC, or if the matter is urgent enough, the call is transferred to the relevant PCC in a process known as a warm hands transfer. Calls actually transferred to PCCs in this way are reported as 'Urgent Assists'.

During the recent disaster events, POLICELINK provided the ability to handle, at short-notice, large call volumes from the affected community. POLICELINK therefore played a key support role during the disaster response to the Toowoomba, Lockyer Valley, Ipswich and Brisbane flood event, as well as assisting with the registration of people evacuated as a result of by Cyclone Yasi in north Queensland.

The types of services provided by POLICELINK include:

- Evacuee registration
- Welfare enquiries from family and friends
- General enquiries on all aspects of the disaster response
- Road status enquiries
- Processing SES requests
- Requests for urgent assistance (these are then referred to PCCs).

During disaster events, special major event lines are activated at POLICELINK.

On 10 January 2011, special major event lines were activated in response to the initial event in Toowoomba and the Lockyer Valley and remained activated until the recession of the flooding in Brisbane and Ipswich. A total of 16,570 calls were answered on the major event lines over this period.

Immediately prior to, during and post the impact of Cyclone Yasi, POLICELINK handled almost 7,900 calls on the major events lines. These lines had been established specifically to register evacuees and to answer enquiries from concerned friends and relatives, before, during and after the disaster event.



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(Justice of the Peace (Qual.))  
Commissioner for Declarations's signature)

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CONTINUED STATEMENT OF: PITMAN, Grant Alan

POLICELINK utilised a Genesys call distribution system and has the capacity to receive Triple Zero calls. It is proposed in the draft *QPS Contact Management Strategy 2010 to 2020* that POLICELINK will be integrated into the QPS Triple Zero call management processes.

In response to Point 4 of the Commission's Letter of Requirement: *a description of any particular way in which '000' calls are managed in the Toowoomba region*, I provide the following information:

Other than the general Triple Zero call answering processes previously outlined, I have no personal experience or knowledge of the actual management processes for Triple Zero calls in the Toowoomba region.

General requirements for the management of PCCs and the answering of Triple Zero calls are contained in the relevant sections of the Service's Operational Procedures Manual (OPM). These requirements are also supplemented by local Standard Operating Procedures (SOPs) which should exist for all PCCs.

Analysis of Triple Zero call data by Acting Inspector Jenkins and A/AO5 Davidson previously referred to provides some insight into how these calls are actually managed in terms of the Overflow Arrangements. A more detailed explanation of this is provided in response to the following Point.

In response to Point 5 of the Commission's Letter of Requirement: *whether there were any operational difficulties encountered by the communications room/s and '000' call operators due to the volume of '000' calls received on 10 January 2011 from the Toowoomba region*, I provide the following information:

The volume of Triple Zero calls received state-wide in January 2011 has previously been provided. The number of Triple Zero calls directed to the Toowoomba PCC on 10 January 2011 as 'first presentations' was 640 calls. 328 of these calls were answered at the Toowoomba PCC on the 'first presentation'.



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CONTINUED STATEMENT OF: PITMAN, Grant Alan

The 312 calls not answered on first presentation were re-presented to the Toowoomba, Ipswich and Brisbane PCCs as per the predetermined Overflow Arrangements. 49 of these call re-presentations were answered at the Toowoomba PCC after varying attempts.

It appears however, that the inclusion of a 'non-emergency' response line number in the Overflow Arrangements for the Toowoomba PCC as the 2<sup>nd</sup> presentation number has had an impact on the answering of Triple Zero calls during the event on 10 January 2011.

For example, of the 312 calls not answered on the 1<sup>st</sup> presentation, 299 were re-presented to the non-emergency Response line at Toowoomba PCC, and 13 to the Ipswich (Yamanto) PCC. All 13 calls received at Ipswich PCC were answered, however, only 26 of the 299 calls re-presented on the Toowoomba PCC response line as 2<sup>nd</sup> presentations were answered.

In total, 1,454 presentations to the QPS were required before all Toowoomba's 640 Triple Zero calls were answered on 10 January 2011. Of these, 1,054 presentations were made to the Toowoomba PCC. This includes 14 presentations of calls originally destined for other PCCs. One call required 17 presentations before it was finally answered in Toowoomba on the 5<sup>th</sup> round of the Overflow Arrangements. In terms of duration, this equates to in excess of 12 minutes. A detailed analysis of the presentations required for the Triple Zero calls is provided in the document titled 'Toowoomba PCC – Number of Triple Zero Call Presentations – 10 January 2011'.

In the full 24-hour period for 10 January 2011, Toowoomba PCC actually answered 389 Triple Zero calls, 377 of their own presentation / re-presentations and 22 on behalf of other PCCs. Two calls initially destined for the QFRS and QAS communications centres at Southport were also answered by the Toowoomba PCC.

Detailed information in relation to the number of Triple Zero calls actually presented to and answered at the Toowoomba, Ipswich and Brisbane PCCs on 10 January 2011, and the number of full re-presentations required before some of these calls were answered, is provided in the documents titled:



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(Justice of the Peace (Qual.))  
Commissioner for Declarations's signature)

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10359 Page 18 of 24  
DEPARTMENT OF JUSTICE QUEENSLAND




CONTINUED STATEMENT OF: PITMAN, Grant Alan

- Triple Zero Calls Received QPS PCCs State-wide on 10 January 2011 – Detailed Call Analysis
- Triple Zero Calls Presented to Toowoomba PCC and Answering Details – 10 to 12 January 2011
- Triple Zero Calls Presented to Yamanto PCC and Answering Details – 10 to 12 January 2011
- Triple Zero Calls Presented to Brisbane PCC and Answering Details – 10 to 12 January 2011
- Triple Zero Call Answering Performance 10 January 2011 – Toowoomba PCC
- Toowoomba PCC Triple Zero Calls – Presentations Required to Answer – 10 January 2011
- Toowoomba PCC – Number of Triple Zero Call Presentations – 10 January 2011
- Toowoomba PCC First Presentation Triple Zero Calls received / Answered in 15 Minute Intervals on 10 January 2011 (Graph)
- Triple Zero First Presentations – January 2011 (Graph)
- Triple Zero Calls Received During Disaster Period (Graph)

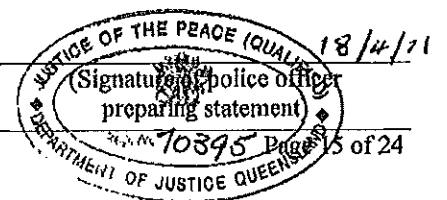
In response to last two Points of the Commission's Letter of Requirement: (6) *any additional resources required by the communications room/s and/or '000' call operators that might assist in responding to future disaster and/or flood events*, and (7): *any operational changes or recommendations to improve communication room/s and/or the conduct of '000' call operators in responding to future disaster and/or flood events*, I provide the following information:

These two Points are inextricably intertwined with one another. There is no single technology or strategy that will resolve the issues in Triple Zero call answering processes or PCCs particularly in disaster events.

Triple Zero call answering performance and PCC efficiency and effectiveness will only be improved through the implementation of a range technologies, that are integrated and to form an interconnected virtualised communications network. These technologies must also be complemented with appropriate organisational changes and PCC staffing models based on historical and expected work volumes.

  
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An example of the benefits of economies of scale that might be obtained from optimising PCCs is included in the Table in the document titled 'PCC Staff Requirements Based on Analysis of State-wide Triple Zero Call Data for January 2011'.

These technologies and strategies include:

- A telephony system, Alcatel Genesys for example, that would facilitate load-sharing and allow Triple Zero calls to be directed to an available operator irrespective of their location, as opposed to the current process of directing them to a facility (PCC / station) where there might be insufficient operators on-duty to handle the volume of incoming emergency calls in conjunction with their other duties.
- A single CAD system used by all PCCs state-wide interfaced with other QPS records databases, for example QPRIME.
- The QPS CAD system should also be interfaced with the CAD systems of the other emergency services via an Inter-CAD Electronic Messaging System (ICEMS) so as to facilitate the timely and seamless transfer of information between the agencies.
- Automated CAD Dispatching to reduce congestion on the voice radio networks.
- A connected (trunked) state-wide digital communications network for voice and data that would provide scalability and allow operations to be conducted in any part of the state, from any part of the state.
- Mobile Services applications to provide operational officers with access in-the-field so as to reduce the burden on PCC in performing 'checks' in response to requests over the radio network.

Introduction of a regionally-based PCC network to obtain the benefits from 'economies of scale' that optimises the efficiency and effectiveness of PCCs.

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- Staffing levels in PCCs commensurate with their operational requires in terms of the call answering (Triple Zero emergency and non-emergency) and radio channels.
- Ensuring that non-emergency numbers are not included in the Overflow Arrangements.
- The introduction of a KPI for the answering of Triple Zero emergency call -- 90% of calls within 10 seconds and all on 1<sup>st</sup> presentation.
- Implement strategies necessary for the interconnection and integration of PCC operations to create a virtualised communications environment, including the integration of POLICELINK into the communications network.
- In the longer term, the QPS considers the recommendations of the draft QPS Contact Management Strategy 2010 to 2020, in particular having only two or three urgent contact centres that are 'joined up' with a whole-of-government emergency services strategy.

Conclusions and Recommendations of the *Strategic Assessment of Public Safety Communications Report* (The State of Queensland (Queensland Police Service & Department of Emergency Services, 2008, pp. 69-71) (the SA Report) included reference to the implementation of many of these technologies and strategies. Specifically, the SA Report (pp. 69-70) concluded that:

**The integration of technologies, in particular CAD systems, AVL and mobile services is essential to realising the full benefits to be derived from the synergies between them. Further efficiencies are also available through converging technologies, for example the establishment of a government radio network (GRN).**

The SA Report further concluded and recommended that;

Investment areas include:

- a multi-year investment in voice and data networks, which should be progressed as a matter of priority;



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- continuation by the QPS with the procurement process for a new CAD solution. This process should include consideration for ensuring an interoperability interface with DES ESCAD, the verification of which should also be considered during the procurement process (consideration should also be given for any costs associated in developing / verifying such an interface being borne equally by the QPS and DES, and further, issues relating to interoperability should not impede the QPS process of acquiring a new CAD solution in a timely manner);
- rationalisation of communications centres by all agencies;
- development of telephony systems and data network architectures that provide interoperability between agencies and which facilitate the virtualisation of communications centres; and
- development of a Government Enterprise Architecture based public safety information architecture.

*Supplementary information.*




In pursuance of the Conclusions and Recommendations in the SA Report, the QPS has initiated, or is involved with, a number of initiatives that will deliver improved capabilities in PCCs. These include:

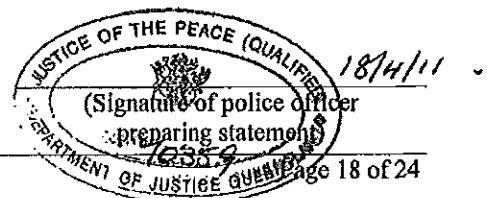
**The Public Safety Front-line Communications (PSFC) Program:**

This is a multi-agency program adopting a cluster-based approach aimed at integrating, interconnecting and converging the communications networks of the public safety agencies in Queensland. The public safety agencies include the Queensland Police Service and Department of Community Safety (DCS) which now incorporates the Queensland Fire and Rescue Service (QFRS), Rural Fire Service (RFS), Queensland Ambulance Service (QAS), Queensland Corrective Services (QCS), Emergency Management Queensland (EMQ) and the State Emergency Service (SES).

The PSFC Program is sponsored by the Public Safety Communications (PSCP) Steering Committee; a joint working party comprising re-presentatives from QPS, DCS, Department of Public Works (Telecommunications, Broadband and the Digital Economy Coordination Office (TBDECO)), Department of the Premier and Cabinet, and Queensland Treasury. The Steering Committee is presently co-chaired by Deputy Commissioner (Regional Operations) Ian Stewart (QPS) and Commissioner Lee Johnson (QFRS).

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In 2008, the Steering Committee sponsored a Strategic Assessment of Public Safety Communications Project which identified that opportunities existed for a joint investment in the provision of front-line communications to police, corrective services and emergency services personnel.

Front-line communications incorporates the myriad of technologies including: voice radio communications, voice telephony systems (terrestrial and satellite), mobile services (mobile data), fixed data networks, rationalised communications centres, Computer Aided Dispatch (CAD) systems, Automatic Vehicle Location (AVL), digital data transfer for CAD dispatching, backend databases and applications (for example Geospatial Information Systems (GIS)), and data storage facilities which collectively support QPS and DCS front-line personnel.

A state-wide digital communications network, shared between QPS and DCS, will provide numerous benefits including:

- the ability to meet current operational requirements not supported by existing technology
- improved safety for front-line personnel and the community
- mature levels of interoperability between DCS and QPS
- improved Command and Control
- higher visibility policing and emergency services by providing greater mobility
- integration and convergence of multiple technologies to provide a resilient network
- an enhanced effectiveness and efficiency in communications network management.

There are also numerous external drivers that are impacting the QPS from a communications perspective including:



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- The allocation of radio spectrum by the Australian Communications and Media Authority (ACMA) which will amalgamate all government radio spectrum into a common, lower frequency band (403 - 430 MHz). There is substantial impact for QPS as a consequence this as some equipment will need to be totally replaced due to it's incompatibility with this lower frequency band.
- The national Law Enforcement Security Radio Spectrum Committee (LESRSC) strategic plan which identifies the need for all state, territory and federal Law Enforcement Agencies to move to an interoperable radiocommunications environment in order to enhance responses to counter-terrorism related incidents, natural disasters and day-to-day operations in border localities.
- Harmonisation of the radio communications environment under the Australian Government's National Framework to Improve Government Radiocommunications Interoperability (National Framework). The National Framework will provide a harmonised radio communications environment for public protection and disaster relief.

The PSFC Program will progress public safety front-line communications initiatives including the identification, specification, acquisition, implementation and ongoing management of front-line communications technologies in Queensland up to 2020. The outcomes of the PSFC Program will provide the required communications networks necessary to enhance the operational effectiveness and efficiencies of front-line personnel, and improve front-line personnel and community safety.

The PSFC Program is currently in the final stages of preparing the Business Case for a state-wide Public Safety Wireless Network (PSWN). A PSWN would deliver a single digital communications environment for providing mobile voice and narrow-band data capability for QPS and DCS. A narrow-band data network would provide the capability for officer duress, automatic vehicle location (AVL) and automated CAD dispatching functionality.



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Additionally, the QPS, through the PSFC Program, is working closely with the DPW in conducting a Strategic Assessment and Preliminary Evaluation for an expanded version of the PSWN, a Government Wireless Network (GWN). The GWN would provide the digital communications environment for mobile voice and narrow-band data capability on a whole-of-government basis.

The QPS is also in discussions with other departments, and inter-state police and federal law enforcement agencies with a view to securing an allocation of spectrum in the 700 Megahertz band (the 'Digital Dividend') for wide-band data capability. Spectrum in this band is necessary to provide mobile services capability for front-line personnel to be able to enter data into and access and search operational databases in-the-field, utilise Automatic Number Plate Recognition (ANPR) technology, and live stream video from in-vehicle cameras particularly during pursuits.

**Computer Aided Dispatch (CAD) Project**

The CAD Project is currently implementing a new CAD system (Fortek Vision) to replace the existing ESCORT CAD system. The new CAD system will provide enhanced capabilities for the call-taking and dispatch functions by interfacing with other QPS systems such as QPRIME, and facilitating the automated flow of information from POLICELINK to PCCs.

Options are also being investigated that would provide operational officers and management personnel with limited access into the new CAD system from stations and other establishments. This would enable non-PCC personnel to conduct limited data entry, and management and intelligence related enquiries.

The CAD Project is also working with DCS personnel to ensure that the new QPS CAD system will be able to interoperate with the DCS CAD system via an ICEMS.



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**Critical Incident Management System (CIMS) Project**

The CIMS Project has been established to identify and implement a CIMS (an Incident Command System) for state-wide application within the QPS. The new system will be scalable and have the ability to provide interoperability with other Queensland emergency service organisations, and interstate and federal law enforcement agencies.

The CIMS will provide the ability to centrally record information relating to an event. This information will provide operational commanders and decision-makers with enhanced situational awareness and intelligence for decision making and forward planning during the management of the event.

This project will be conducted in close cooperation with the DCS 'All Hazards' Information Management Program which has a number of subordinate projects relating to emergency and disaster management.

**Mobile Services**

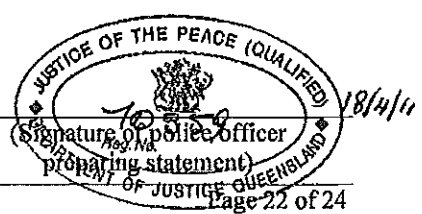
Mobility is currently considered to be the most significant area for organisational change and improvement within the QPS in the foreseeable future. Mobile ICT services for QPS will not only mobilise officers and devices, but also mobilise key business processes and critical information. It encompasses all facets of the delivery and capture of electronic information in the field.

Distributed access to core information and application systems to police officers in-the-field will significantly improve officer safety, productivity and customer service, whilst simultaneously delivering cost efficiencies.

Mobile ICT services have the capability of delivering operational functions such as e-ticketing, mobile response, mobile livescan (fingerprint identification), mobile checks of persons, locations and vehicles checks, Computer Aided Dispatch digital tasking, Automatic Vehicle Location and the capture and transfer of in-vehicle video directly to and from officers in the field.



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The QPS Pursuit Project recently identified that in-vehicle (car) cameras/video (ICC) technology was necessary to complement any policy change in relation to pursuits.

A behavioural evaluation of ICC was completed in April 2010. This culminated in a business case to perform further evaluation of ICC camera technology. A market scan has been undertaken to identify suitable systems and refine the requirements for a solution that could integrate in-car camera, automatic number plate recognition (ANPR) and mobile data capabilities within a single in-vehicle computing platform. A technical evaluation will shortly be commenced.

**Telephone Coordination Unit (TCU) Projects.**


Projects being conducted by the Telephone Coordination Unit that will impact on PCC operations include:

- New SatCUG (Satellite Closed User Group) type services integrated into multi media IP voice over Alcatel PABX.
- Integration of PCCs and operational stations by IP multi media services over current Alcatel systems.
- Upgraded Blue Emergency Phones fleet linked through IP multi media services over current Alcatel systems.
- Integration of mobile voice and video into IP multi media services over current Alcatel systems.



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**Justices Act Acknowledgement**

**Justices Act 1886**

I acknowledge by virtue of section 110A(6C)(c) of the Justices Act 1886 that:

- (1) This written statement by me dated 18 April 2011 and contained in the pages numbered 1 to 24 is true to the best of my knowledge and belief; and
- (2) I make this statement knowing that, if it were admitted as evidence, I may be liable to prosecution for stating in it anything that I know is false.

.....  Signature

Signed at Brisbane this Eighteenth day of April 2011.

(Witness's signature)

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preparing statement)

**QPS Answering Performance By Time as a Percentage for the Period July 2007 to March 2011**

	Total Police	Police %							
	Calls (1)	5 sec	10 sec	15 sec	20 sec	25 sec	30 sec	60 sec	>60 sec
Jul-07	34,417	2.12	22.82	31.83	17.29	9.10	5.54	9.12	2.39
Aug-07	37,871	1.73	22.58	32.14	17.90	9.08	5.39	9.17	2.01
Sep-07	39,874	1.90	22.78	32.60	18.57	8.34	5.21	8.58	2.04
Oct-07	42,632	1.86	22.86	31.21	17.80	8.49	6.30	9.75	2.74
Nov-07	41,366	1.71	23.47	32.35	17.50	8.23	4.97	9.31	2.47
Dec-07	45,984	1.63	24.48	31.84	17.88	8.22	4.94	8.97	2.44
Jan-08	41,722	1.89	24.61	34.09	17.80	7.82	4.59	7.52	1.88
Feb-08	40,264	1.70	24.50	32.64	17.57	8.37	4.91	8.21	2.09
Mar-08	40,801	1.78	24.32	33.23	17.69	7.95	4.74	8.27	2.05
Apr-08	35,953	1.75	24.65	33.40	18.15	7.84	4.70	7.77	1.74
May-08	38,401	1.73	24.87	32.55	17.21	7.93	4.87	8.61	2.23
Jun-08	38,648	1.86	24.22	32.72	18.05	8.07	4.67	8.25	2.16
<b>Annual Total</b>	<b>475,833</b>								
<b>Annual Average</b>		<b>1.80</b>	<b>23.85</b>	<b>32.52</b>	<b>17.77</b>	<b>8.29</b>	<b>4.99</b>	<b>8.63</b>	<b>2.17</b>
Jul-08	37,126	1.89	23.22	32.73	18.61	8.03	4.83	8.36	2.32
Aug-08	37,843	1.70	24.32	32.53	17.78	8.00	4.86	8.43	2.38
Sep-08	37,576	1.73	24.16	32.20	17.75	7.95	4.81	8.94	2.45
Oct-08	41,090	2.05	23.80	31.98	17.41	8.09	5.12	9.03	2.53
Nov-08	41,235	1.62	23.71	33.20	17.20	7.73	4.82	9.19	2.54
Dec-08	42,989	1.25	23.57	33.61	18.49	8.00	4.86	8.10	2.13
Jan-09	38,915	1.15	23.18	34.01	18.97	8.16	4.83	7.80	1.91
Feb-09	35,664	1.01	23.54	33.94	18.71	7.87	4.91	8.09	1.93
Mar-09	37,876	1.07	23.81	33.67	18.18	7.79	5.00	8.21	2.28
Apr-09	37,285	1.30	24.12	35.28	18.53	7.56	4.44	6.98	1.77
May-09	36,990	1.68	23.79	38.44	18.05	7.11	4.05	5.62	1.27
Jun-09	35,110	1.48	23.96	39.00	18.68	6.72	3.79	5.07	1.30
<b>Annual Total</b>	<b>459,499</b>								
<b>Annual Average</b>		<b>1.49</b>	<b>23.77</b>	<b>34.22</b>	<b>18.20</b>	<b>7.75</b>	<b>4.69</b>	<b>7.82</b>	<b>2.07</b>
Jul-09	34,459	1.59	23.38	39.00	17.99	6.24	3.42	6.96	1.43
Aug-09	37,687	1.50	22.85	36.82	17.93	6.59	3.81	8.60	1.90
Sep-09	37,225	1.24	21.39	35.83	18.89	7.37	3.96	9.39	1.93
Oct-09	40,591	1.52	22.04	36.11	18.13	6.91	3.82	9.40	2.06
Nov-09	38,833	1.18	21.20	36.53	18.62	6.76	4.03	9.69	2.00
Dec-09	44,086	1.05	22.25	34.58	18.05	7.49	4.20	10.27	2.11
Jan-10	40,880	1.39	22.53	36.03	18.71	7.15	3.87	8.72	1.61
Feb-10	35,500	1.02	23.91	36.21	17.00	6.71	4.03	9.14	1.99
Mar-10	37,401	0.80	23.31	36.16	17.95	6.84	4.02	9.11	1.79
Apr-10	36,463	0.83	23.07	37.25	17.49	6.73	3.91	8.92	1.80
May-10	34,971	0.89	22.74	38.59	18.53	6.53	3.50	7.76	1.49
Jun-10	32,878	0.98	23.57	39.44	18.18	6.40	3.22	6.90	1.33
<b>Annual Total</b>	<b>450,774</b>								
<b>Annual Average</b>		<b>1.16</b>	<b>22.68</b>	<b>36.88</b>	<b>18.12</b>	<b>6.81</b>	<b>3.82</b>	<b>8.74</b>	<b>1.79</b>
Jul-10	36,682	0.94	23.31	38.06	18.19	6.71	3.57	7.62	1.59
Aug-10	34,389	0.95	23.21	38.74	17.49	6.40	3.46	7.95	1.81
Sep-10	37,366	0.78	22.04	37.48	17.95	6.75	4.04	8.82	2.14
Oct-10	40,107	0.85	22.63	37.23	17.56	6.78	3.99	8.92	2.04
Nov-10	38,589	0.80	21.29	36.54	17.78	7.08	4.08	9.66	2.77
Dec-10	44,611	0.65	20.03	35.15	19.01	7.49	4.38	10.62	2.67
Jan-11	44,953	0.71	17.91	34.07	19.43	8.08	4.72	12.22	2.87
Feb-11	37,259	0.79	19.06	35.25	19.99	7.89	4.63	9.88	2.50
Mar-11	39,554	0.64	17.51	34.73	20.64	8.12	4.56	10.86	2.94
<b>Annual Total (to date)</b>	<b>353,510</b>								
<b>Annual Average (to date)</b>		<b>0.79</b>	<b>20.78</b>	<b>36.36</b>	<b>18.67</b>	<b>7.26</b>	<b>4.16</b>	<b>9.62</b>	<b>2.37</b>

**Notes:**

(1) Total Police Calls - Includes CNR calls when CNR IVR not available and Return CNR calls

Source: Analysis by A/Insp Steve Jenkins and A/AO5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Tolstra Emergency Service Answer Point Support (Triple Zero Call Centre)

**QPS Answering Performance (in numbers of calls answered) By Time for the Period July 2007 to March 2011**

No. Calls Answered in	5 sec	10 sec	15 sec	20 sec	25 sec	30 sec	60 sec	>60 sec	Total
Jul-07	730	7,854	10,886	5,951	3,132	1,907	3,137	821	34,417
Aug-07	655	8,551	12,172	6,779	3,439	2,041	3,473	761	37,871
Sep-07	758	9,081	12,999	7,403	3,323	2,077	3,419	813	39,674
Oct-07	793	9,744	13,305	7,588	3,617	2,259	4,157	1,168	42,632
Nov-07	707	9,707	13,380	7,239	3,404	2,056	3,851	1,022	41,366
Dec-07	750	11,257	14,549	8,130	3,780	2,272	4,125	1,122	45,984
Jan-08	789	10,268	14,223	7,427	3,263	1,916	3,137	701	41,722
Feb-08	684	9,865	13,144	7,076	3,370	1,978	3,306	842	40,264
Mar-08	718	9,921	13,556	7,218	3,244	1,934	3,374	838	40,801
Apr-08	629	8,862	12,008	6,525	2,819	1,690	2,794	626	35,953
May-08	664	9,550	12,500	6,609	3,045	1,870	3,306	856	38,401
Jun-08	680	8,852	11,959	6,597	2,949	1,707	3,015	789	36,548
<b>Annual Total</b>	<b>8,657</b>	<b>113,511</b>	<b>154,681</b>	<b>84,541</b>	<b>39,386</b>	<b>23,708</b>	<b>41,094</b>	<b>10,358</b>	<b>475,833</b>
<b>Annual Average</b>	<b>713</b>	<b>9,459</b>	<b>12,880</b>	<b>7,045</b>	<b>3,282</b>	<b>1,975</b>	<b>3,425</b>	<b>863</b>	<b>39,653</b>
Jul-08	702	8,622	12,153	6,910	2,981	1,793	3,104	861	37,126
Aug-08	640	9,155	12,245	6,693	3,011	1,829	3,173	886	37,643
Sep-08	650	9,080	12,100	6,671	2,987	1,807	3,359	921	37,576
Oct-08	842	9,777	13,139	7,154	3,324	2,104	3,710	1,040	41,090
Nov-08	668	9,775	13,688	7,092	3,187	1,988	3,769	1,047	41,235
Dec-08	537	10,130	14,446	7,949	3,439	2,089	3,482	916	42,989
Jan-09	448	9,019	13,233	7,362	3,175	1,880	3,035	743	38,915
Feb-09	360	8,395	12,104	6,673	2,807	1,751	2,885	688	35,664
Mar-09	405	9,020	12,753	6,885	2,952	1,894	3,110	857	37,876
Apr-09	488	8,995	13,156	6,909	2,620	1,655	2,604	660	37,285
May-09	620	8,801	14,218	6,675	2,631	1,497	2,079	469	36,990
Jun-09	519	8,413	13,694	6,557	2,358	1,331	1,781	457	35,110
<b>Annual Total</b>	<b>6,877</b>	<b>109,182</b>	<b>156,930</b>	<b>83,550</b>	<b>35,674</b>	<b>21,618</b>	<b>36,113</b>	<b>9,555</b>	<b>459,499</b>
<b>Annual Average</b>	<b>573</b>	<b>9,099</b>	<b>13,077</b>	<b>6,962</b>	<b>2,973</b>	<b>1,802</b>	<b>3,009</b>	<b>786</b>	<b>38,282</b>
Jul-09	548	8,048	13,439	6,199	2,151	1,180	2,400	494	34,459
Aug-09	567	8,612	13,876	6,757	2,483	1,435	3,242	715	37,687
Sep-09	460	7,964	13,336	7,030	2,744	1,475	3,497	719	37,225
Oct-09	617	8,946	14,657	7,361	2,806	1,550	3,816	838	40,591
Nov-09	456	8,188	14,111	7,193	2,612	1,557	3,744	773	38,633
Dec-09	463	9,809	15,245	7,958	3,302	1,852	4,528	930	44,066
Jan-10	567	9,211	14,728	7,647	2,921	1,584	3,583	659	40,880
Feb-10	362	8,488	12,853	6,034	2,383	1,431	3,244	705	35,500
Mar-10	301	8,717	13,526	6,714	2,560	1,505	3,409	669	37,401
Apr-10	301	8,412	13,581	6,378	2,455	1,426	3,254	656	36,463
May-10	302	7,951	13,496	6,480	2,285	1,223	2,713	521	34,971
Jun-10	315	7,750	12,968	5,977	2,103	1,059	2,270	436	32,878
<b>Annual Total</b>	<b>6,269</b>	<b>102,086</b>	<b>165,816</b>	<b>81,728</b>	<b>30,805</b>	<b>17,277</b>	<b>39,679</b>	<b>8,115</b>	<b>450,774</b>
<b>Annual Average</b>	<b>438</b>	<b>8,508</b>	<b>13,818</b>	<b>6,811</b>	<b>2,667</b>	<b>1,440</b>	<b>3,307</b>	<b>676</b>	<b>37,585</b>
Jul-10	344	8,549	13,961	6,674	2,463	1,311	2,797	583	36,682
Aug-10	325	7,980	13,323	6,013	2,200	1,180	2,735	623	34,388
Sep-10	291	8,236	14,003	6,709	2,522	1,508	3,297	800	37,366
Oct-10	339	9,078	14,930	7,044	2,720	1,600	3,578	818	40,107
Nov-10	307	8,216	14,101	6,860	2,733	1,575	3,729	1,068	38,589
Dec-10	291	8,935	15,682	8,482	3,341	1,953	4,738	1,189	44,611
Jan-11	318	8,049	15,316	8,733	3,630	2,123	5,495	1,289	44,953
Feb-11	294	7,103	13,135	7,449	2,941	1,724	3,682	931	37,259
Mar-11	254	6,926	13,736	8,162	3,212	1,803	4,297	1,164	39,554
<b>Annual Total (to date)</b>	<b>2,763</b>	<b>73,072</b>	<b>128,187</b>	<b>66,126</b>	<b>25,762</b>	<b>14,787</b>	<b>34,348</b>	<b>8,465</b>	<b>353,510</b>
<b>Annual Average (to date)</b>	<b>307</b>	<b>8,119</b>	<b>14,243</b>	<b>7,347</b>	<b>2,862</b>	<b>1,643</b>	<b>3,816</b>	<b>941</b>	<b>39,279</b>

Source: Analysis by A/Insp Steve Jenkins and A/AO5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Service Answer Point Support (Triple Zero Call Centre)



**QPS Answering Performance (in numbers of calls answered and percentage of calls answered) By Attempts for the Period July 2007 to March 2011**

	Total Police	ESO Call Attempts %				ESO Call Attempts by Volume				Not Answered 1st Try	
	Calls (1)	1st Try	2nd Try	3rd Try	More	1st Try	2nd Try	3rd Try	More		
Jul-07	34,417	90.65	5.63	2.66	1.06	31,199	1,938	915	365	3,218	9.35
Aug-07	37,871	90.52	5.65	2.67	1.16	34,281	2,140	1,011	439	3,590	9.48
Sep-07	39,874	89.93	5.93	3.03	1.11	35,859	2,365	1,208	443	4,015	10.07
Oct-07	41,358	92.91	3.89	1.46	1.74	38,426	1,609	604	720	2,932	7.09
Nov-07	41,366	89.01	6.27	3.36	1.37	36,820	2,594	1,390	567	4,546	10.99
Dec-07	45,984	87.45	8.01	2.85	1.69	40,213	3,683	1,311	777	5,771	12.55
Jan-08	41,722	90.18	7.36	1.92	0.54	37,625	3,071	801	225	4,097	9.82
Feb-08	40,264	89.41	7.62	2.07	0.90	36,000	3,068	833	362	4,264	10.59
Mar-08	40,801	88.53	8.17	2.15	1.15	36,121	3,333	877	469	4,680	11.47
Apr-08	35,953	89.42	7.73	1.90	0.95	32,149	2,779	683	342	3,804	10.58
May-08	38,401	88.65	8.11	2.05	1.20	34,042	3,114	787	461	4,359	11.35
Jun-08	36,548	89.23	7.69	1.96	1.11	32,612	2,811	716	406	3,936	10.77
<b>Annual Total</b>	<b>474,559</b>					<b>425,347</b>	<b>32,604</b>	<b>11,138</b>	<b>5,675</b>	<b>49,212</b>	
<b>Annual Average</b>	<b>39,547</b>	<b>89.66</b>	<b>6.84</b>	<b>2.34</b>	<b>1.17</b>	<b>35,446</b>	<b>2,709</b>	<b>928</b>	<b>465</b>	<b>4,101</b>	<b>10.34</b>
Jul-08	37,126	89.29	7.77	1.96	0.98	33,150	2,885	728	364	3,976	10.71
Aug-08	37,643	88.96	7.99	1.91	1.14	33,487	3,008	719	429	4,156	11.04
Sep-08	37,576	87.98	8.34	2.40	1.27	33,059	3,134	902	477	4,517	12.02
Oct-08	41,090	87.02	8.89	2.82	1.27	35,757	3,653	1,159	522	5,333	12.98
Nov-08	41,235	86.84	8.98	2.73	1.45	35,808	3,703	1,126	598	5,427	13.16
Dec-08	42,989	87.42	8.56	3.12	0.90	37,581	3,680	1,341	387	5,408	12.58
Jan-09	38,915	87.63	8.14	3.21	1.02	34,101	3,168	1,249	397	4,814	12.37
Feb-09	35,664	87.22	8.45	3.37	0.96	31,106	3,014	1,202	342	4,558	12.78
Mar-09	37,876	86.45	8.64	3.90	1.01	32,744	3,271	1,477	384	5,132	13.55
Apr-09	37,285	88.26	7.56	3.63	0.56	32,906	2,817	1,355	207	4,379	11.74
May-09	36,990	89.75	6.62	3.18	0.45	33,200	2,449	1,175	166	3,790	10.25
Jun-09	35,110	89.95	6.82	2.83	0.41	31,582	2,393	992	143	3,528	10.05
<b>Annual Total</b>	<b>459,499</b>					<b>404,482</b>	<b>37,173</b>	<b>13,424</b>	<b>4,416</b>	<b>55,017</b>	
<b>Annual Average</b>	<b>38,292</b>	<b>88.06</b>	<b>8.06</b>	<b>2.92</b>	<b>0.95</b>	<b>33,707</b>	<b>3,098</b>	<b>1,119</b>	<b>368</b>	<b>4,585</b>	<b>11.94</b>
Jul-09	34,459	92.35	5.60	1.76	0.29	31,823	1,930	603	100	2,636	7.65
Aug-09	37,687	91.61	5.88	2.14	0.37	34,524	2,215	807	141	3,163	8.39
Sep-09	37,225	90.32	6.85	2.42	0.41	33,622	2,549	902	152	3,603	9.68
Oct-09	40,591	89.34	7.54	2.65	0.48	36,264	3,059	1,075	193	4,327	10.66
Nov-09	38,633	90.06	6.81	2.73	0.41	34,792	2,630	1,054	157	3,841	9.94
Dec-09	44,086	89.19	7.34	2.79	0.68	39,320	3,236	1,230	300	4,766	10.81
Jan-10	40,880	90.95	6.51	2.27	0.26	37,182	2,662	930	106	3,698	9.05
Feb-10	35,500	89.71	7.02	2.85	0.42	31,847	2,493	1,010	150	3,653	10.29
Mar-10	37,401	90.12	6.77	2.78	0.33	33,707	2,531	1,040	123	3,694	9.88
Apr-10	36,463	89.74	7.20	2.71	0.35	32,722	2,626	989	126	3,741	10.26
May-10	34,971	91.03	6.49	2.20	0.28	31,834	2,270	769	98	3,137	8.97
Jun-10	32,878	91.58	6.27	2.05	0.11	30,110	2,060	673	35	2,768	8.42
<b>Annual Total</b>	<b>450,774</b>					<b>407,747</b>	<b>30,261</b>	<b>11,085</b>	<b>1,681</b>	<b>43,027</b>	
<b>Annual Average</b>	<b>37,565</b>	<b>90.50</b>	<b>6.69</b>	<b>2.45</b>	<b>0.36</b>	<b>33,979</b>	<b>2,522</b>	<b>924</b>	<b>140</b>	<b>3,586</b>	<b>9.50</b>
Jul-10	36,682	91.00	6.52	2.28	0.20	33,381	2,391	835	75	3,301	9.00
Aug-10	34,389	90.63	6.66	2.37	0.35	31,166	2,289	815	119	3,223	9.37
Sep-10	37,366	88.89	7.65	2.97	0.49	33,215	2,860	1,109	182	4,151	11.11
Oct-10	40,107	89.03	7.32	3.08	0.57	35,707	2,936	1,237	227	4,400	10.97
Nov-10	38,589	86.57	8.73	4.01	0.69	33,407	3,368	1,548	266	5,182	13.43
Dec-10	44,611	85.95	8.81	4.38	0.87	38,341	3,928	1,953	389	6,270	14.05
Jan-11	44,953	85.64	8.76	4.41	1.19	38,499	3,938	1,981	535	6,454	14.36
Feb-11	37,259	87.13	8.32	3.79	0.76	32,464	3,100	1,412	283	4,795	12.87
Mar-11	39,554	86.00	8.48	4.31	1.20	34,018	3,356	1,706	474	5,536	14.00
<b>Annual Total (to date)</b>	<b>353,510</b>					<b>310,198</b>	<b>28,166</b>	<b>12,596</b>	<b>2,550</b>	<b>43,312</b>	
<b>Annual Average (to date)</b>	<b>39,279</b>	<b>87.87</b>	<b>7.92</b>	<b>3.51</b>	<b>0.70</b>	<b>34,523</b>	<b>3,101</b>	<b>1,361</b>	<b>260</b>	<b>4,722</b>	<b>12.13</b>
<b>Annual Total</b>						<b>654,919</b>	<b>59,433</b>	<b>26,553</b>	<b>5,360</b>	<b>91,346</b>	
<b>Annual Average</b>		<b>87.87</b>	<b>7.92</b>	<b>3.51</b>	<b>0.70</b>	<b>59,538</b>	<b>5,403</b>	<b>2,414</b>	<b>487</b>	<b>8,304</b>	<b>12.13</b>

**Notes:**

- The ring time for Triple Zero calls was extended to 45 seconds state-wide from 1 July 2009. Prior to this date, ring time was 45 seconds for Brisbane PCC and 27 seconds for all other PCCs.
- All PCCs began receiving "work tickets" (taskings) from Policelink on 17 May 2010 and began receiving 'urgent assist' calls (131 444 calls actually transferred into PCCs - warm hands transfer) from Policelink on 8 August 2010. The number of calls from the public to Policelink increased significantly following the public launch of the 131 444 number on 8 October 2010. This coincides with a marked increase in the number of Triple Zero calls not answered on first presentation.

Source: Analysis by A/Insp Steve Jenkins and A/O5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Service Answer Point Support (Triple Zero Call Centre)



Triple Zero Calls received by QPS - January 2011



Source: Analysis by Alhnp Steve Jenkins and A/AOS Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Service Answer Point Support (Triple Zero Call Centre)



## Triple Zero Answer and Non-answer Performance - January 2011

First Presentation PCC	Answering PCC																				Total First Presentations	Total Re-presentations	
	Beenleigh	Brisbane	Broadbeach	Bundaberg	Cairns	Charleville	Gladstone	Gympie	Innisfail	Longreach	Mackay	Mareeba	Maroochydore	Maryborough	Mt Isa	Redcliffe	Rockhampton	Roma	Toowoomba	Townsville			Yamanto (Ipswich)
Beenleigh (ESCORT)	1,876	346	575		10								2	3	3		1			34		2,841	969
Brisbane (ESCORT)	1	16,119	1					2					2	3	3		1		6	6	2	16,146	1,466
Broadbeach (ESCORT)	1,172	612	2,795		69															11		4,659	1,874
Bundaberg				703										1								704	1
Cairns (ESCORT)	4	60	4		2,029															252		2,343	322
Charleville						44												17				61	17
Gladstone						372																372	0
Gympie							754						10									764	9
Innisfail					2			146									1					149	5
Longreach										1							39					40	1
Mackay										905							10					916	11
Mareeba								1			350											351	4
Maroochydore		180	1	1						1		2,152	2							1		2,339	460
Maryborough	1	3										6	922									933	11
Mt Isa														931							5	936	5
Redcliffe		226																				2,421	535
Rockhampton											14						1,520					1,534	14
Roma						5												135			1	141	6
Toowoomba		83			1														2,554		250	2,889	415
Townsville (ESCORT)	6	97			389										2						2,494	2,988	493
Yamanto (Ipswich)			64																332		2,526	2,922	402
<b>Total Calls Answered (First Presentations and Re-presentations)</b>	<b>3,060</b>	<b>17,790</b>	<b>3,376</b>	<b>704</b>	<b>2,494</b>	<b>49</b>	<b>372</b>	<b>758</b>	<b>147</b>	<b>-</b>	<b>921</b>	<b>350</b>	<b>4,366</b>	<b>928</b>	<b>936</b>	<b>-</b>	<b>1,571</b>	<b>152</b>	<b>2,894</b>	<b>2,803</b>	<b>2,778</b>	<b>46,449</b>	<b>7,020</b>
<b>FIRST PRESENTATIONS</b>																						<b>TOTALS</b>	
<b>Total First Presentations for Each PCC</b>	2,841	16,146	4,659	704	2,343	61	372	764	149	40	916	351	2,339	933	936	2,421	1,534	141	2,889	2,988	2,922	46,449	
<b>% of Statewide Total</b>	6.12%	34.76%	10.03%	1.52%	5.04%	0.13%	0.80%	1.64%	0.32%	0.09%	1.97%	0.76%	5.04%	2.01%	2.02%	5.21%	3.30%	0.30%	6.22%	6.43%	6.29%	100.00%	
<b>Triple Zero Calls Answered on First Presentation</b>	1,872	14,662	2,785	703	2,021	44	372	754	142	-	905	346	1,871	921	931	-	1,520	135	2,472	2,492	2,520	37,468	
	65.89%	90.81%	59.78%	99.86%	86.26%	72.13%	100.00%	98.69%	95.30%	0.00%	98.80%	98.58%	79.99%	98.71%	99.47%	0.00%	99.09%	95.74%	85.57%	83.40%	86.24%	80.66%	State Av.
<b>Triple Zero Calls NOT ANSWERED on First Presentation (Refer Note 1)</b>	969	1,466	1,874	1	322	17	-	9	5	1	11	4	460	11	5	535	14	6	415	493	402	7,020	
	34.11%	9.19%	40.22%	0.14%	13.74%	27.87%	0.00%	1.31%	4.70%	100.00%	1.20%	1.42%	20.01%	1.29%	0.53%	100.00%	0.91%	4.26%	14.43%	16.60%	13.76%	19.34%	
<b>RE-PRESENTATIONS</b>																							
<b>No. of Triple Zero Calls Answered for Other Locations</b>	1,184	1,671	581	1	471	5	-	4	1	-	16	-	2,214	6	5	-	51	17	340	309	252	7,128	
<b>As a % of Answering PCC's Total Calls Answered</b>	38.69%	9.39%	17.21%	0.14%	18.89%	10.20%	0.00%	0.53%	0.68%	0.00%	1.74%	0.00%	50.71%	0.65%	0.53%	0.00%	3.25%	11.18%	11.75%	11.02%	9.07%		

Note 1: This figure includes a total of 1,961 calls first presented to the answering PCC but which Telstra data indicates should be presented to another PCC. Changes made to call flow arrangements mean that Longreach and Redcliffe no longer receive Triple Zero calls (Notes 7 and 8).

Note 2: All Triple Zero calls are eventually answered, however, many require re-presentation on 1 to 23 occasions before being answered. With the exception of Brisbane, re-presentations are to a PCC other than the PCC to which the call was initially presented.

Note 3: Total Triple Zero calls answered (Column A) excludes 45 calls for other states and Queensland ESOs (emergency service organisations) misdirected to and answered by QPS and eight incomplete records.

Note 4: Triple Zero calls not answered on 1st presentation at Brisbane PCC are only re-presented to Brisbane PCC in accordance with overflow arrangements. However, the data shows that a small proportion of calls not answered on 1st presentation at Brisbane are re-presented to a PCC other than Brisbane.

Note 5: Ring time for presentations to all PCCs is 45 seconds each time.

Note 6: The actual presentations required is one more than the number of re-presentations, e.g. calls requiring 1 re-presentation are answered on 2nd presentation, calls requiring 2 re-presentations are answered on 3rd presentation etc.

Note 7: All Triple Zero calls for Longreach PCC are received at Rockhampton PCC.

Note 8: Redcliffe PCC operations are now incorporated within the North Coast Region PCC at Maroochydore.

Source: Analysis by A/Insp. Steve Jenkins and A/AOS Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).



## QPS Triple Zero Answer & Non-answer Performance – January 2011 (with Re-presentations)

PCC / Answer Location	Total Triple Zero Calls Actually Answered (1st Presentation and Re-presented Calls)	Total 1st Presentations (Includes misdirected 1st presentations)	Percentage of Total Statewide Triple Zero Calls	Answered on 1st Presentation (within 45 seconds)	Answered on 1st Presentation by Another PCC (Misdirected)	Triple Zero Calls Not Answered on 1st Presentation	Percentage Not Answered on 1st Presentation	Own PCCs' Calls Answered on 2nd or Subsequent Presentation	Triple Zero Calls Answered for Other PCCs / Answering Locations	Re-presentations Required (Refer Notes 4 and 5)																							Calls Re-presented
										1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	23								
										Time to Answer (minutes:seconds) (Refer Note 5)																							
A (from Telstra data)	B (Sum of Columns D, E & F) (Refer Note 1)	C (Column B as a % of Column A state-wide total)	D (from Telstra data)	E (from Telstra data)	F (from Telstra data) (Refer Note 2)	G (Column F as a % of Column B)	H (from Telstra data)	I (from Telstra data) (* Refer Note 3)	00:46 - 01:30	01:31 - 02:15	02:16 - 03:00	03:01 - 03:45	03:46 - 04:30	04:31 - 05:15	05:16 - 06:00	06:01 - 06:45	06:46 - 07:30	07:31 - 08:15	08:16 - 09:00	09:01 - 09:45	09:46 - 10:30	10:31 - 11:15	11:16 - 12:00	12:01 - 12:45	12:46 - 13:30								
Beenleigh (ESCORT)	3,060	2,841	6.12%	1,872	-	969	34.11%	4	1,184	579	341	36	9	3			1											969					
Brisbane (ESCORT)	17,790	16,146	34.76%	14,662	18	1,466	9.08%	1,457	1,671*	839	395	66	59	62	10	19	4	2	5	2	1		1				1	1,466					
Broadbeach (ESCORT)	3,375	4,658	10.03%	2,784	-	1,874	40.23%	10	581	1,172	609	72	10	6	3		1				1							1,874					
Bundaberg	704	704	1.52%	703	-	1	0.14%	-	1	1																		1					
Cairns (ESCORT)	2,494	2,343	5.04%	2,021	-	322	13.74%	2	471	251	59	5	4	2		1												322					
Charleville	49	61	0.13%	44	-	17	27.87%	-	5	16	1																	17					
Gladstone	372	372	0.80%	372	-	-	0.00%	-	-																			0					
Gympie	758	764	1.64%	754	1	9	1.18%	-	4	9																		9					
Innisfail	147	149	0.32%	142	2	5	3.36%	4	1	4	1																	5					
Longreach (Note 7)	-	40	0.09%	-	39	1	2.50%	-	-	1																		1					
Mackay	921	916	1.97%	905	-	11	1.20%	-	16	11																		11					
Mareeba	350	351	0.76%	346	1	4	1.14%	4	-	4																		4					
Maroochydore	4,366	2,339	5.04%	1,871	8	460	19.67%	281	2,214	258	170	15	9	6			2											460					
Maryborough	928	933	2.01%	921	1	11	1.18%	1	6	7		3		1														11					
Mt Isa	936	936	2.02%	931	-	5	0.53%	-	5	5																		5					
Redcliffe (Note 8)	-	2,421	5.21%	-	1,886	535	22.10%	-	-	274	205	27	7	17	2	2	1											535					
Rockhampton	1,571	1,534	3.30%	1,520	-	14	0.91%	-	51	13	1																	14					
Roma	152	141	0.30%	135	-	6	4.26%	-	17	5	1																	6					
Toowoomba	2,894	2,889	6.22%	2,472	2	415	14.36%	82	340	77	228	73	14	1	5	6	3		3	1		1	2	1			415						
Townsville (ESCORT)	2,803	2,988	6.43%	2,492	3	493	16.50%	2	309	388	91	7	6		1													493					
Yamanto (Ipswich)	2,778	2,922	6.29%	2,520	-	402	13.76%	6	252	327	64	6	3	1	1													402					
<b>State-wide Totals</b>	<b>46,448</b>	<b>46,448</b>	<b>100.00%</b>	<b>37,467</b>	<b>1,961</b>	<b>7,020</b>	<b>15.11%</b>	<b>1,853</b>	<b>7,128</b>	<b>4,241</b>	<b>2,166</b>	<b>310</b>	<b>121</b>	<b>99</b>	<b>20</b>	<b>30</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>7,020</b>						

Note 1: This figure includes a total of 1,961 calls first presented to the answering PCC but which Telstra data indicates should be presented to another PCC. Changes made to call flow arrangements mean that Longreach and Redcliffe no longer receive Triple Zero calls (see Notes 7 & 8).

Note 2: All Triple Zero calls are eventually answered, however, many require re-presentation on 1 to 23 occasions before being answered. With the exception of Brisbane, re-presentations are to a PCC other than the PCC to which the call was initially presented.

Note 3: Total Triple Zero calls answered (Column A) excludes 37 calls for other states and Queensland ESOs (emergency service organisations) misdirected to and answered by QPS and eight incomplete records.

Note 4: Triple Zero calls not answered on 1st presentation at Brisbane PCC are only re-presented to Brisbane PCC in accordance with overflow arrangements. However, the data shows that a small proportion of calls not answered on 1st presentation at Brisbane are re-presented to a PCC other than Brisbane.

Note 5: Ring time for presentations to all PCCs is 45 seconds each time. (Time to answer does not include Telstra Emergency Services Answer Point withdraw and re-presentation time.)

Note 6: The actual presentations required is one more than the number of re-presentations, e.g. calls requiring 1 re-presentation are answered on 2nd presentation, calls requiring 2 re-presentations are answered on 3rd presentation etc.

Note 7: All Triple Zero calls for Longreach PCC are received at Rockhampton PCC.

Note 8: Redcliffe PCC operations are now incorporated within the North Coast Region PCC at Maroochydore.

Source: Analysis by A/Insp. Steve Jenkins and A/AO5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).













# **Queensland Police Service Contact Management Strategy 2010 to 2020**

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## Approval

<hr/> <b>TBA</b>	__/__/2010
PCC Contact Management Requirements Sponsor Queensland Police Service	[Not Approved]
<hr/>	
<b>Maria Cozzi</b>	__/__/2010
A/Manager, Information Planning Branch Information and Communications Technology Queensland Police Service	[Not Approved]

## Revision history

Records of formal review shall be maintained for each approved version (integer value) listed below. The Document Custodian shall maintain copies of each version listed below.

Version	Date	Edited by	Comments / Summary of Changes
000.01	2/11/2010	Ryan Sheppard	Initial revision based on the statement of work issued.
000.02	8/11/2010	Ryan Sheppard	Updates post discussion with Maria Cozzi / Jason Hitchcock
000.03	11/11/2010	Ryan Sheppard	Incorporated feedback from A/Supt Greg Flint, Jason Hitchcock and Martin Wauchope.
001.00	1/12/2010	Ryan Sheppard	Finalisation of documentation for handover to IPB.

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# 1 Contact Management Strategy

## 1.1 Introduction

The QPS have a strategic opportunity to further enhance and streamline the way members of public interact with police. This plan is intended to define the key components necessary for change to ensure the QPS can become more effective in providing services to the public via its Communication Centres and Policelink.

This plan acknowledges the Queensland Government's strategy of Toward Q2 through ICT, the QPS ICT Resources Strategic Plan 2009 – 2013, the ongoing Public Safety Frontline Communications activities and the recent introduction of Policelink and its scope of contacts.

## 1.2 Background

The public contact QPS by calling triple zero, Policelink, or their local police station, or through face to face contact at police beats, stations and community events. The introduction of Policelink has provided a more streamlined method for the public to interact with the QPS on a 24x7 basis which offsets call demand at communication centres and police establishments. The Policelink infrastructure has also introduced a platform to enable the QPS to begin refining how people should interact with the QPS.

Police Communication Centres (PCC's) are the central hub ensuring police resources can effectively serve the community by receiving and analysing information, reacting and taking action. Over the past 10 years PCC's have expanded their role to manage activities that require police service but are not necessarily of an urgent nature. Services in this category include calls to Police station after hours or busy on-forwards, public direct dialled non-urgent enquiries, and triple zero calls that are not of an urgent nature.

While it is impossible to predict the nature of a triple zero call until answered there were no other options available to PCC's prior to Policelink to direct a non-urgent call.

## 1.3 Aims of the Plan

This plan aims to ensure strategic and informed decisions are made to reach a common goal of providing the public with a high level of customer response and service. This plan aims to support the delivery of:

- Future funding models for projects to deliver key communications, workforce optimisation, contact centre physical developments and business improvements.
- Baseline for ensuring future projects delivering change is focussed on the core objectives and vision for communicating and providing high quality service to the public.
- The framework for future development of a well defined service catalogue describing the communication channels, types, agreements and responses for serving the community.
- Optimising QPS resource utilisation for urgent and non-urgent calls for service.

## 1.4 About contact management

The Queensland Police Service is the primary law enforcement agency for the State of Queensland. We fulfil this role throughout the State, 24 hours a day, upholding the law and providing assistance to the community when necessary and in times of emergency, disaster and crisis<sup>1</sup>.

The Queensland Police Service is responsible for:

- preserving peace and good order in all areas of Queensland
- protecting the Queensland community
- preventing and detecting crime
- upholding the law
- administering the law fairly and efficiently
- bringing offenders to justice.

The QPS services are aimed at

- keeping people safe
- keeping property secure
- enforcing traffic laws and reducing road trauma
- maintaining public order and safety.

Queensland Police Service has three core channels of public contact:

- Phone channel via triple zero (000) National number for life threatening contact, 131444 National non-urgent police contact, 1800333000 National confidential crime stoppers reporting, 13HOON (134666), 1 300 BE A COP (23 2 267), local police stations, watch houses, specialist services and beats.
- Online channel for members of the public to access information on a self service basis including a range of specific web domains and social networking sites (for example: one punch can kill campaign, Twitter and MySpace).
- Face to face via police stations, beats, operational crews and specialist supporting members such as community policing

22 Police Communication Centres are responsible for the annual answering and logging of over 450,000 triple zero calls and even more non-urgent public and sworn member enquiries.

Approximately 600 unique numbers (phone and fax) published in the Queensland White Pages directory. These numbers are answered in various offices around the state by members of the QPS.

*"Policelink Client Service Officers (CSO) receive non-urgent occurrence reports and a wide range of general calls directly from community members. This moderates the demand on operational police, resulting in improved frontline police response times and enhanced client services."* Policelink CSO's are highly trained and use customer relationship management software that applies strict quality control and business rules to ensure the right service response is provided by QPS. This vetting and assessment process often initiates the tasking of operational resources and/or the transfer of callers to the relevant communications centre for a priority response. Policelink is staffed by a mix of sworn and unsworn personnel to support this critical business function.

<sup>1</sup> Source: [http://www.police.qld.gov.au/aboutUs/the\\_service/charter/](http://www.police.qld.gov.au/aboutUs/the_service/charter/)  
2 17/9/2010 Policelink Intranet Site – Functions of Policelink



Offences against the person are **not** handled by Policelink, and any such calls for service received by Policelink are vetted, recorded and redirected for an appropriate operational response. The following offences that fit within strict vetting criteria are taken by Policelink CSO's over the phone: wilful property damage, stealing offences, break and enters, stolen vehicles and lost property. Policelink also provide an internal and external switch function, requests for general police information (eg: adopt a cop, home safety, community policing), special event contact assistance, internal crime reporting by police members and crime stoppers.

## 1.5 Trends of other Organisations

The service continually works with other Police organisations through its network of Australian Police Services / Forces, project delivery streams, special visits, Niche user group and more recently Australian and International contact centre organisations through the introduction of Policelink. Emerging communication trends include:

- Improvements in resource utilisation applying industry standard work force optimisation techniques and solutions. *For example the utilisation of specifically trained, experienced contact centre / communications centre management and specialised toolsets.*
- Specialisation of contact centre resources to handle multiple types of request for services. *For example highly trained agents to provide high levels of customer service for non-urgent contacts that can also handle urgent contacts.*
- Consolidation of contact services into both physical and virtual models. *For example, consolidation of services to specific phone numbers, web sites, SMS channels and physical sites. Smart Service QLD is an example of non police, non-urgent government services.*
- Leveraging similarities in types of services provided within a single virtual location regardless of physical sites. *For example, telephony, radio and applications all delivered via a virtual platform.*
- Telecommunication premise or cloud based virtualisation with high availability. This trend is seen as one of the most technically focussed enablers for some time allowing organisations to greatly improve their resource utilisation.
- Intelligent channel routing to treat customer contact for service with knowledge based rules enabling different grades of service, queue times (not triple zero), call interrupt, looking ahead and reserving resources for another call, blending calls, emails and SMS channels.
- Whole of government reform and savings through economies of scale consolidation. *For example the Victoria Government "Emergency Services Telecommunications Authority" receives all Victorian emergency calls for service handled via a virtualised telephony platform spread across three sites. Call takers are highly trained to elicit the necessary information and enter the relevant details into CAD software. Centralised dispatch agents receive the CAD job and radio the necessary emergency services resources for response.*
- Integration of in field and value add services. *For example, many commercial organisations operating with infield resources provide role specific functionality to a mobile device enabling the agent to complete specific activities without attending a premise. This model has recently been improved by adding more streamlined processes. An example scenario is a regional CAD Job that is dispatched to an available in the field crew via a mobile device, the job is also visible at a local police station who update the address to a local alternative name and remind the crew of recent weather damaged track conditions.*



## 2 Principles

The QPS has conducted a number of PCC reviews over the past 15 years. The previous reviews have been valuable input into this consolidated paper which aims to logically present the steps to achieve a series of future models.

This paper acknowledges the wide range of views, opinions and previously researched outcomes<sup>3</sup>. A set of principles are presented below that have guided the research, strategic requirements and roadmap. The principles are by no means an exhaustive list and are also not meant to restrict future enhancements or be considered as constraints to the detailed design process that would follow endorsement of this paper.

### 2.1 Leverage Policelink investments

Policelink developed very detailed telephony, workforce optimisation, customer relationship management and integration specifications that resulted in a high availability solution meeting the majority of requirements.

**Principle:** Policelink provides the foundation and leverage for future investment in integrated contact management

### 2.2 Interoperability

The QPS has a number of methods to interact with the community, however the prime methods are triple zero / PCC's, Policelink, Police stations and Police members. Observations have clearly indicated that higher levels of interoperability between PCC's, Policelink and Police stations will enable greater efficiencies and better inform all members of in-progress events.

**Principle:** PCC's and Policelink are to be further enhanced including, processes, technology, telephony and data.

### 2.3 Increase triple zero call answering capability

Previous research has clearly indicated the QPS does not meet the national standard of answering 90% of triple calls in 10 seconds<sup>4</sup>. This is primarily due to the siloed methods utilised by QPS to answer a triple call from Telstra. Telstra receive the triple zero and attempt to connect the caller to the most appropriate geographical QPS PCC. If the PCC does not answer within 45 seconds Telstra pulls the call and attempts to connect to another PCC. This continues until a PCC answers the call. Once the PCC answers the call and elicits the required information a job is created in either ESCORT or IMS and then the PCC attempts to phone the target PCC.

**Principle:** Integrate PCC triple zero call answer points to create one virtual group of potential call answer points.

### 2.4 Improve communications capability

The QPS is currently initiating a mobile service project to deliver a mobile capability to specific units and members of the service. The QPS is continually improving its radio communication network with a focus on IP radio capability.

**Principle:** Future models are to leverage an IP based communication network ensuring two way voice and data communications can be achieved from PCCs.

<sup>3</sup> See references for more information.

<sup>4</sup> SDPC RECOMMENDATION 14 – DEVELOPMENT OF A CIVILIANISATION PLAN BEYOND 2009 – “During 2009 on average, only approximately 25% of Triple Zero calls presented to the QPS are answered within this standard.”

## 2.5 Increase resource effectiveness

PCC's are currently resourced based on historical call patterns and demands for service. Call patterns, previous research and more recent observations indicate that capacity exists during low call times and unusual events. While a virtual PCC triple zero call answer point will utilise some of this capacity limits it is acknowledged that capacity will always exist and overflow will continue to occur.

**Principle:** Leverage contact centre and mobile technologies with appropriate processes to distribute PCC triple zero, other phone calls and specific Policelink contacts through the QPS service network and facilitate once-only data entry.

## 2.6 Leverage Mobility

The QPS have initiated mobility projects that will provide resources with job information, query capability and reporting capabilities. Police services nationally and internationally utilise mobile devices in different ways to complement the traditional radio and phone communication methods.

**Principle:** Leverage QPS future mobility investments by ensuring the right business process and supporting solutions are utilised in an integrated manner.

## 2.7 Contact management

PCC's currently receive calls broadly grouped as E000, Station redirects, Public direct dialling PCC's, Sworn member direct dialling PCC's for enquiry purpose and emergency services direct dialling PCC's for assistance.

**Principle:** Define and manage more effectively the types of calls received by PCC's and treat non PCC calls appropriately with alternate QPS services.

## 2.8 PCC Roles and Responsibilities

The geographical location, resource availability, management style, technical, telephony and radio capability of each PCC is currently directing the role and responsibilities utilised in each PCC. This has resulted in inconsistent standards or broad commonalities between the PCC's.

**Principle:** Leverage the "joined up" and "interoperability" principles and implement a set of clearly defined roles and responsibilities across the state.

## 2.9 Consolidate

The current 22 PCC's all require managerial, technical, administrative and operational resources to deliver services to the community. Majority of the 22 sites are not purpose built or in ideal locations for effective technical support. Over the last 10 years improvements in contact and communication centres have enabled many more opportunities to improve resource, technical, telephony and procedures resulting in greater efficiencies.

**Principle:** Consolidate communications centres to a seven site regional model as the short term goal. Assume further consolidation will occur and develop models to leverage this assumption.

## 2.10 Plan for the future

A number of initiatives that impact PCC are currently being delivered including, CAD Project, Mobile, Public Safety Frontline Communications and this body of work. A strategic direction for the QPS PCC's is required to ensure minimal organisational impacts and reactive changes increasing costs. The strategic direction must also ensure supporting technology, telephony and radio is planned as the volume of integration points is increasing causing higher risk of system reliance.

**Principle:** Leverage this PCC Business Strategy in the future business models presented.

## 3 Vision and Mission

**Vision:** Implement and maintain effective contact management systems and practices enabling police members to continuously improve services provided and safety of the Queensland community.

In order to achieve this vision communication centres and Policelink need to continue delivering business as usual activities with an emphasis on continuous improvement and innovative ways of conduction communication with the public.

**Mission:** To deliver a high quality 24-hour contact and response services for both community and QPS members, functioning in support of operational police to contribute to a safer community.

Increased sharing and learning with like industry sectors will provide valuable input into the platform to deliver the vision. Meeting minimum national industry standards, benchmarking against similar world wide organisations and investing in people, process and technology will be key to this strategic direction.

## 4 Strategic Drivers of Change and Objectives

In order to enhance the service level and safety of the Queensland community effective and efficient use of communication centres and Policelink is paramount. Key reasons for change include:

### 4.1 Improve the utilisation of PCC resources

To leverage existing available police contact resource capacity to improve responses for public safety, general public interactions and proactive policing activities.

Objectives
Virtualise PCC telephony by 2013.
Virtualise PCC radio communications by 2014.
Endorsed refined PCC organisational model by 2012.
Endorsed demand for service resource model by 2012.
Civilianise all triple call taking & dispatch roles by 2014.

IN-CONFIDENCE



**Objectives**

Civilianise line management PCC roles by 2015.

Ability for any PCC or Policelink agent to answer a triple zero call and create a CAD job by 2012.

## 4.2 Achieve the triple zero national standard

**Objectives**

Reduce the volume of non-urgent contacts to PCC's by 30% in 2014<sup>5</sup>.

Meet the Australian national performance standard for answering "000" calls which is 90% of all calls answered with 10 seconds by 2014.

Post triple zero answering on forward all non-urgent contacts to Policelink by 2012.

## 4.3 Improve PCC effectiveness and capacity

QPS currently has 22 communication centres operating under different management styles, business processes, supporting technology and telephony. Limited interoperability, support and visibility are seen as unmanageable and not cost effective.

**Objectives**

Implement the necessary business, technology, organisational, people and process changes to enable consolidation of 22 PCC's to 7 regional sites by 2014.

Progressively further consolidate 7 PCC regional sites to 2 or 3 urgent contact sites and Command and Control sites.

Develop agreed "joined up" whole of government emergency services strategy by 2014.

Integrated PCC workstation model with full telephony, radio, software tools and layout by 2012.

Implement endorsed Communication Command for governance, monitoring and improvement of PCC's and Policelink by 2014. Ensure Command is included in annual OPR's

Expand Policelink to a two physical site model with increased scope of contacts to include station non answer, non-urgent triple zero contacts and increase public awareness campaigns<sup>6</sup>.

## 4.4 Improve the business continuity of Police communications

**Objectives**

<sup>5</sup> PCC non-urgent contacts include station busy re-directs, public direct dials, and non-urgent / non enquiry police member contacts.

<sup>6</sup> This strategy acknowledges the Policelink progression of a separate business case for two site model.

IN-CONFIDENCE

<b>Objectives</b>
Implement agreed set of common roles and responsibilities by 2014.
Implement "joined up" telephony, radio and job management across all agreed PCC sites by 2014.
Implement agreed contact management plan by 2012 <sup>7</sup> .
Deliver consistent business processes and SOP's by 2014.
Implement intelligent call routing and call interrupt capability to enable PCC and Policelink to share urgent / non-urgent contacts when applicable by 2018.

## 5 Contact Management Strategies

Organisational change, process, supporting technology, telephony and radio improvements will be the core to the strategies necessary to achieve the core Police communication objectives.

The contact management strategies will directly target the sub standard triple zero call answer capability of the service. It is important to note that this is directly related to aging non integrated telephony, radio and technology.

A summary of key statistics are included below to help justify the importance of the strategies.

- "The national performance standard for answering triple zero calls is that 90% of calls are answered within 10 seconds and all calls answered on first presentation. On average, only approximately 25% of triple zero calls presented to the QPS are answered within this standard<sup>8</sup>."
- Queensland's population is projected to grow by more than two million people over the next 20 years with the number of people aged over 65 expected to double<sup>9</sup>.

A set of complimentary strategies are defined to ensure the core police contact management objectives and vision can be met. The key strategies are:

- PCC physical site consolidation.
- Policelink scope enhancement with an additional physical site.
- Telephony and radio communications virtualisation.
- Workforce optimisation management.
- Contact demand management and control.
- Public education campaigns
- Increased CAD, Policelink, Mobile and QPRIME integration.
- CCTV integration.
- Automatic vehicle / resource location and mobile capability.

<sup>7</sup> Contact management plan defines the process and rules associated with on forwarding calls received by PCC's deemed to be of a non-urgent nature to Policelink.

<sup>8</sup> 28/5/10 SDPC Recommendation 14 – Development of a Civilianisation plan beyond 2009 – A/Inspector Steve Jenkins

<sup>9</sup> Queensland Government (2008, 3<sup>rd</sup> edition). Queensland Government Population Projections to 2056: QLD and statistical division.

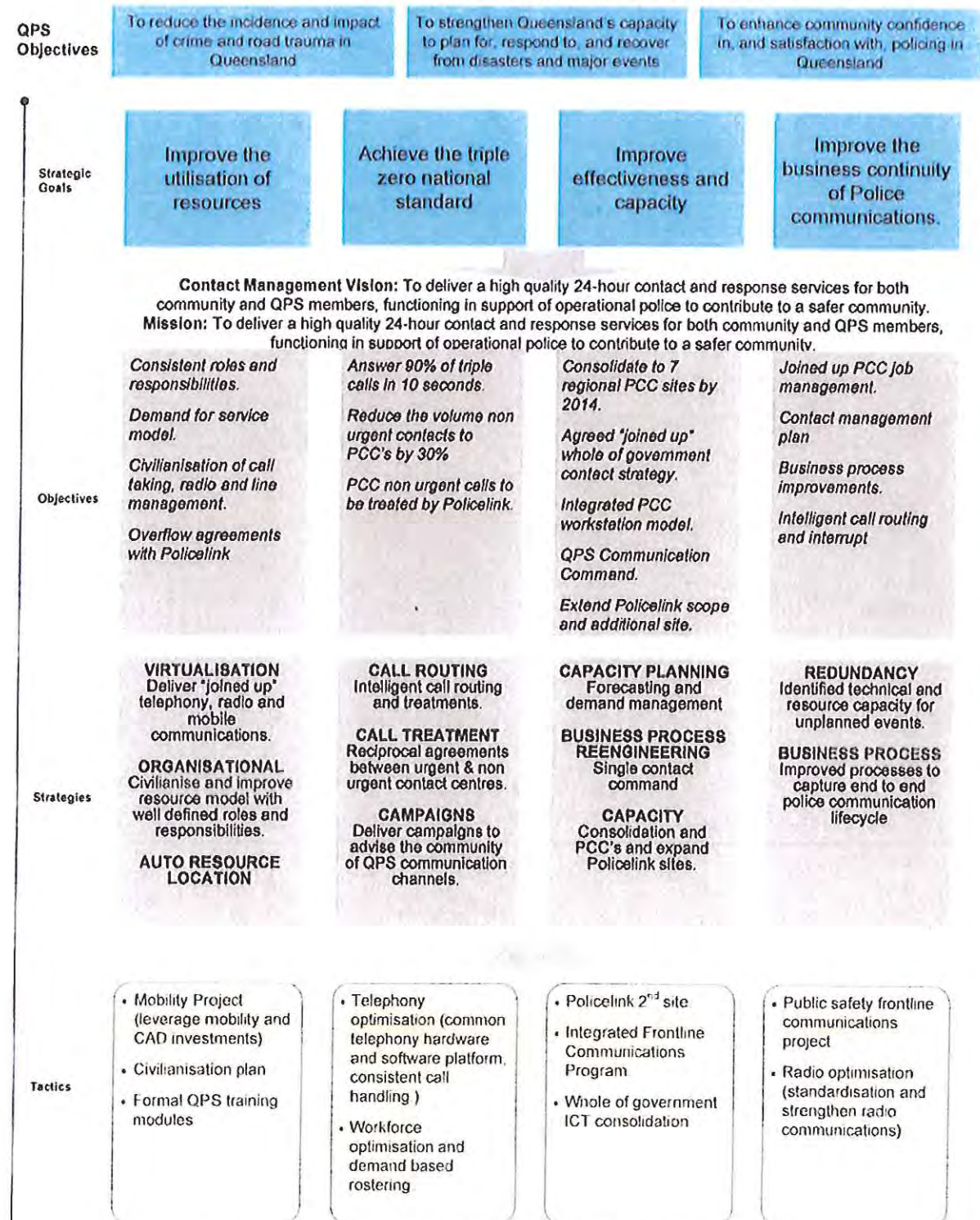


- Business continuity planning through contact management agreements, consistent roles and responsibilities and common supporting technologies.

The model following defines the linkages between the vision, mission, objectives, strategies and tactics to deliver this overall Police contact management strategic plan.

## 6 Contact Management Strategies Model

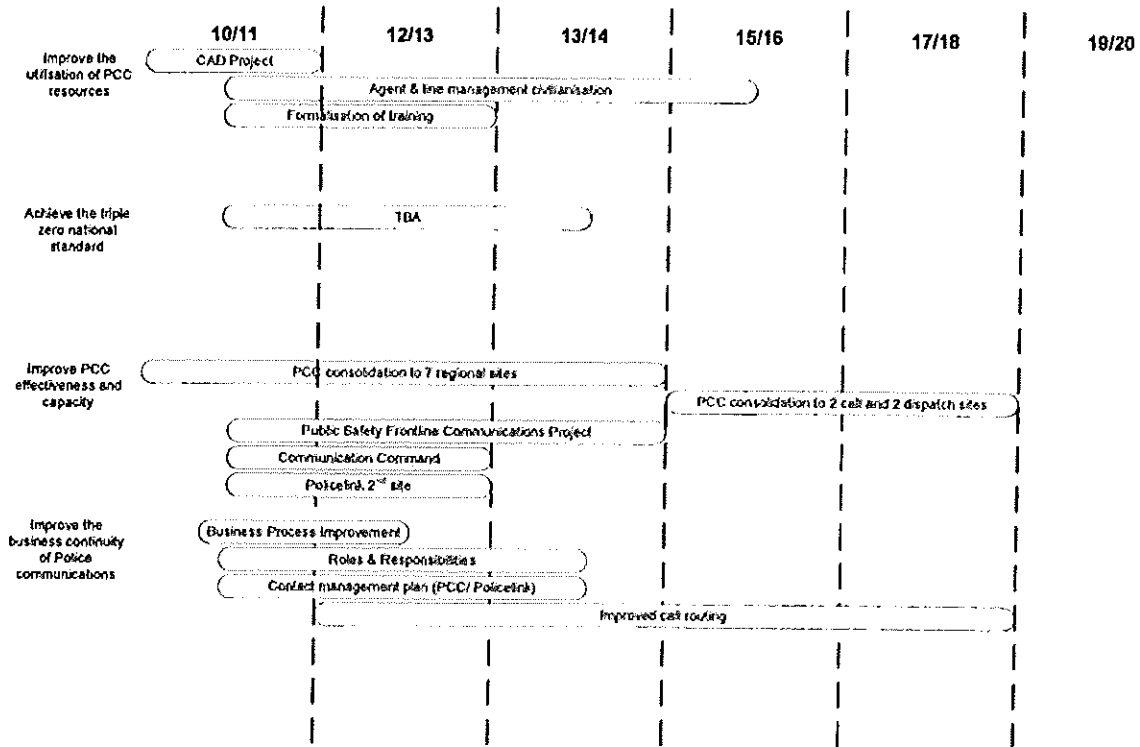
**QPS Vision:** Queensland is a safe and secure place to live, visit and do business  
**QPS Mission:** To deliver high quality, innovative, progressive and responsive policing services



## 7 Delivery of the Plan

For this plan to be successful complimentary initiatives supporting the key objectives are required to be implemented in a timely manner. Majority of these initiatives will require funding, delivery and management approval.

**QPS Contact Management Strategic Plan – Roadmap**



The overall success of this plan will be measured by:

- The achievement of major project milestones;
- Endorsement of the required future projects;
- Meeting the national standard for triple zero call answering;
- Reducing the volume of non-urgent contacts to PCC's;
- Reducing the volume of sworn members in communication centres call taking, dispatch and line management roles; and
- Reducing the amount of customer waiting time when attempting to contact Polcelink for non-urgent matters.

Governance of this plan will be delivered by the following QPS forums:

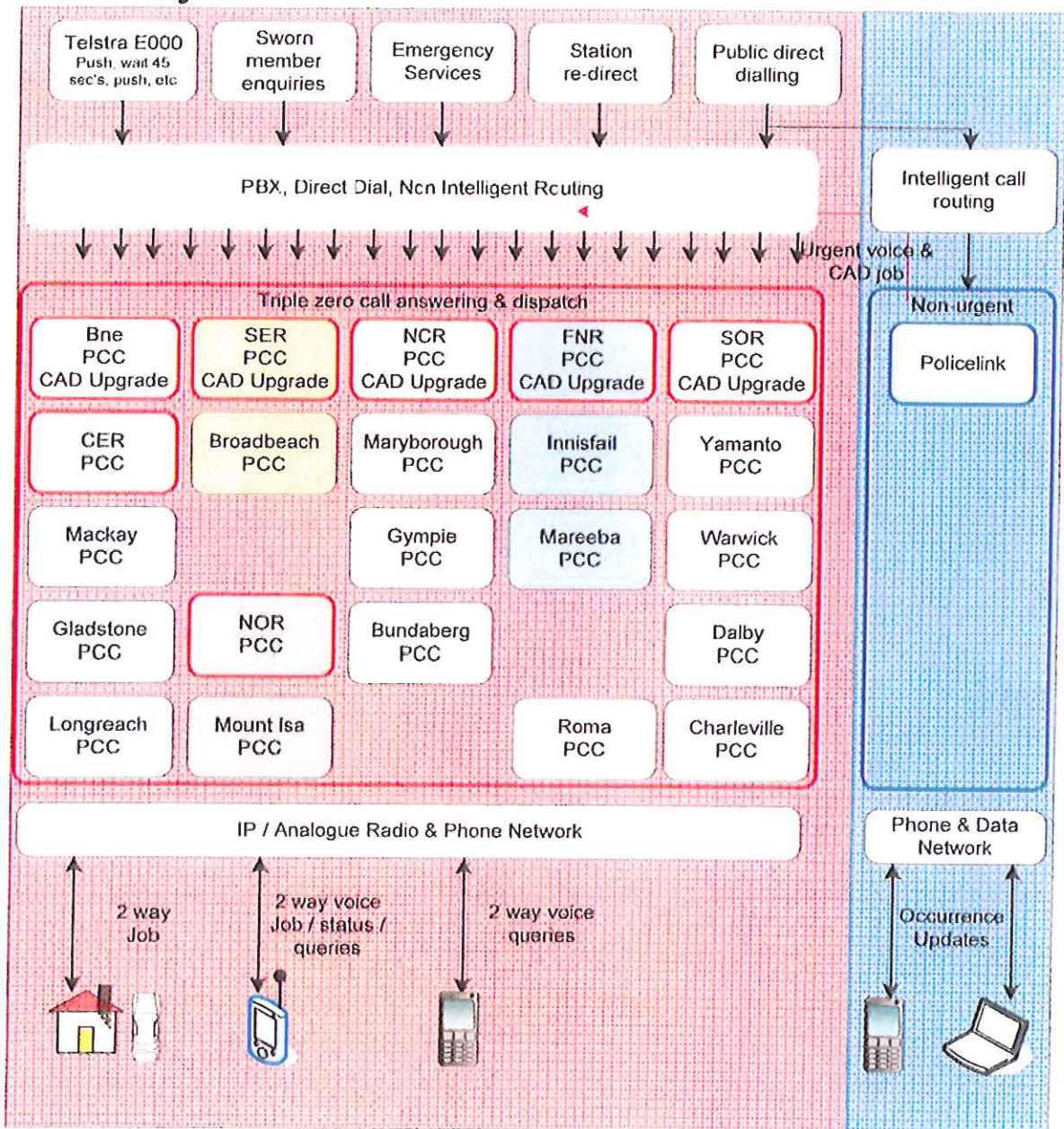
<b>Board of Management</b>	Responsible for approving this plan.
<b>Operational Support Command</b>	Responsible for the ongoing updates and management of this plan.
<b>Polcelink Command</b>	Responsible for ensuring ongoing input and guidance of the plan and projects.



## 8 Contact Management Business Models

The models following are designed to progressively deliver improvements to contact management inline with the contact management strategic plan.

### 8.1 Today 'as is + CAD'



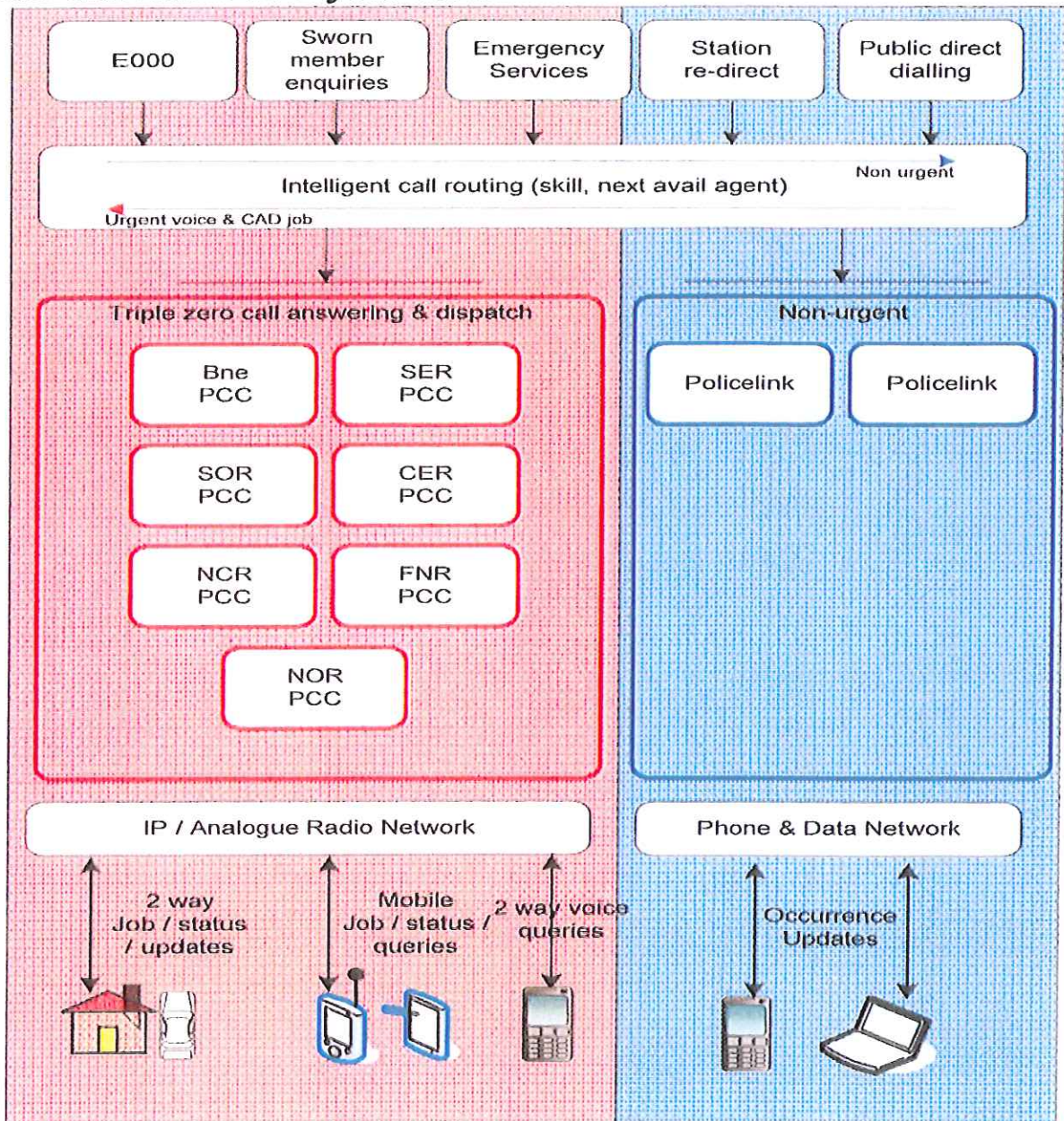
This model reflects the current contact management state with the addition of CAD project deliverables, including upgraded CAD software to 5 or 7 regional sites. Some upgrades to telephony and routing strategies are represented in this model.

Police members will continue to use existing methods for communicating with PCC's via the radio and mobile phone.



Policelink will create CAD jobs for upgraded PCCs and continue to generate work tickets for non-urgent negotiated response from non-upgraded PCCs. Police members will continue to call Policelink for occurrence reporting and finalisation; they also continue to use QPRIME directly and intranet reporting where applicable.

## 8.2 Interim '3 to 5 year view'



This model reflects PCC physical site consolidation to a regional 7 site model with intelligent call routing enabling the utilisation of all available PCC call takers. Enhancements are required to ensure digital and analogue radio communications can occur between any of the 7 sites and police resources across the state.

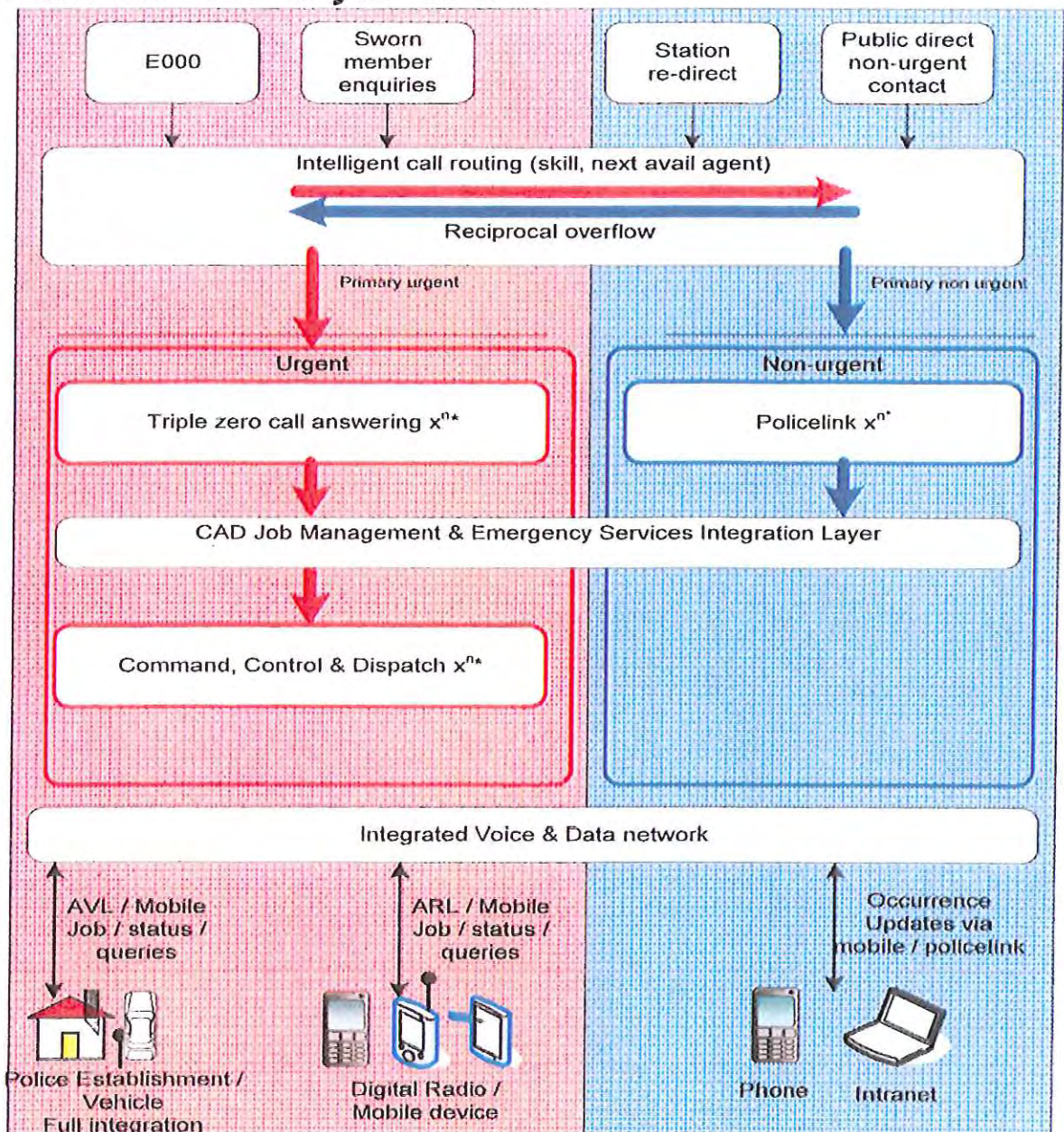
Other Emergency services continue to communicate with Police via existing methods; station re-directs are forwarded to Policelink. If PCC receives a non urgent contact that does not require a police response and peak calls are being experienced, customer is told to hang-up and call 131444 or transferred (subject to freeing of 000 line capability) to Policelink.

Given the predicted growth of non urgent police contacts Policelink operates two sites providing expanded contact capacity and BCP. Police members continue to call Policelink for occurrence reporting and finalisation; they also continue to use QPRIME directly and intranet reporting where applicable.

Mobile devices are used to receive jobs, conduct queries, provide updates and police resource location tracking.



### 8.3 Desired '5 to 10 year view'<sup>10</sup>



This model takes advantage of all available call taking roles by providing the capability for PCC 000 agents and Policelink agents to handle a range of contact types.

PCC's still remain the primary answer point for 000 contacts as does Policelink for non urgent police contact. However both PCC and Policelink will have the necessary skills to assist each other in times of peak demand. Examples:

- An E000 contact is received by PCC, the call is deemed non urgent and not requiring police attendance, however E000 call volumes are low and agents are available for other E000 contacts. Based on this data the PCC agent is automatically presented with a Policelink style interface. The PCC agent provides the customer with the

<sup>10</sup> \* Actual PCC and Policelink physical sites are not defined in this model as demand has not been calculated. This model assumes Policelink has at least 2 sites.

- required services and ends the contact by transferring the client to an automated announcement advising of the differences between urgent and non urgent contact.
- Policelink receive a contact via 131444, however the contact is deemed urgent. While eliciting the necessary urgent details the agent is automatically notified that no PCC agents are available. The Policelink agent records all necessary data, then the Policelink-to-CAD interface creates the CAD job and sends it to PCC to dispatch an available police crew. Policelink systems are updated as soon as CAD receives an update.

Other emergency services are "connected with" QPS via the CAD integration layer enabling them to make specific requests . Increased use of mobile technology assists in reducing voice traffic over limited radio channels . The mobile devices update CAD and QPRIME resulting in less time required by Police when finalising occurrences.

## **8.4 Desired '5 to 10 year view' business process**



Toowoomba PCC - Number of Triple Zero Call Presentations - 10 January 2011									
Calls Answered at	Re-Presentations Required (From Telstra Data)	Presentation that the Triple Zero call was actually answered on	Number of Triple Zero calls answered	Number of Triple Zero Calls actually answered at Toowoomba PCC	Actual number of Triple Zero call presentations to Toowoomba PCC	Number of Presentations required to answer	Number of Presentations required in TOTAL (Cumulatively)	No. of calls remaining unanswered	Overflow Sequence
Toowoomba 1	0	1	640	328	640	328	328	640	
Toowoomba 2	1	2	328	29	939	84	412	312	1st Round
Ipswich	2	3	181		939	543	955	89	
Brisbane	3	4	53	1	940	212	1167	36	
Toowoomba 1	4	5	13	13	976	65	1232	23	
Toowoomba 2	5	6	1	1	999	6	1238	22	
Ipswich	6	7	5		999	35	1273	17	
Brisbane	7	8	6		999	48	1321	11	2nd Round
Toowoomba 1	8	9	3	3	1010	27	1348	8	
Toowoomba 2	9	10			1018	0	1348	8	3rd Round
Ipswich	10	11	3		1018	33	1381	5	
Brisbane	11	12	1		1018	12	1393	4	
Toowoomba 1	12	13			1022	0	1393	4	
Toowoomba 2	13	14	1	1	1026	14	1407	3	
Ipswich	14	15	2		1026	30	1437	1	4th Round
Brisbane	15	16			1026	0	1437	1	
Toowoomba 1	16	17	1	1	1027	17	1454	0	5th Round
T1 (from Brisbane)	0	1	640	2		1454			
T1 (from Maroochydore)	1	2	1	1		2			
		1	1	1		1			Overflow Sequence
Ipswich	0	1	91				1st Pres.	Toowoomba 1	
Toowoomba 1	1	2	3	3			2nd Pres.	Toowoomba 2	
Brisbane	2	3	10			3	3rd Pres.	Ipswich	
Ipswich	3	4	3				4th Pres.	Brisbane	
Toowoomba 1	4	5	2	2		4		Sequence is then repeated	
Brisbane	5	6	1					until the call is answered	
Ipswich	6	7	0						
Toowoomba 1	7	8	111	1	3	3			
Fire and Ambulance			2	2	2	2			
Total number of Triple Zero call Presentations to Toowoomba PCC on 10 January 2011				389	1043	1471			

Source: Analysis by A/Insp. Steve Jenkins and AAO5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).







**Triple Zero Calls Presented to Toowoomba PCC and Answering PCC Details - 10 to 12 January 2011**

Count of Presentation			Answering PCC				
Date	1st Presentation PCC	No. of Unsuccessful Attempts	Brisbane	Toowoomba	Townsville	Yamanto	Grand Total
10/01/2011	TOOWOOMBA	0		328			328
		1	1	29		12	42
		10				3	3
		11	1				1
		2	3			178	181
		3	51	1		1	53
		4		13			13
		5		1			1
		6				5	5
		7	6				6
		8		3			3
		14				2	2
		16		1			1
		13		1			1
TOOWOOMBA Total			62	377		201	640
10/01/2011 Total			62	377		201	640
11/01/2011	TOOWOOMBA	0		319			319
		1	1	12			13
		2				21	21
		3	16				16
		4	1				1
TOOWOOMBA Total			18	331		21	370
11/01/2011 Total			18	331		21	370
12/01/2011	TOOWOOMBA	0		93		1	94
		1		5			5
		2				3	3
		3	3				3
TOOWOOMBA Total			3	98		1	105
12/01/2011 Total			3	98		1	105
<b>Grand Total</b>			<b>83</b>	<b>806</b>	<b>1</b>	<b>225</b>	<b>1115</b>

Source: Analysis by A/Insp. Steve Jenkins and A/AO5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).

**Triple Zero Calls Presented to Yamanto PCC and Answering PCC Details - 10 to 12 January 2011**

Count of Presentation			Answering PCC			Grand Total
Date	1st Presentation PCC	No. of Unsuccessful Attempts	Brisbane	Toowoomba	Yamanto	
10/01/2011	YAMANTO	0			91	91
		1		3		3
		2	10			10
		3			3	3
		4		2		2
		5	1			1
		7		1		1
	YAMANTO Total			11	6	94
			11	6	94	111
11/01/2011	YAMANTO	0			333	333
		1		180		180
		2	42	1		43
	3			3	3	
YAMANTO Total			42	181	336	559
			42	181	336	559
12/01/2011	YAMANTO	0			177	177
		1		88		88
		2	7			7
	4		1		1	
YAMANTO Total			7	89	177	273
			7	89	177	273
<b>Grand Total</b>			<b>60</b>	<b>276</b>	<b>607</b>	<b>943</b>

Source: Analysis by A/Insp. Steve Jenkins and A/AOS Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).

**Triple Zero Calls Presented to Brisbane PCC and Answering PCC Details - 10 to 12 January 2011**

Count of Presentation			Answering PCC						
Date	1st Presentation PCC	No. of Unsuccessful Attempts	Brisbane	Gympie	Maroochydore	Toowoomba	Yamanto	Grand Total	
10/01/2011	BRISBANE	0	364		1		2	367	
		1	6			1	7		
		2	5				1		
		3	1				1		
		4	1				1		
		5	6				6		
		6	1				1		
	BRISBANE Total			384		1		3	1
10/01/2011 Total			384		1		3	1	389
11/01/2011	BRISBANE	0	655					655	
		1	72		1	1	74		
		11	1				1		
		2	35				35		
		3	5				5		
		4	1				1		
		5	5				5		
	6	1				1			
BRISBANE Total			775		1		1	777	
11/01/2011 Total			775		1		1	777	
12/01/2011	BRISBANE	0	916				1	917	
		1	84				84		
		2	25				25		
		3	5				5		
		4	6				6		
	5	1				1			
BRISBANE Total			1037				1	1038	
12/01/2011 Total			1037				1	1038	
<b>Grand Total</b>			<b>2196</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>2204</b>	

Source: Analysis by A/Insp. Steve Jenkins and A/AOS Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).



Triple Zero Call Answering Performance 10 January 2011 - Toowoomba PCC										
Date	tel Presentation PCC	Hour	No. of Unsuccessful Attempts	Toowoomba Triple Zero Line	Toowoomba Response Line	Yamanto	Brisbane	Grand Total		
10/01/2011	TOOWOOMBA		0	2				2		
		Total 12 mn - 1 am		2					2	
			0	2					2	
		Total 6 - 6 am		2					2	
			0	2					2	
		Total 7 - 8 am		2					2	
			0	2					2	
		Total 8 - 9 am		2					2	
			0	2					2	
		Total 10 - 11 am		2					2	
			0	1					1	
		Total 11 - 12md		1					1	
			0	2					2	
			1			1			1	
		Total 12 md - 1 pm		2		1			3	
			0	40					40	
			1	1		2			3	
			2				28	1	29	
			3					9	9	
			4	3					3	
			7					1	1	
			10				1		1	
			14				1		1	
		Total 1 - 2 pm		44		2	30	11	87	
			0	74					74	
			1	1		10		1	12	
			2				50		50	
			3				1	21	22	
			4	10					10	
			5	1					1	
			6				6		6	
			7					4	4	
			8	2					2	
			10				2		2	
			11					1	1	
			13				1		1	
			14				1		1	
			16	1					1	
		Total 2 - 3 pm		89		11	59	27	186	
			0	29		5			34	
			1			1	12		13	
			2				9	2	11	
			3					1	1	
		Total 3 - 4 pm		28		6	21	3	58	
			0	48					48	
			1			6			6	
			2				35		35	
			3	1				14	15	
			7					1	1	
			8	1					1	
		Total 4 - 5 pm		80		6	36	15	137	
			0	40					40	
			1			1			1	
			2				16		16	
		Total 5 - 6 pm		40		1	16		57	
			0	32					32	
			1	1					1	
			2				17		17	
			3					1	1	
		Total 6 - 7 pm		23			17	1	41	
			0	16					16	
			2				5		5	
			3					1	1	
		Total 7 - 8 pm		10			6	1	17	
			0	14					14	
			1			2			2	
			2				8		8	
			3					3	3	
		Total 8 - 9 pm		14		2	8	3	27	
			0	10					10	
			1			2			2	
			2				5		5	
		Total 9 - 10 pm		10		2	5		17	
			0	3					3	
			1			1			1	
			2				3		3	
			3					1	1	
		Total 10 - 11 pm		3		1	3	1	8	
			0	4					4	
			2				2		2	
		Total 11 - 12mn		4			2		6	
		TOOWOOMBA Total				345	32	201	62	640
		10/01/2011 Total				345	32	201	62	640
		Grand Total				345	32	201	62	640

Source: Analysis by A/Insp Steve Jenkins and A/AD5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Service Answer Point Support (Triple Zero Call Centre)



**Toowoomba PCC Triple Zero Calls - Presentations Required to Answer - 10 January 2011**

Count of Presentations				No. of Unsuccessful Attempts													Grand Total			
1st Presentation PCC	Date	Hour	1/4 Hour	0	1	2	3	4	5	6	7	8	10	11	13	14		16		
				Calls Answered on 1st Presentation	Call Answered on the Subsequent Presentation															
TOOWOOMBA	10/01/2011	12 md - 1 am	0 15-29	1															1	
			0 45-59	1																1
		5 - 6 am	5 15-29	1																1
			5 45-59	1																1
		7 - 8 am	7 30-44	1																1
			7 45-59	1																1
		8 - 9 am	8 15-29	1																1
			8 30-44	1																1
		10 - 11 am	10 30-44	1																1
			10 45-59	1																1
		11 - 12 md	11 15-29	1																1
			12 md - 1 pm	1																1
		1 - 2 pm	12 30-44	1	1															2
			13 0-14	2																2
			13 15-29	3																3
			13 30-44	15	2	12	4													33
			13 45-59	20	1	17	5	3				1		1				1	49	
		2 - 3 pm	14 0-14	17	2	14	5	5	1	4	2	2	2	1	1	1	1	1	1	58
			14 15-29	27	2	11	6	4			1									51
			14 30-44	13	5	16	10	1				2								47
			14 45-59	17	3	9	1													30
		3 - 4 pm	15 0-14	7	9	3														19
			15 15-29	7	3															10
			15 30-44	9																9
			15 45-59	11	1	8	1													21
		4 - 5 pm	16 0-14	13	2	4														19
			16 15-29	12		13	7													32
			16 30-44	8	2	11	8					1	1							31
			16 45-59	15	2	7														24
		5 - 6 pm	17 0-14	12		2														14
			17 15-29	12	1	3														16
			17 30-44	7		6														13
			17 45-59	9		5														14
		6 - 7 pm	18 0-14	10		6														16
			18 15-29	6		6	1													13
			18 30-44	7	1	3														11
			18 45-59	9		2														11
		7 - 8 pm	19 0-14	2		3														5
			19 15-29	6		1														7
			19 30-44	6			1													7
			19 45-59	2		1														3
		8 - 9 pm	20 0-14	6		3														9
			20 15-29	3	2	1														6
			20 30-44	3		2														5
			20 45-59	2		2	3													7
		9 - 10 pm	21 0-14	2		3														5
			21 15-29	4																4
			21 30-44	1	2															3
			21 45-59	3		2														5
		10 - 11 pm	22 0-14	2																2
22 15-29				2														2		
22 30-44	1		1	1	1													4		
11 pm - 12 md	23 0-14	2																2		
	23 15-29	1																1		
	23 30-44			2														2		
		23 45-59	1															1		
<b>10/01/2011 Total</b>				<b>328</b>	<b>42</b>	<b>181</b>	<b>53</b>	<b>13</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>640</b>		
<b>TOOWOOMBA Total</b>				<b>328</b>	<b>42</b>	<b>181</b>	<b>53</b>	<b>13</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>640</b>		
<b>Grand Total</b>				<b>328</b>	<b>42</b>	<b>181</b>	<b>53</b>	<b>13</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>640</b>		

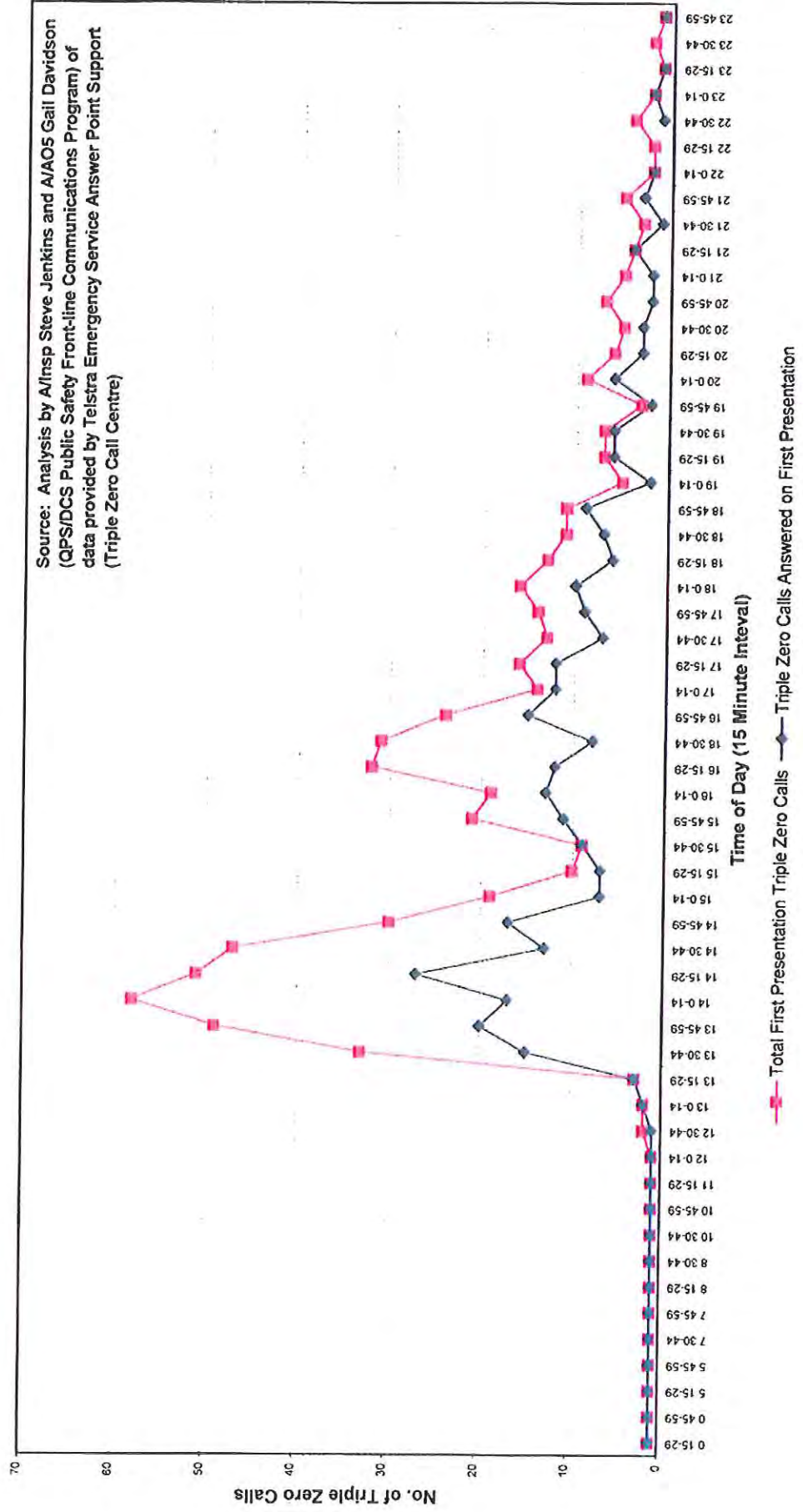
Source: Analysis by A/Insp Steve Jenkins and A/AO5 Gall Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Service Answer Point Support (Triple Zero Call Centre)

Nil

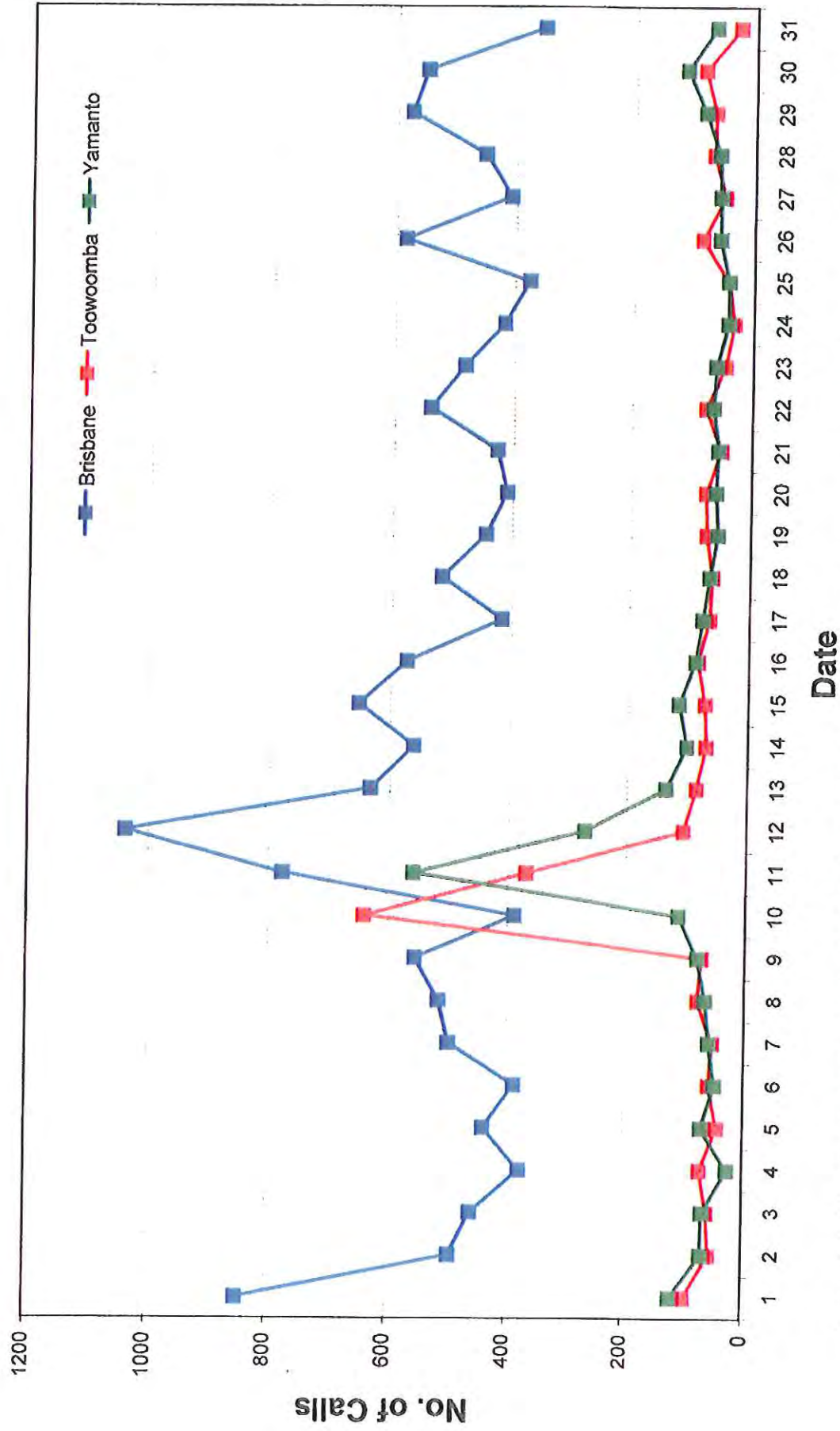
(SEE EXPLANATION:  
DOC 9 & DOC 16 IDENTICAL)



# Toowoomba PCC First Presentation Triple Zero Calls Received / Answered in 15 Minute Intervals on 10 January 2011

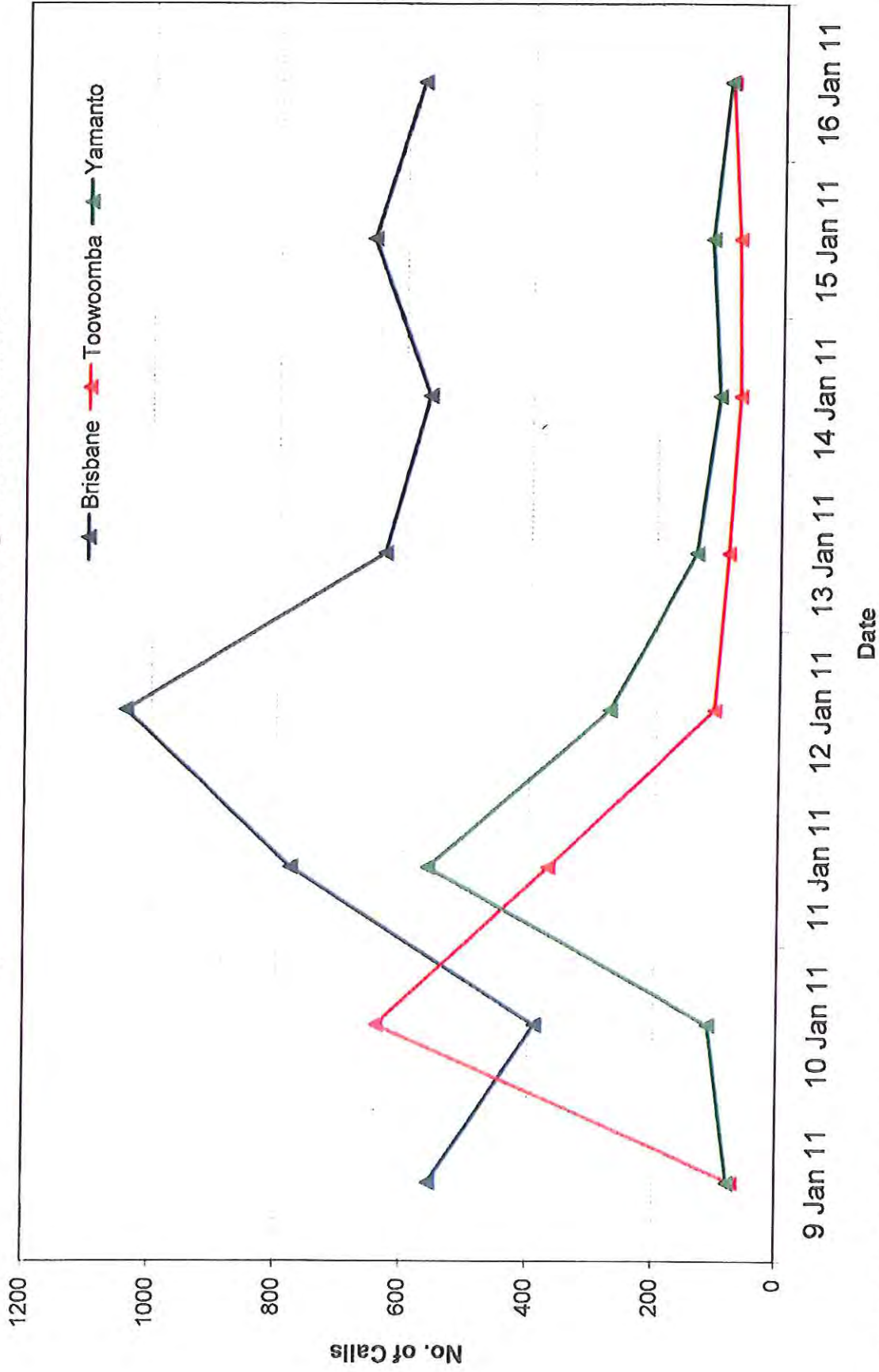


# Triple Zero First Presentations - January 2011



Source: Analysis by A/Insp. Steve Jenkins and A/AOS Gail Davidson (QPs/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).

### Triple Zero Calls Received During Disaster Period



Source: Analysis by A/Insp. Steve Jenkins and A/AO5 Gail Davidson (QPS/DCS Public Safety Front-line Communications Program) of data provided by Telstra Emergency Services Answer Point Support (Triple Zero Call Centre).

# Strategic Assessment of Public Safety Communications Report

## (Volume 1)

Version 2.1.7

18 January 2009  
(Final)







## DOCUMENT CONTROL

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*Community Safety*

## ACKNOWLEDGEMENTS

The Strategic Assessment Working Party and Project Team would like to acknowledge the contributions of the following people who provided information and participated in interviews, workshops and discussions generally.

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## ACRONYMS

ACMA	Australian Communications and Media Authority
CBRC	Cabinet Budget Review Committee
Cwlth	Commonwealth of Australia
DCS	Department of Corrective Services
DES	Department of Emergency Services
DPC	Department of Premier and Cabinet
DPW	Department of Public Works
EMQ	Emergency Management Queensland
ICT	Information and Communications Technology
IP	Internet Protocol
JCC	Joint Communications Centres
JCFT	Joint Communications Facility Townsville
MoU	Memorandum of Understanding
PSC	Public Safety Communications
PSCP	Public Safety Communications Project
PSCP SC	Public Safety Communications Project Steering Committee
QAS	Queensland Ambulance Service
QEOC	Queensland Emergency Operations Centre
QFRS	Queensland Fire and Rescue Service
QGCI	Queensland Government Chief Information Office
QGCTO	Queensland Government Chief Technology Office
QLD	Queensland
QPS	Queensland Police Service
RES	Radio and Electronics Section (QPS)
SA WP	Strategic Assessment Working Party
SES	State Emergency Service
SI & ICT CEO	Strategic Information and Information and Communications Technology Chief Executive Officers (Committee)
SPES	Strategic Policy and Executive Services (DES)
w-o-G	Whole of Government

## LEGISLATION & STANDARDS

- *Radiocommunications Act 1992* (Cwlth)
- *Telecommunications Act 1997* (Cwlth)
- *Police Service Administration Act 1990* (Qld)
- *Public Service Act 2008* (Qld)
- Public Service Award - State 2003 (Qld)
- *Ambulance Service Act 1991* (Qld)
- *Fire and Rescue Service Act 1990* (Qld)
- Building Asset Performance Framework (Department of Public Works) (Qld)
- Financial Management Standard 1977 (Qld)
- Australian Standard (AS) 8015-2005; Corporate Governance of Information & Communications Technology



## RELATED DOCUMENTS

Year	Reference
1993	Public Sector Management Commission (PSMC), <i>Review of the Bureau of Emergency Services</i> , Queensland Government, December, 1993, pp. 112-116.
1994	Public Sector Management Commission (PSMC), <i>Review Recommendations: Queensland Emergency Services, Implementation Plan</i> , Queensland Government, January 1994.
1994	Public Sector Management Commission (PSMC), <i>Review Recommendations: Implementation Plan, Monthly Progress Report No. 5</i> , Queensland Government, May 1994.
1994	Queensland Emergency Services, <i>Activity Status Report for May 1994</i> , (Implementation Plan for R57), Queensland Government, May 1994. (Is this part of Document 2?)
1995	Lane Telecommunications Pty Ltd, R572001.1 <i>Queensland Police Service &amp; Queensland Emergency Services PSMC Recommendation 57 – Stage 2 (Scope) Project Plan</i> , Brisbane?, 22 May 1995.
1996	Joint Communications Project Team, <i>Joint Communications Planning for Queensland's Emergency Services Organisations: A Report on Telecommunications Directions – Draft for Executive Consideration Only for Meeting 26 August 1996</i> , Queensland Government, 1996 (The Luttrell Report).
2002	Cabinet Budget Review Committee, <i>Aligning Services and Priorities (ASAP) Stage 2 Report</i> , February 2002.
2002	Queensland Police Service, <i>Information Management Strategic Plan 2001-2010</i> , Queensland Government, February 2002.
2002	Joint QPS/CAD Communications & CAD Feasibility Project, <i>Joint QPS/DES Queensland Communications Centres/CAD Platform Project, Workshop Information</i> , Queensland Government, September 2002.
2002	Cabinet Budget Review Committee, <i>Aligning Services and Priorities (ASAP) Stage 1 Report</i> , November 2002.
2003	Joint QPS/DES Communications and CAD Project, <i>Vision and Feasibility Statement, Version 1.03 Final Issue</i> , Queensland Government, 19 February 2003. (The Reardon Report)
2003	Joint DES/QPS Communications and CAD Project, <i>Terms of Reference</i> , Queensland Government, 21 November 2003.
2004	Gibson Quai Pty Ltd, <i>Queensland Police Service Data Network Architecture Strategy – Execution Phase, Report: Volume 1 – Findings and Recommendations</i> , Brisbane, February 2004.
2004	Emergency Systems Technology Pty Ltd, <i>Queensland Joint CAD/Communications Workshop: Report on Workshop Outcomes</i> , Ashburton, Victoria, November 2004.
2004	Crime and Misconduct Commission, <i>Striking a Balance: An Enquiry into Media Access to Police Radio Communications</i> , Queensland Government, December 2004.
2004	Queensland Department of Public Works, <i>Smart Directions Statement for Information and Communications Technology within the Queensland Government</i> , Queensland Government, December 2004.



2004	Cabinet Budget Review Committee, <i>Submission for \$800k for CAD JCFT and state-wide dig radio network.</i>
2005	Public Safety Communications Project, <i>Project Definition, Version 1.0 – Draft</i> , Queensland Government, 18 April 2005.
2005	Public Safety Communications Project, <i>Service Identification Report (SIR), Version 4.1, Draft</i> , Brisbane, 18 April 2005.
2005	Public Safety Communications Project, <i>Project Master Plan: Mission Critical Communications – There When It Counts, Version 1.2, Draft</i> , Queensland Government, 26 April 2005.
2005	Department of Public Works, Office of Government ICT, <i>Joint Contact Centre: Feasibility of Sharing ICT Resources, Applications and Infrastructure, Version 0.3, Draft</i> , Queensland Government, 17 June 2005.
2005	Public Safety Communications Project, <i>Memorandum of Understanding (Draft)</i> , Queensland Government, 24 June 2005.
2005	Department of Public Works & The Coordinator General, <i>Queensland Telecommunications Strategic Framework 2005–2008, Version 1.0</i> , Queensland Government, August 2005.
2005	Public Safety Communications Project, <i>Position Description: Project Director, PSCP, SES2, Closing 29 August 2005</i> , Queensland Government, 2005
2005	Public Safety Communications Project, <i>Project Director's Report</i> , Queensland Government, 14 December 2005.
2006	Public Safety Communications Project, <i>Project Steering Committee Minutes, 7 August 2006</i> , Queensland Government, 2006.
2007	Public Safety Communications Project, <i>Project Steering Committee Minutes, 16 March 2007</i> , Queensland Government, 2007.
2007	Queensland Department of Emergency Services, <i>Expression of Interest: Mobile Communications System, Offer No. SS-1977</i> , Queensland Government, 21 March 2007.
2007	Public Safety Communications Project, <i>Project Brief</i> , Queensland Government, 17 May 2007.
2007	Public Safety Communications Project, <i>Project Steering Committee Minutes, 20 August 2007</i> , Queensland Government, 2007.
2007	Department of Emergency Services, Communication & Information Steering Committee, <i>Information Submission: Strategic Assessment – Public Safety Communications</i> , August 2007.



## EXECUTIVE SUMMARY

This Strategic Assessment has been commissioned by the Public Safety Communications Project Steering Committee (PSCP SC) to prepare roadmaps for the collaborative development of joint Queensland Police Service (QPS) and Department of Emergency Services (DES) public safety communications in Queensland.

### Scope

Public safety communications in the context of this report encompasses:

1. Mobile (voice) radio services;
2. Mobile data services;
3. Fixed data networks that connect these mobile systems and connection with the remainder of the ICT environment;
4. Telephony (including call management systems);
5. Tasking and Response management systems (Computer Aided Dispatch including Automated Vehicle Location (AVL)); and
6. Communications Centres.

### Key Drivers and Requirements

A number of drivers and requirements affecting public safety communications have been identified. These include:

- *Government* requires efficient and effective investment that avoids duplication and maximises value for money. Technology advancements and consolidation directions support a collaborative approach by QPS and DES to provide common solutions for public safety communications.
- *Government Enterprise Architecture* provides guidance for the development of required information systems. Currently, no architecture for joint public safety communications in Queensland exists.
- *Population growth* already experienced plus forecast growth contributes to systems being over loaded and getting worse. Particularly in the south east, voice radio communications are congested, while communications centres work at rates above their original design volumes. In other regions, minor expansions of capability have relieved immediate demand, but have tended to entrench decade's old technology and deferred inevitable generational change requirements.
- *Radio networks* are of a variety of types; which increases complexity, reduces interoperability and affects maintainability. The QPS has introduced digital radio in Brisbane and some regional centres, but also extensively uses old analogue systems. DES operates a variety of inherited analogue radio network solutions. The Commonwealth Government is planning rationalisation of the radio frequency spectrum used by emergency service organisations, although the timing of this is not yet known.
- *Mobile communications* promises extensive business benefits, not least in officer safety and timely management of scarce field resources. Some sources indicate a 30% increase in productivity as a consequence of



utilising modern wireless technologies. Both agencies are progressing similar mobile data requirements.

- *Computer Aided Dispatch (CAD)*, in conjunction with automatic vehicle location and mobile data services needs investment. QPS requires a new CAD solution as a matter of priority. DES is well progressed with its 'interim' CAD solution, ESCAD. A QPS commissioned evaluation of ESCAD identified functionality compatibility, and possible reductions in training, network support and maintenance, costs. Other issues included the age of the DES Mobitex network, mapping systems compatibility, the migration and integration of historical data. However, this assessment was based on the premise that QPS would implement the new CAD solution in 23 centres across the state in a thick client environment. The assessment also identified possible issues associated with governance of a multi-agency CAD system. Interoperability of different CADs is possible as demonstrated in many other jurisdictions, and will be costly.
- *Synergies*, the overwhelming opinion of senior emergency service personnel from interstate jurisdictions indicates that rationalisation of communications centres is integral to optimising the benefits of new CAD systems, management of the organisations human capital, and the efficient and effective management of communications centres generally. Additionally, the implementation and integration of modern CAD systems, automated vehicle location (AVL) and mobile services technology is considered essential in order to realise the full benefits which may be derived from the synergies between these technologies.
- *Modern telephony systems and data networks* that communicate seamlessly greatly would contribute to a coherent-whole in public safety communications solutions. QPS is well progressed in telephony, while DES is currently planning its new telephony strategy. QPS is well progressed in the Public Safety Network (PSN), while DES manages its own solution and is to revisit the PSN.
- *Major events and terrorism*, contemporary public safety communications systems and networks are essential for frontline emergency personnel to provide an efficient and effective response to major incidents. Modern communications systems with capacity for delivering the desired information in the field are necessary to support bids for major international events, for example, the Olympics and Soccer World Cup.
- *Lessons Learned*, historically, each agency has developed strategies in respect to public safety communications networks and systems independently and inwardly; there has been no necessity for collaboration. In recently times, there has been a degree of collaboration in respect to public safety communications related projects, however, the structure and effectiveness of the joint governance body has not resulted in achieving the desired outcomes. Competing departmental interests, funding constraints, lack of cohesive joint strategic direction, and differing mandates have combined to impact the effectiveness of the existing arrangements. Senior management of the agencies, however, have now adopted more heartening collaborative postures. There is recognition of an urgent demand for major investment in public safety communications and that that there are substantial benefits, from an organisational and government perspective, to be derived from collaboration and undertaking these investments jointly.

## Other Jurisdictions

Other jurisdictions in Australia operate whole-of-government radio networks for voice and mobile data. Many states (SA, NSW, Vic and WA) provide emergency services oriented mobile communications solutions. A degree of compromise has been made by some agencies in the interests of developing business grade solutions. Common CAD solutions are customised for each Agency's needs or compromise interoperability solutions are provided. Telephony and data networks are integrated to the greatest extent possible so that communications centres can support each other and the benefits of rationalisation can be maximised.

The police, fire and ambulance services in Victoria and South Australia provide services from a single state-wide communications centre. These centres have each been provided with identical equipment and each provides redundancy for the others in disaster circumstances.

Radio for voice and data is often provided under commercial arrangements by providers such as Motorola (Vic), Telstra (SA) and Airwave (in the UK). Use of commercial 3G networks extends public safety mobile data across most population centres. In some circumstances most service provision is external to the emergency services organisations (ESTA in Vic).

## Conclusions

The strategic assessment concludes that a **Mutual Assurance Governance Model** should be established as soon as possible to provide direction for the planning, implementation and management of public safety communications systems and networks in Queensland. The QPS and DES will need to relinquish some degree of autonomy over their current networks to the joint governance body. The PSN management structure provides an excellent example of successful multi-agency co-operation and governance arrangements.

Joint information architecture for public safety communications should be prepared by QPS and DES by mid-2009 to guide the other programs.

The priority joint investment program is the provision of mobile communications to front line emergency personnel. Voice and data requirements plus other mobile systems need be considered collectively in a joint Preliminary Evaluation and joint Business case. There is a degree of complexity in this process, and the aim will be for a joint business case for voice and mobile data mobile communications investments to be prepared in the 2<sup>nd</sup> half of 2009.

In the 1<sup>st</sup> half of 2009, joint plans and requirements for telephony and data networks, CAD interoperability and fixed data network support of radio networks, should be resolved. These may be regarded as Preliminary Evaluations, the outputs of which will affect other projects and guide the scope of works.

A joint Cabinet Budget Review Commission (CBRC) submission in 2009 should seek funding for the required governance resources from July 2009. Until that date, remaining PSCP Strategic Assessment funding, supplemented by in-kind resources, should be used.

The Mutual Assurance Governance structure must be ready to guide and direct a range of joint initiatives during 2009, with major decisions in mid-2009. The PSCP-SC should assume the interim Mutual Assurance responsibility. Temporary resources should be allocated to the governance structure for the purpose of:

1. Preparing, in more detail, the Mutual Assurance plan and schedule;

2. Preparing Terms of Reference for the Preliminary Evaluations. These must be produced and endorsed before the end of 2008 to permit continuing progress. Resources for conducting the preliminary evaluations need to be identified and committed;
3. Preparing and implementation of a communications plan relating to the establishment of the governance body and coordination of the Preliminary Evaluations;
4. Coordinating the preparation of a strategic asset management plan for the resources of public safety communications. This will in due course assist in defining the scope for the Mutual Assurance Model;
5. Preparing a joint CBRC submission for Mutual Assurance governance structure funding; and
6. Preparing a joint CBRC submission for the funding of Preliminary Evaluations and Business Cases.

Enhancing public safety communications in Queensland, as contained in the recommendations of this Report, is integral to providing front line emergency responders with adequate and contemporary information and communications technologies, and aligns with the Queensland Government priorities relating to enhancing community safety and is consistent with achieving the ambitions of Strong and Fair in the 2020 vision of the Queensland Government in Towards Q2.



# 1 INTRODUCTION

## Overview

The Queensland Police Service (QPS) and the Department of Emergency Services (DES) through the Public Safety Communications Project Steering Committee (PSCP SC) commissioned a Strategic Assessment of Public Safety Communications (the Strategic Assessment).

A strategic assessment is the initial phase of the Project Assurance Framework developed by Queensland Treasury.

This document presents the Strategic Assessment of Public Safety Communications Report to the PSCP SC by the Strategic Assessment Working Party (SAWP).

## Background

In 1993, the Public Sector Management Commission (PSMC) conducted a review of the Bureau of Emergency Services.<sup>1</sup> Recommendation 57 of that Review recommended that the Queensland Police Service (QPS) and Department of Emergency Services (DES) develop a joint strategic plan to facilitate integrated communications strategies for the rationalisation of radio maintenance workshops and planning for a common single multi-agency Computer Aided Dispatch (CAD) system.

Numerous reviews of emergency services communications have been conducted since 1993. These all reflect a consensus view that integrated communications across the emergency service organisations is feasible and can provide mutual benefits for the agencies, not the least of which would be a substantial improvement in efficiency and effectiveness. Some sources indicate up to 30% enhancement in productivity and visibility in policing is achievable from the use of modern public safety communications technologies. For example, the Wiltshire Police Force in the UK has already achieved a 19% increase in visibility through consultation and coordinating activities which include streamlining the Information and Communications Technology (ICT) landscape and sharing with other forces and agencies. Eventually, a 28% increase is expected.<sup>2</sup>

Despite agreement for interagency cooperation<sup>3</sup> and a move forward with joint public safety communications initiatives, there has been insufficient / minimal progress to date. Progress has been hampered largely due to the complexity of the public safety communications landscape, the need for agencies to progress individual requirements in the absence of a clearly defined path to integration. It should be noted, there has been significant cooperation between the agencies at an operational level, however, there has been a degree of unwillingness to relinquish sovereignty, albeit marginally, in respect to progressing joint public safety communications related activities. There has been acknowledgement that the time invested by senior management of the agencies in overseeing and administering public safety communications related projects, as a consequence of a strong desire to retain command and control, detracts them from their core business.

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<sup>1</sup> Public Sector Management Commission, *Review of the Bureau of Emergency Services*, Queensland Government, December, 1993, pp. 112-116.

<sup>2</sup> Duffy J, *Mobile and Remote Working Adopted by Wiltshire Police Force: Improving Police Visibility*, *Government Insights*, pp. 5-6.

<sup>3</sup> Both agencies adopted a shared vision which states that 'the Queensland Public Safety Sector will share "sector-best" technology and supporting infrastructure to enable the provision of the most effective and efficient public safety services to the people of Queensland'.



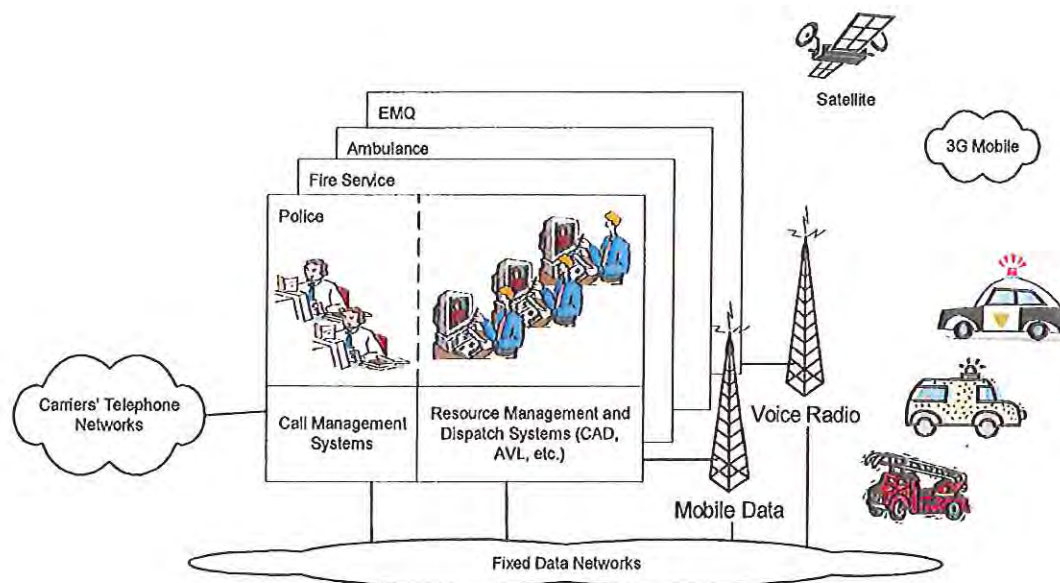
As a result of the difficulties encountered to date, the PSCP SC commissioned this Strategic Assessment<sup>4</sup> to provide future direction for interagency decision-making and investment in joint public safety communications.

### Public Safety Communications

There are many systems and processes which collectively contribute to the delivery of public safety services.

Public safety communications in the context of this report and illustrated in *Figure 1* encompasses:

1. Mobile (voice) radio services;
2. Mobile data services;
3. Fixed data networks that connect these systems and to the remainder of the ICT environment;
4. Telephony (including call management systems);
5. Tasking and Response management systems (Computer Aided Dispatch including Automated Vehicle Location (AVL)); and
6. Communications Centres.



**Figure 1 - Public Safety Communications**

### Outcome / Output

The outcome sought by the PSCP SC as determined via the Strategic Assessment is the joint management of reliable and seamless interoperable public safety communications systems and networks.

<sup>4</sup> The current Strategic Assessment Working Party was established in September 2007.

The output sought by the PSCP SC for the Strategic Assessment includes the development of a Roadmap(s) for joint QPS and DES development / implementation/investment of technologies that facilitate contemporary public safety communications networks and services.

### **Assumptions / Constraints**

The following assumptions / constraints are relevant to this Report:

- Preparation of roadmap(s) does not include exhaustive study of issues; rather it identifies matters requiring further study (Preliminary Evaluations), matters that should be acted upon and the relative priorities and timings of both;
- The Report focuses on strategic issues, not tactical issues; and
- Funding for resources to progress the recommendations as contained within this Report until the end of June 2009 is available from within the existing PSCP SC budget. Approval of ongoing funding for proposals contained in the roadmaps post 30 June 2009 will need to be progressed by QPS and DES.

### **Report Structure**

The Report presents the QPS and DES Current Environment (What is there now?), External Environment (What is possible?) and Business Requirements (What is the outcome sought?) before drawing preliminary conclusions (Gap Analysis and Options).

Three high level governance options are analysed, along with related possible roadmaps for all critical public safety communications elements. Evaluation criteria have been utilised.

Supporting documents are contained in the appendices, which comprises Volume 2 of this Report.

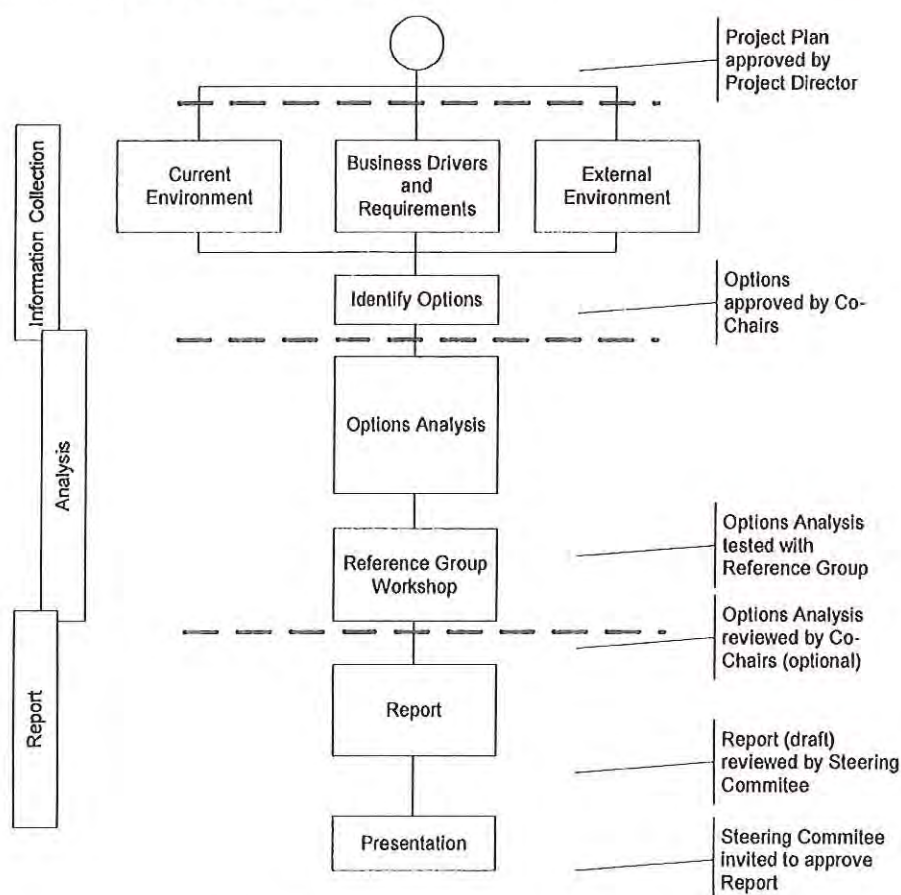


The Queensland Police Service & Department of Emergency Services

## 2 METHODOLOGY

### 2.1 Establish Working Party and Project Team

The principles and concepts of the PRINCE2 project management framework were adopted and applied during this project. The PSCP SC established a Strategic Assessment Working Party (SAWP) with representatives from QPS and DES and chaired by the Assistant Commissioner ICT (QPS). A supporting project team included research assistants and an external contractor to assist the SAWP with preparation of the final report. Project assurance and reference groups were also established to assist the SAWP. The SAWP, (including where appropriate, project team members) held fortnightly meetings.



**Figure 2 - Stage Plan Methodology**

### 2.2 Stage Plan

A Stage Plan illustrated in *Figure 2* for the execution of joint analysis and report writing phases of the Strategic Assessment was prepared.

The project team prepared the Stage Plan and socialised this with the project assurance group, prior to approval by the chair of the SAWP. The PSCP SC Co-Chairs were informed of the Options proposed for detailed further analysis and the creation of roadmaps. Before the Options Analysis was completed, a Reference Group was invited to participate in workshops where the roadmaps were discussed.



### 2.3 Review of Related Documents

The project team reviewed numerous relevant documents dating back to the 1993 Public Service Management Commission (PSMC) Review of the Bureau of Emergency Services.<sup>5</sup> Recommendation 57 of this Review recommended that integrated communications strategies be developed between the QPS and DES; the rationalization of radio maintenance workshops; and planning for a common single multi-agency CAD system.

A plethora of other projects, reviews and studies undertaken during the intervening period, in particular the Luttrell Report 1997<sup>6</sup> and Reardon Report 2003,<sup>7</sup> have all reinforced this Recommendation and the fact that sharing of public safety communications infrastructure is feasible and would be of mutual benefit to the emergency service organisations. A full list of these documents is included in the introductory pages to this report, with a précis of the more pertinent reports included as Appendix 'A'.

To date however, there has been minimal progress towards implementing Recommendation 57 of the PSMC Report, or the recommendations of any of the subsequent reviews.

### 2.4 Current State and ICT Baseline

The project team reviewed the current state of public safety communications elements in Queensland. Summaries of the ICT landscape of the two agencies were examined to establish a joint baseline and determine gaps in achieving the desired future state. These are detailed in Appendix 'B'.

Obsolescence in public safety communications infrastructure, the need to meet increased service delivery demands, and the expectation of central agencies that the emergency service organisations will share public safety communications infrastructure where possible (and the funding implications of this) are responsible for increasing the momentum for change in the public safety communications landscape.

Any increase in the momentum for change from internal and external sources should be viewed positively as it provides an opportunity for the achievement of improved outcomes in business practice and service delivery across the public sector. Furthermore, examples of multi-agency initiatives from other jurisdictions that have already become operational lend credence and also give impetus to this drive for change.

### 2.5 Interviews

Members of the PSCP SC, and other senior members from both agencies with direct management responsibilities for public safety communications, were interviewed to determine the outcomes sought for public safety communications.

Details of persons interviewed, formally and informally, along with the formal Interview Records are contained in Appendix 'C'.

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<sup>5</sup> Public Sector Management Commission, 1993, Review of the Bureau of Emergency Services, Queensland Government, Brisbane, p. 116.

<sup>6</sup> Luttrell Report February 1997, Joint Telecommunications Planning for Queensland's Emergency Services organisations – A Discussion Paper on Telecommunications Directions.

<sup>7</sup> Reardon Report 2003, Vision and Feasibility Statement.



## **2.5 Inspection and Interviews - Other Jurisdictions**

Site inspections were conducted of emergency service communications/operations centres in New South Wales, South Australia and Victoria. Personal engagement with senior officers and observation of these centres in action provided the basis of three different governance models for analysis that are based importantly on known governance models and any associated lessons learned. Details of the information gathered during these visits are précised in Chapter 7 of this report with a more detailed table contained in Appendix 'D'.

## **2.6 Options Analysis and Final Report**

The project team completed its analysis of the available information, engaged a joint QPS and DES Reference Group to review the analysis, and subsequently prepared this Report for the PSCP SC.



## 3 POLICY DRIVERS

### 3.1 Factors

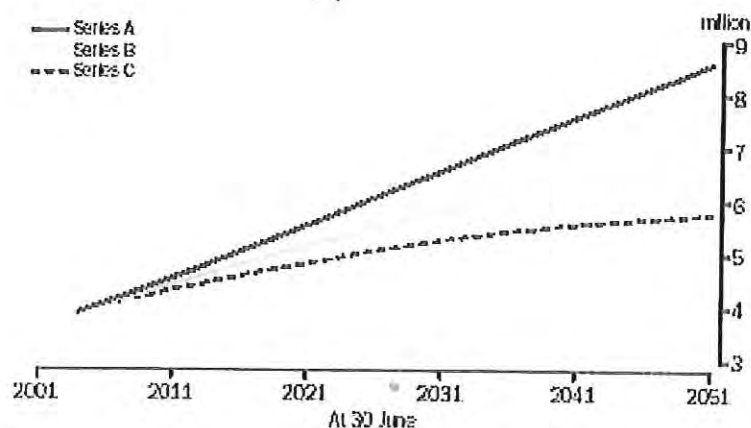
A number of factors have been driving the respective policy programs of QPS and DES. These include:

- increased demand for services;
- economics (including economies of scale);
- preparing for and responding to major events and terrorism;
- Queensland Government ICT-related policy;
- Technology advancements; and more recently
- The Queensland Government's *Towards Q2*.

### 3.2 Increased Demand for Services

As the volume of demand for services increases across the emergency service organisations, it not only affects the **quantity** of work output required, but also the ability of the agencies to maintain **quality** standards in service delivery.

It has been identified by both QPS and DES that demographic changes in Queensland have placed increasing demands on the delivery of emergency services to the community. According to the Australian Bureau of Statistics<sup>8</sup> (ABS), Queensland's population is predicted to more than double from 4.2 million in 2007 to 8.7 million people by 2056 (*Figure 3*). As a proportion of the Australian population, those aged 65 years and over is predicted to increase from 13% in 2007 to between 23 and 25% in 2056, and those aged 85 years and over is predicted to increase from 1.6% in 2007 to between 4.9 and 7.3% by 2056 (*Figure 4*). These changes in demographics will impact even further on future service delivery for both agencies, albeit differently.



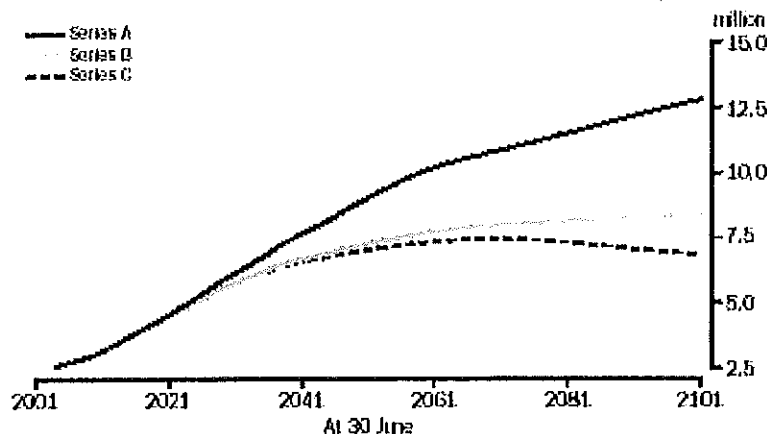
**Figure 3 - Population projections for Queensland, 2004-2051**

Source: Australian Bureau of Statistics.

Note: Three main series of projections have been presented. These series provide a range, although not the full range, of projections.

<sup>8</sup> Australian Bureau of Statistics, 3222.0 - *Population Projections, Australia, 2006 to 2101*, issued 4/9/2008, viewed 9 September 2008, < [www.abs.gov.au/ausstats/](http://www.abs.gov.au/ausstats/)>





**Figure 4 - Projected population aged 65 years and over, Australia, 2004-2101**

Source: Australian Bureau of Statistics.

Note: Three main series of projections have been presented. These series provide a range, although not the full range, of projections.

The Queensland Government<sup>9</sup> identifies Queensland as 'the nation's growth capital' and will account 'for more than 30 per cent of Australia's population growth' by 2020.

Notwithstanding this increased demand and demographic changes, public expectation in respect to the standard of service provided by the emergency services remains high, particularly in terms of timeliness of response. Additionally, the public expect that police and emergency response agencies will have contemporary surveillance and investigating technologies at their disposal, for example, Closed-Circuit Television (CCTV) systems for monitoring public areas and relevant geographic information systems (GIS).

In view of anticipated future demand, emergency service organisations recognise that public safety communications architecture will impact on efficiency and quality of services delivered and the safety of frontline personnel, and that they must be capable of providing fast, efficient, reliable and seamless access to information across the agencies. For example, current access to mobile data by emergency services staff in Queensland is extremely limited, with most information being relayed via voice radio.

Existing congestion across the radio network resulting from a high volume of voice traffic and limited bandwidth will be magnified as demand increases, impeding operational service delivery. **A state-wide (digital) radio network is one way to deliver mobile services, providing a platform from which IP-based technologies operate in a mobile data environment and reducing the demand for voice radio access across the network.** Mobile access to dispatch and other task-related data would streamline operational workflows and reduce inefficiencies in time and human resources.

It has also been suggested that information sharing in the mobile data environment would enhance officer safety and service delivery to the public. Whilst this would be desirable, interagency sharing of information may be subject to legislative limitations and operational sensitivities. Hence, any plans to share data across the agencies should include an analysis of these considerations, and should only be enabled on a case by case basis.

<sup>9</sup> Queensland Government, 2008, *Towards Q2*, Queensland Government, Brisbane.

### 3.3 Queensland Government ICT-related policy

The Government released a Directions Statement<sup>10</sup> in December 2004 outlining its policy direction for investment in ICT. This document supports collaboration between government agencies and partnering with private enterprise to achieve innovative solutions to business needs.

The Directions Statement contains five focus areas, four of which are particularly relevant to emergency services communications. These are:

- Government as a single enterprise;
- Enabling the business priorities of Government;
- Improving value for money; and
- Partnering with the private sector.

The Queensland Telecommunications Strategic Framework 2005-2008 supplements the Smart Directions Statement for ICT and outlines the framework for achieving the Government's goals in respect to ICT initiatives. Strategy No. 5 consists of eight action points which will contribute to achieving the goal of improving **government service delivery**, including:

*'Establish[ing] a working party to investigate the potential of public mobile infrastructure to improve police and emergency services telecommunications (including radio) and to review options, agree solutions and progress joint initiatives. (Queensland Police Service, Department of Emergency Services, Department of Public Works).'*<sup>11</sup>

The Queensland Government thus recognises the significant role that effective ICT services provide in supporting public safety and public safety communications utilised by emergency services. It is further recognised that efficient use of resources and opportunities for shared services, networks or infrastructure provide a cost benefit and support the Queensland Government Smart Directions Statement for ICT.

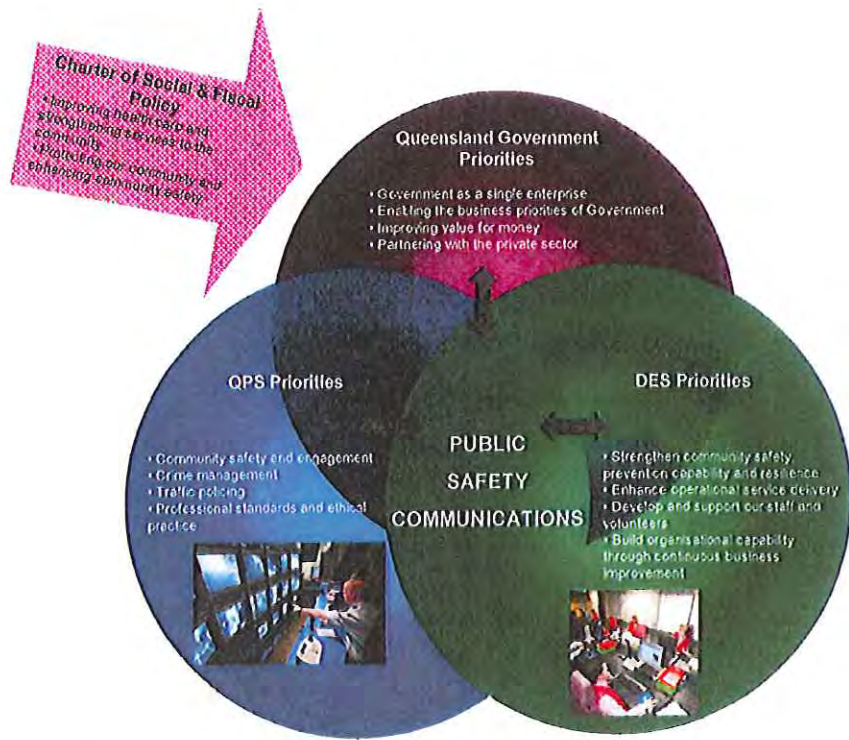
The QPS<sup>12</sup> and DES<sup>13</sup> share common goals and priorities which support the core business practices of both agencies and which align with Queensland Government priorities (Figure 5). This means that strategic planning for joint investment in communications infrastructure has an important role to play in fulfilling the common priorities of these entities.

<sup>10</sup> Queensland Department of Public Works, *Smart Directions Statement for Information and Communications Technology within the Queensland Government*, Queensland Government, December 2004.

<sup>11</sup> Department of Public Works & The Coordinator General, *Queensland Telecommunications Strategic Framework 2005-2008, Version 1.0*, Queensland Government, August 2005, p. 17.

<sup>12</sup> Queensland Police Service, *Queensland Police Service Strategic Plan 2008-2012*, Queensland Government, 2008, p. 5.

<sup>13</sup> Department of Emergency Services, *Department of Emergency Services Corporate Plan 2007-2011*, Queensland Government, July 2007, p. 5.



**Figure 5 - Alignment of QPS & DES priorities to the Qld Government**



## 4 ICT DRIVERS

### 4.1 Factors

A number of factors have been influencing the ICT programs of QPS and DES. These include:

- converging technologies;
- Queensland Government Review of ICT;
- Planning for and responding to major events and Terrorism; and
- Technology advancements.

### 4.2 Converging Technologies

The continuing convergence of communications technologies is a key driver in the trend towards whole-of-Government and multi-agency sharing of ICT infrastructure.

Technology convergence provides new opportunities to use common platforms. Digital radio systems suitable for voice and short data, providing for the application of security measures are now common throughout Australia and overseas. CAD systems are more readily configured to perform a wide range of duties on the same basic platform, while disparate systems can more readily communicate one with another. Shared underlying IP-based fixed-networks are common place and can be provided as a utility service.

Integration of systems utilising IP-based technologies will therefore also facilitate ease of sharing information and communications resources across multiple agencies.

### 4.3 Queensland Government Review of ICT

Queenslanders are looking for easier access to Government services and the Queensland Government recognises that ICT systems and infrastructure provide essential platforms for the delivery of those services.

In October 2006 the Service Delivery and Performance Commission (SDPC) published a set of strategies for future management of ICT in Queensland Government titled *Review of ICT Governance in the Queensland Government*.<sup>14</sup>

The report points directly to the need for changes in ICT policies and practices across agencies in order to deliver the types of seamless services that Queenslanders expect.

All significant government decisions should result in improving outcomes for the community. The Government's Charter of Social and Fiscal Responsibility (the Charter) states that the Government is committed to delivering high quality services to improve the life of all Queenslanders.

Whether a particular ICT decision is a good one depends on the extent to which it will contribute to achieving the Government's community outcomes. Technology has only limited value when applied independently of organisational objectives and strategic goals.

The nexus between a local investment by an agency in ICT capability and its ultimate impact on achieving outcomes for the citizens of Queensland is tenuous at best, and

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<sup>14</sup> Service Delivery Performance Commission, *Report on Review of ICT Governance in the Queensland Government*, Queensland Government, September 2006.

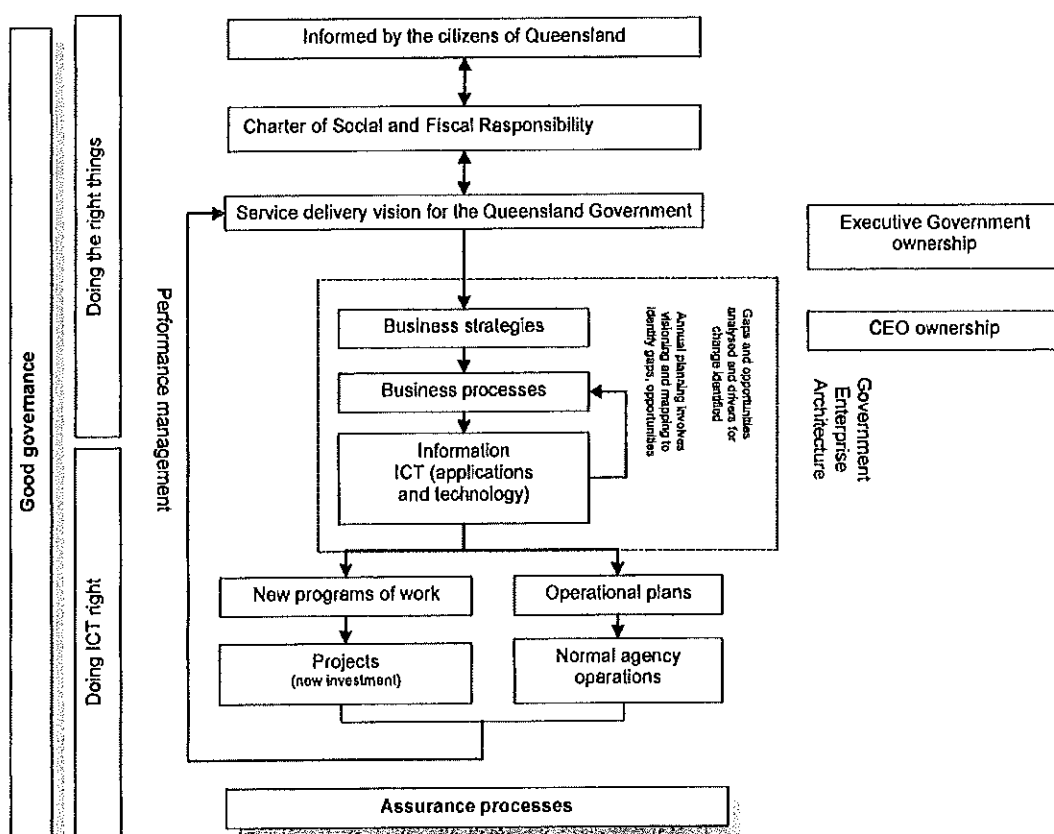
notoriously difficult to measure. If these links are not apparent, then the risk is that ICT decisions may be made independently of the business needs of agencies and the Government as a whole.

The Queensland Government's annual Priorities in Progress Report, which reports performance against the Government's Community Outcomes and Priorities in the Charter of Social and Fiscal Responsibility, provides a comprehensive assessment of outcomes for the community. This outcomes assessment process, coupled with a more systematic approach to planning and integrating government services, can become key elements for improving ICT investment decisions by the Government.

In order for this to become a reality for public safety communications, it is necessary to articulate a vision and position it to inform, guide and direct agency resource allocation, including ICT, to ensure that agencies are acting in concert to achieve it.

The linkage between the vision, the Charter and agencies' business strategies and its ICT investments is shown in Figure 6. It is important to note that business strategies can be self-contained within an agency, or span a number of agencies.

In the future, government business strategies will increasingly span multiple agencies. The whole-of-government strategic direction for ICT is then able to be formulated within the context of enabling the appropriate business processes and strategies across the Government that will deliver on the vision. This much needed context will optimise ICT decisions.



**Figure 6 - Context for Optimising ICT Decisions**

The ICT Governance Initiative, led by the Department of Public Works, has been established to implement the SDPC's recommendations, which were endorsed by Executive Government in late 2006.

Six programs of work have been defined and the Implementation Office has been established to work with government agencies and the ICT industry to ensure the report's recommendations are successfully implemented.



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## 5 AGENCY BUSINESS DRIVERS AND REQUIREMENTS

### 5.1 Overview

Historically, regionalised command in all services and agencies has been paralleled by regionalised communications provisioning. In the absence of a state-wide strategic direction, local communications decisions were made for local benefits. The legacies of this regionalised approach form much of the current barriers to strategic progress.

Recently, there has been recognition of a new paradigm, namely, that independent action by agencies in respect to public safety communications, without consideration of the best overall outcome for the state, is not acceptable.

As part of the ICT landscape, public safety communications are best selected, implemented and managed on a multi-agency state-wide basis in order that they deliver portfolio-wide, service-wide, government and community expected outcomes. This approach does not detract from the quality of service to operational personnel or the community; in fact, it ensures equity in the quality of services provided to emergency personnel and facilitates standardisation of standard operating procedures.

Single service drivers affecting public safety communications can no longer be viewed in isolation. They are now seen to be within the context of collaboration in operations (public safety demands this), and also of collaboration in planning and provisioning (fiscal responsibility and government policy and priorities requires this).

### 5.2 Business Needs

Public safety communications assists the services to send field resources to the point of need, control those assets on the move, and provide vital information to commanders/officers of all levels, both in the field and in command / operations centres. It also encompasses the telephone (and more recently the internet) contact with the community, as the primary means of community engagement and service delivery.

As critical infrastructure, public safety communications must be fault tolerant, yet flexible and capable of performing their tasks at all times. These times include:

- Every day operations when highly reliable, "zero downtime" communications are expected;
- Major incidents when increased complexity, greatly increased volume of data and multi-agency responses arise;
- Disasters when demand can readily exceed resources, major infrastructures can be interrupted and normal or expected services are not always available; and
- Supporting the unique or specialised characteristic of each Service and of the different tasks they perform at different times.

Public safety communications systems are largely invisible during normal operations; only those involved in their operation are aware of the risks and pitfalls which can become evident or occur when systems and people become overloaded. Communications inevitably becomes a hot topic during major incident debriefings. Those closely involved in particular aspects of service delivery focus on the risks and requirements of their specific areas of interest.



Others having wider responsibilities, including the prioritisation of investments, sometimes have difficulty understanding and prioritising the competing interests expressed to them by sometimes partisan advisors.

Smarter systems and equipment contribute to employee safety, satisfaction and success. Failure to keep up with expectations contributes to employee dissatisfaction, lower morale, and may lead to increased attrition rates.

As part of the ICT landscape, if properly developed, public safety communications will permit additional value to be unlocked from existing systems, and open opportunities for productivity enhancements and other benefits to be extended into the field. For example, QPRIME, smartcard drivers license, public transport safety and security particularly from a terrorism related perspective.

Public safety communications needs to be managed within an overall portfolio of agency investment management. Concurrently it forms a critical component of an agency's information architecture. Specifically, within ICT architecture, public safety communications has unique characteristics, notably the use of extensive radio networks and the urgency of many events.

Improving program management maturity in agencies is becoming evident, although still in its early stages. This developing program management function needs to provision for effective management of cross agency projects and programs, such as the public safety communications portfolio.

### 5.3 Other Stakeholders

The nature of the services provided by QPS and DES creates a nexus between these agencies and others that have common or related interests, for example:

- Queensland Health and the Queensland Ambulance Service (QAS) interact and compliment each other in the delivery of pre-hospital care;
- Queensland Transport and the QPS interact over vehicle and licensing issues. The Smart licensing initiative would likely give rise to increasing complexity of interaction;
- Emergency response and recovery can involve virtually any service and jurisdiction of government and also involve many private agencies. The recovery processes are usually handled by others who may need in their turn to call upon the emergency services;
- DES has been building up capability with field deployable communications capabilities as utilised in response and recovery operations for Tropical Cyclone Larry and more recently in events such as the Gold Coast Indy;
- The community expects the effective and efficient provision of safety, and effective response both to incidents and to disasters; and
- National initiatives and cooperation across state-boundaries are relevant.

### 5.4 Queensland Police Service

The QPS Visioning workshop<sup>15</sup> suggested a need for:

- Support [for] a future of high technology policing that balances the need for the Service to be highly responsive as well as being community focused; and

<sup>15</sup> Queensland Police Service, Office of the Commissioner, *Consultation Draft Summary Report from Visioning Workshop - Key Outcomes*, 1 August 2007.



- Fewer (but perhaps larger and more centralised) stations; more mobile offices.

Recent internal reports and interviews with senior executive and stakeholders show the following:

- Current public safety communications are adequate, but their age threatens sustainability while their capability does not support the needs of modern policing;
- Capability of the organisation to manage a portfolio of investment is improving – (The Public Safety Network (PSN) is an example of measurable progress.) There is commitment to portfolio and program management approach at senior levels. There is similar commitment to collaboration with DES and other agencies;
- Capacity for managing programs has limits. The rate of investment must be managed;
- Governance is key to ensuring the business drives the investment program, and that service provision is responsive to services need;
- There is a need to develop organisational capability to support increasing complexity. For example, increased placement of uniformed officers within the Information Management Division (IMD) to increase their career experience;
- ICT (including public safety communications) allows for more effective Policing and increases the Services ability to manage increasing demands;
- Recognition that collaborative provision of public safety communications is the way of the future;
- Some near-term investment needs will only be approved if progressed collaboratively. In the near-term, some collaborative investments would be lower-risk than others; and
- An ICT roadmap must reflect the current ability to execute and to absorb change, otherwise we will fail, which would affect future decision making.

Reports of current environment reveal that investment priorities would include:

- Extending a common digital voice radio beyond south east Queensland and the few regional repeaters;
- Providing mobile data services that extend state-wide and provide a unified state-wide solution; and
- Communications centre consolidation combined with CAD replacement (which includes vehicle location information requirements). Exactly when and where communications centre consolidation is to occur has not as yet been specified.

The Strategic Assessment Working Party observed:

- Much investment is still controlled at regional levels. For example, IMS (CAD) software upgrade issues are currently managed by regional funding arrangements. A region has a local program to collocate its communications centre with another department for the savings this would bring;

- That the QPS is seeking funding for proof of concept to extend QPRIME over mobile data communications (e-Ticketing).

## 5.5 Department of Emergency Services

Recent internal reports and interviews with senior management show the following:

- DES is not a single service. Queensland Ambulance Service (QAS), Queensland Fire and Rescue (QFRS), and Emergency Management Queensland (EMQ) operate within the Department. Each has unique service requirements, as well as their common interests. Program management governance arrangements for ICT within this context are at early stages;
- Some DES provided corporate services (ICT support, HR and Finance) are to be redistributed into regionally based management structures. This may be viewed as reflecting a tendency (prevalent at middle management levels, and potentially at odds with senior management express sentiment) to decentralise management and hence control of the resources that provide services;
- Public safety agencies can share common platform solutions and still obtain unique service needs;
- Shared call taking is perhaps the only (in-scope) area that would be “too hard” for some time to progress as evident by the work undertaken by the Queensland Emergency Operations Centre (QEOC) project team;
- Public safety communications services can be provided by others. In such cases firm contracts and Service Level Agreements (SLAs) combined with strong contract management are required;
- There are near term and medium term investment needs that will not be funded as single service needs, they must be progressed collaboratively. These most pressingly include (voice) radio, mobile data and vehicle location and navigation. However, maintaining existing capabilities or enhancing existing services in the short term will need to be funded by QPS and DES within existing budgets; and
- Collaborative management of investment decisions should not impact upon the timely progress of decisions through to implementation.

Reports of current environment reveal:

- Consolidation of communications centres is intended for the efficiencies it brings. Exactly how and when has as yet not been determined. A review is underway, arising from the need to provide redundancy and business continuity capability to support QEOC;
- DES has for some time been progressing a modern telephony system for its needs, which would be utilised in QEOC and provide a single managed state-wide telephony system that can seamlessly support all communication centres;
- The CAD replacement (ESCAD) project is almost complete. Interfaces between ESCAD and other systems will be progressed during the next year;
- DES's mobile data system (currently only utilised by QAS) nominally covers south east Queensland. The network has a single-point-of-failure at its core which is being addressed by bringing forward QEOC activities



to coincide with QFRS utilising the network from January 2009. The current generation data terminals need to be replaced within the next 2-3 years in order to extend the life of the system.. All three agencies require improved and extended mobile data to support productivity enhancements;

- Radio systems are of a great range of technologies and ages. Significant investments are needed, including some very immediate needs. Infrastructure is old, and the three services have not yet agreed a merged solution. QAS, QFRS and EMQ use a range of different technologies and frequency bands, for historical reasons. Reviews of DES (and Police) radio have recommended significant changes for over 10 years; and
- Current systems are supported by an aging workforce, (in both DES and QPS), some of whom are past retirement age and a number of whom will be eligible for retiring within the next few years.

## 5.6 Industrial Awards

Communications centre staff, technical support staff and administrative staff associated with QPS and DES public safety communications systems are employed under a number of different Industrial Awards and have varying conditions of employment. All of these personnel are fundamental in providing service delivery and engagement with the community.

Consideration of the human resource (HR) and industrial relations (IR) aspects must be given in any rationalisation or co-location of joint communications centres.

This limitation also affects operations as staff deployed to support QAS, QFRS and EMQ officers in the field often work under different arrangements more traditionally aligned to public sector employment conditions, including line management reporting.

These issues should not be considered insurmountable, nor should they impede or dictate the terms of progress.

Appropriate stakeholder analysis and engagement, in association with formally managed change management processes, will overcome these issues. This has been proven in other jurisdictions.





## 6 CURRENT ENVIRONMENT

### 6.1 Queensland Police Service (QPS)

QPS's mission is 'to serve the people of Queensland by protecting life and property, preserving peace and safety, preventing crime and upholding the law in a manner which has regard for the public good and the rights of the individual'.<sup>16</sup>

The responsibilities of the Deputy Chief Executive (Resource Management) include Information and Communications Technology, which includes enterprise ICT, information management, major ICT projects, the Telephone Coordination Unit, and the Radio and Electronics Section (RES), all of which have state-wide responsibilities in respect to public safety communications. RES workshops are distributed across the regions in support of a wide range of technologies.

The QPS currently operate 23 police communications centres (PCCs) across the state that function under regional commands. These centres provide the regional hubs of communications providing initial contact from the community for calls for service. ICT tools such as CAD and radio and telecommunications systems are utilised to manage resources and dispatch emergency response vehicles.

A significant portion of the QPS's radio communications systems have reached, or are past, their respective end-of-life product life-cycles. An underinvestment in public safety communications generally has led to the continued use of these systems, in some cases well past their end-of-life stage. Whilst the functionality of these systems meets basic operational requirements, there is limited scope to expand future capability. For example, functionality that would improve frontline performance such as automatic vehicle location (AVL) and geographic information services (GIS) and a state-wide mobile data networks, are required to support modern policing.

There is, as yet, no formally approved state-wide strategy for radio networks, rationalisation of communications centres or implementation of a new CAD system. Consequently, each year, minor and major investments are made to fix immediate problems in systems, with occasionally some capability to extend or improve coverage to meet district or regional priorities. These limited investments tend to entrench existing technologies, and, over time, have led to divergence in operational procedures. Impacts on frontline service are not measured so the evidence required for generational change is not available.

System operating costs are low, predominately because internal resources are used and equipment is run on well beyond design life-cycle. Consequently, the implementation of other technology, RoIP for example, to provide cost-effective and enhanced contemporary communications, is becoming increasingly expensive.

Regional workshops maintain base-station and mobile radio network elements (as well as many of the other police special technical systems).

Funding has been provided internally to procure a new CAD system.

Communications centre working conditions are often not conducive to obtaining optimum performance.

Mobile vehicles carry multiple radios in order to connect to a variety of network elements (for example, a few vehicles have up to nine different radio communications types, while three types are commonly installed in vehicles in some regions).

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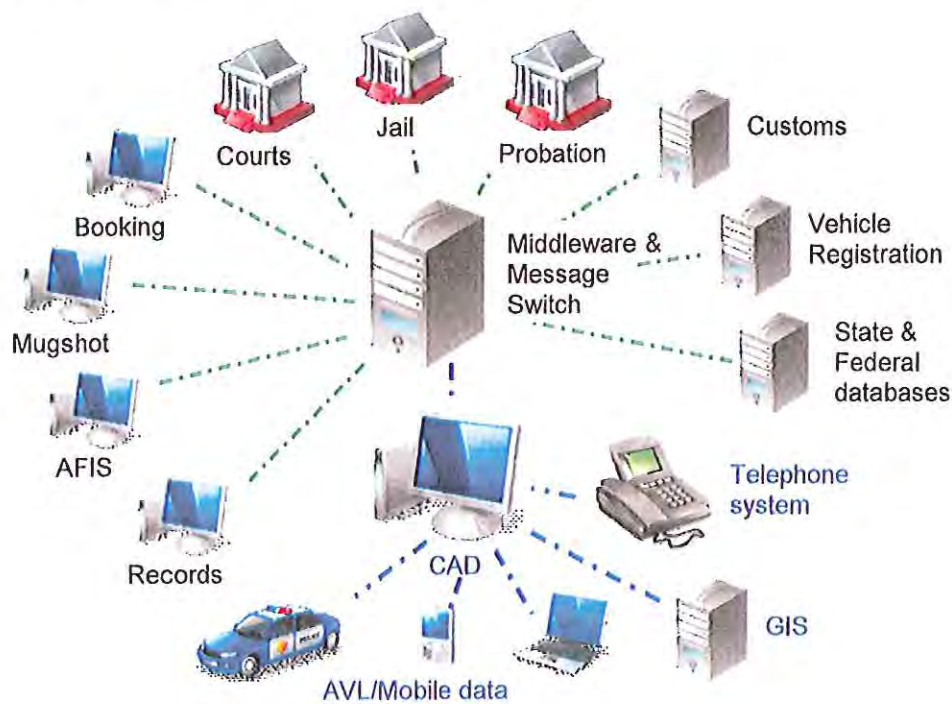
<sup>16</sup> Queensland Police Service 2008, *Queensland Police Service Strategic Plan 2008-2012*, Queensland Police Service, Brisbane, p. 6.



The Public Safety Network (PSN) provides the foundation for contemporary fixed communications architecture that is convergence ready to deliver voice data and services required by the QPS today and into the future. However, whilst the current model depicts the PSN Management Centre (MC) delivering specific operational requirements, the role of strategic planning and innovative subject matter expertise are located within the PSN Project which is scheduled for completion between late 2009 to early 2010.

More detailed QPS ICT Baseline information is contained in Appendix 'B'.

There is much efficiency in terms of resource and information management to be derived from a modern CAD system. These are depicted from a police perspective in the following Figure. The logic of these inter-relationships is easily transferable to fire and ambulance agencies.



**Figure 7 – Modern CAD Environment**

## 6.2 Department of Emergency Services (DES)

DES is responsible for ensuring Queensland Communities are supported by, and benefit from, an effective disaster and emergency management system and essential emergency response services. This is provided via three operational arms that provide fire mitigation and management services, pre-hospital care and patient transport services, and, disaster management services.

DES's role within the Queensland Government is to save lives, protect property and improve community safety and resilience.

The delivery of the DES's services are underpinned by a complicated telecommunications environment that supports the initial receipt of the emergency call (phone, alarms, etc), through emergency response and incident coordination



(voice and data services), to the delivery of critical life-saving services and incident reporting.

Telephone systems and alarm networks support Triple Zero calls for assistance, whilst radio and mobile data networks enable the dispatching of resources.

Traditional fixed data networks form the foundation of inter-site communications and information exchange where traditional business systems (such as e-mail) are now integrated into operations.

Mobile in-field capability supports major incident and event coordination, situational intelligence and awareness and reporting to key stakeholders, both within the DES and external to DES.

Support for public safety communications is largely provided by DES's Business Support Services (BSS), one of two corporate support arms, the other being Strategic Policy and Executive Services (SPES).

BSS provides DES with services and professional advice related to workforce, finance, procurement, asset and facilities management, corporate governance, industrial relations, organisational health, and information systems and networks.

The current communications systems environment is illustrated below.

DES ICT Baseline information is contained in Appendix 'B'.

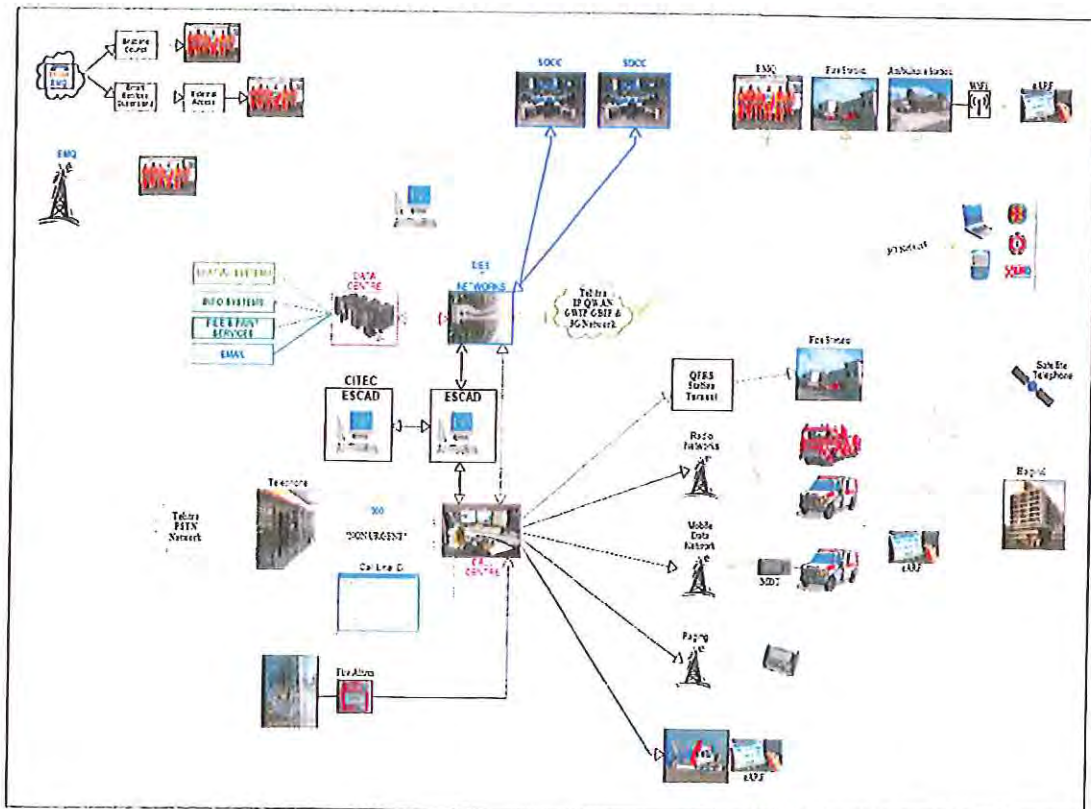


Figure 8 - DES Current Environment



## 7 EXTERNAL ENVIRONMENT

### 7.1 Overview

The configuration of Public Safety Communications arrangements, namely: communications centres, CAD systems, radio networks, and the use of mobile services and other technologies, varies across the Australian states. Notwithstanding this variance, there has been an obvious trend towards the rationalisation of communications centres and the joint utilisation of available technology, in particular, CAD systems and radio networks.

There is also an increasing trend toward the use of other technologies to support operational activities and increase the efficiency and effectiveness of decision-making and communications centre management related activities. For example AVL in conjunction with the tasking of operational personnel, and telephony management, recording and analysis programs which facilitate enhanced communications centre operations and management governance arrangements.

Research undertaken for the Strategic Assessment of Public Safety Communications Project included visitations to the emergency management communication/operations centres of emergency service agencies in South Australia (SA), Victoria (Vic) and New South Wales (NSW). Senior personnel from the emergency service agencies and centre managers in these states were interviewed with a view to eliciting the advantages/disadvantages and lessons learned in respect to the operating and governance arrangements that currently exist in those jurisdictions.

**The overwhelming opinion of senior emergency service personnel from the interstate jurisdictions is that rationalisation of communications centres is integral to optimising the benefits of new CAD systems, management of the organisations human capital, and the efficient and effective management of communications centres generally.**

**Additionally, the implementation and integration of modern CAD systems, automated vehicle location (AVL) and mobile services technology is considered essential in order to realise the full benefits which may be derived from the synergies between these technologies.**

This chapter represents a summary of the current arrangements in other jurisdictions and the salient issues elicited from interviews as they relate to the scope of the Strategic Assessment of Public Safety Communications Project. A detailed documentary record of the information gathered during the visits to interstate agencies research component of this project is included in Appendix 'D'. A summary of the arrangements which exist in the other Australian states and territories not visited has also been prepared and is included as Appendix 'E'.



## 7.2 Mobile (Voice) Radio Services

The evidence from the interstate jurisdictions visited indicates there is an ongoing trend toward establishing government radio networks (GRNs), including providing digitally encrypted services for police and other agencies requiring secure systems.

State	Radio Network
South Australia (SA)	<p>As a consequence of the Coroner's Findings into the disastrous 1983 bushfires, the South Australian Government directed the establishment of a state-wide Government Radio Network (SAGRN).</p> <p>This network now provides radio services to all government departments in SA, including the emergency service agencies, via a system comprising over 155 repeater stations which provide coverage to all government offices with the exception of one very remote single-officer police station.</p> <p>Digital communications are provided for the Police, Departments of Corrections, Primary Industries and Fisheries, and Transport, and the SA based Australian Federal Police. The SA Police provides radios to interstate police jurisdictions for installation into vehicles attached to stations near the SA boarder.</p> <p>The SAGRN provides voice radio coverage to government personnel state-wide and comprises 3 radio networks:</p> <ul style="list-style-type: none"> <li>• Motorola trunked SmartZone for voice mobile radio (over 130 sites)</li> <li>• One way radio paging system use for alerting of volunteers (over 150 sites)</li> <li>• Motorola DataTAC mobile data system used by SA Police and other some other agencies (approx 30 sites)</li> </ul> <p>The fourth major element of the SAGRN is a suite of management and reporting systems. The system is owned and maintained by the SA Government Treasury Department.</p>
Victoria (VicPol)	<p>In the Melbourne metropolitan area the Metropolitan Mobile Radio (MMR) Network provides P25 trunked digital communications for Police, Metropolitan Fire and Ambulance emergency services. This network is presently a managed service provided by Motorola under contract to the Emergency Services Telecommunications Authority (ESTA). Motorola are responsible for providing and maintaining all radio related services from the desktop in the Communications Centre to the radios in the vehicles.</p> <p>VicPol operates an analogue communications network (SMR) outside the MMR area. The SMR service is provided and maintained under contract by Telstra to agreed performance standards. Unlike the metropolitan system though, VicPol owns the fleet of radio terminals.</p>

<p>The VicPol SMR has two components, namely a whole of state trunked system which is used by police, Department of Sustainability and Environment, Country Fire Association (CFA) and Rural Ambulance Victoria. The system is also used by commercial users. The conventional analogue VHF police-only network hangs off the trunked network, thus police usually work an all informed controlled radio on the conventional system but the terminals can also make one-to-one trunked calls to any other SMR users.</p> <p>Victoria also have a state-wide call out alerting system (EAS) used by fire and ambulance services. This uses radio paging technology which the government re-established after commercial service providers discontinued this service.</p>	
<p>A government radio network (NSW GRN) using Motorola SmartZone trunked technology for all departments with the exception of Police, operates in the greater Sydney metropolitan area and extends into western NSW. This GRN comprises 154 repeater sites.</p> <p>Over a similar area, the NSW Police operates a P25 non trunked digital radio network with over 500 repeater sites. NSW Police would migrate onto the GRN if/when it offered an equal or better service than their own network.</p> <p>NSW Police also utilise analogue, and more increasingly as a result of enhanced capability, HF radio outside the area covered by the police digital network.</p> <p>The Ambulance Service and Fire Brigade operate their own analogue networks outside the GRN coverage area. There is also Sydney metro mobile data system used by Ambulance and more recently the Fire Brigades.</p> <p>Ambulance service also have a contract with Telstra for provision of mobile data services outside of the metropolitan data system area for the use of public network mobile data (Next G) and satellite services.</p> <p>NSW Fire Services also have contracts for radio paging services for the alerting of volunteers.</p>	<p>New South Wales (NSW)</p>

**Table 1 – Interstate Voice Mobile Radio (Visited)**

Government Radio Network (GRN) established	Vic	NSW	WA	SA	NT	TAS	QLD
		✓	✓	✓	✓	✓	✓

**Table 2 – Government Radio Networks**

### 7.3 Mobile (Data) Services

The adoption of mobile services technology by emergency service agencies for tasking and providing on-line services to operational personnel is becoming more prevalent. In some jurisdictions, this technology has been in service for quite some time; South Australia Police for example, have been utilising this technology since 1990. It is worthy to note that interstate agencies are not actively investigating the implementation of Emergency Vehicle Pre-emption (EVP) technology.

Mobile Services Details	
State	
South Australia	<p>SA Police have been utilising mobile data terminals (MDTs) interfaced to CAD in the greater Adelaide metropolitan areas since 1990. They currently have 330 units operating on their 3<sup>rd</sup> generation of software. Services provided include:</p> <ul style="list-style-type: none"> <li>• Job tasking and finalisation in CAD;</li> <li>• Status changing;</li> <li>• Messaging between MDTs and CAD;</li> <li>• Person checks;</li> <li>• Drivers license checks;</li> <li>• Vehicle Registration Checks;</li> <li>• Weapons enquiries.</li> </ul> <p>The SA Police MDTs operate on the SAGRN DataTAC service.</p> <p>SA Metropolitan Fire Service (MFS) has MDTs fitted in all their vehicles. These systems have only basic functionality, such as status changing, however the MFS are in the process of increasing this functionality as they progress to their 2<sup>nd</sup> generation of software.</p> <p>This service operates on the SAGRN DataTAC service.</p> <p>SA Ambulance is presently preparing a business case for the installation of MDTs in ambulances in conjunction with the commissioning of the new CAD system.</p>
Victoria	<p>ESTA manages the Mobile Data Network (MDN) which provides services to Police and Ambulance. This service is provided under contract arrangements with Motorola.</p> <p>Victoria Police have approximately 700 MDTs in operation in the greater Melbourne metropolitan area. Services provided include:</p>



	<ul style="list-style-type: none"> <li>• Access to VicPol systems, i.e. LEAP;</li> <li>• Job tasking and finalisation in CAD;</li> <li>• Create field events for traffic stops and street checks;</li> <li>• Status changing;</li> <li>• Messaging between MDN terminals;</li> <li>• Person checks;</li> <li>• Drivers license checks (VicRoads);</li> <li>• Vehicle registration checks (VicRoads)</li> <li>• Weapons enquiries;</li> <li>• Some statistical recall functionality;</li> <li>• Supervisor access allows views of workloads for units and outstanding events for area of supervision.</li> </ul> <p>The Metropolitan Ambulance Service has approximately 300 MDTs fitted in their ambulances. Services provided include:</p> <ul style="list-style-type: none"> <li>• Event information, remarks and updates;</li> <li>• Location of interest (LOI) and special situation information;</li> <li>• Resources attending and priority.;</li> <li>• Provide their own status change;</li> <li>• Radio identification;</li> <li>• Logs employee information against status changes.</li> </ul> <p>The Metropolitan Fire Service currently do not utilise mobile service technology.</p>
New South Wales	<p>NSW Police currently have MDTs in all Highway Patrol vehicles, and by the end of Q2/2009, MDTs will be in all 1<sup>st</sup> response vehicles. This is using a public network mobile data system. Services provided include:</p> <p>Information System Services:</p> <ul style="list-style-type: none"> <li>• Combined Road Traffic Authority and COPS vehicle and licence search;</li> <li>• COPS recording and completion of events/ incidents;</li> <li>• COPS Person search providing access to warnings/ warrants/ bail etc.;</li> <li>• State wide searchable street map;</li> </ul>

	<ul style="list-style-type: none"> <li>• Access to limited information on NSWPF Intranet.</li> </ul> <p>Office Activities supported in vehicle:</p> <ul style="list-style-type: none"> <li>• Email;</li> <li>• Preparation of operational forms;</li> <li>• Preparation of documents/ reports.</li> </ul> <p>Additional Services being considered for the future:</p> <ul style="list-style-type: none"> <li>• Tasking through CAD system - development of a mobile client to be used on the MDT;</li> <li>• Issuing of printed Infringement Notices with electronic dispatch to State Debt Recovery Office;</li> <li>• Trial of access to SAP, Intranet and system drives.</li> </ul> <p>The Ambulance Service of NSW has MDTs in all ambulances operating in the GRN coverage area. These terminals provide a high level of functionality including being configured and interfaced with NSW Hospitals so as to automatically recommend to officers the most appropriate hospital to take their patient based on their location, nature of injury, capabilities and availability of medical staff at specific hospitals and recent admissions/emergency transports to those hospitals.</p> <p>NSW Fire Brigades are presently trialling MDTs in 23 vehicles. It is envisaged they will fully install PC enabled computers with fire stations networked as 'hot spots' that will automatically update systems when the units are in close proximity/passing by.</p>
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**Table 3 – Interstate Mobile Services Arrangements (Visited)**

#### 7.4 Telephony

Appropriate telephony systems supported by Audio Management Systems and related software programs are essential in facilitating efficient and effective management of emergency service communications centres.

State	Telephone Network
South Australia	<p>All three SA emergency service agencies utilise identical telephone and related systems. This allows personnel from each of the agencies to operate in one of the other agencies' centres should this become necessary as a redundancy strategy. Each of the emergency service centres provides redundancy capacity for the other agencies.</p> <p>Each of these centres is also equipped with Audio Management Systems which record data relating to call activity and visually display the current status of capacity within the centre. Data analysis assists management in rostering and forward planning, and monitoring staff activities to maintain performance standards and a high level of work ethic.</p>

	The SA Police also utilise an Enhanced 000 Call Monitoring system developed to enable database searching of calls records and retrieving statistical data.
Victoria	All ESTA centres utilise identical telephone and related systems. Overflows and routing between centres provides additional capacity during peak times, however, there are some exchange related issues associated with the re-routing/directing any overflow of triple 0 calls from the World Trade Centre (WTC) in Victoria.
New South Wales	The communications centres of each agency are interlinked thereby providing each agency the ability to re-route calls to another of their centres.

**Table 4 – Interstate Telephone Network Arrangements (Visited)**

## 7.5 In-Car Video

State	In-Car Video Details
South Australia	SA Police, Fire and Ambulance – Not utilised.
Victoria	Victoria Police are currently undertaking a trial with 100 units fitted in traffic and country vehicles. Not utilised by Fire and Ambulance Services.
New South Wales	Currently fitted in all NSW Police Highway Patrol vehicles and currently being trialled in 1 <sup>st</sup> response units at Surry Hills. Not fitted in NSW Fire Brigades vehicles, however Smart Phones with video capability are currently being trialled along with helmet and mask mounted units with the ability to stream direct into Incident Command Centres and Major Incident Rooms. Ambulance Service of NSW currently in discussions to install units in country ambulances.

**Table 5 – Interstate In-Car Video Arrangements (Visited)**




## 7.6 Computer Aided Dispatch (CAD) systems

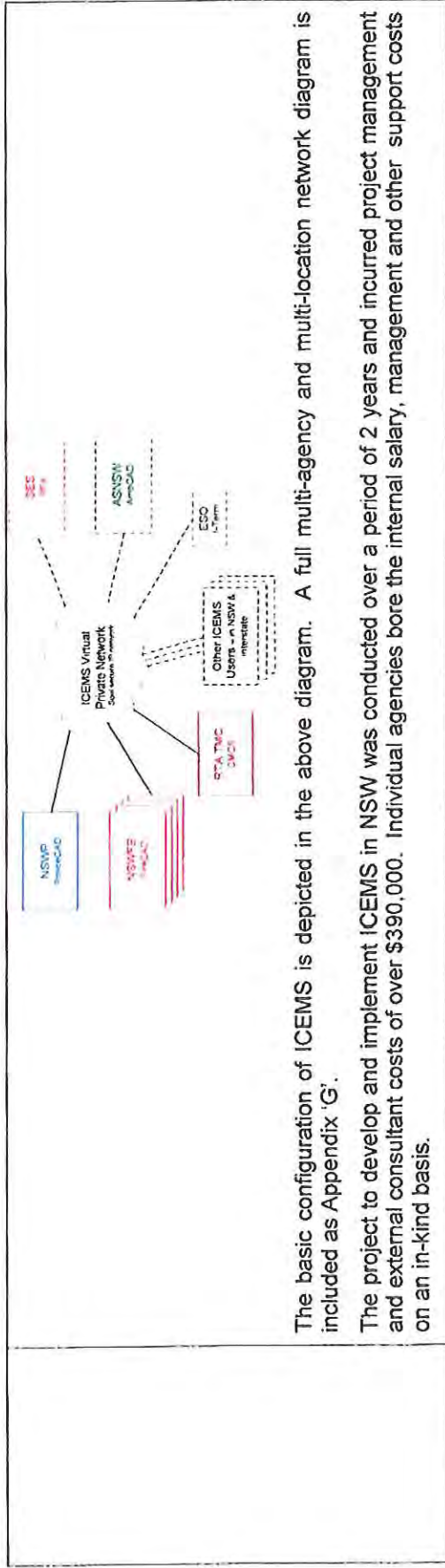
A detailed explanation of the history and development of CAD technology, Multi-Agency CAD systems and CAD-CAD interfacing, particularly in the Australian context, has been prepared and is included as Appendix 'F'. This information is supplementary to the information contained in the CAD segment of the interstate agency visit summaries.

In the jurisdictions visited, a single CAD system configured for multi-agency use is utilised in Victoria, and will in the near future, also be implemented in South Australia. New South Wales agencies continue to operate separate CAD systems. In other jurisdictions a single multi-agency CAD system is utilised in the Northern Territory and separate systems in the remaining states and territories.

A common tenet among senior emergency management personnel in other jurisdictions is that whilst common call-taking is theoretically and technically possible, it is not practical or preferred operationally due to the varying needs of the respective agencies. This is due in part to the information required by police and fire agencies being situational and circumstantially oriented whereas the information sought to be elicited from callers by ambulance agencies is more symptomatic and clinical in nature. The level of training and skills maintenance is also an issue.

State	CAD System
South Australia	<p>Separate CAD systems have been operated by the respective emergency service agencies for many years. The SA Police CAD system is 20 years old.</p> <p>The SA CAD project has been operating for the past 8 years to identify and procure a suitable single multi-agency CAD system for use across the agencies. The South Australian Government recently announced Intergraph as the provider of a new CAD system to be used as a single multi-agency system for the States five emergency service agencies.</p> <p>The new CAD system though will be utilised by all emergency service agencies (i.e. a common CAD). The system will be funded, owned and maintained by the SA Attorney-General's Department, hence there will be no issues in respect to management and ownership or inter-agency funding arrangements.</p>

Victoria	<p>A single CAD system, <b>Intergraph</b>, is utilised by <b>ESTA</b>.</p> <div style="text-align: center;">  </div> <p>Victoria Police also have desktop data terminals (DDTs) which provide access into the CAD system. A DDT is essentially an MDT which is installed on a desktop at a police station and can then be used for same functions. (Refer to Mobile Services section for MDT functionality.)</p>
New South Wales	<p>Each agency utilises a separate CAD system:</p> <p>Police - <b>Fujitsu Fortek</b>;  Ambulance - <b>Tritech</b>; and  Fire Brigades - <b>Fujitsu Fortek (FireCAD)</b>.</p> <p>Information relating to advices of incidents and requests for assistance is transferred between emergency service agencies via an inter-CAD messaging network. This network utilises an Inter-agency CAD Electronic Messaging System (ICEMS) as the standard and provides near-real-time electronic messaging between emergency service agencies and other public utilities.</p>



The basic configuration of ICEMS is depicted in the above diagram. A full multi-agency and multi-location network diagram is included as Appendix 'G'.  
 The project to develop and implement ICEMS in NSW was conducted over a period of 2 years and incurred project management and external consultant costs of over \$390,000. Individual agencies bore the internal salary, management and other support costs on an in-kind basis.

Table 6 – Interstate CAD Arrangements (Visited)

Interagency Messaging	Vic	NSW	WA	SA	NT	TAS	QLD
	Common CAD	ICEMS & Phone	Phone	Phone	Common CAD	Phone	Phone

Table 7 – Interagency Messaging Arrangements

In summary, a single multi-agency CAD system is desirable; emergency response is optimised through seamless through the notification of all agencies simultaneously upon the receipt of the one call. Individual agencies are still able to maintain their own business protocols for emergency call assessment and response procedures.



### 7.7 Automated Vehicle Location (AVL)

The use of AVL is integral to the efficient use of operational resources with the aid of tasking programs available with modern CAD systems. Some agencies, particularly in Victoria, believed the use of AVL technology was integral to deriving the full benefits available from the synergies between CAD, AVL and mobile services technology.

State	AVL Details
South Australia	SA Police – currently trialling AVI – with a view to implementation with the new CAD system. SA Ambulance is presently preparing a business case for the installation of AVL devices in ambulances in conjunction with the commissioning of the new CAD system. SA MFS already has AVL in their vehicles.
Victoria	Victoria Police – Yes via MDN MAS vehicles – Yes via MDN MFS vehicles – No.
New South Wales	NSW Police – tested to Proof of Concept stage – Business case to be prepared. Ambulance Service of NSW – AVL in all vehicles in the GRN area. Integrated with CAD and integral to tasking and operations management. NSW Fire Brigades – currently trialling this technology.

**Table 8 – Interstate AVL Arrangements (Visited)**

### 7.8 Communications Centres

Interstate Emergency Service agencies have rationalised their communications centre operations. Rationalisation has been undertaken in order to realise the organisational benefits associated with economies of scale, increased equity in workloads and enhancing redundancy arrangements, provide better facilities for staff and facilitate the implementation of support programs. These benefits enhance centre management, ensuring standardisation of procedures and reporting practices, and providing greater opportunity for quality assurance.

The rationalisation of communications centres was also considered essential in realising the benefits provided by utilising modern CAD systems. It also facilitates enhanced inter-agency communications and resolution of both operational and communications issues. Internal

staffing issues and political and community concerns have been easily overcome through appropriate stakeholder engagement, negotiation and consultation. The interstate situation and issues are summarised in the following table:

State	Communications Centre Arrangements
South Australia	<p>Only one centre is operated by each emergency service. These centres provide call taking and dispatch services for those agencies on a state-wide basis. The communications centres are located independently of each other operated by each agency.</p> <p>SA Police also operate a call centre which receives routine calls for service/crime reports from the public via the 131444 phone number.</p> <p>SA Metropolitan Fire Service (SA MFS) also coordinates requests and responses for the SA State Emergency Service (SA SES).</p> <p>The SA Police Communications Centre is staffed entirely by sworn officers. SA Ambulance and Metropolitan Fire centres utilise civilian operators who have access to qualified liaison officers. The SA Police Operations Centre, SA State Emergency Operations Centre and SA Disaster Recovery Centre are located within the SA Police Communications complex and maintained by SA Police.</p>
Victoria	<p>The Emergency Services Telecommunications Authority (ESTA) has legislative responsibility under the <i>Emergency Services Telecommunications Authority Act 2004</i> (Vic) for handling Triple 0 calls, dispatching emergency organisations and providing emergency communications for Victorian communities. ESTA currently provides services to:</p> <ul style="list-style-type: none"> <li>Country Fire Authority (CFA);</li> <li>Metropolitan Ambulance Service (MAS);</li> <li>Metropolitan Fire Brigade (MFB);</li> <li>Victoria Police (VicPol); and,</li> <li>Victoria State Emergency Service (VICSES).</li> </ul> <p>ESTA has three centres in the state: World Trade Centre (WTC) (Victoria Police Centre), Tally Ho (Burwood East) and Ballarat. Operations are segregated by agency, namely VicPol and VicSES operations from the WTC centre and Fire and Ambulance operations from the Tally Ho centre.</p> <p>Victoria Police still have four regional call centres, however, negotiations are currently being progressed to have these closed and their operations incorporated into the centralised ESTA operations. Calls from rural Victoria requiring an ambulance service are still answered by Rural Ambulance Victoria.</p> <p>The ESTA centre at Ballarat is in the process of being operationalised and when fully functional will manage all CFA and SES operations along with some police calls for service.</p> <p>A small number of ESTA call taking operators are trained in the operations of more than one agency and occasionally assist with</p>



	<p>handling overflow calls during peak periods.</p> <p>All of the ESTA call taking and dispatch staff are civilian with access to qualified liaison officers from the respective emergency service organisations.</p>
New South Wales	<p>Each Service independently operates their own communication/operations centres: Police x 6, Fire Brigade x 4, and Ambulance x 4. NSW Police also has 2 call centres which receive routine calls for service/crime reports from the public via the 131444 phone number. These centres have also recently commenced receiving triple 0 calls.</p> <p>All call taking and dispatch staff in the police and ambulance centres are civilian with access to qualified liaison officers. All staff in the Fire Brigades centres are fully fledged fire-fighters.</p>

**Table 9 – Interstate Communications Centre Arrangements (Visited)**

In summary, rationalisation of communications centres is considered essential in order to obtain: economies of scale; equity in workloads; redundancy; implementation of programs that support centre management (for example, call routing telephony systems); providing greater opportunity for quality assurance, and standardisation of training and processes. Integrated call taking whilst theoretically and technically possible, and is not considered essential or practical particularly from a training and skills maintenance perspective.

### 7.9 Alerting Systems

Some states have paging alerting systems for the call out of volunteers for fire services and to some extent ambulance services. These are purpose provided paging systems, for example, the SAGRN and Victoria EAS system and use public access paging.



## 7.10 Other Jurisdictions

The following tables outline the current status of Public Safety Communications in the other Australian jurisdictions.

Voice Mobile Radio		Northern Territory	ACT	Tasmania
Police	Western Australia Police Mobile Radio Network (PMRN) P25 trunked (metropolitan) + analogue (regional)	GRN (SmartZone digital trunked) This is in Darwin Other centers use analogue and satellite.	P25 digital GQ – Need to clarify, originally went is as SmartZone not P25.	TasGRN, Government-wide EDACS trunked radio network Existing EDACS system remains in use. Is used primarily by Tas Police and Hydro
Ambulance	Conventional Analogue Is owned and operated by St John ( not WA Govt )	GRN (SmartZone digital trunked) Analogue mobile radio and satellite in areas outside of GRN.	GRN (extension of NSW GRN)	Conventional Analogue, linked with Fire network
Fire	WA Emergency Radio Network (WEARN) project to bridge UHF/VHF analogue networks	GRN (SmartZone digital trunked) Analogue mobile radio and satellite in areas outside of GRN.	GRN (extension of NSW GRN)	Conventional Analogue, linked with Ambulance network
SES		Conventional Analogue Analogue mobile radio and satellite in areas outside of GRN .	GRN (extension of NSW GRN)	Analogue plus some use of TasGRN, Government-wide EDACS trunked radio network. Existing EDACS system remains in use. Is used primarily by Tas Police & Hydro

**Table 10 – Interstate Voice Mobile Radio (Not Visited)**

Mobile Data Services		Western Australia	Northern Territory	ACT	Tasmania
Police	Tasking & Dispatch Information System (TADIS) – Motorola MDTs DataRadio analogue conventional mobile data radio system in metro area (metropolitan Perth only)		Funding submission		
Ambulance	Metropolitan area analogue conventional mobile data radio system Is owned and operated by St John (not WA Govt.)		Funding submission		
Fire	Public mobile network		Funding submission	Mobitex	
SES	Public mobile network				

**Table 11 – Interstate Mobile Data Services Arrangements (Not Visited)**

CAD		Western Australia	Northern Territory	ACT	Tasmania
Police	Metro Motorola Premier CAD		Intergraph (ICAD)	ICAD	ICAD - Trialing AVL 2008
Ambulance	Metro In-house		ICAD	Fortek	Old commercial CAD
Fire	Metro FCAD (in-house), recently re-engineered		ICAD	Fortek	Old commercial CAD
SES	Metro To be included in FCAD		ICAD	Fortek	

**Table 12 – Interstate CAD Arrangements (Not Visited)**

Communications Centers		ACT	Tasmania
	Western Australia		
Police	Metro Police Communications Centre (000), Police Assistance Centre (131444) Country – Multiple centres	Joint Emergency Services Centre (JESCC) – includes call centre 131 444	Central dispatch communications centre in Hobart
Ambulance	State Ambulance Operations Centre Is owned and operated by St John ( not WA Govt. ) Country – Multiple centres	JESCC (St John's Ambulance)	Multiple local dispatch centres
Fire	Metro FESA Communications Centre Country – Multiple centres	JESCC	Firecomm communications centre (Hobart)
SES	Metro FESA Communications Centre Country – Multiple centres	JESCC	Part of Dept Police and Emergency Management

Table 13 – Interstate Communications Centre Arrangements (Not Visited)



### 7.11 International

Research from international models illustrates that joint or multi-agency public safety communications are feasible and utilized with positive benefits. The shared approach to public safety communications (communications centre, radio, Data network, workshops and interoperability) is an increasing trend.

The jurisdictions adopting joint and multi agency approaches assert that they experience the following benefits;

- value for money, interoperability;
- greater collaboration between agencies;
- improvements in service delivery;
- improved redundancy of networks, increased officer safety;
- better co-ordination between agencies for multi-agency responses; and
- superior capacity to share information and integrated communications solutions.

The table below provides a description of international models of joint or multi-agency public safety communications.

Organization	Model
E-Comm Canada	E-Comm is a regional emergency communications centre governed under the <i>Emergency Communications Corporations Act (1997)</i> ; it services include call taking, limited dispatch & a wide area radio system; it provides services for 34 ESO's (police, fire & ambulance) & 14 Public Works.
Texas Communications Interoperability Plan	The state of Texas has mandated a specified level 4, which is a gateway console patch, of interoperability in radio communications for the different ESO's; each agency decides on its own solution to meet the level 4 requirements, while retaining control of its network. There are six levels of interoperability with one the lowest level and six the highest level.
Gloucestershire TriService Centre	Co-location (no common call taking) of police, fire & ambulance communication centers, headquarters (police on adjacent site) and workshops.
Airwave	PPP between UK government and Airwave to implement and manage the TETRA radio system (includes police and health mobile data applications; collaborating with fire) for all emergency services; £2.5 billion contract over 15 years; Airwave was originally a British Telecom subsidiary, however has now been purchased by Macquarie Bank.

**Table 14 – International Examples of Joint or Multi-Agency Models**

## 7.12 Chapter Summary

The rationalisation of communications centres in other states has demonstrated its potential to provide significant organisational benefits in terms of service delivery and operational resource management. Initial concerns by PCC staff, politicians and the community associated with implementing rationalisation strategies have been successfully overcome. Co-locating all emergency services communications centres in the one facility is not considered essential or desirable in terms of good practice from a business continuity perspective; benefits need to be demonstrated if this is to be considered.

The need for communications centres to be supported by appropriate and inter-linked radio networks, telephony services, fixed data networks and related programs cannot be overstated. These networks and services are essential to achieving the virtualisation necessary to generate efficiencies both in normal operations and provide redundancy capacity.

Joint utilisation (multi-agency sharing) of available technology, in particular, CAD systems and radio networks is achievable, and indeed desirable, in achieving organisational goals and value for money from a wider whole of government perspective. Whole-of-government radio networks (GRNs) are the preferred mode of providing radio services to government departments.

The use of AVL and Mobile Services technology to support the operational activities of emergency services personnel is increasing. There is evidence to suggest these technologies may be becoming operationally critical for emergency services to provide efficient and effective responses to routine calls for service and major incidents alike. Voice communications are still considered the primary mode of communications to ensure officer contact, safety and officer confidence.

**The integration of CAD systems, AVL and mobile services technology is essential in order to realise the full benefits derived from the synergies between these technologies**

An analysis of the above models highlights common strategic issues for shared public safety communications that are pertinent to joint public safety communications for QPS and DES include:

- governance of shared arrangements must be clearly defined and logical;
- agencies must be committed to successful outcomes;
- organisational change needs to be included in the development and implementation;
- large step change investments;
- policies and frameworks need to be defined and operable;
- operational control of agencies must be maintained; and
- management of contractual issues, both inter and intra government.



## 8 GAP ASSESSMENT

### 8.1 Overview

The QPS and DES both suffer from an inability to progress the next of generation public safety communications in response to growing demands and expectations from staff and the community generally.

Both organisations need to invest significantly in public safety communications infrastructure upgrades. The required investment will take a number of years to deliver, and in some cases, is urgently over-due.

Any delay in initiating the required upgrades to new technology is increasingly likely to mean the failure of major systems at future dates posing significant risks to service delivery, incident operations, officer safety and public safety generally. This is particularly so in respect to the QPS ESCORT CAD system.<sup>17</sup> Failure to manage projects as an orderly program of work is likely to mean project failures, inefficient use of scarce resources, damage credibility and lead to unknown changes in service provision arrangements which may adversely impact public safety.

Government policy and budget guidance is such that major investments of the kind contemplated should only proceed as collaborative solutions to shared challenges. QPS and DES share common challenges in the public safety communications sphere. In some cases, collaboration opportunities may well go beyond these two agencies.

Collaboration has a mixed history among QPS and DES. Some successes have been recorded often due to the personalities and relationships of those involved rather than due to embedded processes. Nevertheless, years of public safety communications reports and studies with little outcome indicates a past inability, at a strategic level, to establish joint modes of investment management. Instead competition for scarce resource has proceeded on single service or even narrower bases.

However, opportunities for enhanced collaboration are emerging. Both agencies now have portfolio and program management arrangements underway, albeit they are reported to be in early and different stages. This is consistent with whole of government, where a corresponding portfolio approach can be seen to be underway. A number of opportunities that both QPS and DES participate in, or are considering, are outlined in Appendix 'H'.

Current optimism concerning collaboration must be based on institutionalised changes to existing arrangements. The nature of these institutionalised changes is at the core of any roadmap to the future.

### 8.2 Key Drivers Versus Capability

Key drivers include:

- connected government that effectively invests in shared infrastructure for common purposes in order to obtain the best front line service outcomes possible for community reassurance and within budget constraints. The Government Enterprise Architecture must be accounted for in any roadmap;

<sup>17</sup> SMS Management & Technology, *Queensland Police Service ESCORT System (Organisational & Technological) RISK ASSESSMENT*, Queensland Police Service and SMS Management & Technology, 2005.



- efficient and effective management and utilisation of field resources of QPS and DES to address continuing operational needs during normal operations, incident management and disaster management;
- efficient application of all systems and information at the point of need and for the collection of data back into core business systems; and
- to provide PSC systems that fit within modern ICT portfolio frameworks so that outcomes of all investments in information systems are maximized.

**Radio (voice) networks** are either at the end of economic life, or else of insufficient capacity for expected near-term demand growth in a number of areas across the state. Investments are needed for widespread replacement of antiquated end-of-life systems and for expansion of capacity. Modern replacement systems will also bring additional capabilities.

We can expect that a modern mobile radio system, common to all the Services, will:

- be resilient and survivable during demanding catastrophic events, providing the essential communications for safety of life and property;
- make effective use of limited spectrum resources,
- provide common platforms that, being versatile, can perform a reasonable range of operational functions for all the Services;
- adequately support the security requirements of QPS and DES (for which add-on security systems would be required);
- provide limited short-data-messaging;
- provide basic officer safety such as duress;
- share infrastructure including being able to reuse some existing infrastructure (e.g. accesses, towers, buildings);
- can potentially include sharing system elements from outside the public safety arena, such as with any government owned entities; and
- support multiple concurrent service users, each performing duties unique to their service.

**Mobile Data services** are currently provided for DES by Mobitex, a State-owned Telecommunications Infrastructure (SOTI), which is about half way through a fifteen year life. QAS, through near-term replacement of mobile data terminals could maintain their current Mobitex-based capability for up to five years. QFRS are progressing AVL capability utilising the Mobitex infrastructure. The other services desire to implement mobile data capabilities in order to gain better information flows to and from the field point of service need (for example, QPS has prepared a business case, not yet released).

Service's needs for mobile data have more in common than they have differences. They are two types:

- narrow band data of the type provided by Mobitex or other private networks technologies supports dispatch and automatic vehicle location quite well. Coverage is limited by the owner's investment.
- broadband mobile data of the type provided by carriers' networks (such as Telstra NextG) can readily support quite demanding and sophisticated requirements. They have wide spread coverage.

Mobile data is also closely tied to effective CAD, QPrime, eARF, eIAP<sup>18</sup>, OpsMaps and other major applications, hence mobile service architecture should separate network services from underlying infrastructure, in order to allow for multiple carriage solutions. A further example of planned usage for mobile services technology is e-Ticketing.

Service owned mobile data network infrastructure in densely populated areas supported by public network infrastructure elsewhere, is a model seen inter-state and overseas.

**Fixed data network** infrastructure and services for the QPS are provided by the PSN. DES has indicated its intention to revisit its position in the PSN, with details and status currently being considered. The form of the PSN under the Technology Transformation Program is not clear, but given PSN success and the early stage of CITEC planning, it is expected no great change would occur within a couple of years.

**Computer Aided Dispatch (CAD)** systems are capable of customisation such that a wide variety of outcomes can be achieved on common platforms. Specifically:

- There exists numerous current real-world examples of single multi-agency CAD platforms (across Police, Fire and Ambulance) abound in Australia and overseas.
- CAD is also closely aligned with the business practices of each service, such that changes to CAD are likely to be accompanied by significant business change projects. Business benefits realised (that is the resultant business changes) would demonstrate the value of the investment for the organisation.
- CAD systems that communicate effectively between each other satisfy much of the interoperability business need. However, interoperability may be non-trivial, for example NSW required a two-year project to provide a partial CAD to CAD solution. Integration of the Motorola radio system and the Intergraph CAD system in Victoria has been very costly.
- Investment decisions in further CAD systems should consider factors including potential savings in support through common platforms and risks of single vendor dependence.

**Common Communication Centre facilities** would be an apparent opportunity for savings and for positioning agencies next to each other for immediate benefit and to support a range of future collaborative scenarios. All Services outline intentions to rationalise the numbers of Centres. Similar (but not identical) final numbers and locations are likely.

**Collaborative planning of investment programs** has been limited. For example, QPS and DES participate in the PSCP, which has now been ongoing for five years, however, only minimal progress has been achieved in advancing joint investment programs in public safety communications technologies. There now exists a strong desire to progress joint investments. This will involve substantial change within each of the organizations; change that will need to be embedded in the culture of each organisation.

Elements of the change process within QPS and DES to note include:

- QPS Guide for Structure of Project Boards recognises and positions Joint Program/Project Committees within the overall QPS program management regime.

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<sup>18</sup> eARF Electronic Ambulance Record Form, e IAP Electronic Incident Action Plan.

- Program and portfolio management within DES for ICT does not appear to have yet reached this level of detail, although steps are underway.
- Collaborative investment planning would be an important part of collaborative public safety service provision.
- For sustainability, collaborative investment planning should be institutionalised, and not be left to the vagaries of personality-driven consultation.

**Collaborative service delivery** involving DES and QPS public safety communications of large scale has not yet been demonstrated. QPS is involved in the PSN, which now has a management centre to provide service delivery and a collaborative governance of service delivery involving three government agencies. This model is viewed as successful though still new.

Where DES and QPS collaboration has occurred it has been small scale and done at the working level (current executive management may not have been aware of some collaborations).

QPS and DES are at early stages of organisational capability to deliver and sustain a complex collaborative ICT portfolio. Nevertheless, they must move forward if technology is to play an effective role in delivery of service.

### 8.3 Preliminary Conclusions

Both the QPS and DES need to invest significantly in public safety communications capabilities over the next decade or so. Most of these investments could be satisfied by collaborative arrangements that provide joint service capability outcomes while supporting each Service's unique service delivery characteristics.

Practically, the Services relatively low maturity in collaborative delivery of projects and the complexity of some of the joint service arrangements in view suggests that initial focus be on high-priority easier-to-deliver collaborative projects.

Government policy and likely funding approvals are such that replacement of current public safety communications systems that require major investment will only be by common solutions that support both agencies and hence all Services. Government enterprise architecture and mechanisms of approval require that public safety communications solutions be derived from business strategies, support information strategies and deliver value for money. Operating costs are expected to rise as new capabilities are created. Increases would be minimised by seeking economies of scale.

Initially positive responses to collaboration proposals have frequently not been progressed to fruition. Consequently, agreement on collaboration proposals must now be superseded by a roadmap that more effectively locks agreement on investment decisions into a joint program. Change management will be a significant factor in any collaboration along with open communications with all stakeholders.

### 8.4 Future Management and Provision of Public Safety Communications.

Longer term, collaborative public safety communications service provision is expected to be the norm. Near term investments should be aligned as much as possible to this future. Medium term and long term, investment decisions must be part of a collaboratively managed program that provides joint agency solutions.



Senior management of QPS and DES acknowledge that they are in early stages of maturity in portfolio and program management. Both must align their single service portfolio and program management structures with a concurrent joint portfolio program management structure.

Many stakeholders envision a future provision arrangement based on outsourcing of major elements of public safety communications. Such an arrangement should be approached through several years (at most) of steady progress in maturation of joint planning and provisioning skills. Mechanisms of service provision will be at the core of any long term vision.



## 9 OPTIONS ANALYSIS

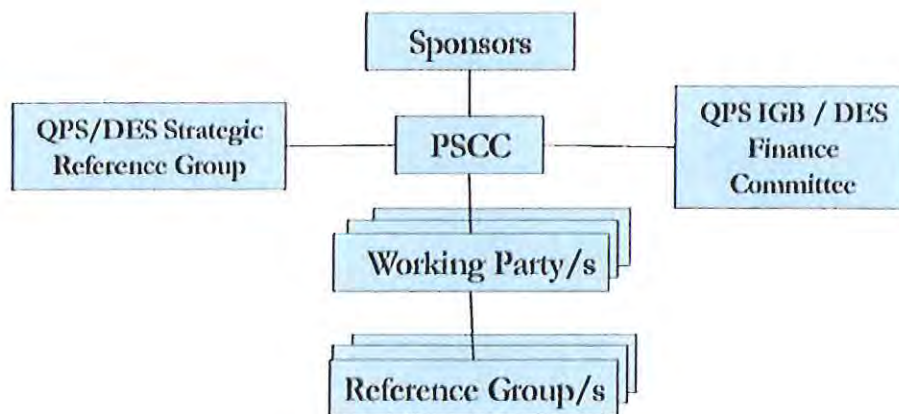
### 9.1 Overview

The options analysis looks at three possible governance arrangements before considering factors affecting technology and service arrangements.

The governance models are derived from Queensland, inter-state and overseas models in use today. Readers should be careful not to assume merely the duplication of any model, but should view these as refined and customised versions of existing models.

### 9.2 Option 1 – Cooperative Model

Under this model, joint solutions to discrete elements of public safety communications are provided by the participants. Joint planning is by ad hoc groups established for special purposes. The ad hoc groups report through a Steering Committee, which has parallels to single agency strategic investment hierarchies. Joint decisions rest with a Steering Committee, which is briefed by ad hoc joint working parties. Investment decisions are progressed by the two agencies under the endorsement (or otherwise) of the joint Steering Committee. Largely represents the status quo. *Figure 9 - Cooperative Model* illustrates

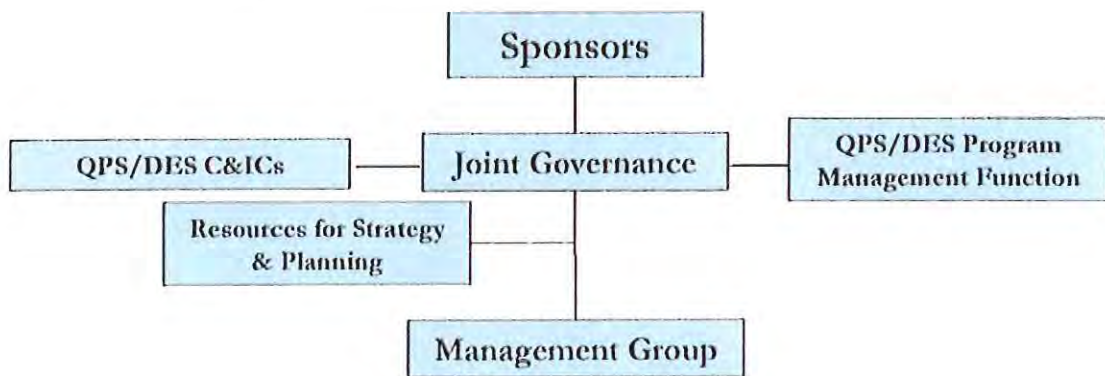


**Figure 9 - Cooperative Model**



### 9.3 Option 2 – Mutual Assurance Model

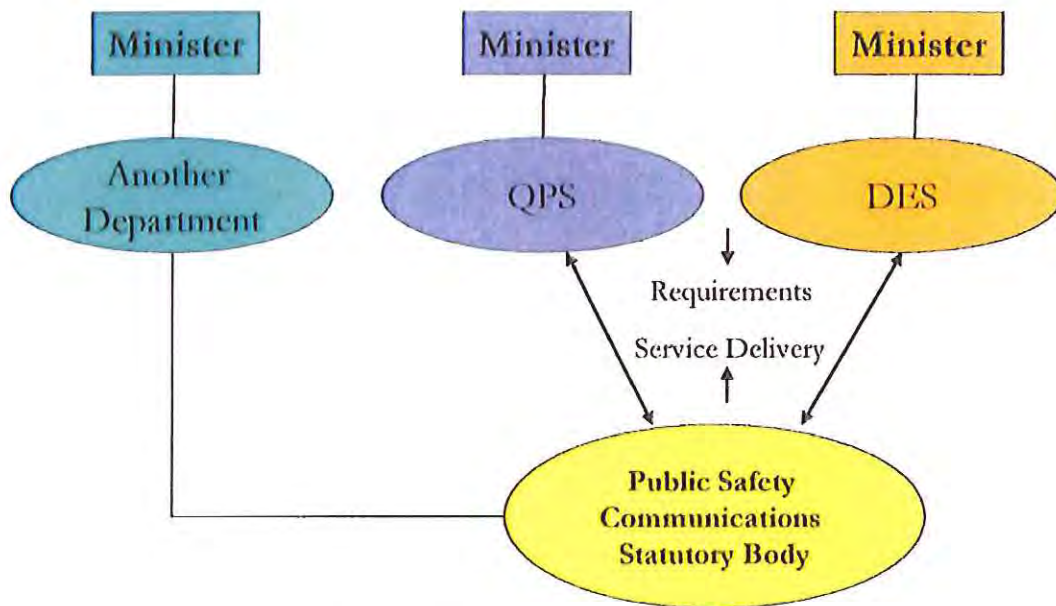
A body is established by the will of the QPS and DES acting jointly. The body's purpose is to plan, implement and operate the public safety communications systems of the QPS and DES. The body would be authorised to resolve inter-agency differences in order that, to the maximum extent achievable, joint solutions are provided not disjointed single-service solutions. QPS and DES would seek in-scope services from the body, and from no where else. The body would be resourced jointly (representatives from all Services plus civilian administrative support) and managed by a "board" in which all participants feel they have equitable access to responsibility and authority in decision making. It is anticipated many roles would be rotated between the participants. *Figure 10 - Mutual Assurance Model* illustrates



**Figure 10 - Mutual Assurance Model**

#### 9.4 Option 3 – Statutory Body Model

A body established by statute to provide in-scope public safety communications services for government. The body will stand outside of QPS and DES (reporting to a separate Minister). QPS and DES would seek in-scope services from the body, and from no where else. The body would be tasked to plan, implement and operate services that meet public safety communications needs, while also ensuring efficiency and effectiveness in provision. The body would be specifically excluded from branching into provision of services for commercial purposes. *Figure 11 - Statutory Body Model Illustrates*



**Figure 11 - Statutory Body Model**

## 9.5 Options Comparison – Overview

Cooperative Model	Mutual Assurance Model	Statutory Assurance Model
Relies upon cooperation and established relationships.	Services give authority to joint body, in which shared authority and responsibility is equitably managed.	Responsibility and authority given to statutory body. Statutory body decides service solutions.
Planning and management is single service, with peer review. Single service business cases and "funding".	Joint planning and management function – resourced for the job. Single service requirements lead to joint business cases and "funding".	Include strategic planning functions in the fees. Agencies pay fee-for-service.
No agreement = no joint progress. Single services host joint projects.	PSC service elements and projects hosted by one or other participants	Participants state requirements, statutory body decides solutions.
Management effort is large – diverts the focus from frontline operations	Requires management attention – distracts from front-line service	Allows participants' greater focus on front-line service management
Most responsive to single-service desires	Somewhat responsive to single-service wants	Least responsive to single service wants
Partisan advice and partisan decisions	Partisan advice and non-partisan decisions	Non-partisan advice and non-partisan decisions
Represents existing arrangements	"Private Company" Model. DES and QPS on the "board".	"Public company" model – managed external to QPS/DES.

**Table 15 – Comparison of Governance Models**



## 9.6 Meeting Whole of Government Objectives

Government has directed that information and communication technology investment be planned and executed through the government enterprise architecture. The options prepared during this Strategic Assessment have been assessed against pre-established evaluation criteria as contained in the following table.

Criteria	Cooperative Model	Mutual Assurance Model	Statutory Assurance Model
Satisfies Single Service expectations?	Direct control of own destiny	Direct governance available	Less responsive to single service
Satisfies Joint Service expectations?	Poor history	Direct governance available	Common systems, highly interoperable
Satisfies Whole-of-government expectations?	Poor history	Collaboration evident to all	Collaboration evident to all
Are critical factors affecting Public Safety accounted for?	No collaboration – no funding	Direct governance available	Indirect governance available
Does it provide for alignment of investment with business and mission needs and priorities?	Little chance of joint alignment	Direct governance available	Indirect governance available
Does it provide governance processes aligned to strategic planning?	Little chance of joint planning	Possibility of back-slip	Locked in, technology strategic direction in hands of others
Does it provide governance processes to approve (joint) investment decisions?	Poor history	Controls in place	In hands of disinterested parties
Assessment of Risk of project failure	Poor history	Firm control required	In hands of disinterested parties
Assessment of Risk of service delivery failure	Poor history	Firm control required	In hands of disinterested parties

**Table 16 – Models Compared to Whole-of-Government Objectives**



## Governance – Ranking of Options

### **Not recommended**

The Cooperative model is not feasible as a long term solution. It virtually represents the current and previous methods of operation, which have proven over time not to be successful.

### **Recommended for the Near-Term.**

The mutual assurance model has shown success and is increasing in maturity. It is a model capable of early implementation and could provide in the short term a vehicle for determining definitions of service requirements across the spectrum of public safety communications. It aligns with government requirements and strategy while giving the participants the opportunity to mould outcomes that are closely aligned to their service requirements. However, a risk still remains with this model that there may be 'back slide' into the existing arrangements (i.e. the cooperative model).

### **Recommended for the Medium-Long Term**

The statutory body model fully institutionalises the planning and provision of joint communications, allows for concentration of effort and hence avoidance of duplication, aligns with collaborative drivers of government and permits a variety of service provision arrangements including in-sourcing and out-sourcing. The Services will be best placed to consider moving to this model after achieving enough objectives set for the mutual assurance period.

## 9.8 Model Conclusions

The Strategic Assessment concludes that the QPS and DES are able to immediately implement the Mutual Assurance governance structure for the management of the public safety communications investment and service delivery requirements of their various services. The Mutual Assurance structure should be progressed rapidly with the objective of being formally implemented no later than 30<sup>th</sup> June 2009.

In the medium to long term, QPS and DES should consider moving to have public safety communications services provided by a statutory body. The statutory body would be able to focus their skills and resources on effective provision of public safety communications for the services. The services would then be able to focus upon the delivery of their core services to the community.

The Services' would stand to benefit from internally moving to create a statutory body at some time in the future. They would have greater influence over formalising its structure, functions and service delivery requirements. The statutory body could commence operations in two to three years, progressively increasing its sphere of responsibility for public safety communications, for example, commence with radio and mobile communications services and expand into CAD, communications centres and telephony over time.

Divesting public safety communications to an external body would provide productivity benefits to the agencies. It would permit them to concentrate on their core business whilst providing improved quality services to front line personnel and an enhanced level of community reassurance.



## 9.9 Dependencies affecting Mobile Communications

Mobile communications for public safety include:

- Voice radio, which is usually intended to be the most reliable and secure system that can be provided;
- Mobile narrow-band data, which supports dispatch, automatic vehicle location and other requirement that need only narrow transmission links;
- Mobile wide-band data, which supports a broad range of possible productivity outcomes;
- Cellular telephone, which is used in many non-critical circumstances;
- Satellite and HF radio, which extend coverage over wide areas where terrestrial systems may not be feasible; and
- Paging and like ancillary systems, which add redundancy.

**As these systems are all relevant to providing mobile communications for public safety they should be considered together in developing any strategy and business case for mobile communications.**

Fixed data networks are an increasingly common part of any private radio infrastructure. Radio over IP (RoIP) is a proven technology, useful for "tying together" portions of a wide spread network.

**A common set of requirements or specifications for the fixed data networks elements of radio networks should be prepared.**

Mobile communications business cases include productivity benefits from extending enterprise applications to the mobile user.

**The needs and characteristics of the applications, the fixed and mobile data networks and the various possible mobile data solutions demand a planned public safety information architecture.**

Other government departments including the utilities corporations have much useful infrastructure. Mobile services strategy should seek maximum value from sharing government site access, site facilities (towers, power, roads, etc.) and backhaul.

Communications capability requirements include:

- Fixed or wide area infrastructure, which can be provided in common; and
- Special, local or transportable infrastructures that can be provided as single-service capabilities for special purposes or as shared capabilities. Shared capabilities should be hosted by one Service for the use of all as required.
- Services should prepare staff plans that permit:
  - Joint provision of common infrastructure, and
  - Single service provision of communications (and other IT) operations in the field.



## 9.10 Dependencies affecting Communications Centres

Interoperability of systems between communications centres should be sought.

For effective communications centre interoperability common systems would be required within each facility:

- A single (telephony) call management system, which must be able to interoperate “seamlessly” with other communications centres.

**Implications:** For telephony systems to interoperate seamlessly steps must be taken to ensure a common architecture that provides for the required level of integration.

- Define the level of interoperability required for “seamlessness” between communications centre operations;
  - Determine what architecture would be required to ensure the seamlessness is implemented in a timely manner; and
  - Determine what is needed to monitor and report progress towards the identified common architecture.
- A single multi-agency CAD platform should be used in any common facility. If different CADs are in use elsewhere in QLD then all CAD systems must communicate between each other at the best possible level of integration.

DES has almost completed implementing ESCAD, which would be expected to have a life of many years before it. QPS is expected to issue a tender for QPS CAD in March 2009.

**Implications:** The QPS CAD must be interoperable with ESCAD, or be the same platform as ESCAD. It would be several more years before another CAD selection process would be undertaken. Interoperability of different CAD systems will have risk and financial implications. Two steps would be required:

- Define the requirements for interoperability between any two CAD systems; and
- Consideration to include in the QPS CAD tender (due March 2009) a requirement for:
  - Interoperability with ESCAD at the required level (for a known price and performance); and
  - Demonstration of the Interoperation with ESCAD BEFORE a procurement decision is finalised.

(The cost burden of this requirement should be included as part of the business case, but equity of cost distribution should also be considered).

- Communications Centres rationalisation is planned by both agencies. As all centres contribute to public safety, the rationalisation plans of both agencies should be harmonised. Uncertainty about when and where Communications centres may be needed adversely affects those planning for public safety communications.

**Implications:** QPS and DES should jointly prepare a plan for rationalisation of communications centres based upon business needs. The plan should illustrate a three to five year program. The program should be joint, thereby facilitating the identification of business benefits through collocation, although it is accepted that collocation may not always be required or desirable.

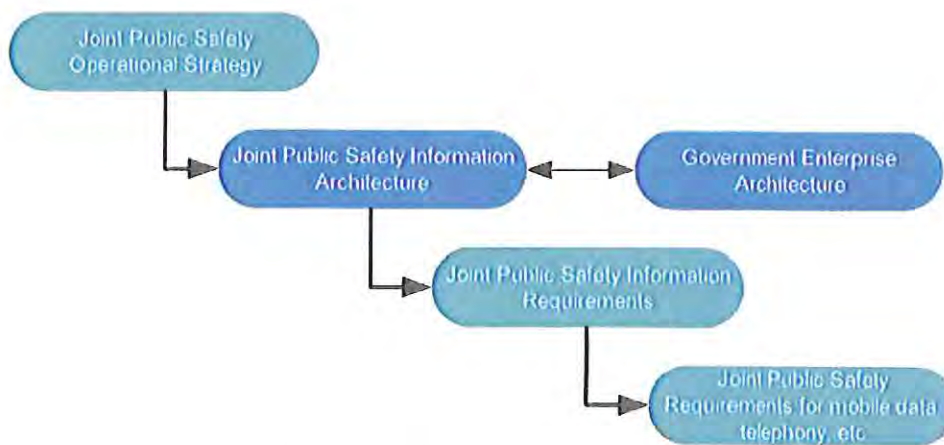
### 9.11 Dependencies affecting definition of Joint Requirements

Joint requirements are to be developed in accordance with Government Enterprise Architecture (GEA).

GEA does not incorporate much detail of public safety information and public safety communications. This deficiency should be addressed in order that public safety information and communications is recognised within the GEA and its interfaces are identified. The methodology of the GEA has been mandated for government.

Therefore, QPS and DES should jointly apply the associated GEA planning methodology to the joint requirements inherent in the decision to jointly develop public safety communications capabilities.

The public safety information architecture would be informed by the public safety operational strategy as illustrated below: *Figure 12 - Strategy, Architecture and Requirements*



**Figure 12 - Strategy, Architecture and Requirements**

**A significant breadth of information architecture study needs to be completed. This work should be led by Information Services of QPS and DES jointly, with appropriate mobile systems expertise assisting as required.**

### 9.12 Dependencies affecting Governance

A mutual assurance governance model requires:

- The development of processes and procedures;
- The recruitment of secretariat, planning and architecture resources; and
- The establishment of its charter.



These all require time to mature and also must align to the budget cycle. The earliest that formal long term funding would be available would July 2009. Until that time, it is proposed that progress would be under the Public Safety Communications Project, using existing PSCP and agency funding. Further, it is proposed that the new mutual assurance governance would come into being from July 2009, noting that recruiting may lag.

Joint guidance, review and approval of the outcomes of joint reviews in first half 2009 will be required and these will be under the auspices of the PSCP-SC. These include:

- Consideration of CAD interoperability requirements for inclusion in the QPS CAD procurement process;
- Joint information architecture for public safety information will need monitoring;
- Joint telephony architecture definition review will need monitoring;
- Joint applications mobility architecture review will need monitoring; and
- Preliminary evaluation of Mobile Communications incorporating voice communications and mobile data services is to report mid-2009. The preliminary evaluation team should be informed as early as possible of the expectations of the Board that will consider the team's report. The team's progress should be monitored and supported.

### **9.13 Funding Priorities**

Overall, funding of the proposed joint works for late 2008 and first half of 2009 may be beyond departmental resources. If this were so, the priority should be given to:

- Progressing the establishment of the mutual assurance governance framework; and
- Progressing the Preliminary Evaluation for mobile communications.



## 10 ROADMAPS

### 10.1 Governance, Preliminary Evaluations and Architecture

Roadmaps outlined here fall into three groups:

- First group is the governance capability to successfully execute Mutual Assurance provision of public safety communications:
  - Establish the Governance;
  - Manage the Preliminary Evaluations; and
  - Public Safety Communications Information Architecture;
- Second group is of systems that currently restrict the flexible adaptation of rationalised communications centres on single service or multi-service basis:
  - Computer Aided Dispatch services;
  - Telephony services; and
  - Fixed Data Network services;
- Third group is of systems that provide a coherent mobile communications solution suitable for public safety requirements:
  - Mobile Voice Radio Services; and
  - Mobile Data Services.

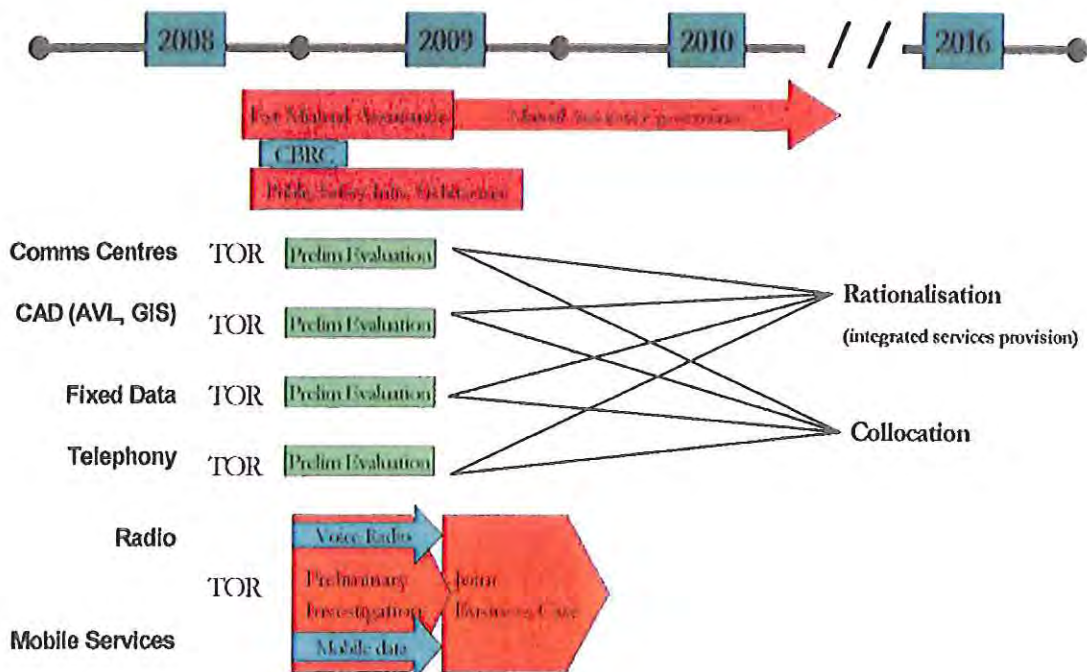
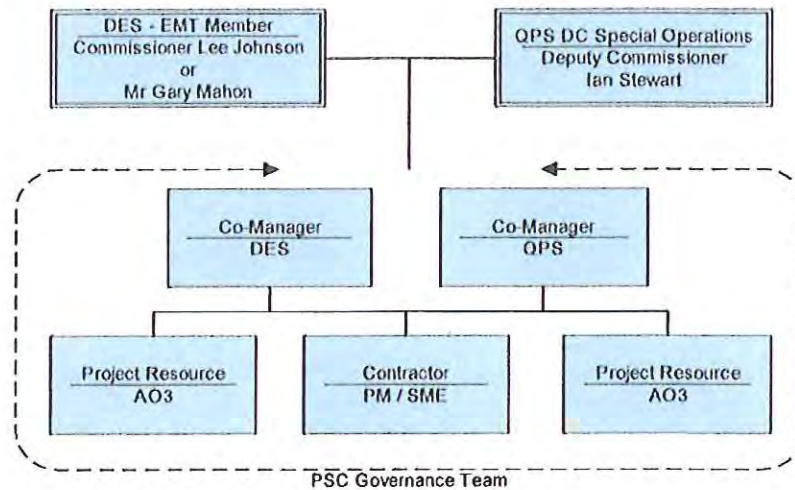


Figure 13 – Public Safety Communications Portfolio Roadmap

## 10.2 Governance, Preliminary Evaluations and Architecture

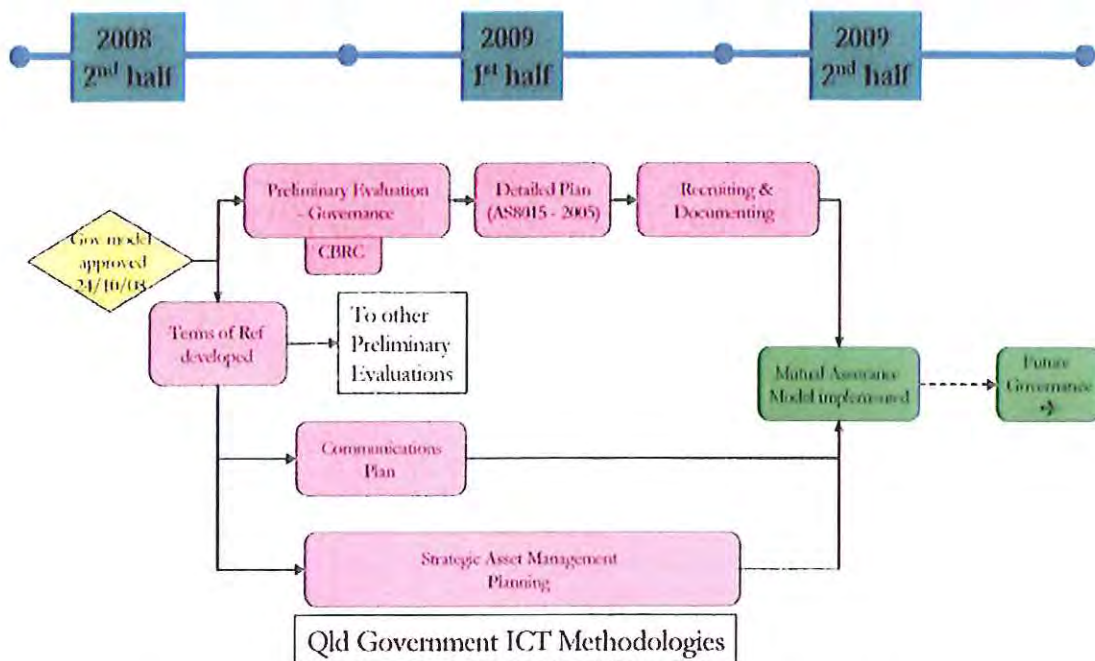
A working party including a project team is required. This grouping would assist in the creation of the definitive Governance Structure by the end of June 2009; provide secretariat support for the Steering Committee and assist the preliminary evaluation including preparing terms of reference for each preliminary evaluation.

A proposed team structure and reporting is shown below.



**Figure 14 – Public Safety Communications Governance Project Team**

The Roadmap for the governance working party is shown below:



**Figure 15 – Public Safety Communications Governance Roadmap**

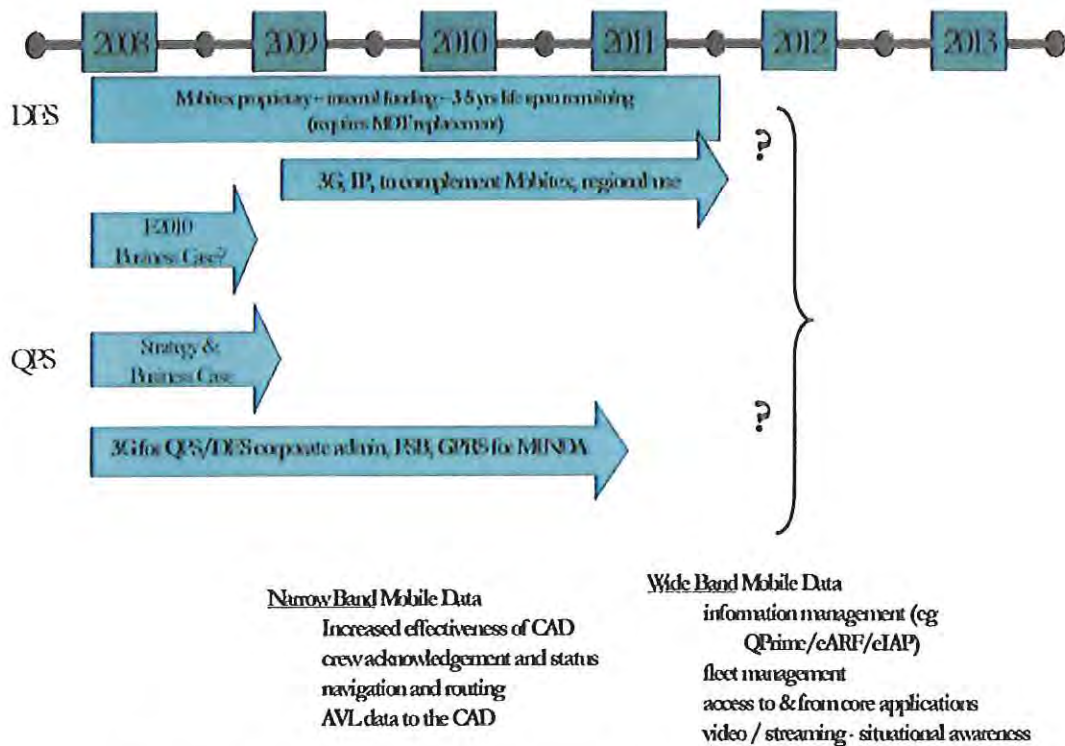


Information Architecture has been highlighted as being critical to longer term joint planning of public safety. Work should be commenced to prepare joint public safety information architecture. Initial work should define the scope of the problem and set out a plan for achieving timely satisfactory architecture inputs for other joint projects. Enterprise Architect resources will be required, but this has not yet been defined.

The project team could be hosted by either agency, although it is likely QPS has better capacity for the time being.

### 10.3 Mobile Communications

Provision of a state-wide public safety mobile communications capability should be a high priority for the State. This should proceed to Preliminary Evaluation with an objective of delivering a strategy encompassing all relevant technologies and outlining those areas that will require major direct investment. It is understood that some steps towards this have commenced during the Strategic Assessment.



**Figure 16 – Current Commitments to Mobile Communications**

The work should include definition of requirements for fixed data networks as part of the mobile communications infrastructure.

Mobile data requirements need to be informed by the proposed joint public safety communications architecture.



A joint business case would result; preparation of the business case to be undertaken in the second half of 2009. A multi-year project is an expected outcome in which some (perhaps large) degree of commercial service provision and management is anticipated.

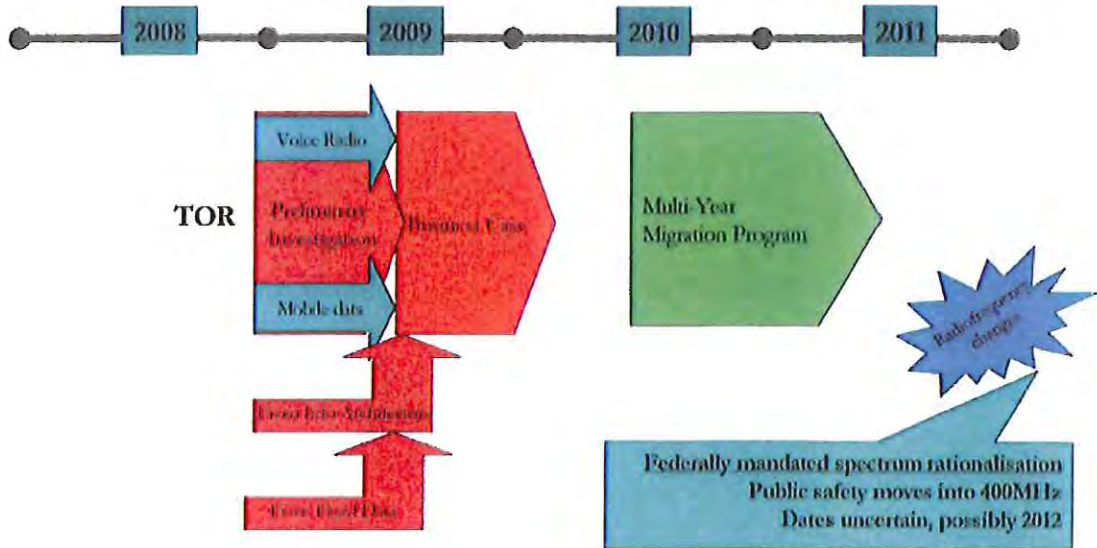


Figure 17 – Voice Radio and Mobile Services Roadmap

#### 10.4 Fixed Data Networks

Fixed data networks for enterprises such as QPS and DES consist of carriage service, wide area and local area switching devices and additional services (such as security, identity management, access control, internet access, etc.).

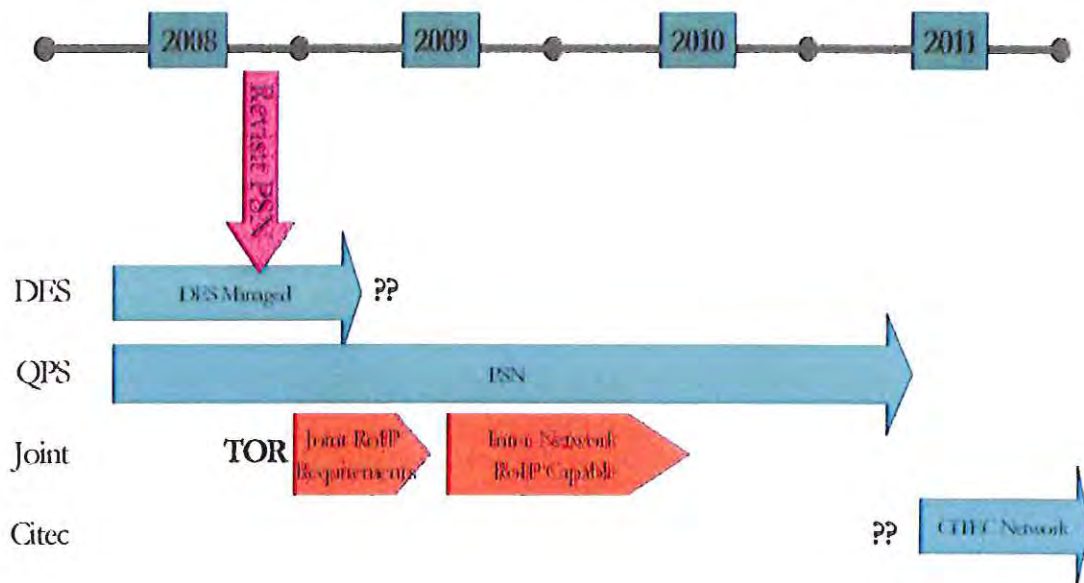


Figure 18 – Fixed Data Networks Roadmap

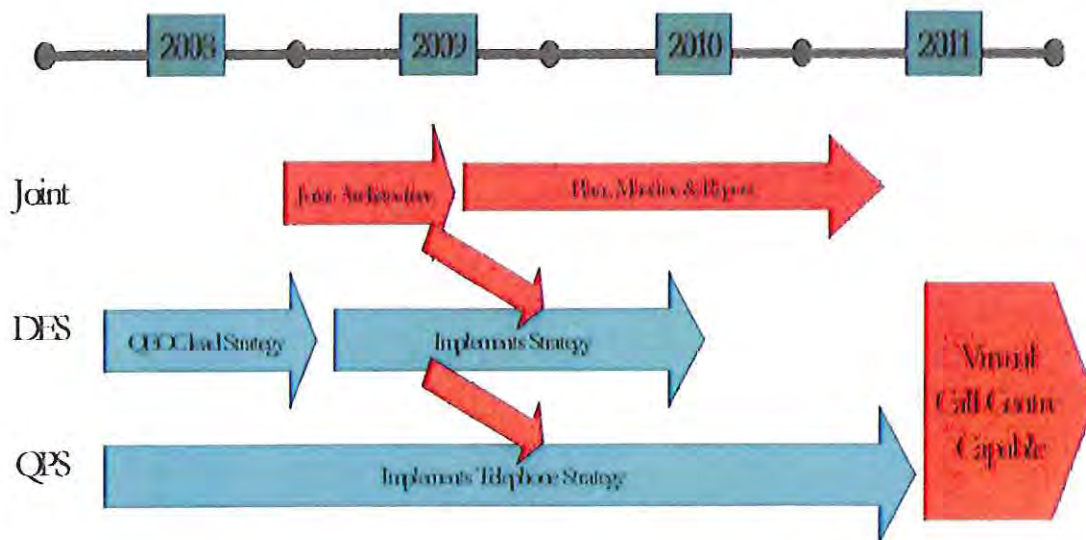
QPS employs the Public Safety Network to provide most of its fixed data network requirements. DES has its own arrangements and is re-examining the PSN. For best flexible future use of fixed data networks, either DES joins the PSN or DES determines out its own solution and enters into agreement with the PSN about gateways between the two data network services. The later proposition is less preferable in the option of the Strategic Assessment.

### 10.5 Telephony Services

QPS telephony services strategy (managed by the Telephone Coordination Unit) is well on the path to deliver a versatile telephony solution state-wide by the end of 2010. DES project QEOC is to prepare a telephony strategy that will form the basis of the DES state-wide telephony strategy.

A range of likely and possible futures include the need for essentially virtual call centre capabilities for all communications centres. In the ideal circumstance the business of QPS and DES would be able to flexibly rationalise communications centres, redeploy human assets between centres use centres to back-up for each other and provide the best achievable load sharing between centres.

It is proposed that a limited Preliminary Evaluation be undertaken including QPS and DES jointly developing an agreed common telephony architecture to guide further development. The objective would be by the end of 2010 to be capable of providing virtual call centre service should any joint business require it. In the longer term, investments should be directed towards interoperability between all communications centres.



**Figure 19 – Telephone Services Roadmap**

An example high level description of possible interoperability outcomes is described below:

- **Virtual Contact centre** – all callers are distributed equitably across all call takers regardless of their location under a single management that see the workloads of all centres. (Assumes many other systems are also common across communications centres.)



- **Interoperable Contact centres** – call takers are able to seamlessly hand-off calls between cooperating contact centres by bringing in a third party and then dropping themselves out.
- **Transfer between contact centres** – call takers are able to place a caller into the correct inbound queue of another contact centre, preferably at the “top” of the queue.
- **No-Interoperability (current situation)** - Call takers are not able to facilitate the transfer of callers to another contact centre.

## 10.6 Computer Aided Dispatch

The implementation by DES of its ‘interim’ CAD solution, ESCAD, has progressed to a stage whereby it is not feasible of practical contemplate stopping it. So, what started out as an interim CAD, originally selected five years ago, is likely to remain in service with DES for a number of years to come.

QPS has an urgent need to replace its ESCORT CAD. A proposal for a single CAD system for state-wide use is presently being presented. QPS intends to issue a tender, possibly in March 2009, for a new CAD solution with selection of the preferred solution completed by mid-2009. QPS envisages implementing the new solution state-wide, replacing both ESCORT and IMS.

This is likely to mean that, barring an executive instruction to the contrary, different CAD solutions will be utilised by QPS and DES for some time.

Interoperation between CADs is feasible as has been demonstrated by inter-state achievements. However, achieving interoperability will take effort and cost money. The QPS and DES CADs must interoperate in order to allow for future changes in the way business is executed and for achieving immediate benefits in efficiencies and service delivery to the public of Queensland along with enhancing public and officer safety generally.

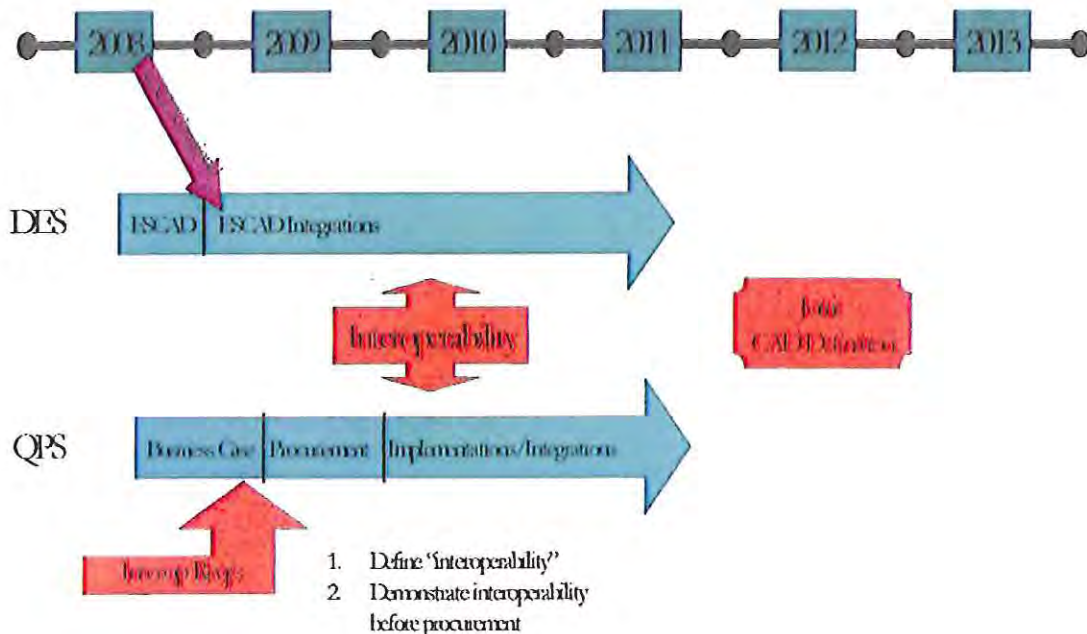


Figure 20 – Public Safety Communications CAD Roadmap



The proposed process for establishing a single multi-agency CAD for QPS and DES, as outlined in Figure 20 which should also be read in conjunction with Recommendation 11 of this Report, is as follows:

- DES completes ESCAD;
- QPS procures a state-wide CAD solution, including:
  - In respect to CAD systems, a joint definition of interoperability, further to that contained in the Glossary, is agreed (by end 2008 as a limited Preliminary Evaluation);
  - QPS tender includes consideration for interoperability between QPS CAD and ESCAD, and proof of interoperability capability by prospective vendors during the tender evaluation process; and
  - Interoperability costs be considered for inclusion as part of the business case for the QPS CAD, with costs associated with establishing interoperability to be borne equitably between the two departments;
- QPS and DES re-examine a common CAD at a mid-life upgrade of ESCAD; and
- Overseeing interoperability (middleware is likely to form the solution) should be a role for mutual assurance governance body.

The extent to which CADs also are jointly managed has not yet determined, and was not in-scope for this assessment.

An example high level description of possible interoperability outcomes is described below:

- **Single Multi-Agency system** – Seamless activation of all response agencies by the initial receiver of a call upon committing information to the system. No additional functions/effort required by the call taker of the agency receiving the initial call. Protocols for established during initial CAD system architecture development. Optimises the response times of all agencies, increases efficiencies within communications centre operations, and offers enhanced public safety.
- **Separate systems – high degree of interoperability** – call takers are able to notify other agencies of requests for assistance with a high level of seamlessness and without the necessity for operator intervention. Systems still require middleware and CAD system architecture.
- **Separate systems – low degree of interoperability**, e.g. ICEMS (Inter-agency CAD Electronic Messaging System) for transfer of job/task data between agencies. Still requires call taker intervention to activate message facility and insert free-text data for nature of assistance required from the receiving agency, and receive message and initiate response by receiving agency. Requires middleware and CAD system architecture.
- **Separate systems (current situation)** – no interoperability or messaging functions. Time consuming - requires agency personnel to contact other response agencies by telephone or other communication methods. Poor level of response in terms of public safety. In the worst case callers make multiple calls to '000'.

## 10.7 Communications Centres

Communications centre rationalisation is a current topic within all Services. QPS and DES should prepare a joint communications centre rationalisation strategy spanning the next three to five years. Once prepared, this would inform many planning functions of the likely needs for shared or common facilities and capabilities. Such a strategy would need periodic (annual) review.

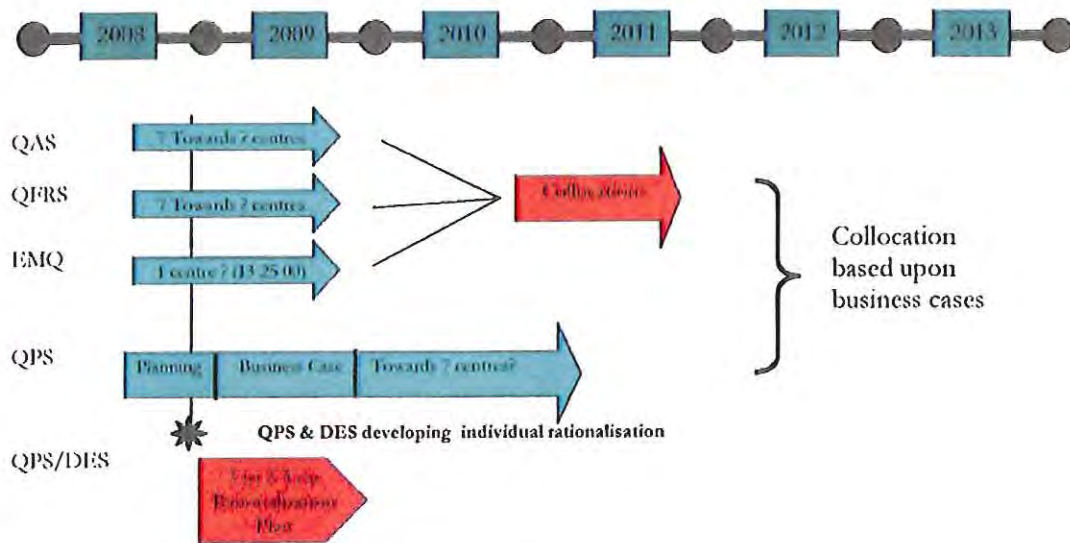


Figure 21 – Communication Centres Roadmap

## 11 CONCLUSIONS AND RECOMMENDATIONS

### 11.1 Conclusions

An extended period of limited progress in respect to the collaborative planning and implementation of joint public safety communications investment for Queensland may now be ended. A new spirit of agreement now exists in respect to collaborative planning and execution of public safety communications related investments. Joint agency collaboration is the only acceptable way forward.

Management of collaborative programs for public safety communications requires institutionalised change in the way governance is provided.

This Strategic Assessment has considered governance structures used in Queensland, inter-state and overseas to conclude that, in the short-term, the Mutual Assurance Model provides the best way forward. In the medium-term though, agencies should consider divesting responsibility for public safety communications to an independent Statutory Body.

The Mutual-Assurance model of governance will institutionalise the necessary organisational change, allow the participants to broadly direct outcomes, whilst also providing each agency an equitable degree of control over joint public safety communications investments. The principles and concept of Mutual Assurance will need to be learned within the agencies; however, examples from other jurisdictions are evidence that the new structure and process can be successfully achieved.

Public safety communications in Queensland now requires, in the short-term, a significant investment to overcome a backlog of problems created as a result of prolonged underinvestment. **The integration of technologies, in particular CAD systems, AVL and mobile services is essential to realising the full benefits to be derived from the synergies between them. Further efficiencies are also available through converging technologies, for example the establishment of a government radio network (GRN).**

This investment is necessary to provide contemporary public safety communications in the future which will satisfy the operational needs of emergency personnel, meet community expectations, enhance public safety, and generate efficiency and effectiveness in delivering value for money from a government perspective. They are also aligned with the Queensland Government priorities of enhancing community safety and are consistent with the ambitions of Strong and Fair in 2020 vision of the Queensland Government in Towards Q2.

These investments have many inter-dependencies, the most significant of which have been reviewed in this report. The report also provides roadmaps for these investments and related programs of work.

Investment areas include:

- a multi-year investment in voice and data networks, **which should be progressed as a matter of priority;**
- continuation by the QPS with the procurement process for a new CAD solution. This process should include consideration for ensuring an interoperability interface with DES ESCAD, the verification of which should also be considered during the procurement process (consideration should also be given for any costs associated in developing / verifying such an interface being borne equally by the QPS and DES, and further, issues relating to interoperability should not impede the QPS process of acquiring a new CAD solution in a timely manner);



- rationalisation of communications centres by all agencies;
- development of telephony systems and data network architectures that provide interoperability between agencies and which facilitate the virtualisation of communications centres; and
- development of a Government Enterprise Architecture based public safety information architecture.

## 11.2 Recommendations

The Strategic Assessment Working Party recommends that:

1. the PSCP Steering Committee endorse the findings of the Strategic Assessment noting that the Mutual Assurance structure is the preferred model for ongoing PSCP SC governance to collaboratively manage the joint infrastructure planning, implementation and management of public safety communications services for the QPS and DES;
2. joint public safety communications be considered an important business-led initiative, and that this Report be presented to the Strategic Information and ICT CEO Committee by the agency CEOs for endorsement before being directed to the agencies for implementation;
3. a temporary Public Safety Communications Governance Working Party be established using remaining PSCP Strategic Assessment funding, PSCP funding, and supplemented by in-kind resources as appropriate to support the public safety communications governance arrangements program until more permanent funding is available;
4. the Mutual Assurance governance model, including as a priority the scope and a schedule for implementation, be developed and agreed;
5. a joint public safety information architecture is to be developed based on the Government Enterprise Architecture principles;
6. the concept of co-locating communications centres be considered and progressed only where the agency business needs and resulting benefits justify implementing the strategy;
7. progression of the Joint Communications Facility Pilot in Townsville be reviewed in the context of agency business needs and the resulting benefits to be derived for the agencies and government;
8. a joint strategic asset management plan for all public safety communications be prepared to provide a common understanding of the environment and guide scope decisions;
9. a joint QPS/DES CBRC submission be prepared seeking funds for multi-year mutual assurance governance resources;
10. a joint QPS/DES CBRC submission be prepared seeking funding for the preparation of business case(s) for a multi-year public safety communications program of works;
11. in conjunction with the process and timelines outlined on pages 66 and 67 of this Report, the development and agreement of specifications for interoperability between the new QPS CAD and ESCAD with such specifications to be included for consideration in the QPS CAD tender and

- business case (all costs of establishing interoperability to be shared equitably by the agencies);
12. the Public Safety Communications Governance Working Party prepare terms of reference, which will include project reporting guidelines, for preliminary evaluations and related activities to be conducted in first half of 2009 for the following sub-projects;
    - a. mobile communications - requirements for public safety, leading onto a business case for jointly provided voice (radio) and mobile data for both agencies;
    - b. communications centres - rationalisation (preparation of a joint three to five year communications centre rationalisation plan);
    - c. CAD – single multi-agency solution (single CAD across the agencies);
    - d. Fixed data networks - strategy for common fixed data networks including requirements for Radio over IP (RoIP) and Voice over IP (VoIP) across both agencies (consultative engagement with PSNMC); and
    - e. Telecommunications architecture – to include support for virtual call centre capability;
  13. a communications plan for the new governance body be prepared and implemented.





## 12 GLOSSARY

TERM	DEFINITION
3G	Third-generation mobile telephony technology.
Applications	<p>The suite of applications software that supports the business processes of agencies and supports the storage and accessibility of data and information.</p> <p><i>Note:</i> In relation to the GEA, a piece of software only qualifies to be an application if some part of an agency's business processes are codified in the software. For example, QPS' QPRIME system is an application but Microsoft Word and Excel are not.</p>
Black spot	An area in which there is no radio network coverage.
BTOPPS	A methodology for understanding the business system and therefore creating sound programs that control the delivery of business benefits. BTOPPS represents business strategy, information technology, business organisation, process and practices, people and structure
Business need	An organisational requirement necessary to enable the fulfilment of core business practices.
Business case	A documented proposal to meet a clearly established service requirement, considering alternative solutions, identifying assumptions, benefits, costs and risks. Forms the basis of advice for executive decision making.
Call-takers	Call-takers answer calls for service, determine the nature of the call via the collection of information, and then redirect the caller to the relevant agent.
Communications Plan	Defines the protocols for the effective and timely dissemination of information to internal and external stakeholders regarding project responsibilities, decisions, milestones, and timelines.
Communications Centre	The Communications Centre is responsible for the reception of all incoming complaints and reports of crime. Communications Centre personnel operate radio equipment and a computer-aided dispatch (CAD) system to dispatch police, fire, and ambulance services. They monitor communications from emergency services officers and update incident records in the CAD system.
Computer-Aided Dispatch (CAD)	A computer system which assists call-takers and dispatch personnel in handling and prioritising calls. Incident data is entered into the computer and is easily retrievable. The system may be linked to mobile data terminals in vehicles allowing a dispatcher and officers to communicate without using voice. The system may also be interfaced with AVL (automatic vehicle location), or a number of other programs.

Deliverable	An item that a project has to create as part of the requirements. It may be part of the final outcome or an intermediate element on which one or more subsequent deliverables are dependent. According to the type of project, another name for a deliverable is a 'product'.
Economies of scale / Economies of scope	Cost savings in production, purchasing or support functions realised by combining organisations and achieving higher volumes. In the context of the PSCP SA, these savings may be achieved through, for example, shared infrastructure (scale) and efficiencies in service delivery and training (scope).
Emergency ICT Network	The fixed data network which underpins connectivity between centres. <sup>19</sup>
ESCORT	Emergency Services Communications and Operational Resource Tasking Computer Aided Dispatch system (Current QPS CAD).
Geographic Information Services (GIS) Section	Commonly referred to as GIS, this QPS Section provides a range of services related to mapping and spatial information.
Geographic Information System (GIS)	Geographic Information System - system for capturing, storing, analysing and managing data and associated attributes which are spatially referenced to Earth.
Governance	Governance refers to how all agencies involved in a project or process (individually and collectively) make decisions relating to the establishment, management and control of the people, policies, processes and structures which enable collaborative and informed decision making.
Information	Any collection of data that is processed, organised, classified or communicated in order to serve a useful purpose or represent knowledge in any medium or form. This includes presentation in electronic (digital), print, audio, video, image, graphical, cartographic, textual or numerical form.
Information and Communications Technology resources	<p>"The resources the agency needs to meet the informational requirements of the agency and its clients, and carry out the agency's operational responsibilities, including:</p> <ul style="list-style-type: none"> <li>(a) information obtained, produced or supplied by the agency;</li> <li>(b) the information systems of the agency;</li> <li>(c) <b>equipment or facilities that support the agency's information systems, including, for example, communication equipment or software;</b></li> <li>(d) <b>the agency's human resources.</b><sup>19,20</sup></li> </ul>
Information Standard	A published document which sets out technical or other specifications necessary to ensure that a material or method will consistently do the job it is intended to do, i.e. 'what' must occur

<sup>19</sup> Public Safety Communications Project, *Service Identification Report (SIR), Version 4.1, Draft*, Queensland Government, Brisbane, 18 April 2005.

<sup>20</sup> *Financial Administration and Audit Act 1977, Financial Management Standard 1997 (QLD)*, 13 October 2006 [online QPS Corporate Intranet] Pt. 7, Schedule 6, [Accessed 29 September 2008].

	to achieve the desired result.
Interoperability	The capacity to transfer and transform information between different technologies (from different vendors), allowing users to share the information.
Mobile Data Network (MDN)	A communications system allowing real-time remote transmission of, and access to, multimedia data including voice and video, as well as remote access to corporate applications.
National Coordinating Committee for Government Radiocommunications (NCCGR)	Established in late 2003 from a national will to address the core issues of spectrum and inter-jurisdictional operations, and to ensure that the relevant issues are considered and discussed within a national framework.
Operational Plan	This describes the terms of reference of the operation of a unit. It includes details such as name, purpose, mission, targets and administration.
Performance Indicators	Performance indicators are compiled from the information recorded in the running sheets etc and include: number of operations per quarter, number of people arrested, amount of property restrained, assets forfeited.
Projects In Controlled Environments (PRINCE2)	A project management methodology developed by the UK Government.
Program or program of work	A program is a portfolio of projects and activities that are coordinated and managed as a unit such that they achieve outcomes and realise benefits.
Project	A project is a particular way of managing activities to deliver specific outputs over a specified period and within cost, quality and resource restraints.
	The Project Assurance Framework sets the foundation for ensuring that project management is undertaken effectively across the Queensland Public Sector, and that the Government achieves value for money from its significant investment in project activity.
	The Project Assurance Framework defines generic project stages and includes guidance material to support existing project management processes in each stage.
Project Assurance Framework (PAF)	It is complemented by the introduction of the Gateway Review process which promotes independent reviews at the completion of key project stages to provide assurance that projects are positioned to successfully progress to the next stage. The Department of Infrastructure and Planning is coordinating the introduction of Gateway reviews.
	The Project Assurance Framework and its associated guidance material provide broad-based general guidance on project management and set the high-level parameters that may be evaluated in Gateway and other project management quality assurance processes.



	<p>From June 2006, Treasury officers are conducting a broader consultation program involving all government agencies, with a particular emphasis on consulting with those agencies whose core business involves project management activities. Once this consultation has been completed, the Project Assurance Framework in its entirety will be considered by Cabinet.</p> <p>When completed, the Project Assurance and Value-for-Money Frameworks, complemented by any existing departmental project management processes, will represent the minimum standards for project management and assurance across the Queensland Public Sector.</p>
Project Management	<p>The planning, monitoring and control of all aspects of the project, and the motivation of all those involved in it to achieve the project objectives on time and to the specific cost, quality and performance.</p>
Public Safety Communications	<p>The ICT resources (except HR) supporting frontline emergency services response and response management.</p>
Public safety network	<p>A wireless communications network used by emergency services organisations, such as police, fire and ambulance services, to prevent or respond to incidents that harm or endanger persons or property.</p>
Public Safety Network (PSN)	<p>A fixed line IP-based network provided for QPS, JAG and DCS and managed by the Public Safety Network Management Centre (PSNMC).</p>
Queensland Government Chief Information Office (QGCIO)	<p>Established to provide strategic leadership, management and advice to ensure that whole-of-Government information and communication technology initiatives deliver maximum benefits.</p>
Redundancy (network)	<p>Refers to the level of back-up capability of a network, allowing overflow during peak times, and selection of pathways to fit operational requirements. Redundancy capacity also impacts on the resiliency of the network.</p>
Resilience (network)	<p>Refers to the capacity of the network to recover from failure and ensure continuity of service. Resilience is dependent on the level of availability of alternative pathways configured by installing redundant links which become operational if the primary link fails.</p>
Robustness (network)	<p>Refers to the capacity of the network to recover from disruptions. Generally, the shorter the path between two links or nodes, the more robust the network will be.</p>
RoIP	<p><b>Radio over Internet Protocol</b> - radio interoperability that extends VoIP to radio repeaters and base stations. RoIP is enabled through hardware devices, such as between new and legacy radio systems or land mobile radio and a computer or PDA.</p>

To work, devices are connected at base stations that are connected to IP gateways. At the IP gateway software will transcode the voice communication into IP packets which is then transmitted through to one or more other gateways to be converted into the language of the device being used. This is what enables the different types of devices to talk to each other.

The purpose of the **Strategic Assessment of Service Requirement** pre-project stage is to provide information to agency CEOs to assist them in making an informed decision regarding whether to initiate a project to meet an identified service need. The **Strategic Assessment of Service Requirement** pre-project stage facilitates a considered response to an identified service need, and clear articulation of the outcome sought to ensure that the response that is developed will be effective and deliver value for money for Government.

Strategic Assessment (of Service Requirement)

The key activities undertaken during the **Strategic Assessment of Service Requirement** pre-project stage are to:

- Define the need to be addressed and outcome sought, and identify its contribution to government priorities and outcomes
- Scope the outcome sought
- Identify potential solutions to achieve the outcome
- Develop a detailed plan and budget for conducting a preliminary evaluation of the potential solutions
- Seek approval to proceed.

VoIP

**Voice over Internet Protocol** - a protocol optimized for the transmission of voice through the Internet or other packet-switched networks. Voice-over-IP systems carry telephony signals as digital audio, typically reduced in data rate using speech data compression techniques, encapsulated in a data-packet stream over IP.

# Strategic Assessment of Public Safety Communications Report

## (Volume 2 – Appendices)

Version 1.0.0

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## APPENDIX A: SUMMARY OF KEY DOCUMENTS REVIEWED

Document Title	Date	Author	Summary
Review of the Bureau of Emergency Services	December 1993	Public Sector Management Commission (PSMC)	<p>The Review included an assessment of the communications services and technology across the QPS and BES portfolio. The Review team found that <i>in May 1991 the Police Commissioner and the Director, Bureau of Emergency Services, agreed to consider the establishment of a Joint Communications Centre.</i></p> <p>The PSMC Review also examined the technical support associated with QPS and BES communications networks and the differing perspectives of technological solutions for improving communications. The Review suggested the commissioning of a jointly-funded consultancy group to (in consultation with the Information Policy Board) develop a strategic plan for communications.</p> <p><b>Recommendation 57</b> of the PSMC Review specifically related to communications services and suggested integrated communications strategies for:</p> <ul style="list-style-type: none"> <li>• 'a common computer aided dispatch system' (CAD);</li> <li>• 'joint communication centres' (JCC);</li> <li>• a strategic plan for Police and Emergency Services communications; and</li> </ul> <p>a plan for rationalising radio maintenance workshops.'</p>
Joint Telecommunications Planning for Queensland's Emergency Services Organisations: A Report on Telecommunications Directions (The Luttrell Report)	1996	Joint Communications Project Team	<p>A comprehensive draft document encompassing radio communications, communications centres, CAD systems, and technical support for these services. Prepared for executive consideration in August 1996, it contained 75 recommendations, including the establishment of a Joint Telecommunications Management Committee to oversee communications planning across the Services, and the adoption of clearly defined joint policies on a wide range of communications issues.</p>

<p><b>QPS Information Management Strategic Plan 2001-2010</b></p>	<p>February 2002</p>	<p>QPS</p>	<p>The QPS Information Management (IM) Strategic Plan identified projects of critical importance to the Service in terms of <i>'address[ing] core policing requirements, and hav[ing] high organisational impact, benefits and productivity dividends'</i>. Several of these projects involve elements subject to the current Strategic Assessment:</p> <ul style="list-style-type: none"> <li>• <b>Computer Aided Dispatch:</b> the system was described as <i>'functionally limited'</i>, and at <i>'the end of its usable life'</i>.</li> <li>• <b>Mobile Data:</b> considered to be a required component of the Incident Recording, Management and Investigation (IJIS) project.</li> <li>• <b>Joint IT Communications Opportunity:</b> described as involving analysis of shared infrastructure <i>'such as two-way radio networks, communications networks (voice and data), and mobile data facilities'</i>.</li> </ul> <p>The IM Strategic Plan used the following criteria to measure gaps in the IM landscape:</p> <ul style="list-style-type: none"> <li>• Depth of functionality;</li> <li>• Access (where required);</li> <li>• Integration with QPS systems;</li> <li>• Interagency information exchange;</li> <li>• Mobile accessibility to data; and</li> <li>• Technology lifespan.</li> </ul> <p>A gap analysis of the CAD system expressed as a percentage, revealed only an 18% business fit, indicating that the system does not meet 82% of the Service's business needs.</p>
<p><b>Vision and Feasibility Statement ('The Reardon Report')</b></p>	<p>February 2003</p>	<p>PSCP Project Team</p>	<p>The project team examined the opportunity for synergy between QPS and DES and the feasibility of shared communications centres, CAD and a public safety network.</p>

<p><b>2003 Telecommunications Infrastructure Strategic Review and Planning Report</b></p>	<p>6 October 2003</p>	<p>Telephone Coordination Unit, QPS</p>	<p>In determining the feasibility of these initiatives the project team examined each concept against the following criteria:</p> <ul style="list-style-type: none"> <li>• operationally achievable and sustainable;</li> <li>• technically achievable;</li> <li>• financially justifiable;</li> <li>• organisationally sustainable, with regard to change and other considerations; and</li> <li>• publicly acceptable with regard to government policy and community expectations.</li> </ul> <p>The study concluded that the shared concepts were feasible and interdependent for maximum benefit.</p>
			<p>This document provides a comprehensive review and planning report of QPS telecommunications systems that identified five major projects:</p> <ul style="list-style-type: none"> <li>• Optimisation and interconnection of Communications Centres,</li> <li>• Implementation of Police Assistance Line call centres,</li> <li>• Enhanced call management,</li> <li>• Replacement of QPS telecommunications infrastructure and equipment, and</li> <li>• Reduction of communications 'black spots' in QPS radio coverage.</li> </ul> <p>The report recommendations included:</p> <ul style="list-style-type: none"> <li>• a phased approach to rationalisation of Communications Centres from 23 to 7 to conform with the region-based structure of police operations, and further rationalisation to 3-5 Centres as part of a joint QPS/DES project design,</li> <li>• that Communications Centres come under a single Command,</li> <li>• the development and deployment of an integrated CAD system at all Communications Centres,</li> </ul>



			<ul style="list-style-type: none"> <li>• management of the region's radio network by each Communications Centre, as well as expansion of the network to provide adequate redundancy.</li> <li>• that Communications Centres incorporate workflow management software to allow optimal staff resourcing,</li> <li>• the use of VoIP technology to allow the integration of voice communications with the data network,</li> <li>• the use of satellite telecommunications to reduce 'black spots' in the radio network, and</li> <li>• an externally managed telecommunications service.</li> </ul>
<p><b>Project Steering Committee Terms of Reference</b></p>	<p>21 November 2003</p>	<p>Joint DES/QPS CAD and Communications Project</p>	<p>The purpose of this document was to outline the roles and responsibilities of the Steering Committee (PSC) and to define the relationship between DES and QPS. The Terms of Reference supported the feasibility of a common core CAD; a single public safety network and the rationalisation of communications centres. Both agencies committed to the project and to developing detailed functional requirements of communications and CAD systems to meet their shared needs.</p>
<p><b>The CMC Report ("Striking A Balance")</b></p>	<p>December 2004</p>		<p>In December 2004 the Crime and Misconduct Commission (CMC) released the findings of an inquiry into media access to police communications. The document titled <i>Striking a Balance</i> examined the impact of secure digital radio communications upon the media and its ability to monitor police radio communications. This new technology was seen as preventing the public from having access to information on police activities through media reports.</p> <p>The CMC made 14 recommendations to ensure the transparent sharing of information whilst also protecting the privacy of individuals concerned.</p> <p>In September 2006 the Service implemented a dispatch data-feed system known as Media-access-to-CAD (MatCAD). Data from the Brisbane CAD system is forwarded to the MatCAD system and is accessible by authorised media organisations to enable transparent monitoring of public information.</p>

			<p>Technical support for MatCAD is provided by Information Systems Branch. Maintenance and growth of the system is the responsibility of the Media and Public Affairs Branch.</p> <p>Whilst MatCAD is still a relatively new system, the Media and Public Affairs Branch have proactively sought to have their business requirements included in the QPS CAD project.</p> <p>Although there is no current plan to expand the digital radio network across the state, it is envisaged that a state-wide digital radio communications plan will be developed and implemented within the next 5 years.</p> <p>In considering emerging technology the Commission expects that where the Service plans to expand the digital radio network, that the principle of transparent communications also be applied regionally.</p>
<p><b>Smart Directions Statement for Information and Communications Technology within the Queensland Government</b></p>	<p>December 2004</p>	<p>DPW</p>	<p>The Government released a Directions Statement in December 2004 enunciating its policy direction for investment in ICT. This document supports collaboration between government agencies and partnering with private enterprise to achieve innovative solutions to business needs.</p> <p>The Directions Statement contains five focus areas, four of which are particularly relevant to emergency services communications. These are:</p> <ul style="list-style-type: none"> <li>• Government as a single enterprise;</li> <li>• Enabling the business priorities of Government;</li> <li>• Improving value for money;</li> <li>• Partnering with the private sector.</li> </ul>
<p><b>Service Identification Report (SIR), Version 4.1, Draft</b></p>	<p>18 April 2005</p>	<p>PSCP</p>	<p>The purpose of the report was to 'provide a basis for a CBRC submission to approve (in due course, once the business requirements have been identified), the development of three separate business cases for:</p> <ul style="list-style-type: none"> <li>• a shared CAD system;</li> <li>• a Joint Communications Facility Pilot; and</li> <li>• a state-wide digital radio network.'</li> </ul>

			<p>The report made three recommendations - that QPS and DES:</p> <ol style="list-style-type: none"> <li>1. 'appoint a joint project to identify detailed business requirements and to develop [a] detailed business case for a CAD system configured to support operations.'</li> <li>2. 'appoint a joint project to identify detailed business requirements and develop a business case for a Joint Communications Facility Pilot in Townsville.'</li> <li>3. 'advise [the] Cabinet Budget Review Committee that they intend to seek funding to identify detailed business requirements and develop a detailed business case for a state-wide digital radio network.'</li> </ol>
<p><b>PSCP Project Master Plan: Mission Critical Communications – There When It Counts, Version 1.2, Draft</b></p>	<p>26 April 2005</p>	<p>PSCP</p>	<p>The Project Master Plan provides details on the overall monitoring and control mechanisms for the PSCP. It also outlines the 'project management foundation' and project processes such as reporting and scheduling activities. The document was intended as a guide for the PSCP Steering Committee and Project Team. The Project Master Plan specifies the broad objectives of the project, 'to investigate and recommend options to meet the business requirements of QPS and DES for:</p> <ul style="list-style-type: none"> <li>• Computer Aided Dispatch;</li> <li>• Communication Facilities;</li> <li>• Radio Network; and</li> <li>• Emergency ICT network.'</li> </ul> <p>The Project Master Plan further refers to the following sub-plans of the project, 'CAD, Communications Facility (Townsville Pilot), digital radio and E-ICT'.</p>
<p><b>PSCP Project Definition, Version 1.0 – Draft</b></p>	<p>18 April 2005</p>	<p>PSCP</p>	<p>The Project Definition document was also delivered in April 2005. This document defines the outcomes sought and outlines an implementation strategy for the PSCP, including risk identification and mitigation, and quality assurance strategies.</p>



<p><b>Joint Contact Centre: Feasibility of Sharing ICT Resources, Applications and Infrastructure, Version 0.3, Draft</b></p>	<p>17 June 2005</p>	<p>DPW, Office of Government ICT</p>	<p>A feasibility study undertaken by the Office of Government ICT in June 2005 to investigate the establishment of a multi-agency Joint Contact Centre (JCC) at Zillmere. It involved participation from Smart Service Queensland, Department of Health, DES and QPS. The discussion paper developed a case for a fixed data network 'cluster' of agencies as a part of the PSN Project, providing shared but discreet call centre services for the agencies, including PoliceLink and non-emergent '000' call-taking for QAS. DES has recently withdrawn its participation in this initiative.</p>
<p><b>Queensland Telecommunications Strategic Framework 2005-2008, Version 1.0</b></p>	<p>August 2005</p>	<p>DPW &amp; The Coordinator General</p>	<p>This document supplements the Smart Directions Statement for ICT and outlines the framework for achieving the Government's goals in respect to ICT initiatives. Strategy No. 5 consists of eight action points which will contribute to achieving the goal of improving government service delivery, including:</p> <p><i>'Establish[ing] a working party to investigate the potential of public mobile infrastructure to improve police and emergency services telecommunications (including radio) and to review options, agree solutions and progress joint initiatives. (Queensland Police Service, Department of Emergency Services, Department of Public Works).'</i></p>
<p><b>Joint Communications Facility Pilot Business Case</b></p>	<p>2007</p>	<p>DPW, Project Services</p>	<p>The JCFP Townsville business case examined the feasibility of establishing a joint QPS/DES Communications Centre in Townsville and the alignment of agency and whole-of-Government priorities with a view to seeking CBRC funding to progress the project.</p> <p>The document provided four options including site plans and costing estimates for a joint facility to be located at Oonoonba, with the preferred option being the establishment of a new facility at the site.</p>
<p><b>Queensland Emergency Operations Centres: Strategy Discussion Paper</b></p>	<p>September 2007</p>	<p>DES</p>	<p>This document outlines the strategic plan for DES in terms of policy direction, implementation and key issues relating to delivery of communications services, and includes discussion of:</p> <ul style="list-style-type: none"> <li>the construction of a new facility at Kedron integrating all DES divisions and their associated communications functions,</li> </ul>

			<ul style="list-style-type: none"> <li>• development of three interoperable networked communications centres at Brisbane (QECC), Townsville and the Sunshine Coast to provide services for the whole State,</li> <li>• adoption of 'a "managed network" approach to operational technical and ICT infrastructure', with 'management of operational systems in communication centres, vehicles, and technical sites ... remain(ing) with the Department.', and</li> <li>• the impact of whole-of-Government policy, the Public Safety Communications Project and DES reviews on the future direction of the QECC Project.</li> </ul>
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## APPENDIX B: ICT BASELINES - CURRENT STATE

Agency	Baseline	Appendix
DES	Radio Communications	B-1
DES	Mobile Data	B-2
DES	Fixed Data Networks	B-3
DES	Telephone Systems	B-4
DES	CAD	B-5
DES	Communications Centre Facilities	B-6
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# APPENDIX B-1: DES RADIO COMMUNICATIONS BASELINE

## DES ICT Baseline - Strategic Assessment of Public Safety Communications - Radio Communications

Version	Date	Edited By	Comments - Summary of Changes
1.0.0			Template
1.1.0	05/09/06	N.G. Moss & I.C.T. Services	Draft for SPES & ICT Services
1.2.0	12/20/06	N.G. Moss	FOR DES-C&IC (AUG 08)
1.3.0	12/20/06	N.G. Moss	DES C&IC Enhanced

Business Need	How business is currently addressed	Project initiated or Actions toward business need	Current Status of Projects / Actions - related projects	Gaps / Capabilities / Overlap - based on business need	Strategy / resolution	Actions
<ul style="list-style-type: none"> <li>Preference is for portable radio communications in all areas of the State but as a minimum, portable radio operation in all built up areas, including in-building operations, and a minimum of vehicle radio level coverage on main highways, roads and public areas.</li> <li>Preference for an integrated user interface so operators/officers have a limited number of user interfaces.</li> <li>Ability for multiple operational user groups to support at a number of incidents in operational areas.</li> <li>CAS requirement for direct radio communications with hospitals without impeding voice radio communications operations in any area.</li> <li>Radio services supporting indigenous and isolated communities.</li> <li>Officer safety.</li> </ul>	<ul style="list-style-type: none"> <li>A number of existing analogue radio networks are in place for each operational District, and mostly separate networks for each regional area.</li> <li>Existing analogue radio networks do not readily support mobile use given due to the single channel nature of the current technology.</li> <li>A mixture of analogue UHF and VHF systems are in place. The State has agreements to build-up and local areas with CAS, QRS and EMQ using UHF and CAS and QRS using VHF radio systems as the primary technologies for ground radio communications.</li> <li>EMQ have extensive use of VHF radio for long distance communications.</li> <li>Analogue radio-network operators for the State have a limited capability in terms of being able to support data or text in trying to implement data services on the existing technology.</li> <li>Voice radio networks use a number of different protocols and digital land mobile radio communications links to connect mobile units, and does have some single points of network segment failure.</li> <li>Multiple technologies are used to connect mobile units with single points of failure through satellite telephones and mobile telephone infrastructure.</li> <li>The operational ground radio network is used for aviation operational messages to land and rotary-wing aircraft, as well as mobile telephones and satellite communications where required.</li> <li>Technology support arrangements are provided in an integrated manner for CAS and QRS using a support group within Business Support Services, with some staff in the Brisbane area and contractors in other regional areas.</li> <li>EMQ have a separate regional support model for voice radio equipment using technical staff within EMQ.</li> </ul>	<ul style="list-style-type: none"> <li>Digital Communications Project initiated as part of the Public Safety Communications Project (PSCP) to examine issues and define requirements in a joint agency context.</li> <li>Strategic Assessment of Public Safety Communications initiated.</li> <li>CAS, QRS and EMQ continue to upgrade, replace and expand the existing mobile voice radio networks to try to meet expanding operational requirements.</li> <li>Progress in progress for CAS and QRS to test Radio Over Internet Protocol (RoIP) on the DES Wide Area Network to progress mobile radio data connectivity and also inter-regional radio network redundancy, with integrated radio site and data service sharing across the State.</li> <li>Project in progress to utilise existing digital data network backbone services to provide medium utilisation of existing infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>Radio, network interface and installation standards for existing radio technology has been completed.</li> <li>A new standing offer arrangement is being planned for analogue radio equipment to replace the existing offer shared with QRS.</li> <li>Currently in the planning phase for all new radio network upgrade project activities, including a number of sites being progressed for inter-communications centre voice radio redundancy in South East Queensland to support the QEDC initiative.</li> <li>Strategic Assessment of Public Safety Communications in progress consultation phase to progress assessment documents within DES.</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of business grade data network services in a number of key areas across the State is needed to support mobile radio networks. Support operation, and other development of a more integrated arrangement for State radio networks.</li> <li>Future adoption of a digital radio technology for most DES operational services in main public traffic areas is desirable to support operational requirements that cannot be effectively provided using analogue radio equipment.</li> <li>Potential for a future voice radio network to be integrated with a data communications network technology.</li> <li>Potential for shared network development with external agencies.</li> <li>Opportunities to continue and expand sharing of existing voice radio communications site infrastructure.</li> <li>Progress a risk assessment of the DES radio environment.</li> <li>Opportunity to pursue future funding for voice radio equipment replacement and expansion to meet operational requirements, both for rural and remote, and urban areas.</li> <li>Revision and establishment of updated DES voice radio user requirements is required, as well as shared requirements with external agencies, particularly emergency response agencies.</li> <li>The existing radio support program is inadequate to establish a priority 24 x 7 support program to meet operational requirements for support to emergency voice radio infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>Establish a DES radio network development roadmap to support existing and future requirements and alignment with external agencies where appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>DES to potentially progress joint development through approved collaborative forum(s).</li> <li>DES to utilise an integrated approach to future distributed network development.</li> <li>Conduct a risk assessment of the DES radio environment.</li> </ul>





# APPENDIX B-2: DES MOBILE DATA BASELINE

## DES ICT Baseline - Strategic Assessment of Public Safety Communications - Mobile Data

Business Need	How business is currently addressed	Project initiated or Awaiting business need	Current Status of Projects / Actions - resolved projects	Gains / Opportunities / Payoff - based on business need	Strategy / conclusion	Actions
<ul style="list-style-type: none"> <li>Access to relevant data or information sources such as critical databases, chemical databases and GIS.</li> <li>Provide emergency vehicle and officer location information and improve officer safety.</li> <li>Efficient response of appropriate resources to calls for assistance.</li> <li>Vehicle navigation and improved routing through road traffic systems integrations.</li> <li>Reduce voice radio network traffic and minimise the need for message passing by voice.</li> <li>Automate manual processes for officers and communications centre staff.</li> <li>Automatic dispatching.</li> <li>Information sharing - interoperability.</li> <li>Redundancy and business continuity.</li> </ul>	<ul style="list-style-type: none"> <li>Utilisation of private Mobile Data Network (MDN) - QAS and Public Wireless Networks (i.e. Next G, GPRS).</li> <li>Dispatching and Automatic Vehicle Location (AVL) services implemented for QAS and QLD and integrated to CAD.</li> <li>DES Mobile consulting (desktop and handheld) - business applications typically via Tetracast network (VPN) in a number of different scenarios such as incident response.</li> </ul>	<ul style="list-style-type: none"> <li>DECC initiative to fund replacement of the Mobile Data Network Control Centre (MCC) and implement disaster recovery for the MCC.</li> <li>Mobile Communications System EOI and Business Case.</li> <li>QAS SIM Project - progressing tablet computer upgrade using Next G wireless data service.</li> <li>QFRS Mobile Data Pilot - utilising Mobile Data Network.</li> <li>QFRS AVL Project for Brisbane and SE Region (160 vehicles) utilising the Mobile Data Network - (pending a favourable risk assessment).</li> <li>QAS and QFRS Business Needs Analysis.</li> <li>Clever Networks Program - Component to develop a limited number of portable and transportable data communications centres.</li> <li>DES formally signed the Memorandum of Understanding with Ergon/QPSOR to explore the DataNet Initiative - (NB: To date, not all parties have signed)</li> </ul>	<ul style="list-style-type: none"> <li>DECC - in the design planning stage.</li> <li>Business Case (PSCP funded) completed December 2007. EOI advertised 5 suppliers in June 2007. Outcomes of the EOI presented to representatives of QPS, QCCO and Queensland Treasury in June 2007.</li> <li>QAS Tablet Upgrade - Approved.</li> <li>QFRS Mobile Data Pilot implementation to commence following ESCAO completion.</li> <li>QAS and QFRS Business Needs Analysis being coordinated by SPES in conjunction with other divisions for completion by Q4 2008.</li> <li>Clever Networks Program in progress and due for completion December 2008.</li> </ul>	<ul style="list-style-type: none"> <li>Potential for integration with QPS.</li> <li>Potential for integration with other ICT systems.</li> <li>QAS North Coast Region (Wide Bay) requires mobile data for operational efficiency with only the Sunshine Coast system in this region.</li> <li>QAS mobile data terminals (laptop) and require a replacement strategy.</li> <li>Consider operational and cost effectiveness of mobile data on a statewide basis.</li> <li>Opportunity to align QAS, QFRS and ERG mobile data requirements.</li> <li>Opportunity to consider public networks for cost effective operators of mobile data.</li> <li>Opportunity to reduce the reliance and the demand on voice radio networks.</li> <li>DES to explore options to ensure appropriate skills, resources and funding to support mobile data within DES.</li> <li>Potential opportunity / suitability of UbiNet for future mobile data requirements.</li> <li>Statewide AVL is a gap for service delivery.</li> <li>Navigation capability supporting QAS and QFRS.</li> </ul>	<ul style="list-style-type: none"> <li>DES to actively pursue strategic alliances with whole-of-Government/Public Safety Communications Project/UBiNet to address operational requirements.</li> <li>DES to continue to develop mobile data with a focus on integration to enhance operational service delivery.</li> <li>DES to resolve funding for ICT strategic areas.</li> <li>Inform the EOI shortlisted suppliers that DES will not be progressing with this procurement process.</li> <li>Establish a 3-5 year program of work for the ongoing utilisation of the Mobile/MDN.</li> </ul>	<ul style="list-style-type: none"> <li>DES to progress joint development through appropriate collaborative forums - (i.e. EYP Laboratory Group).</li> <li>DES to review and update ICT Strategic Plan.</li> <li>DES to develop single business case for mobile data services network for future requirements - potentially through a joint initiative with QPS and other aligned agencies.</li> <li>DES to sign its mobile data services development including: <ul style="list-style-type: none"> <li>integrating the QFRS AVL and mobile data pilot initiatives.</li> <li>progressing the mobile data requirements within the scope of the DECC project.</li> <li>consideration of urgent QAS mobile data requirements for operational areas such as Wide Bay.</li> <li>replacement of the mobile data terminals equipment and evaluating the lessons learnt from current related initiatives such as Clever Networks.</li> </ul> </li> <li>DES to establish a forward policy program that includes the strategy for funding to replace critical ICT emergency operations ICT infrastructure.</li> </ul>

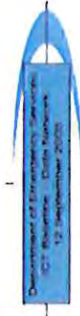
Vendor	Date	Refered By	Comments / Summary of Changes
1.0.0			Template
1.1.0	20/08/08	N.G.Moss	Exec Draft
1.2.0	26/07/08	N.G.Moss & ICT Services	Exec Draft for SPES & ICT Services
1.3.0	26/03/08	N.G.Moss	Final Draft for SPES & ICT Services
1.4.0	26/08/08	N.G.Moss & ICT Services	Final Draft for SPES & ICT Services - Vendor
1.5.0	12/08/08	N.G.Moss	FOR DES CAB (AUG 08)
1.6.0	12/09/08	N.G.Moss	DES CAB Endorsed



# APPENDIX B-3: DES FIXED DATA NETWORKS BASELINE

## DES ICT Baseline - Strategic Assessment of Public Safety Communications - Data Network

Business Need	High business is currently addressing	Project initiated or Actions towards business need	Current Status of Projects / Actions - related projects	Capacity Opportunities / Overlap - based on business need	Strategy / resolution	Actions
<ul style="list-style-type: none"> <li>Data exchange and collaboration.</li> <li>Statewide available access to information systems.</li> <li>Online training capability.</li> <li>Introduction of integrated systems to support service delivery</li> <li>Infrastructure to support the integration of operational systems.</li> <li>Simplified access and connectivity to support operations.</li> <li>Highly resilient and secure network for critical systems.</li> <li>Enhanced voice and operational connectivity (i.e. radio).</li> <li>Improved officer safety.</li> <li>Integrated communications architecture.</li> <li>Reduced overheads by converging ICT infrastructures.</li> <li>Redundancy and business continuity.</li> <li>High availability service</li> </ul>	<ul style="list-style-type: none"> <li>Currently have a highly resilient data network for QAS and QFNS communications centres.</li> <li>Existing data network is supporting operational and administrative work, including a VPN for priority services</li> <li>DES data network is increasingly supporting delivery of voice telephony and radio services delivery.</li> <li>DES data network is currently supporting emergency services provider and internally dependent network model dependent on core and priority services support requirements.</li> <li>Data network is extensively used for user application connectivity across the state.</li> <li>DES data network connectivity includes business grade services (100 speed using QWIP/QIP) and other non-business grade (i.e. centralised radio) services such as ANZSL.</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of ESCAO to the data network for emergency operations use in communications centres.</li> <li>DES has implemented WAN services to support the majority of DES business across the state.</li> <li>PSN engagement sought by DES.</li> <li>DES is currently participating in the Technology Transformation Programme (TTP) - DES represented on the program's board in consultation of whole-of-Government technology. It is possible that DES in partnership with other agencies will jointly fund a disaster recovery and business continuity.</li> <li>DES is currently participating in the Integrated Data Network (IDN) initiative which is focusing on delivery of integrated whole-of-Government email services. A Government email by-product is a consistent access to a consistent system for all Gov't Agencies.</li> <li>DES is progressing a partnership charter with CITEC.</li> <li>DES radio network upgrade project is continuing to expand the data network for connection of radio services for regional communications.</li> </ul>	<ul style="list-style-type: none"> <li>ESCAO adoption of the DES data network is anticipated to be completed in all communications centres before the end of Q3 2008.</li> <li>DES participating in consultation associated with TTP. DES represented on the Technical Working Group.</li> <li>DES has been consulting with the IDN initiative to provide requirements for consideration in the formulation of the IDN scope.</li> <li>DES radio network upgrade project using TTP services being progressed for QDEC and a number of regional projects.</li> </ul>	<ul style="list-style-type: none"> <li>PSN re-engagement to identify potential benefits of DES participation for future DES data network. (NB: PSN to migrate to CITEC under TTP).</li> <li>Business Grade data services are required to meet bandwidth requirements for key operational systems and services.</li> <li>Integration of operational and business systems via the DES data network can enhance operational and business functionality for the future.</li> <li>Increasingly operational divisions are adopting new applications for primary business operational use. Provision and support for 2647 service other than communications centres and limited number of key facilities.</li> <li>Unlocking the capability of the DES WAN for additional operational communications systems.</li> </ul>	<ul style="list-style-type: none"> <li>DES to consider strategic opportunities to progress joint development through approved collaborative forums).</li> <li>DES to utilise an integrated approach to future data network development.</li> <li>Progress comparative study of the upgrade of the DES IT network.</li> </ul>	<ul style="list-style-type: none"> <li>DES to potentially progress joint development through approved collaborative forums).</li> <li>DES to utilise an integrated approach to future data network development.</li> <li>Progress comparative study of the upgrade of the DES IT network.</li> </ul>



Version	Date	Created By	Comments / Summary of Changes
1.0.0	06/02/08	N G Moss & ICT Services	Final Draft for DES ICT Services
1.1.0	07/04/08	N G Moss & ICT Services	Final Draft for DES ICT Services
1.2.0	12/06/08	N G Moss	Final Draft for DES ICT Services
1.3.0	12/07/08	N G Moss	Final Draft for DES ICT Services



## APPENDIX B-4: DES TELEPHONE SYSTEMS BASELINE

### DES ICT Baseline - Strategic Assessment of Public Safety Communications – Telephone Systems

Business Need	How business is currently addressed	Project initiated or / Actions toward business need	Current Status of Projects / Actions - related projects	Gaps / Opportunities / overlap - based on business need	Strategy / resolution	Actions
<ul style="list-style-type: none"> <li>• A telephony call management system to support emergency call handling, overflow and redundancy requirements on a statewide basis.</li> <li>• Provision of workforce management and reporting capability to allow analysis and reporting of staff utilisation, performance management and handling of demand across the state.</li> <li>• Provision of standardised telephony solutions across the State.</li> <li>• Provision of telephony options integrated with other ICT systems to support enhanced modes of business operation.</li> </ul>	<ul style="list-style-type: none"> <li>• Existing telephony systems uses are mainly standardised across all communications centre, except the Brisbane centre but they are ageing and not integrated.</li> <li>• DES uses carrier based CustomNet Spectrum telephone services in the Brisbane communications centre with the Callscan YuACD call management system.</li> <li>• Spectrum telephone services are also used extensively in Kedron, Regional offices and a significant number of smaller Stations.</li> <li>• Small business telephone systems are being used in a large number of smaller Stations across the State to meet local requirements.</li> <li>• Teletra (TIPT) Internet Protocol (IP) Telephone services are being adopted as a replacement for Spectrum services in a number of locations where DES has business grade data network services to support the data requirements on internal network services.</li> <li>• Field deployable telephony is provided using a CISCO Call Manager implementation along with transportable Local Area Network equipment with wireless operation capability.</li> </ul>	<ul style="list-style-type: none"> <li>• TIPT is being introduced into the QEDC project component for the TC Bierra building, and the technical resource facility at College St, Hamilton.</li> <li>• TIPT services are being ordered for primary telephone service delivery in the new Townsville Regional Office relocation project.</li> <li>• Statewide Communications Centre Telephone Network Upgrade is in progress to provide a QAS statewide solution for emergency call management across the State and to also provide the QEDC telephony solution.</li> <li>• Telephony solutions are being progressed as required for ongoing capital works project activities.</li> </ul>	<ul style="list-style-type: none"> <li>• The Initial TC Bierra TIPT IP telephone services are in place and College Street services have been ordered.</li> <li>• Townsville Regional Office TIPT services are in the DES assessment phase.</li> <li>• The Statewide Communications Centre Telephone Network Upgrade project is still in the specification production phase for an invitation to offer. Detailed user requirements analysis is nearing completion.</li> </ul>	<ul style="list-style-type: none"> <li>• IP telephony solutions can provide greatly enhanced business use by integrating with DES business systems such as email, contact lists, including the release of the future need for some telephone handsets but it does place greater reliance on the DES data network.</li> <li>• Potential for shared telephony system specification and development with external agencies.</li> <li>• Business grade data services will be required at more DES locations to take advantage of integrated IP telephone services.</li> <li>• Cost savings may be available in recurrent call costs are available using IP telephone solutions where shared with existing DES data network infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>• Establish a DES telephone network development roadmap to support existing and future requirements and alignment with external agencies where required.</li> <li>• DES to consider strategic opportunities to progress joint development through approved collaborative forum(s).</li> <li>• DES to continue to develop infrastructure to meet priority requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• DES to establish a telephony system development strategy and identify opportunities for joint engagement.</li> </ul>

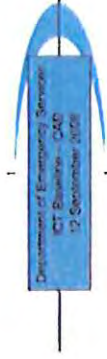
Version	Date	Edited By	Comments / Summary of Changes
1.0.0			Template
1.1.0	12/08/08	N G Moss & ICT Services	Draft for SPES & ICT Services
1.2.0	12/09/08	N G Moss	DES C&C Endorsed

## APPENDIX B-5: DES CAD BASELINE

### DES ICT Baseline - Strategic Assessment of Public Safety Communications - CAD

Business Need	How business is currently addressed	Project initiator or / Actions toward business need	Current Status of Projects / Actions - related projects	Gaps / Opportunities / Overlap - based on business needs	Strategy / resolution	Actions
<ul style="list-style-type: none"> <li>Efficient handling of call-for-service.</li> <li>Efficient and effective dispatch of work units (joint to operational officers and crews).</li> <li>Officer, crew and task/job status.</li> <li>Quality assessment and audit capability - integration with voice records, incident notes and task/job tracking.</li> <li>Demand and Service Performance Management.</li> <li>Identification and tracking of calls and departmental resources.</li> <li>Integrated service response and data exchange with other public safety organisations, health and jurisdictions.</li> <li>Visualisation of operations (spatial information) - Common Operating Picture (COP).</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of VisiCAD through the Emergency Services CAD (ESCAD) project providing a joint system for QAS and CFRS on a statewide basis in 2008.</li> <li>VisiCAD is replacing QAS PremierCAD and RptCAD and CFRS FireCAD.</li> </ul>	<ul style="list-style-type: none"> <li>ESCAD is being progressed, including development of relevant ICT interfaces. This includes interfaces for systems such as the QAS Strategic Information Management Initiative (SMI), mobile data, triple Zero Call Log, Identification (CU) and CFRS Operations Management Systems (OMS).</li> <li>Trialling of Request for Assistance (RFA) Online for Emergency management, Queensland (EMQ), SES, tracking and tracking in Cairns and Gold Coast.</li> <li>PSCP being undertaken with QPS.</li> </ul>	<ul style="list-style-type: none"> <li>ESCAD to be fully implemented in Q3 2008.</li> <li>ESCAD programme 2008-09 include upgrade to VisiCAD 4.4Q2.</li> <li>RFA Online - Trial progressing to implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Potential for integration with a future QPS CAD system.</li> <li>Potential for further integration into other ICT systems including Queensland Health and other jurisdictions.</li> <li>Potential to review ESCAD performance against current and future business requirements.</li> <li>Opportunity to leverage off CAD platform to provide COP.</li> </ul>	<ul style="list-style-type: none"> <li>DES to consider strategic opportunities to progress joint development through approved collaborative forum(s).</li> <li>DES to continue ICT Systems development with a focus on integration to enhance operational service delivery.</li> </ul>	<ul style="list-style-type: none"> <li>DES and QPS to develop a joint CAD interface strategy to be implemented through a technology alignment roadmap to facilitate efficient emergency response coordination.</li> <li>DES to revise and update ICT Strategic Plan.</li> <li>Investigate in the short term 2-way inter-CAD messaging between DES &amp; QPS.</li> </ul>

Version	Date	Event D.	Comments / Summary of Changes
1.0.0			Template
1.1.0	10/06/08	N/G News	First DES Draft
1.2.0	20/07/08	NG News & ICT Services	First Draft to SPES & ICT Services
1.3.0	06/09/08	IN G News & ICT Services	Finalised SPES & ICT Services Version
1.4.0	12/09/08	N/G News	FOR DES CAB (AUG 08)
1.5.0	12/09/08	N/G News	DES CBIC Enforce





# APPENDIX B-6: DES COMMUNICATIONS CENTRE FACILITIES BASELINE

## DES ICT Baseline - Strategic Assessment of Public Safety Communications - Communications Centre Facilities

Business Needs	How business is currently addressed	Project initiated or Actions toward business need	Current Status of Projects / Actions - related projects	Opportunities / Gaps - based on business need	Strategy / resolution	Actions
<ul style="list-style-type: none"> <li>Facilities to provide integrated call handling and response on a statewide basis.</li> <li>Integrated and standardised systems to support service delivery</li> <li>Enhanced voice and data systems to manage incident demand on a statewide basis.</li> <li>Improved officer safety</li> <li>Improved collaboration and information exchange.</li> <li>Improved efficiencies by converging infrastructures and resources.</li> <li>Consolidation and aggregation of ICT infrastructures.</li> <li>Value for money.</li> <li>Redundancy / Business Continuity.</li> <li>Community expectations - Quality of service.</li> </ul>	<ul style="list-style-type: none"> <li>QAS and CFRS currently have one communications centre for each of the seven regions with Townsville, Cairns and Brisbane being shared facilities.</li> <li>QEOC being developed as a new facility model to include integrated operations for QAS Brisbane and Gold Coast centres.</li> <li>QAS and CFRS undertaking upgrade and limited expansion of existing facilities at Cairns, Brisbane, Townsville (QAS) and Gold Coast.</li> </ul>	<ul style="list-style-type: none"> <li>QEOC Project in progress for QAS, CFRS and EMQ.</li> <li>CFRS funded upgrade of Brisbane, Gold Coast and Cairns Communication Centres in 2007-2008, including limited expansion.</li> <li>QAS and CFRS have funded modernisation projects for 2008-2009 to sustain existing operations.</li> <li>The 2008-09 Operational Communications Programme will include inter-communications centre radio communications for nominated centres.</li> <li>PSQP SC Working Party established for possible Joint Communications/Operations Centre Facility in Townsville</li> </ul>	<ul style="list-style-type: none"> <li>QEOC - Currently in detailed Building Design Phase.</li> <li>Cairns Communications Centre upgrade and expansion to be finalised in Q3 2008.</li> <li>Communications Centre modernisation project 2008-09 is in the Planning Phase.</li> <li>Joint Facilities Pilot in Townsville - Conceptual and finalised in 2008. Digit - Public Works Inc Business Case for the building only - no ICT fitout - presented to PSQP SC - 2007.</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity to progress a risk assessment of the current communications centres redundancy and business continuity strategies.</li> <li>Undertake an investment appraisal of communications centres, including their physical state, location and capacity requirements.</li> <li>Opportunity to develop a statewide communications centre/facility model for the future.</li> <li>Opportunity to share infrastructure development with QPS and other aligned organisations.</li> <li>Whole-of-Government regional boundary changes may impact the alignment of existing communications centre response boundaries and available capacity.</li> </ul>	<ul style="list-style-type: none"> <li>DES to consider strategic opportunities to progress joint development through approved collaborative forum(s).</li> <li>DES to progress a risk assessment associated with Statewide Communication Centre Redundancy particularly with the planned implementation of QEOC.</li> <li>DES is to continue development of facilities to meet priority service demands.</li> </ul>	<ul style="list-style-type: none"> <li>DES and QPS to develop a joint facility strategy and improvement through a facility (business) alignment roadmap.</li> <li>DES to develop a policy framework incorporating a:                             <ul style="list-style-type: none"> <li>Departmental Communication Centre Redundancy Strategy to support Emergency response and disaster;</li> <li>Communications Centre strategy for the future.</li> </ul> </li> </ul>

Version	Date	Edited By	Comments / Summary of Changes
1.0.0	06/25/08	N G Moss & ICT Services	Final Draft for SPES & ICT Services
1.1.0	09/03/08	N G Moss & ICT Services	Finalised SPES & ICT Services Version
1.2.0	11/20/08	N G Moss	FOR DES: GRC JAGC DB
1.3.0	11/20/08	N G Moss	DES GRC Endored







## APPENDIX B-8: QPS BASELINE – RADIO SYSTEMS

The QPS currently owns and operates 2 different types of ultra high frequency (UHF) radio networks within the 450-470 MHz radiofrequency spectrum for general policing operations. These networks provide the primary means of communication between District and Regional PCCs and mobile or foot patrols enabling operational command and control.

Within the Brisbane Metropolitan area QPS uses a voted, digitally encrypted, secure voice UHF radio system. All other districts use a number of UHF analogue non secure voice systems. All digital radio equipment used by QPS enables the use of encryption, which ensures privacy of voice traffic across those systems. The implementation of the Brisbane Metropolitan digital system was driven by the Olympic Games in 2000 and Commonwealth Heads of Government Meeting (CHOGM) in 2002. A special allocation of Commonwealth funding was provided to implement a secure network for each of these events.

Stand alone digital radio bases are also installed in selected districts across the State and are utilised for special operations requiring secure voice communications. The Brisbane metropolitan digital system (and the stand alone bases) are now approximately eight years old and well over due for replacement. Portions of the regional analogue systems are in excess of 10 years old and also well over due for replacement. In the absence of a digital radio or digital communications strategy these systems continue to be refreshed thus maintaining basic mission critical communications needs.

QPS proposes to develop a State-wide Digital Communications Strategy in 2008-09. This strategy would demonstrate integration with current and future emerging ICT projects and provide direction regarding digital communications for QPS. This strategy will also assist development of scope for a project to replace the current analogue radio systems and out-dated digital system. Following development of the Strategy, a Business Case and funding submission for this Strategy will be submitted in late 2009 (seeking funding for implementation in 2010-11).

Due to differing operating radio bands and differing transmission modes, the issue of interoperability and seamless communications still presents a challenge for internal communications as well as interagency communications with other emergency services. Expansion of functionality and interoperability capability could be achieved utilising modern radio systems.

Presently QPS has access to 120 UHF radio channels for use across the State. This allocation of channels is also shared by other Police Services, most significantly the NSW Police Service. Particularly in the south eastern corner of the State, allocation of those channels is such that expansion of networks by the addition of further infrastructure will result in radio interference issues between users. If a digital trunked mobile radio network were to be implemented, it would need to be commensurate with an allocation of more radiofrequency spectrum in a different part of the UHF portion of the spectrum where there is a greater number of channels available. This has been the practice in other Australian states where Police and Emergency Services have adopted digital trunked technologies. The Australian Communications and Media Authority (ACMA) has also advised the various Police Services that portions of the 450 – 470MHz band where QPS (and many other organisations and businesses) presently has all Land Mobile licence allocations will need to be vacated by all users at some stage to meet international compliance requirements.

Transferring to a digital communication network has many advantages in terms of information security and data convergence, and will provide a more effective and efficient communication platform. Market demand for radiofrequency spectrum (spectrum) shows increased interest from non-government agencies in the current spectrum allocated to police and emergency services. The advancement of digital technology also sees a very high risk that the current product support for analogue systems will be withdrawn within the next 2-3 years.<sup>1</sup>

To date, funding to replace the existing aging QPS networks with more modern technologies has not been available. A majority of Police and Emergency Service agencies across the world have identified and adopted the benefits of migrating to digital trunked voice radio networks. To move QPS toward modern voice communications technologies there is a need for Queensland Police to establish a radio strategy with a view to implementing a state-wide multi-agency digital trunked radio network.

In late 2003 the QPS in partnership with Telstra initiated a trial of a digital trunked mobile radio network in the Sunshine Coast and Redcliffe Districts of the North Coast Region. The trial also included QAS and QFRS and demonstrated to users that multi-agency independent operational capability is easily accommodated using the same infrastructure. The trial also demonstrated that a number of agencies sharing infrastructure is more economically viable than agencies operating independent parallel and similar networks. Further, the trial also demonstrated that as the same infrastructure is used, differing agencies can interoperate in relation to an incident if required or desired. Experience of those interstate Police and Emergency Services has also supported the findings that QPS made in the North Coast Region trial.

When the QPS introduced the present secure digital networks for general policing in the Brisbane metropolitan area, there was widespread dissent by the various media organisations and other eavesdroppers as they had lost access to information that was valuable to them. As a result, a number of the media organisations complained to the State Government and the Crime and Misconduct Commission (CMC). Subsequently the CMC conducted an inquiry with public hearings.

In December 2004 the CMC released the findings of their inquiry into media access to police communications.<sup>2</sup> The document titled *Striking a Balance* examined the impact of secure digital radio communications upon the media and its ability to monitor police radio communications. This new technology was seen as preventing the public from having access to information on police activities through media reports. The Commission made 14 recommendations to ensure the transparent sharing of information whilst also protecting the privacy of individuals concerned. In September 2006 the Service implemented a dispatch data-feed system known as Media-access-to-CAD (MatCAD). Data from the Brisbane CAD system is forwarded to the MatCAD system and is accessible by authorised media organisations to enable transparent monitoring of public information.

Whilst there is no current plan to expand the digital radio network across the state, it is envisaged that a state-wide digital radio communications plan will be developed and implemented within the next five years. In considering emerging technology, the Commission expects that where the QPS plans to expand the digital radio network, that the principle of transparent communications also be applied regionally.

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<sup>1</sup> QPS, Draft Asset Strategic Plan 2008-2012, 29 August 2008.

<sup>2</sup> Crime and Misconduct Commission, *Striking a Balance: An Enquiry into Media Access to Police Radio Communications*, Queensland Government, December 2004.



The QPS has in excess of 460 UHF land mobile radio licences which form the basis of the networks for police communications across the State. Those bases are housed in dedicated radio sites owned and managed by a variety of organisations. Of these sites 165 are owned or managed by QPS and 335 sites are owned and managed by organisations such as QRail, QAS, QFRS, Energex, Ergon, National Parks, Shire councils and building owners. Some of those systems operators also occupy QPS sites. A majority of the bases associated with the above licences are interconnected by over 350 microwave and UHF radio links, and Telstra leased landline services to form networks controlled from Police Communications Centres. ACMA licence fees alone cost QPS in the vicinity of \$600K per annum.

In terms of joint communications systems the police and emergency services share a local common stand alone UHF radio repeater. This repeater provides connectivity between local emergency services communications centres in the event of failure of all other communications systems. This system is utilised by police and emergency services and 19 other delegated agencies.

QAS presently utilise a small amount of data capacity on the QPS microwave network operating through the south eastern corner of the State. This network is aging and may become redundant when a digital trunked network is implemented to QPS. This mobile data network is becoming aged and may be replaced at some stage by a more modern system. It is anticipated that QPS will be implementing a mobile data network to deliver a CAD product and other desktop services to mobile patrols. It is reasonable to assume that the carriage of this state-wide product will be via a third party supplier network.

The QPS state-wide UHF radio network has an estimated cost of \$60M and comprises software, firmware and hardware components. The network incorporates both analogue and digital systems that are in excess of 5 years old and due for replacement (including the Brisbane digital UHF radio network). Radio communications are considered mission critical for operational police and a refresh program should be established (similar to the desktop PC refresh program) to ensure continual support and related funding of the network. Radio network planning and related decision making needs to be integrated with strategic planning to ensure reliability, optimum functionality and efficient investment in converging technologies required for modern policing and smart investment from a whole-of-government perspective.

Note: Additional voice communications systems are utilised to provide coverage in areas where the primary UHF systems are not present (commonly referred to as black spots). High frequency (HF) radio, very high frequency (VHF) marine, UHF citizens band, local council VHF radio, and satellite systems are utilised across the state to complement the UHF systems. Whilst this strategic assessment will focus on the primary UHF radio communications systems, it is recognised that a radio communications strategy would encompass all radio communications technologies.

## **APPENDIX B-9: QPS BASELINE – MOBILE DATA**

At this point in time the QPS does not operate a mobile data network (MDN) as part of the public safety communications system. Contact from communications centres to mobile response crews is through the radio communications system.

The QPS currently utilises a mobile data service offered by Queensland Transport (QT) to access transport related data. The Mobile Integrated Network Data Access (MINDA) system, accesses information in real time that is stored in TRAILS, POI, VOI and POLARIS. QT owned PC's are installed into QPS vehicles (generally traffic) and access the system via the OPTUS General Packet Radio System (GPRS) network (and will be transitioning to Next G in the near future). A disc is also supplied for use in off-air situations and for use in water police vessels.

Additionally, the QPS Forensic Service Branch (FSB) internally developed a Forensic Register which comprises a database (Microsoft SQL Platform) that integrates with QPRIME. FSB officers enter data in the field on a portable tablet that accesses the Telstra 3G network for data exchange.

The QPS recognises that Mobile Services is an essential element in the delivery of Policing services to the people of Queensland. Investment in Mobile Services is a significant step for the Queensland Police Service. It is critical that investment of this nature is made with a clear view of service delivery and identification of multi - agency efficiencies in accordance with strategic direction of the Queensland Government.

In July 2007 the QPS Mobile Services Strategy was completed after undertaking broad consultation with internal and external stakeholders including the Department of emergency Services and representatives from the QGGIO. For the purposes of maintaining a current operational context within the strategy, the term 'Mobile services' as opposed to 'Mobile Data' was used to encompass a range of operational communications functions transmitted on State owned and in some cases private carrier networks, however, the Strategy does not include radio or telephony services.

In June 2008 a Business Case for QPS Mobile Services Business case was released to QPS Senior Executive for consultation and review. The Business Case incorporates the direction set out in the QPS Mobile Services Strategy (2007) and focuses clearly on the need for 'real time' intelligence and information for front line police. Enhanced Officer Safety and more effective information and resource management practices are the key business drivers within the Mobile Services Strategy and Business Case.

Mobile Services will be a critical medium for operational officers and management for accessing significant Information Management applications including, QPRIME and Computer Aided Dispatch (CAD). The delivery of corporate information to operational officers via wireless mode will return substantial benefits in operational time and more effective management of human resources and corporate information.

Potential benefits will include additional operational policing hours currently spent in police establishments will be directed towards a more visible police presence in the community and improvements in reduction of crime and crime detection will be delivered through the 'real time' access of crime intelligence and reporting systems to police on the beat.<sup>3</sup>

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<sup>3</sup> QPS, Mobile Services Strategy, 2007.

## APPENDIX B-10: QPS BASELINE – FIXED DATA NETWORKS

The public Safety Network (PSN) Management Centre provides the core fixed data service requirements for the QPS up to and including both Wide Area Networks (WANs) linking locations across Queensland, Metropolitan Area Networks (MANs), linking buildings in a central business district (CBD), and Local Area Networks (LANs), linking individual workstations or floors within a building. The current scope of the PSN *does not include* provision of voice, video and mobile infrastructure and services and also *does not include* information applications, servers or any terminal/desktop infrastructure or services.

Service for these ancillary items is managed by the QPS Information Systems Branch. The PSN has the ability to carry traffic for voice and video services commonly referred to as Radio over Internet Protocol (RoIP) and Voice over Internet protocol (VoIP). These services and systems are available between defined interconnection points (hence the use of the term 'fixed').

The PSN together with the Radio and Electronics Section have conducted a trial of RoIP and currently provides services for approximately 80 sites. To date the RoIP project has been conducted as a successful trial. To fully gain the benefits of this technology for other users and for the PSN to include this service as a catalogue product, a business case must be developed and submitted to the PSN Management Centre for consideration and further legitimate action.

The PSN is designed to play a major part in supporting the delivery of substantial portions of the Mobile Services, State-wide Digital Communications, and Telephony technologies, and will provide a medium for convergence of these technologies. For example, in the Radio over IP (RoIP) project, where radio communications are being supplemented, enhanced, and provided with greater flexibility and operational control by use of the PSN as a linking technology (as opposed to traditional radio linking type technologies).

The PSN is one of the first areas whereby traditional data, radio, and telephone and satellite technologies is able to leverage off each other to provide convergent technologies to benefit the QPS and other participating agencies. Successful delivery of the PSN thus remains a high order priority for QPS, and for other agencies in the public safety cluster.<sup>4</sup>

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<sup>4</sup> QPS, Draft Asset Strategic Plan 2008-2012, 29 August 2008.



## **APPENDIX B-11: QPS BASELINE – TELEPHONE SYSTEMS**

Telephony and satellite services will continue to have a key role in the provision of effective alternative and converged networks to sustain policing operations state-wide. External to QPS, factors such as changes in telecommunications carriers' exchange and network technologies are altering how QPS telephony and satellite services are provided. As the carriers refine and improve their design, management and delivery of new technologies, these will underpin ongoing delivery of resilient and reliable converged networks.

The QPS Telephone Coordination Unit (TCU) is now finalising the Obsolete Replacement and Communications Upgrade Programs, which have delivered operational and business improvements through renewed or refreshed assets, equipment, and services. The Telecommunications Asset Management & Technology Refresh Program was commenced in Q2-2008 to manage significant assets ongoing.

The use of alternative ICT services and technologies will provide significant opportunities to extend the service value of voice and data networks in higher demand centres, as well as minimise exposure of smaller stations to asset costs. In Q3-2008, trial and evaluation of internet protocol voice services against current service levels and costs will commence across a range of technology and convergence strategies.

Significant areas of communications black-spots still exist for QPS and given ongoing and sustained increases in population across the state, a commensurate reduction in areas of poor or nil communications is needed. Satellite technologies and services will bridge the gap to ensure adequate communications for these areas.

## APPENDIX B-12: QPS BASELINE – CAD

Police communications centres currently operate two separate response management systems to capture data related to calls for service and the management of the associated resources allocated to service delivery. The first of these systems is the emergency services communications and operational resource tasking (ESCORT) CAD system. This system was internally developed and contains a number of standard CAD features such as address validation, address history and 000 Caller Line Identification allowing for the management of incident information<sup>5</sup>.

ESCORT CAD is located within five of the police communications centres (Brisbane, Cairns, Toowoomba, Townsville and Gold Coast) and is integrated to a central data storage facility. When ESCORT CAD commenced operation in 1990 the communications centre managed on average less than 300 incidents per day. In 2005 the system was estimated to manage 1550 calls per day with a peak of 2,000 calls per day.<sup>6</sup> Until recently this system regularly experienced slow network speed and loss of connection when overloaded. Overload arises during peak times, negatively impact productivity and service delivery, increases missed calls and increase undue stress within the PCCs. Due to its age, the supportive knowledge base diminishing, software and hardware support becoming obsolete and other limiting factors ESCORT CAD has been analysed as a high risk and is currently a high priority of the QPS for replacement.<sup>7</sup> An internal project is currently underway to replace this product. In the interim, internal information technology (IT) support personnel have been assigned to address the network issues with some success.

The other system is an internally developed Information Management System (IMS) (which is linked to a 4D relational database) that commenced operation in the late 1980's. This system is utilised by the remaining 18 PCCs. It is a stand alone system that is locally administered and isolated from other IMS systems and the ESCORT CAD system. The sharing of information between centres is limited as is the sharing of information between ESCORT and the IMS systems.

The IMS system is currently operating version.6.7 and is over due for upgrading to the current version 2004 software. The 2004 version of software has been benchmarked against the previous version and provides extra benefits in terms of performance and functionality. Whilst a maintenance agreement still exists with the vendor, the inclusion of software upgrades was not extended in a previous review of the maintenance contract. The vendor typically supports the current and previous version of software for their product. The vendor is currently developing the next version on a Microsoft SQL platform (which would provide compatibility with QPS and industry standards). To date no time frame has been nominated for the replacement of the IMS system. Indicative costs for 100-120 licence upgrades from the vendor are estimated at \$80,000<sup>8</sup>. Upgrading the software licenses will extend the product life and also provide redundancy as a back-up in the event of ESCORT CAD failing.

Although this product is utilised with several regions, progressing such an upgrade would be best considered and funded from a strategic perspective such as the approach taken to the ESCORT CAD replacement project. The aspect of regionalisation appears to be a barrier to progress this need in terms of funding and could best be supported from a centralised perspective.

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<sup>5</sup> G Searle, QPS New CAD Business Case, 15 January 2008.

<sup>6</sup> QPS, ESCORT System, (Organisational & Technological) Risk Assessment, 24 Jan 2005.

<sup>7</sup> Ibid.

<sup>8</sup> QPS, Minutes of Incident Management System Review, 9 September 2008.

ESCORT CAD and IMS are ageing systems that have well exceeded their life span. These two systems function as stand alone systems and are not connected to a mobile data network thus the function of electronic dispatch of data is not enabled. Support for both the hardware and software is difficult to locate and expensive to procure. It would be uneconomical to propose and integration of wither system to the current generation QPS Records Management System (QPRIME). Interfacing the current systems to DES CAD systems is also restrictive due to capacity issues and uncommon architecture. Additional applications such as automatic vehicle location (AVL) or Geographic Information Systems (GIS) are also inhibited due to capacity and architectural issues and the absence of a mobile data network.

The QPS has allocated internal funding to progress the replacement of the ESCORT CAD system. It is estimated that the QPS will progress procurement of a new CAD product to replace the ESCORT CAD system before June 2009.



## APPENDIX B-13: QPS BASELINE – COMMUNICATIONS CENTRE FACILITIES

The QPS currently operates 23 police communications centres (PCCs) that are geographically located across the state to meet (population) community needs. These centres form the hub of the public safety communications system and are the main source of initial contact with the community. Of the 23 centres, 21 receive 000 calls and non-emergency calls for service by call-takers within the centres (Emergency 000 calls for Warwick and Dalby are received at the Toowoomba PCC).

The telephone system is considered the major interface between the community and the QPS with approximately 85% of calls for assistance, all 000 calls and general inquiries being received by telephone. Details of calls for service are recorded in a designated database and dispatch of response crews is coordinated via the PCC Communications Coordinator (ComCo).

These centres are located within the district police headquarters and generally operate under the authority of the District Officer. This configuration allows for each centre to have direct control of respective resources located within each district. This configuration also mirrors the current Emergency Management model of 23 district disaster management groups.

Due to their district location PCCs share the use of existing telecommunications infrastructure with the exception of Brisbane which has a dedicated private automated branch exchange (PABX)<sup>9</sup>. Their location within existing QPS facilities has led to some PCC operations being conducted in workspaces that are not designed for police communications duties. Other relevant issues include some locations being un-secure, and with a lack of basic staff amenities. In many locations the PCC also maintains a capability to establish a Minor/Major Incident Room (MIR) in or adjacent to the PCC.

Each centre operates within a region with the regional headquarters typically located in the greater populated area, of the region such as Cairns, Townsville or Brisbane. In some districts communications centres are linked to the regional headquarters via radio networks, however this is generally not the rule. The QPS fixed data network generally connects desktop computers used in these centres to various databases including QPRIME, and corporate applications such as the QPS intranet and e-mail.

However, the electronic systems used to capture call data are generally stand alone systems and hence offer little in terms of centre redundancy. As individual centres with no central or unified command, inconsistencies exist in relation to standard operational procedures (SOPs), system codes and training differs between centres, again impacting upon redundancy factors.

In 2007 the North Coast Region (NCR) initiated the process of rationalisation for police communications centres to a regional model with the amalgamation of their Maroochydore and Redcliffe communications centres. This model is based on the QPS Telecommunications Review that was commissioned by the Manager of TCU in 2003<sup>10</sup>. The driver for this change was based largely on the growth in population and hence a considerable increase in calls for service from the community. An opportunity of sharing a facility with the Department of Main Roads allowed for the establishment of a purpose built multi-agency government communications facility. The NCR PCC has a 13 year lease and expected occupancy of the facility is early 2010.

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<sup>9</sup> R Bartlett, L Sheahan, 2003 Telecommunications Review, QPS, 2003.

<sup>10</sup> Ibid.

The move to rationalise PCCs to a model of 7 regional centres was recently endorsed by the QPS senior executive. Due to the associated interdependencies this project mandate has now been incorporated into the QPS computer-aided dispatch (CAD) project. The implications of such a significant change and impact to the organisation demands detailed planning.

The need for a PCC rationalisation strategy is critical to identify cause-and-effect relationships between process actions and desired results and is key to ensuring a smooth transition for the organisation in terms service delivery and productivity. Consideration of business aspects; organisation structure; human resource implications including training; processes and technology is essential. In terms of ICT investment aligning investment with strategic priorities capability and capacity is essential.

The QPS CAD/Police Communications Centres Project is currently preparing a strategy for the rationalisation of PCCs. An outline of this strategy and an estimate of costs for Cabinet Budget Review Commission (CBRC) is expected to be complete by mid October 2008. The completion date for the detailed study of the PCCs is the end of April 2009.

The move to rationalise PCCs to a regional model presents an opportunity to review the PSCP sub-project of the Joint Communications Facility Pilot-Townsville (JCFP-T) from a holistic perspective. In 2006 specifications and draft floor plans for a QPS/DES co-located communications centre were prepared by the Department of Public Works (DPW) Project Services group. In 2007 a feasibility study (draft business case) was developed based on a location in Oonoonba. To date these documents have not been endorsed by the PSCP SC. Whilst out-dated in terms of cost, business need, service demand or strategic priority these documents may provide some basis for review at an appropriate time.

**At this point in time there is a risk in allocating further resources to this project whilst it remains in isolation and not part of a coordinated service-wide program of work. In the absence of a rationalisation strategy for either QPS or DES this sub-project should be closed and consolidated into developing strategies.** The move to a co-located facility without sufficient strategic planning, whilst it may serve to superficially support the concept of shared infrastructure may well negatively impact upon other more strategic planning activities of both agencies.

## APPENDIX C: STAKEHOLDERS CONSULTED

Documented Interviews	Stakeholders Consulted
<p><b>Queensland Police Service</b></p> <ul style="list-style-type: none"> <li>• Deputy Commissioner Ian Stewart (C-4)</li> <li>• Mr Paul Brown (C-4)</li> <li>• Assistant Commissioner Paul Stewart (C-4)</li> <li>• Ms Diane Hotchkis (C-3)</li> <li>• A/Chief Superintendent Grant Pitman (C-5)</li> </ul> <p><b>Department of Emergency Services</b></p> <ul style="list-style-type: none"> <li>• Commissioner Lee Johnson (C-6)</li> <li>• Commissioner David Melville (C-2)</li> <li>• Mr Gary Taylor (C-7)</li> <li>• Mr Arthur O'Brien (C-1)</li> <li>• Mr Terry Beitz (C-8)</li> </ul> <p><b>Department of the Premier and Cabinet</b></p> <ul style="list-style-type: none"> <li>• Ms Kirrily Booker (C-10)</li> <li>• Ms Susie Krimmer (C-10)</li> </ul> <p><b>Queensland Treasury</b></p> <ul style="list-style-type: none"> <li>• Mr Terry Dann (C-9)</li> <li>• Mr Graham White (C-9)</li> </ul> <p><b>Department of Public Works</b></p> <ul style="list-style-type: none"> <li>• Mr John Spinaze (QGClO) (C-11)</li> <li>• Mr Bob Gurnett (QGCTO) (C-11)</li> </ul>	<p><b>Queensland Police Service</b></p> <ul style="list-style-type: none"> <li>• Inspector Jim Kennedy</li> <li>• Mr Brian Durrant</li> <li>• Inspector Grant Searle</li> <li>• Mr Gary Davis</li> <li>• Mr Dennis Lutterall</li> </ul> <p><b>Department of Emergency Services</b></p> <ul style="list-style-type: none"> <li>• Mr Bob Potter</li> <li>• Mr Geoff Meehan</li> <li>• Ms Yolande Yorke</li> <li>• Mr Wayne Gale</li> <li>• Ms Christine Stower</li> <li>• Mr David Brown</li> <li>• Mr Patrick Byrne</li> </ul>



## APPENDIX C-1: MR ARTHUR O'BRIEN (DES)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



Queensland  
Government  
Department of  
Emergency Services

### RECORD OF INTERVIEW

<b>INTERVIEW NO.</b>	1	<b>DEPARTMENT:</b>	DES
<b>VENUE:</b>	Emergency Services Complex, Kedron		
<b>DATE/TIME:</b>	29 <sup>th</sup> August 2008 – 3pm		
<b>PARTICIPANTS:</b>	Mr Arthur O'Brien (DES)	Mr Nicholas Moss (DES)	Mr Tim Malone (GQ- AAS)

#### GENERAL:

- How do your responsibilities overlay with the scope of public safety communications?).

The Executive Director, Strategic Policy & Executive Services has an overview role of service provision in respect to Queensland Government policy:

1. Strategic directions of DES
2. Cognisant of whole-of-Government agenda
3. Meeting needs of operational divisions

To ensure that the plans of QAS, QFRS and EMQ meet the needs of the community.

PSC Role – To make sure what comes out has a reality check applied – i.e. affordability.

#### CURRENT ENVIRONMENT:

1. What are major business drivers influencing your (agency's) use of public safety communications (PSC)?

*Resilience* – System must be resilient in all environments (emergency, or, no emergency)

*Redundancy* – Appropriate redundancy to meet the stated aims for service delivery.

*Affordability* – For DES and across agency (i.e. with QPS) in line with Queensland Government (QG) priorities.

DES is 1/18th of QG, but with QPS, we are 1/9th.

Premiers and Treasury favour collaborative service provision.

Governments may have difficulty gauging the state of PSC networks during normal operations.

**2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

Some known problems and DES has plans in place to address some of these – i.e. QEOC for SE Corner communications

Have difficulty spending some recurrent budgets – (i.e. QAS Virtual Call Centre Environment has been funded for two years but is not delivered).

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes.

For example, lack of AVL for QFRS significantly impacting the SE corner and statewide AVL for QAS is required.

CAD implementation problems indicate need for improving governance around the systems

We have examples of both good and bad projects. Change management is good when senior management buys-in.

More complex projects are amongst the less successful projects. Project scope creep is an issue.

We are able to budget for incremental changes (in PSC), including coverage enhancement. However, we do not have budget for major (generational) changes.

Lack of systems in the Volunteer space is a limitation

Need to develop appropriate interfaces – For example, QAS and QLD Health, EMQ and Local Government.

Aged infrastructure – Age of some DES infrastructure impacts. Increasing sustainability issues and we need to look at a different way of doing things.

Pent up demand for infrastructure replacement.

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Level 2 (Top end)

Come a long way in the last 5 years. For example, QAS eARF.

Level of maturity embedded in our governance structure (Level of Reporting). DES's rigour in funding allocation for projects makes ICT Services "jump through hoops" to get anything going.

Payment of "rent" to DPW (for common facilities) can be managed to have the same impact on DES as capital funding our own buildings. This is relevant to the JCFT proposal.

**FUTURE ENVIRONMENT:**

**5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

There is a strongly held view that public safety organisations can share resources – i.e common CAD platform.

Drivers include: national directions, political pressure, central agency pressures, and, audit and sustainability reviews.

Sometimes at odds with Government Policy – e.g. don't close things in remote areas, regionalism of service delivery.

**6. What whole-of-government factors will affect future investment in PSC capability?**

QPS & DES need to develop a Key Statement about future direction out of the Strategic Assessment (SA), agreed and lived by QPS and DES for years to come. If we each go alone, we will be "picked-off" by central agencies.

For example, the future could be one Qld Gov't radio network but separate Communications Centres. The call taking and dispatch functions are too different between services.

If technologies converge, then joining centres makes sense. If technologies or systems do not converge, then why come together – i.e. the call taking models



are sufficiently different. Ambulance call takers sit with dispatchers and provide medical advice over the telephone. Fire call takers quickly capture information (and then end the call). (Presume) Police call takers more like Fire. If no common CAD, what do we get out of being in the same building?

I observed in London (ambulance) call takers and dispatchers separated on two floors. In Melbourne, in a shared facility, ambulance call takers and dispatchers are specially trained.

**7. What cross-agency consideration will affect future investment in PSC capability?**

Refer to answer to 6. above.

**8. What parts of PSC services should be internally / individual agency managed?**

No preference for sourcing arrangements. Need to know how much it will cost and will it work. Communications centres could be together or separate. We need common radio systems.

**9. What parts of PSC services could be alternatively sourced?**

Refer to answer to 8. above.

**JOINT PSC PERCEPTIONS:**

**10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4)**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

About five years ago we were stuck in the beginning stages (Level 1). As of about two years ago we have made some progress (Level 2). PSN is an example.

- 11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

These could include: evidence based decisions; partnership model; collaboration; unity of purpose; and, efficiency, effectiveness and cost.

The issue is the enormity of the gap and so even with the best intentions it is hard especially when there is not government commitment to make it happen.

PSC – Agreed Statement of Purpose and Intent.

People are passionate about their sphere of influence but they need to be the same about the “big picture”.

PSCP SC – Develop an agreed model for Business Case development and submit jointly.

**GOVERNANCE:**

- 12. What barriers constrain business outcomes related to joint ventures in PSC?**

Refer to response in Question 1. (RE: Visibility of problems) and Question 2. (RE: Need to make a quantum leap in the technologies).

- 13. Please comment on the current governance arrangements of the PSCP.**

Only been to one meeting of the PSC and so do not yet have a view.

- 14. How could investment decisions in (potentially joint) PSC be best decided?**

Appropriate governance arrangements are required to improve collaborative decision making.

- 15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

No strong views.

- 16. What is your vision for joint PSC ventures between QPS and DES?**

Need a staged roadmap – Now; a 3-5 year view; 5-10 year view and a 10-15 year view.

**OTHER ITEMS:**

- **Any other points you would like to raise?**

No.

END.

## APPENDIX C-2: COMMISSIONER DAVID MELVILLE (DES)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



### RECORD OF INTERVIEW

<b>INTERVIEW NO.</b>	2	<b>DEPARTMENT:</b>	DES
<b>VENUE:</b>	Emergency Services Complex, Kedron		
<b>DATE/TIME:</b>	2 <sup>nd</sup> September 2008 – 3pm		
<b>PARTICIPANTS:</b>	Commissioner David Melville (DES)	Mr Nicholas Moss (DES)	Mr Tim Malone (GQ-AAS)
	Mr Darren Hall (DES)	S/Sgt Samantha Purcell (QPS)	

#### GENERAL:

- How do your responsibilities overlay with the scope of public safety communications?).

QAS provides emergency and non-urgent ambulance based primary health care and specialised health transport services, casualty room services, on site commercial services and community services including research, injury/illness prevention education, first aid training and baby capsule hire services. Our services are designed to support and improve the health and well being of individual citizens and the community. All services are provided in consultation with the community through Local Ambulance Committees.

#### CURRENT ENVIRONMENT:

1. What are major business drivers influencing your (agency's) use of public safety communications (PSC)?

The major business drivers are provision of quality call-taking, despatch and response management functions, provision of systems that ensure ambulances arrive on scene in a timely manner, provision of communications systems to ensure officers' safety, provision of systems to ensure robust auditing and reporting capability.



**2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

Overall yes, however, there are number of gaps which include Communications Centre redundancy, AVL limited to south east corner, in-vehicle navigation a major priority, mobile duress alarms, black spots in radio network and aged radio infrastructure.

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes.

Major concerns with Communication Centre redundancy and response time performance, particularly relating to lack to AVL outside of south east corner and in-vehicle navigation and routing capability.

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Level 2.

In a number of aspects e.g. QAS SIMI projects/ESCAD QAS are leading, however, other areas e.g. the use of mobile data technologies, QAS is starting to slip behind.

**FUTURE ENVIRONMENT:**

**5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

Greater public scrutiny on all aspects of ambulance service delivery, greater public expectation that ambulance services will have access to modern PSC services and greater expectation that emergency service organisations will optimise collaborative approaches to PSC services.

**6. What whole-of-government factors will affect future investment in PSC capability?**

There is clear requirement from Qld Govt. that future investment in PSC capability must be considered across multiple agencies to ensure Qld Govt. is not duplicating services and providing best value for money PSC services.

**7. What cross-agency consideration will affect future investment in PSC capability?**

The use of joint infrastructure to achieve value for money options, without compromising operational services.

**8. What parts of PSC services should be internally / individual agency managed?**

Any aspect which impacts on command and control needs to be managed individually, which includes communication centre staff, however, a large amount of infrastructure can be provided and managed across agencies with robust SLAs and governance arrangements.

**9. What parts of PSC services could be alternatively sourced?**

Mobile radio and data infrastructure.

**JOINT PSC PERCEPTIONS:**

**10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4)**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

With regard to investment decisions, QAS is open to a joint agency approach which demonstrates value for money.

In regards to rating our organisation in terms of operations, level 2.

**11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

1. Meets individual agency operational needs;
2. A clear cost benefit analysis;
3. Robust SLA;
4. Robust governance; and
5. All agencies treated as equal partners.

**GOVERNANCE:**

**12. What barriers constrain business outcomes related to joint ventures in PSC?**

Perception of lack of control and security, cultural barriers e.g. common call takers, lack of robust SLA and governance arrangements. There hasn't been a long history of collaboration in PSC services; therefore, there is a hesitancy to undertake joint PSC initiatives.

**13. Please comment on the current governance arrangements of the PSCP.**

A strategic assessment of all PSC services has not been undertaken to provide a clear roadmap of the future, which has impacted on the effectiveness of the PSC and its governance arrangements.

**14. How could investment decisions in (potentially joint) PSC be best decided?**

A rigorous business case needs to be developed and considered by PSC in a timely manner.

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

Refer five key guiding principles listed under item 11.

**16. What is your vision for joint PSC ventures between QPS and DES?**

That QPS and DES maximise all opportunities for joint ventures including joint communications centres and joint radio and mobile data opportunities.

**OTHER ITEMS:**

- **Any other points you would like to raise?**

No.



## **GENERAL DISCUSSIONS:**

Core business is core business. Need to protect core business for each agency. Agencies do not want to get into each other's core business.

A lot of good work has been done e.g. QAS SIMI (Strategic Information Management Initiative) Project.

A new governance process needs to be introduced. However, can't hold things up. Things must happen and initiatives move at a reasonable pace for all. Robust governance arrangements were required for joint investment in the PSC infrastructure. Previous and current experience as a member of the PSCP SC and at one stage, as chair of the PSN, highlight a determined need to improve the arrangements of collaborative investment in this area to ensure progress in a timely manner. The need for bona fide commitment was essential to the process and agencies needed to genuinely be in partnership for any joint proposal, but opportunities to collaborate do exist.

Seen positive changes within DES since here. In comparison with previous joint investment associations, a positive change in the commitment of the agencies at the strategic level is evident.

Joint / Cluster initiatives are acceptable. Given our size, it is harder to deal with large agencies such as Queensland Health and Education Queensland.

The Public Safety Network (PSN) is a good model with appropriate communications and governance. Agencies need to be confident that its business interests are looked after. However if anything breaks down, need to be able to escalate or at worst withdraw.

The only way to "resonate" with Queensland Treasury is to work through a joint PSC map. An inter-agency governance model that reflects the joint Treasury Cluster arrangements or a PSN type model that even included QCS and JAG would be suitable.

The governance process should ensure that each agency's business needs were addressed and not compromised. The question of giving up some sovereignty to a joint governance model was supported provided that individual core business needs were not compromised. (If core business needs were to be compromised then QAS may be a need to withdraw from such arrangements – as legislatively we have service delivery obligations under the Ambulance Service Act 1991<sup>11</sup> that cannot be put at risk).

Shared facility with a strong governance group and common basic infrastructure should be the model. Can have linked or attached a joint training structure. In relation to the building, generally speaking it did not matter who owned the building. The radio or data

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### **<sup>11</sup> AMBULANCE SERVICE ACT 1991 - SECT 3E**

#### **3E Chief executive's responsibility**

- (1) The chief executive is responsible for the way the service performs its functions.
- (2) Without limiting subsection (1), the chief executive is responsible for--
  - (a) defining the objectives, strategies and policies to be followed by the service; and
  - (b) ensuring the service performs its functions in an appropriate, effective and efficient way.

#### **Example--**

*The chief executive could establish performance measures for the service.*

- (3) This section does not affect the chief executive's responsibilities for the department under another Act.

networks could quite easily be shared and the associated technical support for these networks could also quite easily be shared.

Concerns with the mobile data network 'getting a bit of age' and having issues interfacing with the new ESCAD system. QAS was supportive of QFRS utilising their mobile data network (Mobitex) provided that it did not interfere with the current QAS business needs and services.

Support for Joint facility in Townsville (JCFP-T). However, need to develop redundancy capability in South East Queensland (a "big" issue) – so potential competing priorities. JCFP-T was not considered the highest priority of QAS at this stage. This sub-project should be considered in relation to business needs and such a pilot could be located in another part for the state and that the agencies would need to review this sub-project in relation to the current and short-term planning and also medium to long term planning with an overarching communications strategy for joint centres and also the impact of projects on other projects. Short term achievements would be commensurate with the agencies maturity level and more complex investments and changes once appropriate level of maturity achieved. Any governance arrangements should be regularly reviewed (at least every 3 years) and annual review of joint PSC investments.

Joint centres are essentially 'co-located centres' where each service performed their own business needs including call taking and dispatch. At this stage and due to clinical/ medical aspects associated with QAS call-takers and dispatchers (and their level of training and understanding of the business – intellectual capability) shared / common call-taking was not feasible. The QAS engage a star training process for secondary triage and this presenter higher risk to the community if calls for service were not managed by suitably trained personnel. The resources and sustainability of this training was also considered onerous and there is a great deal of quality assurance supporting these processes.

The drive for common call taking could present a barrier from all agencies in moving forward into joint investment or joint centres as the level of maturity of each agency in relation to joint investment in ICT is considered low at this stage (QAS – level 2 – developing competency). To reduce the risks associated with such a significant business change, each agency needs to develop it's capability to a higher level of maturity. From a service perspective 60% of 000 calls are received by Ambulance – 30-40% of 000 calls are received by Police.

There is a potential for transition to the model of *shared call-taking* in the future 7-10 years but not at this stage.

QAS are more advanced in the process of rationalising their communications centres and are familiar with the change management process associated with such a significant change. QAS model considering a 4 centres – not yet decided.

QAS call taking is very specialised (i.e. need specialist clinical qualifications) and hence is core business and is not negotiable for any sharing model in the foreseeable future. QAS also has some specialist operations and Counter Terrorism (CT) requirements. Radio channels are specifically required for this.

Queensland Police Services (QPS) have special security needs that are non negotiable – e.g. in relation to the security of voice (encryption) and also CT requirements.

END.





I am currently re-planning the ICT Strategic Plan – and expect that your **output from the Strategic Assessment Report will be an input into the new ICT Strategic Plan ‘as an architectural roadmap that is incremental’.**

The roadmap should include the broad steps about how the agencies will progress these – as it will take a couple of years – it's that road map – how we can engage (technology investment drivers – end of life) including prioritisation – and governance that are the key elements (there is a lot of good will already established).

### **CURRENT ENVIRONMENT:**

**1. What are major business drivers influencing your (agency's) use of public safety communications (PSC)?**

Investment in current projects, call centres, QPRIME, radio, Policelink, CAD PSN Mobile Services separate projects within the QPS – much less external projects with other agencies like Crimtrac, IJIS and Queensland Transport (QT).

How do we harness investments to get better outcomes – i.e. silos with interconnections and this needs to be improved.

**2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

Yes but enhanced cohesion-synergy is required to obtain optimum benefits - in a planned incremental scalable way. There is an impact – technology refresh – silo.

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes.

- CAD officer safety
- Mobile apps – QPRIME self serve
- Radio – integration
- Policelink
- Disparate information

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Level 1 - Beginning.

Points to note include:

- Cohesion: separate projects run in silos
- Projects: Program issue
- New Mgt: new architecture – the architecture and strategies are critical and non-existent within QPS at present.
- Internally skills set – capability – need to be sourced. This is a critical RFO which needs to occur ASAP to provide capability for ICT and needs to assess types of arrangements, risks, costs etc so a decision can be made on the model for gearing up resources as required and model for ongoing maintenance.
- Need for – sourcing strategies that represent QPS' best interest (as we deliver this it needs to be in alignment with a planned approach – critical)
- Need for – numerous information strategies.
- Use existing projects e.g. PSN project and mobile program and consider how best to integrate for delivery.
- One of the issues QPS faces is we are at the back-end of other agency limited planning and reactive approaches e.g. Traffic QLD Transport will be lead agency and introduce new road safety legislation throughout the year. There is a huge impact on our police at the end of the day. There is often no funding provided, solutions are not fully thought through but legislative change occurs and QPS needs to deliver, systems, interfaces, business processes etc to support the change. Starting to set up an engagement with ext agencies for the w-o-g program of works as part of planning and demand management so we can plan, architect and manage the agreed, prioritized program of joint work, govern it and manage the changes to it (including costing the work effort). The benefit will be that we can focus and achieve the agreed outcomes e.g. IJIS, CRIMTRAC, QT etc).
- **The capability across government needs to be enhanced also to support all agencies.**
- Internally for example - Operations Support Command is looking at adding another task management system and another GIS and Business Intelligence system specifically for traffic matters. The vision is to have only one system which brings together the required data for the business. As we manage these projects in silos we are burdening at levels below the decision levels to engage and commit to inter-agency priorities. Good people at executive level approve 'in principle' interagency initiatives – external agencies then contact operational police within the Commands, who make agreements, attempt to manage the projects and do not understand the need for standards etc then ICT are required to carry out sometimes significant work without funding etc.

There is a disconnect about how we deliver our business holistically; how we plan, fund it and manage it and manage delivery and any changes. The result is some of these changes e.g. legislation changes impact upon our capacity to deliver our agreed program of work and manage changes in a structured way. QPS are not really in a position to bid for funding for these additional tasks yet we are at the back-end of making them happen. We are not actually getting the benefits – there is a significant requirement for our police to capture data for other agencies and this is not our core business. Better management decisions are required in this regard – There is a need for QPS to be involved at the front end in the planning to get the best benefit for all.

In terms Communications Centres there are many interdependencies and in terms of rationalization, there is a government direction with regard to sharing within the cluster in order to gain funding – joint strategies and business cases are required to be successful. QLD Government is looking for economies for scale and value for money. With QPRIME this is the first time QPS has delivered a significant benefits management plan and after approx 6 months from the final release a report regarding the benefits actually harvested is required. In terms of benefits realization 'maturity' is a key factor i.e. to actually realize the benefits and achieve economies of scale. Organisational maturity is required to realise the benefits therefore the roadmap needs to recognise our actual ability to grow with this. The organisation needs the market capabilities to help us deliver the required work and QPS also needs management capability to align the project appropriately, further additional organisational

capability is required in an ongoing arrangement to maintain the outcome. Organisationally there is only so much capability and only so much capacity.

### **FUTURE ENVIRONMENT:**

5. **What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

QLD Treasury – Value for money – economies of scale – opportunities for rationalisation.

6. **What whole-of-government factors will affect future investment in PSC capability?**

Joined up services e.g. where police and ambulance communicate seamlessly on route in response to a multi-agency incident. Physical integration of services – interdependencies between projects (PSC elements) identified and mapped. Policelink-QPRIME-CAD (interdependencies). PSN is a good example of this investment process.

7. **What cross-agency consideration will affect future investment in PSC capability?**

The integration of all this between agencies and the interdependencies and the external connections is critical.

In an ideal world, it would be nice to have the same systems that met everyone's requirements – realistically there are different requirements for the Services and the reality is there may be different systems to meet those needs.

In an operational context what is important is that we are able to communicate to each other – **it's the integration of those systems that is key – and the individual needs of each agency need to be met.** To capture information that we can share - being able to bring together (integrate) the data from those systems and sharing that information – in a way that allows enable our people to do their business. **Being able to gather the data from those systems and sharing information and some infrastructure over time is achievable.**

At the end of the day – it's about people.



**8. What parts of PSC services should be internally / individual agency managed?**

Not being specific in terms of the PSC elements - we do need to work out **sourcing strategies that give all of us the best outcome**. There are opportunities but it's about the **risk profile** and understanding the pros and cons and cost and how it might come together and be managed – **this process leads to informed decisions** and there is a **change management process** here and how we strategise to achieve this.

How do we work together operationally?

**9. What parts of PSC services could be alternatively sourced?**

Investment decisions – with police good managers who will need good guidance from this – it's complex and big and risky – walk the managers through this – it scales to the big picture.

In terms of the PSN – QPS does employ contractors in this space who can provide the capability that doesn't exist internally – we need to educate the organisation about our capability and need to resource up with specialist skills when required

The strategic assessment SA has to have some refresh built in.

How do we share information and infrastructure?

**JOINT PSC PERCEPTIONS:**

**10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4)**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

The organisation is still low – **beginning Level 1**.

**11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

Guiding principles (Refer Attachment 1 for an extract from the ICT Review some of which are relevant):

- i) Need for professional project managers in public safety communications – we need to support the internal project directors with professionals, skilled across the entire systems development life cycle including organization change management. It is not just about a police officer doing a course in project management but experience using methods and tools across the whole life cycle including OCM within a similar size and scale in the specific technical/business space is essential.
- ii) Plan and architect roadmaps across:
  - a. Information – source of truth for data and business rules about updating etc.
  - b. Business
  - c. Systems
  - d. Technology
  - e. Organisational capability
  - f. People
- iii) Deliver a plan which is flexible and incrementally invest to builds/ capability over time towards the big picture. There may be a requirement for a specific agency to do more work within a given year.
- iv) Deliver, where appropriate, integration of business processes and systems based on business requirements. This is really about value and benefits to both agencies associated with the shared investment.
- v) This does not presuppose that there will be a room with joint agency people all wearing the same colour shirts and doing the same job. But, there could be co-location of agency call centres for example if beneficial?
- vi) Identify real priorities of each agency.

**GOVERNANCE:**

**12. What barriers constrain business outcomes related to joint ventures in PSC?**

Potentially different time frames; capability; experienced project managers; succession planning within ICT – some of the barriers. We need to be flexible and able to decouple. What out for vested interests.

**13. Please comment on the current governance arrangements of the PSCP.**

PSN demonstrates an effective model.

Need more openness and focus on removing “roadblocks”.

**14. How could investment decisions in (potentially joint) PSC be best decided?**

Where economies of scale can be achieved; flexible incremental build to the big picture that integrates over time.

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

Joint governance. Key to educate our people – the Steering Committee/management. There are areas of capability that need to be sustained – senior executive and other police – as they move back to operational world from the ICT area we lose this capability but it benefits in other areas – just recently A/C P Stewart joined ICT – if the QPS intends to have police in ICT there is an enormous risk in regard succession planning. The QPS may be placing a police officer as CIO to provide more business focus and in the future may revert the role back to a civilian CIO. Whatever the direction it is not just the policing succession plan but having the acumen and the **management team to build and sustain capability**. Our A/C ICT has implemented some changes to improve capability but we do need more focus in this area.

**16. What is your vision for joint PSC ventures between QPS and DES?**

ICT strategic plan outlines my vision. This is currently under review and there will be more opportunities.

**OTHER ITEMS:**

- **Any other points you would like to raise?**

No.

END.



## Attachment 1

Extract from the ICT Review, March 2008 document created by QPS.

### **ICT Guiding Principles**

The following principles are intended to guide the transformation of the ICT Command.

**Principle 1** – *ICT services are delivered as a single enterprise.*

- All areas within ICT Command, together with regional ICT staff and external stakeholders, operate as a single unit to provide seamless services to police.
- The enhanced governance framework will provide mechanisms to balance the QPS strategic and regional requirements.

**Principle 2** – *ICT enabled business changes are led by the police business and managed by ICT professionals.*

- Programs or projects delivering the ICT-enabled changes will be led by the business, and managed and supported by appropriately-skilled and experienced professionals adopting best-practice methods, processes, and tools.
- Strengthening police leadership within the ICT Command increases alignment to policing directions.

**Principle 3** – *The provision of ICT resources and services is managed as a business. The new ICT Business Model will be based on the ISCo Model (internal service company).*

- Active ICT leadership at all levels is essential to enable cultural shift to the new ICT Business Model.
- Core services (including resources and key performance indicators) across the Command will be identified and actively managed. Resource management will be planned ahead in line with budgeting cycle.
- Only retain the management and responsibilities of ICT assets where services could best be delivered in-house more effectively and efficiently.
- Strategic sourcing and relationship management functions are to actively manage relationships with vendors and external agencies.

**Principle 4** – *Performance is actively managed.*

- The ICT Business Excellence Framework and supporting principles (refer to Appendix B – *The Seven Elements of the ICT Review Business Excellence Framework*) form the basis for planning and managing the performance of the ICT Command.
- The performance management process within ICT will be actively managed and reported annually through OPR or similar process.
- There will be increased focus on innovation in service delivery and technologies, as part of the continuous improvement process.

**Principle 5** – *The costs associated with support and maintenance will be distinguished from new work/services.*

- The effectiveness of governance and decision-making mechanisms should be improved. Increased management understanding and prioritisation of the finite resources capacity will maximise return on investment and value for money.
- Funding for any work in addition to the day-to-day operations for ICT needs to be considered separately and this work is to be managed as a project.

- Given that major projects normally require long-term commitment, internal appropriately skilled staff undertaking major projects will be permanently backfilled, where possible, to ensure the day-to-day operations are maintained.
- Projects will include fiscal requests for all additional ongoing organisational capacity in business cases, based on a standard funding model. Examples of ongoing organisational capacity required are:
  - Business Support Group for ongoing maintenance of business processes.
  - Business Intelligence Competency Centre for ongoing support of business intelligence, decision making and performance management information.
  - ISB for Service Desk support.
  - Refresh repository tools and content migration e.g. business process management repository.

**Principle 6 - *Do not reinvent the wheel but value-add and maximise investment.***

- Organisational capability and maturity is to be improved incrementally by maximising project investment. Projects use best practice tools and ICT services.
- There will be an increased focus on architecture to improve integration instead of silos of information, systems and technology, to maximise the value of investment.
- To ensure integrated views of the right information for policing, projects will re-engineer and improve QPS business processes<sup>12</sup> and augment the QPS end-to-end business processes (rather than creating 'islands' of business processes or systems).
- To leverage the use of information, a new permanent capability in business intelligence will be established enabling the business to best lead, decide, measure, innovate, manage and optimise organisational efficiency and to achieve performance and financial benefit.

**Principle 7 – *ICT services and systems are managed as assets throughout the lifecycle.***

- Refresh of all ICT assets (including RES assets) is to be built into financial models within funding cycles.

**Principle 8 – *Proactive partnerships will be developed internally, with other government agencies and policing jurisdictions, positioning QPS to be lead (or host) agency where appropriate.***

- Foster internal collaboration and communication, and partner with the business to build confidence and credibility.
- Increased collaboration externally developing relationships to identify process improvement and shared service delivery opportunities.

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<sup>12</sup> Queensland Police Service, Office of the Commissioner, *Consultation Draft Summary Report from Visioning Workshop - Key Outcomes*, Queensland Police Service, 1 August 2007, p. 1.

## APPENDIX C-4: D/C IAN STEWART, MR PAUL BROWN & A/C PAUL STEWART (QPS)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



Queensland  
Government  
Department of  
Emergency Services

### RECORD OF INTERVIEW

**INTERVIEW NO.** 4 **DEPARTMENT:** QPS  
**VENUE:** Police Headquarters, Roma Street, L7.  
**DATE/TIME:** 5 September 2008 – 2 pm.  
**PARTICIPANTS:** Deputy Commissioner Ian Stewart, Mr Paul Brown, Assistant Commissioner Paul Stewart, Acting Chief Superintendent Grant Pitman, Senior Sergeant Samantha Purcell (QPS), Mr Nicholas Moss (DES) and Mr Tim Malone (GQ-AAS).

#### GENERAL:

- **How do your responsibilities overlay with the scope of public safety communications?)**

Deputy Commissioner Ian Stewart – Partly responsible for the overview of major projects (including ICT). Another part is responsibility of any project that comes out of the Strategic Assessment and/or the PSCP Steering Committee.

Mr Paul Brown – delivery of the programs from a HR and finance perspective.

Assistant Commissioner Paul Stewart – Directly responsible for ICT within the QPS and business units within this command including: Radiocommunications; Telecommunication; Information Management Division and projects such as Policelink; Mobile data; CAD and the Strategic Assessment.

#### CURRENT ENVIRONMENT:

1. **What are major business drivers influencing your (agency's) use of public safety communications (PSC)?**

**Cost effectiveness; value for money; ability to provide services to the community that are contemporary and realistic.** Certainly we should have applications such as AVL, SMS GPS, palm-pilots. Community expectations are somewhat driven by an unrealistic media perspective where crimes are solved in an hour on TV supported by modern technology – the community may well expect or imagine that our police service is as advanced as TV examples.



Expectations tend to exceed capacity. **Capacity of government to fund all nominated public safety communications projects for all agencies, internal capacity to manage so many projects and deliver training needs and change management aspects and capability to know what we need.** For example, QPRIME has positively demonstrated to government our level of maturity in delivering this project. What also has to be taken into consideration is the amount of change caused by multiple parallel projects that an organisation can absorb at one time. The delivery of QPRIME and the roll-out of Tasers at the same time poses enormous training requirements that impacts upon the organisation's capacity – there is only so much capacity to deliver change at one point in time.

**2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

**Yes.** QPS has the capability and potential rather than the capacity which has to be brought in. QPS is more mature now than say 3 years ago. Also, have demonstrated that QPS can deliver – i.e. QPRIME.

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes –particularly in mobile data, CAD, (voice) radio.

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

**Level 3 – embedded (based on QPRIME) – (In terms of the PSC projects/environment?)**

- The uniformed staff presence in ICT supports the business needs, coupled with civilian staff and contractors to assist in the product deliverables. This model has proven to work well, utilising internal capability and also sourcing external capability and capacity as required.
- The QPRIME model demonstrates an embedded process of capability with police officers of the level from Senior Constable to Chief Superintendent. Police (business-aligned) resources are sourced from the operational environment and then rotated back to that environment and hence utilise the products.

## **FUTURE ENVIRONMENT:**

### **5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

The government requires that agencies work together collaboratively. The Public Safety Network (PSN) and Policelink demonstrate the ability to do this. Working collaboratively has its own complexities that need capability and capacity to manage.

Other drivers include: community expectations, technology convergence and productivity.

Sometimes, adjustments can make collaborative arrangements work. For example, Police joining a project recently required introduction of Police Security checks for non-Police staff. In the PSN, ancillaries (power, cabling, racks) are being deployed to Police standards, which call for higher level security arrangements, therefore there is a cost associated with this requirement as other users will need to move up to this level as it is not an aspect that can be compromised.

### **6. What whole-of-government factors will affect future investment in PSC capability?**

The failings of not learning; shared services – for example police have a higher level of e-mail security requirements therefore in the PSN model discussion is undertaken to consider all the needs of the users of the network and other agencies move up to that level because it is the highest requirement.

Need to recognise that in this space, one size doesn't necessarily fit all.

Other factors include: the fiscal environment, transparency of government and the need to get the greatest "bang for the buck".

### **7. What cross-agency consideration will affect future investment in PSC capability?**

- External community expectations; innovation; converging technologies; government productivity; increased understanding of ICT by senior management (IS & PB).
- Current strategic directions of each agency. Misalignment of strategic priorities should not be a barrier – the stepping stones of the roadmap should show when it is viable for each agency to progress the opportunities. There should be flexibility to engage at different points along the road.
- Transparency and security and an understanding of the organisations' capacity and capability;
- Governance arrangements in a meaningful way - there is a perceived lack of governance through misunderstanding – though there is a will to progress joint opportunities.
- Need mutual confidence and trust.

**8. What parts of PSC services should be internally / individual agency managed?**

There should not be any barriers to alternative sourcing of the elements of PSC, all options should be considered open in this regard. In terms of investment, the balance between cost effectiveness and risk needs to be included in any considerations.

**9. What parts of PSC services could be alternatively sourced?**

- Practicably – for example when the QPS runs out of accommodation, we should look for joint opportunities to share infrastructure. We have matured very much in the last 10 years. In the past anything that was core services delivery was in-sourced.
- Future considerations should be balanced on cost effectiveness versus risk to core service delivery.
- In relation to shared facilities, individual business needs should be acknowledged as should IR differences, our maturity level and capacity to absorb major change. It's not as simple as re-moveable walls in a co-located communications centre – IR needs to be given adequate consideration. Collocation would introduce a whole raft of issues to work through, and
- Transparency and accountability between partner organisations working in collaborative projects.

**JOINT PSC PERCEPTIONS:**

**10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4):**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

**Beginning Level 1** – Investments and governance arrangements (apart from the technical aspect of the QPS microwave network being utilised for the QAS mobile data network) and the PSCP SC activities. Governance arrangements within ICT are developing with ICT Program Management and Chief Superintendent of ICT projects positions.

**Level 3** – Operationally – Forward Command Post activities (with FSB and their toughbooks).

**Level 4** – PSN perspective. For example the PSN governance arrangements have very clear terms of reference. The chair of the Strategic Investment Committee is rotated between the agencies with Justice as the first chair.



The QPS does not need to be the host agency in all inter/multi-agency arrangements – consideration should be given to who has the most/least amount of large projects and the capacity to host such an arrangement.

**Re-sourcing/capacity** – understandably this is an issue for both agencies as will be the re-sourcing of the roadmap to progress joint PSC investments. However, QPS has good structures in place for over the next 5 years that can sustain any PSC related work program.

**11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities**

- PSC investment in infrastructure should be planned and developed with the aim of maximising value for money and public confidence and officer safety;
- Infrastructure resources should be focused in areas where they best fit, meet community demands, or have the potential to be, world-class and provide international leadership;
- Major infrastructure should be developed on a collaborative, joint, mutual, non-exclusive basis.
- Infrastructure jointly funded should meet the core business needs of each agency (not just the host/funded agency).
- Funding and eligibility rules should encourage collaboration and co-investment. It should not be the function of the joint committee to support individual unique business requirements;
- Access to appeal;
- Due regard be given to the whole-of-life costs of major infrastructure, with funding available for operational costs where appropriate;
- Fuller participation of w-o-g agencies where common business needs exist, should be sought;
- Concentrates effort on areas of greatest strategic impact; and
- Reduces the duplication of similar investments and support arrangements.

**GOVERNANCE:**

**12. What barriers constrain business outcomes related to joint ventures in PSC?**

Potentially different time frames.

**13. Please comment on the current governance arrangements of the PSCP.**

PSN aspects as discussed above demonstrate a very mature model that is applicable across agencies.

Other good models exist that can be drawn on.

**14. How could investment decisions in (potentially joint) PSC be best decided?**

Where economies of scale can be achieved; flexible incremental build to the big picture that integrates over time. The current budget Review Process is quite explicit in regard to the consultation/peer review process that is required for shared investment (consultation with QGCIO) and the vetting/waiting/prioritising of investments.

Suggest that the tools being developed by the QPS Project Unit (OOC) and Investment Governance Board could be applied.

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

PSN model - the Network Management Centre and the Strategic Reference Group.

**16. What is your vision for joint PSC ventures between QPS and DES?**

Driven by government – shared investment where possible; economies of scale.

**OTHER ITEMS:**

- **Any other points you would like to raise?**

Nil.

END.

## APPENDIX C-5: ACTING CHIEF SUPERINTENDENT GRANT PITMAN (QPS)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

#### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



**Queensland  
Government**  
Department of  
Emergency Services

### RECORD OF INTERVIEW

<b>INTERVIEW NO.</b>	<b>5</b>	<b>DEPARTMENT:</b>	<b>QPS</b>
<b>VENUE:</b>	Tourism House, L2.		
<b>DATE/TIME:</b>	4 September 2008 – 10.30 am		
<b>PARTICIPANTS:</b>	Acting Chief Superintendent Grant Pitman, Senior Sergeant Samantha Purcell (QPS), Mr Nicholas Moss (DES) and Mr Tim Malone (GQ-AAS)		

#### GENERAL:

- **How do your responsibilities overlay with the scope of public safety communications?.**

Fragmented. Currently relieving in the position of Chief Superintendent ICT Projects. This is a new position within the structure to overview the current QPS ICT (PSC) projects to move from the current silo approach to these projects and advance toward greater integration of these projects. Recently additional structural changes included RES and TCU to report to this position (they are in the process of transitioning to ISB). In terms of this ROI today I will also address the questions from my substantive position as Communications Manager Brisbane - PCC.

#### CURRENT ENVIRONMENT:

1. **What are major business drivers influencing your (agency's) use of public safety communications (PSC)?**

Community engagement; delivery of field services; officer safety; evidentiary and emergency management – QPS response, multi-agency response and disaster response.

In future, everything will be available from the car – the car will be a station. Look to adopt "best in class" as affordable option to "world's best".

2. **Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

Whilst they are aligned and supported through technical refresh programs – *the systems are over stretched and no-longer fit for purpose to meet basic needs without posing additional risk.*



**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes – our systems and structures were designed for the 50's 60's and 70's – calls for service have exceeded the limit of this technology. IT systems stand alone and tasking system technologies don't interconnect. For example, CAD was designed when the QPS received 400,000 jobs per year. This has increased to approximately 1,000,000 jobs per year. This system is not designed for this capacity and hence the impact is that the system slows and even halts altogether during peak times causing operators to utilise the hand written card system. The impact is that calls are received and entered into the system much slower – thus, less calls for services are taken compared to other states and the average time to answer a call is also longer in comparison to other states. Additionally during peak times when the system halts and hand-written cards are utilised to capture the data – it must then be re-entered at a later date. The ESCORT CAD system is operated in 5 centres and is connected between centres. The IMS system is utilised in the other 18 centres and the systems are stand alone (not connected to any other IMS system).

The QPS operates 2 UHF radio networks. A digital UHF system is utilised in the Brisbane metropolitan area and analogue UHF systems are operated outside this area. A limited number of digital channels are located in each district for special (encrypted operations) vehicles travelling from SER, SR, NCR to Brisbane can communicate with the Brisbane PCC via specially allocated analogue channels. Additionally, digital channels are present in these regions for Brisbane mobile patrols to communicate across boundaries. The impact is experienced by operational response crews and is highlighted across boundaries during urgent interceptions. Brisbane frequencies (channel allocations) are at their limits, yet further growth is required. SEQ experiences high radio traffic loads with 80% loads typical, peaking up to 95% during events/incidents.

The CAD system is not interfaced with Emergency Services, and therefore job details are telephoned through to these agencies. The QPS has not advanced to mobile data technology from the communications centres to the operational crews. The predominant technology is voice, which limits our ability to adopt automation systems to enhance operational response. Our ultimate systems must interconnect Contact centres, Communications Centres, Major Incident Rooms (whether mobile or static).

The radio networks and inquiry channels are stretched to the limit with excessive congestion for information with operational response crews waiting up to 20 minutes for data that could be available within seconds on a mobile data terminal. The radio systems are end-of-life including the digital system.

Each element of the public safety communications infrastructure is mission critical. A commander in the field needs access to at least the same information that the communications centre has access to. Presenting this information also provides challenges.

***The systems are over stretched and no-longer fit for purpose to meet basic needs.***

***If service delivery needs are not met then public confidence is at risk.***

Historically we have developed numerous individual databases at the needs of other (usually central) agencies – thus duplicating workload without increased agency benefit. This has led to the QPS legacy migration project to consolidate these systems into QPRIME. ***There is a need for QPS to be actively involved in the front end planning of these projects.***

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Generally **Level 2 - beginning** and in terms of QPRIME **Level 2**. PSN probably raises our maturity to a **Level 3-4 in its arena**.

Technically **Level 2-3**, governance **Level 1**, middle management are ok but the higher management is level L2.

***IT experts can be criticised for not speaking a language that can be understood by management. Management must also know how IT language and process work.***

The QPS also has 'tactical governance' for example I have a Telecommunications Officer and Radio-communications Officer who ensure support for these systems – and they have a great knowledge in respect to the radio/telephone/voice IP requirements.

Forensic Services have successfully employed in-field IT solutions to drive tremendous savings.

***The capability across government needs to be enhanced also to support all agencies.***

**FUTURE ENVIRONMENT:**

**5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

Drivers include:

- Community needs,
- technology drivers such as RoIP and VoIP,
- radio frequency spectrum sharing.
- Cost saving benefits – such as the introduction of Radio over Internet Protocol (RoIP).

In terms of the fixed data network (public safety network (PSN)) and Policelink, a range of automated or semi-automated information services could be made available to the community to increase community assurance – such as information on increasing home security.

**Benchmarking and reporting requirements are increasing and will continue to do so. Productivity commission points in this direction. In the UK National Neighbourhood**

Policing Standards (and performance metrics) are published and each service reports against them and against local standards as well.

**6. What whole-of-government factors will affect future investment in PSC capability?**

W-o-g ICT initiatives; value for money; economies of scale; shared infrastructure.

A complex world with different dynamics to deal with in urban and rural areas – i.e. PSN maybe has been of more benefit to rural areas.

**7. What cross-agency consideration will affect future investment in PSC capability?**

Business needs.

QPS and DES have different operational requirements.

**8. What parts of PSC services should be internally / individual agency managed?**

Not being specific in terms of the PSC elements – we do need to work out **sourcing strategies that give us all the best outcome?**

**9. What parts of PSC services could be alternatively sourced?**

Managed services could be provided for radio and mobile data networks – important to retain some internal capability especially in regard to planning and internal contract managers that understand the technology and the business requirements.

Communications centres are not as high a priority as the (fixed and mobile) networks to enable larger investments such as QPRIME and realise the full benefits.

**JOINT PSC PERCEPTIONS:**

**10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4)**

**Level 1 – Beginning** – Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.



**Level 2 – Developing Competency** – Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** – Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** – The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Technically Level 2-3, governance Level 2, middle management are ok but the higher management levels is Level 2.

Generally Level 2 – beginning and in terms of QPRIME Level 2. PSN probably raises our maturity to a Level 3-4.

**Need to consider the establishment of an innovation group.**

**11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

- Enhancing integration
- Enhancing capability
- PSC investment in infrastructure should be planned and developed with the aim of maximising value for money and public confidence and officer safety;
- Infrastructure resources should be focused in areas where they best fit? – meet community demands? Or has the potential to be world-class and provide international leadership;
- Major infrastructure should be developed on a collaborative, joint, mutual, non-exclusive basis.
- Due regard be given to the whole-of-life costs of major infrastructure, with funding available for operational costs where appropriate; and
- The Strategy should seek to enable the fuller participation of w-o-g agencies where common business needs exist.

Generally we are creatures of habit hence need to look at addressing organisational culture.

#### **GOVERNANCE:**

**12. What barriers constrain business outcomes related to joint ventures in PSC?**

Historical barriers.

**13. Please comment on the current governance arrangements of the PSCP.**

Not too sure as I am not closely involved in them.

**14. How could investment decisions in (potentially joint) PSC be best decided?**

There is a need to nurture specific ICT support from QGCIO, greater engagement with QGCIO, understanding their policy in regard to ICT strategic planning and w-o-g initiatives and how that fits into our strategic planning both corporately and from the ICT perspective. Actioning the policy and engaging other government agencies with similar needs to ensure maximum benefits. It is understood that in terms of the w-o-g ICT initiatives and findings within the SDPC Review of ICT Governance in the QLD Government that agencies are still developing their ICT capability and maturity.

Generally there needs to be enhanced visibility of the 'communications' aspects of ICT as it refers to public safety communications.

In comparison NSW and Victoria Police, these states had the Commonwealth and Olympic Games as drivers (with funding) to enhance their PSC systems.

***QPS still does not have a radio strategy, this needs to be developed so that each agency can advance to any integrated discussion.***

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

Collaborative Command Centres, in person or virtually. Conduct of joint exercises (recent pandemic exercise example). Imposition of external drivers has been the cause of improved collaboration interstate (Olympics in NSW, Commonwealth Games in Victoria).

Premiers and Treasury could state more clearly their requirements (which would permit management to leverage required outcomes).

CT is a little unique though and covered by legislation.

We must "start ploughing in one corner." PSN can provide useful lessons. If radio can be aligned, it offers great opportunities.

A productivity dividend will be the driver of any actual change

**16. What is your vision for joint PSC ventures between QPS and DES?**

Whilst QPS and DES have different operational requirements, I think the nexus with Emergency Management is increasing.

PSN could greatly assist everyone in regard to their command centres and the current silo configurations enhancing interconnectivity and data services.

Technology tools making policing smarter. Unified centres with shared utilities (such as radio and data (mobile and fixed) networks).

The vision has to come from the top down.

**OTHER ITEMS:**

- **Any other points you would like to raise?**

Nil.

END.

## APPENDIX C-6: COMMISSIONER LEE JOHNSON – QFRS – (DES)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



### RECORD OF INTERVIEW

**INTERVIEW NO.** 6 **DEPARTMENT:** DES  
**VENUE:** Department of Emergency Services, Kedron.  
**DATE/TIME:** 12 September 2008 – 10.30 am.  
**PARTICIPANTS:** Commissioner L Johnson, Mr Nicholas Moss (DES), Senior Sergeant Sam Purcell (QPS), and Mr Tim Malone (GQ-AAS).

#### GENERAL:

- How do your responsibilities overlay with the scope of public safety communications?

The Queensland Fire and Rescue Service (QFRS) is the primary provider of fire and rescue services in Queensland. In addition, QFRS provides a vast range of other fire and rescue services including:

1. Rescues - road accident and other types of rescues
2. Chemical and hazardous material management
3. Community education
4. Building fire safety inspection, investigation and prosecution
5. Administering legislation relating to fire and safety, hazardous materials facilities and hazard mitigation
6. Rural land management advice regarding the role and use of fire
7. Fire scene investigation
8. Alarm monitoring and response, and
9. Commercial training in fire-fighting, fire safety and evacuation procedures.

QFRS is a very structured service and is the lead for fires and chemical hazard incidents.

Personally chair of the DES C&IC and co-chair of the PSCP SC. In summary, the DES Executive Management Team (EMT) member responsible for overseeing ICT.



## **CURRENT ENVIRONMENT:**

### **1. What are major business drivers influencing your (agency's) use of public safety communications (PSC)?**

There is a real need for Geographic Information Services (GIS) to assist in situational awareness and command and control from the frontline back to the communications centre. WA has a program called SLIP where GIS data is updated and accessible. Digitalised computer mapping is critical today; we should be able to move away from traditional maps (where skills are diminishing) and move to modern technology. Contemporary CAD is highly reliant on mapping.

GIS also intersects Incident Command Systems (ICS). There is work underway in a national sense; Fire Services have all adopted the AIMS system.

Each government agency has its own role to play. Somewhere above that is the consolidated view, if we could provide a platform for a w-o-G GIS, there would be great benefits.

The major business drivers are ensuring the effectiveness and efficiency of service delivery. Communications is a critical component of this and is required 24/7. Lack of redundancy and infrastructure support is hurting DES and hence DES needs to move away from our current piece-meal approach ("smell of an oily rag") to a new dimension of service delivery.

From an incident command and control perspective, drivers include improved voice communications and the need for greater data to and from the incident scene.

Need for a Common Operating Picture at state (i.e. QEOC) communications centre, and in-field levels – i.e. where are my assets/resources? Nowadays we need more than a one dimensional view of the incident and to have it presented in meaningful ways. Currently we are immature and solutions are done "on-the fly". Another way of looking at this is C4 (Common, Control, Communications and Computing) needs to be done in a more consistent manner.

Regarding CAD, operators can lose spatial awareness and we need to address this (i.e. common operating picture). Related is the loss of resource awareness for operators as QFRS does not have AVL. Also GIS displays are very useful such as electricity layers, building plans, etc. In general, CAD (i.e. ESCAD) is highly dependent on GIS – but cadastral data is currently incomplete. WA has a good GIS model (i.e. SLIP).

### **2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

Overall yes, however, there are number of gaps. For example, each agency has its own role to play. We need to build platforms that are scalable for whole-of-Government views if it is appropriate for the particular incident/event.

Incidents are generally managed well, but often are based on personal relationships - but can fall apart when under pressure. However, we rely on voice radio too much.

Need better interoperability. Currently relationships cover "holes in the wallpaper". Need to progress a Joint Operating Model/Joint Command System. Police command from the facility (i.e. "the rear") and QFRS command from the field as we send our senior people forward. Closed group (i.e. fire ground channel) communications is important.

Now dealing more and more with scientific information related to the incident (i.e. plumes leading to road closures, etc). Community has a heightened awareness of incidents and impact and hence command decisions and therefore higher-level strategy and communication based on community expectations are now common – i.e. ICC to ROCC to SOCC to the Public.

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes.

Very much dependent on aged technologies.

In 1990 QFRS comprised 81 individual fire brigades (i.e. boundaries). In 2008 we are one service (urban and rural) and now there are no boundaries, so we have come a long way since then. QFRS is not funded through consolidated revenue (nor was QAS up until recently) and so was not in a position to apply for capital investment funds. Hence we adopted the 'cottage industry' approach where all services in the country used to pitch in and set up communications towers or systems

The amount of money (primarily capital) that can be directed to ICT and communications technology is very limited. Importantly, QFRS is not funded out of consolidated revenue which limits QFRS's ability to do anything other than largely maintain the *status quo* with PSC.

DES needs to communicate with Government better why we need funding. Currently we are still in a "cottage industry world". For example, in my career we built radio sites and this still happens to a lesser degree today.

On the surface we manage incidents well. This is generally true because of relationships with officers out there all the time. That covers up the holes in the wallpaper. Police lead most things. QFRS look after fires and chemical hazards. Moving to a joint operational principle or unified arrangements could provide some benefits. QFRS generally have senior officers attending incidents who can make decisions immediately based on experience. Whereas QPS have more junior officers who may not be as experienced and need to wait for senior officers to arrive at the scene to make decisions. GIS could assist in this regard by allowing visual images to be viewed by the command centre to allow rapid decisions to be made. There appears to be a tendency for QFRS to manage incidents from the front whereas QPS tend to manage incidents from the rear (communications centre).

Efficiency and effectiveness is impacted upon by not having the modern tools to help inform and with decision-making. This is where I support unified command.

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

**Level 2:** Not level 1 – but we are at Level 2 – not any higher.

Subject to market pressures and our ability to get and retain quality people.

Part of the problem in government is that we are suffering an industry shortage in technical communications skills. There is difficulty attracting and retaining technical personnel.

#### **FUTURE ENVIRONMENT:**

##### **5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

Unless DES and QPS go forward as one, we won't get the necessary investment from the Queensland Government.

Key to the future is integration at multiple levels.

There is a quantum leap of technology available today, but we can't be experimental in a "production" environment. However, "band-aids" have been applied for a long period of time.

QFRS/DES will always do business but without investment we don't have any "power" – i.e. the necessary information available to make well informed decisions.

**For QFRS, deployable capability has been built and commonly used.** The growth area for QFRS is in rescue, hazardous material and deployable capability.

If we have time on our side – how can this be utilised to make more informed decisions and hence achieve better outcomes for the community? This is where PSC can make a difference.

We know that there is a quantum leap in technology and we cannot afford to go into a production environment especially with our mission critical communications – we should not venture into big risk unproven (bleeding edge) technology.

However, if nothing happens in the PSC space – then we will continue to do business and provide a service.

##### **6. What whole-of-Government factors will affect future investment in PSC capability?**

Often the initial information supplied about the incident is different to reality. Need to build processes and capability from the ground up – i.e. used in events, small incidents and then able to expand to be used in disasters, etc.

**Factors all relate to the demands from "above" – i.e. "need to know", keeping the D-G, Minister and even the Premier informed with timely, properly authorised information.** Information flow up and down the chain of command. Information today almost instantaneously goes through to the Premier on a much more regular basis. There is a better way to keep senior political personnel from a w-o-G perspective better informed. Again GIS could assist in this area.

Can the common operating picture do this?

Strong linkage to environmental aspects as QFRS essentially protects life, property and the environment.

Pressure to ensure that the community has confidence that the government of the day has it's "act together".



**7. What cross-agency considerations will affect future investment in PSC capability?**

Refer to Question 7 above.

**8. What parts of PSC services should be internally/individual agency managed?**

DES needs high availability and reliability mission critical communications services. There is a trend to outsource PSC services. I believe in relationships built on trust and there is a tendency to develop this internally and not so much with an external provider who is running a business for profit. Unsure if DES can get this from a commercial provider – or from any other agency – e.g. experience with Shared Services has not been good.

Provided service delivery arrangements were in place with high level performance Indicators the networks could be externally managed. We could still maintain a core group for in-field command and control communications.

For example, QFRS needs technical support and capability as part of the Incident Management Team (IMT).

Maybe a compromise solution is needed here – i.e. only outsource the network?

We need a high degree of technical support available 24/7 that's part of the command team. You do need ICT that are part of your command as well as the communications centre.

A model similar to the Army where they have communications officers and technical officers would benefit in-field command and control activities.

My concerns stem from the government shared services provider – the benefits are yet to be realised.

State-wide digital radio and possibly state-wide mobile data.

**9. What parts of PSC services could be alternatively sourced?**

"Having a bet each way".

Structure of current capability could be improved, but again, need trust and faith in any service model.

What is core business? – For QFRS it includes command and control communications to support field operations. Need to get the right model!

Spiderman concept progressed before common-operating-picture – i.e. sphere of operations (a web).

Short duration incidents were common, but now getting more pressure to support longer duration incidents and events. QFRS supports many other agencies at incidents and events.

### **JOINT PSC PERCEPTIONS:**

10. **With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4):**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

**Level 1:** Historically just couldn't get to Level 2. However, now hopefully well on the way to start to move forward.

Important to have priorities aligned.

PSCP SC has been frustrating due to the mis-alignment of priorities between agencies. When we started the joint CAD replacement project, the QPS said their system was fine hence we moved to replace our system as a matter of urgency with the interim CAD.

11. **Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

1. Common-operating-picture
2. Unity of purpose
3. Alignment of priorities
4. Robust governance, and
5. Must be interoperable.

### **GOVERNANCE:**

12. **What barriers constrain business outcomes related to joint ventures in PSC?**

DES at capacity.

Personalities have recently helped.

13. **Please comment on the current governance arrangements of the PSCP.**

Decision makers need to take the "bull by the horn" to address current pent up demand pressures.

14. **How could investment decisions in (potentially joint) PSC be best decided?**

Unity of purpose – must move together or we won't move forward.

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

Refer five key guiding principles listed in response to Question 12.

**16. What is your vision for joint PSC ventures between QPS and DES?**

Must have alignment as part of the vision.

Sometimes it doesn't hurt to come last, i.e. Government Radio network (GRN) as we are historically good with lessons learnt.

- You must get alignment.
- Respect each agency's individual priorities.
- We can be united.

**OTHER ITEMS:**

- **Any other points you would like to raise?**

No.

END.



## APPENDIX C-7: MR GARY TAYLOR (DES)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



### RECORD OF INTERVIEW

**INTERVIEW NO.** 7 **DEPARTMENT:** DES  
**VENUE:** Emergency Services Complex, Kedron  
**DATE/TIME:** 5<sup>th</sup> September 2008 – 9.30am  
**PARTICIPANTS:** Mr Gary Taylor (DES), Mr Nicholas Moss (DES), S/Sgt Samantha Purcell (QPS) and Mr Tim Malone (GQ-AAS).

#### GENERAL:

- **How do your responsibilities overlay with the scope of public safety communications?).**

*His area supports all the Life-Critical Communications systems that underpin operational communications – i.e. The PSC elements – CAD, Communications Centres, Radio and Mobile Data.*

*DES has had a considerable high turn-over of staff – comparison with the market urges staff to seek greater remuneration with alternative employers. Before the new Director-General arrived there were temporary staff for up to 6 years – positions were then made permanent. Funding for ICT has generally been ad-hoc.*

As E/D BSS I am the accountable officer for provision and maintenance of life critical communication systems that underpin operational communications.

#### CURRENT ENVIRONMENT:

1. **What are major business drivers influencing your (agency's) use of public safety communications (PSC)?**

*Ability to leverage cost and other efficiencies by combining with QPS.*

Generally operational response - protection of life and property; patient care; rescue services and disaster management.

Specific drivers influencing use of public safety communications include:

- Construction of QEOC – relocation of communications centres;
- Community demand for services;
- Community expectations in terms of triple zero call management and incident response and dispatch;

- Enhancing ambulance response times;
- Enhanced operational capacity, capability and safety;
- Establishment of a statewide virtual communications centre underpinned by the implementation of ESCAD, the statewide telephone management system and inter-communications centre radio coordination;
- Addressing reliance on the radio networks; and
- Electronic connectivity to support the delivery of operational systems and services.

**2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

The capability has been aligned with priorities to date. The priorities themselves are changing as public expectations of service delivery and the nature of demand changes. Clients are reacting to this change faster than infrastructure and ICT solutions are able to. There is definitely a lag.

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

*Yes. There are a lot of systems developed internally that are not sustainable into the future in terms of support yet they keep developing these systems anyway and when they finally can't support them hand them back over. There is a challenge to build the relationships with people internally and explain the impact and issues with internal developments that are not supported by industry. To build trust via communications – need to sit down and talk to them (ICT staff) about the options and sustainability. DES has tightened their governance with the C&IC – all ICT projects now have to get approval.*

They are adequate for now, but will not provide for the future. The real issue currently is that significant resources are needed to maintain and grow what we currently have.

The current state of DES capability across the range of PSC elements is varied reflecting the organisational priorities and financial investment and funding capacity. Refer operational communications diagram. DES acknowledges that it is grappling with a range of aged and obsolete infrastructure which requires investment.

Specifically:

- Over the past few years, DES has been progressing a communications centre modernisation program to provide console expansion capability and upgrade all communications centres to support the introduction of ESCAD.
- ESCAD is currently being rolled out with 6 regions implemented.
- DES does not currently have digital radio networks supporting operations. DES operates a Mobitex mobile data network supporting QAS operations in South East Queensland only. QFRS does not currently have mobile data capability. Both QAS and QFRS would seek to implement mobile data throughout the State to support incident response and dispatch.
- Business-grade connectivity is required to support the delivery of statewide systems and facilitate the expansion of Radio Over IP (RoIP) as appropriate.

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

*Level 1.*

- *Need a risk mitigation strategy*
- *To get the leverage we need the partnerships – for example if we are leasing the same product greater leverage.*
- *Continue to question why are we developing so many systems that are not sustainable instead of buying them?*

**FUTURE ENVIRONMENT:**

**5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

Cost effective approaches to service delivery which meet DES-specific requirements consistent with community expectations and scale of requirement.

**6. What whole-of-government factors will affect future investment in PSC capability?**

*The government does not have a network strategy for the state. Whole-of-government needs to be proactive for the agencies.*

Queensland Treasury is seeking to minimise its investments in capital infrastructure through joint initiatives and collaboration across Queensland Government agencies.

Factors include cost pressures, performance efficiencies, and the key priorities of government require that DES moves to invest in digital mobile capability.



**7. What cross-agency consideration will affect future investment in PSC capability?**

*There are a lot of Commonwealth programs because we do that in a small agency. DES does well in the immediate response – recovery is handed back to local government and communities. There is a gap whole-of-government agency perspective – so they give that to DPW who only look at the buildings.*

DES will consider participation in any cross-agency initiatives which will deliver cost-effective approaches to address the department's capability requirements in terms of the PSC. DES has signed a Memorandum of Understanding with Ergon Energy to share information in relation to UbiNet.

**8. What parts of PSC services should be internally / individual agency managed?**

*None of them – anything could be outsourced depending on a business case of the costs and benefits. It must have proven benefits in both the short and long term.*

Those capabilities which refer directly to discrete agency service provision. Communications centres would most likely remain under internal management for the foreseeable future.

**9. What parts of PSC services could be alternatively sourced?**

*Key challenges – Digital radio. Discussion on the QPS microwave links utilised by DES for the mobile data network – not familiar with these arrangements.*

Any options considered for alternative sourcing must be cost-effective for DES in our fiscally constrained environment. Options could be explored for mobile data and fixed data networks.

**JOINT PSC PERCEPTIONS:**

**10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4)**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

*We missed the boat with PSN on the initial occasion and then the 2nd occasion. Once government made the decision DES should have got on board then. At the time we only had 'x' connected. PSN were not taking on dial-up so DES chose to opt out and address all needs as a complete package elsewhere.*

Probably level 1, as organisationally DES does not have previous experience with joint initiatives within the PSC context.

**11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

*Redundancy and risk.*

The guiding principles would include:

- Provide mutual benefit for participating agencies with a clear Public Safety community benefit;
- Provide a fiscally responsible and cost-effective solution for the respective organisations;
- Be derived through a rigorous, structured process supported by a substantiated business case aligned with each agencies strategies and future operational needs;
- Being overseen by an appropriate governance structure, possibly a joint Communications Investment Board responsible for:
  - Project oversight including adherence to the appropriate whole-of-Government methodologies and framework; and
  - Performance reporting including return on investment and benefits recognition.
- Be departmentally endorsed by the respective Director-General/CEO.

**GOVERNANCE:**

**12. What barriers constrain business outcomes related to joint ventures in PSC?**

Barriers include lack of understanding of the respective businesses, differing business requirements, priorities, timelines, funding capacity, technical environments and security requirements.

**13. Please comment on the current governance arrangements of the PSCP.**

The PSCP needs to change from a Project Steering Committee and become a standing Joint Investment Board. CFOs and CIOs of each agency need to part of the new board.

**14. How could investment decisions in (potentially joint) PSC be best decided?**

Investment decisions could be made following detailed consideration of joint business cases identifying a range of possible options including in-sourced and alternative sourced service delivery models. These options should be considered for both specific agency versus joint approach. The business case must be overseen by an appropriate governance structure including joint representation.

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

Management options should be a key consideration of the business case.

## 16. What is your vision for joint PSC ventures between QPS and DES?

The vision is – 'Delivery of cost effective outcomes for agreed agency priorities which are developed in a spirit of cooperation and collaboration'.

### OTHER ITEMS:

- **Any other points you would like to raise?**

Previously "ownership" and control of process has impeded the progress of joint undertakings. DES and QPS are in a mature organisational position now where this is less likely to occur. Even so, the potential for this to reoccur needs to be openly recognised and managed.

In the past the highest level of governance works – D-G level.

Lack of action – hasn't achieved as much as it could have (PSCP SC).

QEOC due for construction next year.

Mr Taylor expressed a hope that the QPS would re-engage with the JCFP-T project. Discussion and reference to the Aug 2007 minutes demonstrated that the interest was still there and that the PSCP SC had placed the project on hold pending the further work in regard to QEOC.

### GENERAL DISCUSSIONS:

Focus of late on front line services and hence support areas were not being recognised for the good work they are doing – ("not loved" feeling).

Three 3 major corporate projects:

1. QFRS Operational Management System (OMS);
2. QAS Strategic Information Management Initiative (SIMI); and
3. DES CAD (ESCAD)

have taken 2-3 years from their start before operations are seeing dividends.

How DES is funded is an issue. Essentially operate as 3 departments, each with their own source revenue and with Acts that limit what can be done with the funding outside of line/core business for each service. This model limits the strategic options for DES.

Physical things get funding (i.e. water, roads, etc), but not intangible things such as public safety – not politically "sexy".

Unions focus on their respective core equipment and not on any ICT that might be of assistance.

Do CITEC have the service capability of PSN?

***Digital radio will creep up on us very quickly- all the drivers – going digital.*** Police will still need a dedicated line. We still suffer from the legacy of where we came from in the 90's – one department.



**Qld is a large geographic area (draws picture) there is a lot of work in the radio space needed.** RoIP is something PSN and DES are doing separately. The area of old tech/radio tech / tech support need to come together – overall service together – talk on radio towers. **Radio techs are separate to troops** – Need a strategy for radio techs coming together. There are internal demarcation and IR issues in relation to the different internal agencies (as separate statutory authorities. As technical support diminishes, and industry skills diminish then the transition to managed services will occur over time).

A number of QFRS systems (e.g. Online Learning System) have been developed internally and outside of ICT. These are not strategically focused and in the past have involved assistance from ICT to complete.

View is that ICT wants more money and it takes too long – but ICT will ensure it all fits together and works – i.e. cost differential and perceptions vs. expectations and perceptions – (“a bum rap”).

Major turnover of ICT staff (14-15 key staff left). A lot of temporary and project funded positions that needed to be addressed recently.

Steps are needed to build up trust – e.g. regular meetings and engaging and explaining things in detail.

Governance – Via Communication and Information Committee (C&IC) – All ICT projects go through this committee who now have to prioritise work.

Some investments must be joint:

- Risk mitigation;
- Maximising value of investment (framework and architecture).

For example, can't build one product for all, but we can have one framework and then “branding”. Any national product if available is a good option. Need to buy off the shelf as a rule and we must not overplay our uniqueness! – (Buy not build).

Gary has been at DES for 14 years, previously as CFO. Before DES, Gary was at the Dept of Corrections where a lot of debate occurred on what is to be outsourced – and – what should be unsourced. Lessons learnt indicate that any market monopoly (i.e. private prisons) can lead to you being exploited. Good at first, but then money was always asked for – so you need some sort of competition. All contracts also were written with a “let-out” clause – i.e. they could determine what type of prisoners to take – e.g. 20 extra prisoners or high risk prisoners, etc.

During disasters, everyone gets involved but we don't do enough planning together. EMQ/DES is good at response, not in recovery and ongoing support – i.e. Evacuation Centres – we need a whole-of-Government response. Currently recovery and ongoing support goes back to Local Government.

Need to be careful of “bidding wars” between jurisdictions for common initiatives.

“Retaliation” – For example QAS has taken paramedics from other states and the UK.

A key challenge is Digital Radio – probably more so than mobile data. Natural progression – convergence and digital. However, currently suffer from our legacies and history.

Radio expertise is diminishing. We can't compete for same resources with QPS, etc.

How will DES come together – i.e. reporting and service delivery? How are services to be governed and operated? There is a culture existing from over 10 years ago where each operational area was their own Statutory Authority – (i.e. acting largely independently).

In the end it all comes down to personalities of the people and their willingness to work together. PSCP SC has worked at the sponsor level, but once in the details of the work, things have not been progressed well e.g. Townsville.

*END.*

## APPENDIX C-8: MR TERRY BEITZ (DES)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



Queensland  
Government  
Department of  
Emergency Services

### RECORD OF INTERVIEW

**INTERVIEW NO.** 8 **DEPARTMENT:** DES  
**VENUE:** Department of Emergency Services, Kedron.  
**DATE/TIME:** 12 September 2008 – 10 am.  
**PARTICIPANTS:** Mr Terry Beitz, Mr Nicholas Moss (DES), Senior Sergeant Samantha Purcell (QPS), and Mr Tim Malone (GQ-AAS).

#### GENERAL:

- How do your responsibilities overlay with the scope of public safety communications?

As A/Director ICT Services responsible for DES information standards and ICT operations – i.e. CIO and CTO functions combined.

From a policy perspective, DES is mature and hence the CIO is the point of truth. However, how does policy migrate into operations? – i.e. what are the governance arrangements?

Peak committee is the Communications and Information Committee (C&IC). However it is currently more the peak body for CTO issues, not CIO matters. This needs to change as currently we are restricted to talk about the things we understand.

Current short term role included the revision and re-education of the role of the CIO and C&IC within the context of the whole-of-Government and within agency governance arrangements.

Looking at how the C&IC will fit into any Program Management Office/Function or any strategic investment board similar to what QPS has recently done.

Currently staffing impacts delivery, not policy.

Operational divisions are mature in their business and ICT mature in our processes but overall DES is immature in relation to strategy. Focus more on "keeping the lights on".

There's a (dangerous) history of ICT writing the business requirements for QAS, QFRS and EMQ. This in future must not occur.



## **CURRENT ENVIRONMENT:**

### **1. What are major business drivers influencing your (agency's) use of public safety communications (PSC)?**

QAS, QFRS and EMQ operations had lost their way in terms of being "localised" or siloed, but now we are refocusing on core services and more importantly on the PSC environment. DES now realises that the PSC is a bigger environment than previously thought – i.e. not just DES!

Need to embrace technologies and focus on community expectations and even how the community are maturing with the use of communications technologies. DES is getting to the point where we need to recognise that we need to be smarter than ever before – e.g. optimising GIS capabilities and systems. Historically DES has not liked to change the things we have always done.

Spatial data and its benefits are hard to put into words. However, safe to say that historically the Commonwealth and the States have not played well together in essentially understanding what is required from the, or the power of sharing the, core/common data sets.

Currently DES and QPS are participating in a data sharing national and state GIS trial of a common operating picture to improve data sharing capability. The Corporate Risk Register has identified failure to develop GIS/Spatial capability as a risk to continued service delivery improvement.

Need to look at progressing a Common Operating Picture. This should be the "back-end" and the visualisation aspects which can be separate "for the business" - needs to be developed. For example Digital Elevation Mapping as a dataset is a lot more useful when linked with other sources and then displayed. We need to agree to make information available to those who need it, when they need it – "pull rather than push".

DES's capacity to fund PSC is very limited – i.e. capital works and ICT planning methods don't specifically support PSC.

Focusing on bigger outcome, 'realisation of public safety as a bigger environment' and the relationship with the public.

Business Drivers from a PSCP perspective:

- (a) Embrace technology and understand the public's use of technology and their expectations of it.
- (b) Breaking out of our traditional tardiness (however, we don't want to be bleeding edge<sup>13</sup>). For example, the kids in the street are using spatial data and we're just not there yet. We're bleeding edge if we do it ourselves – not bleeding edge if we do this across government.

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<sup>13</sup> Wikipedia, Bleeding Edge, accessed on-line, 21 September 2008. **Bleeding edge** is a term that refers to technology that is so new (and thus, presumably, not perfected) that the user is required to risk reductions in stability and productivity in order to use it. It also refers to the tendency of the latest technology to be extremely expensive. Recently however, the term **bleeding edge** has been increasingly used by the general public to mean "ahead of cutting edge" largely without the negative, risk-associated connotation concurrent with the term's use in more specific fields. In such cases the user is willing to sacrifice stability or ease of use for the sake of increased functionality.

- (c) Out incapacity to fund major PSC projects, for example, digital radio communications, mobile communications (and capital works to a lesser extent).

The ability to visualise a situation through spatial data will benefit all emergency services and could be utilised for day-to-day operations from the incident forward command posts to the communications centre major incident room and would assist in judgement, accuracy and expediency of decision-making.

**2. Are current PSC capabilities adequately aligned with the business (strategic priorities)?**

They are aligned to the business in a true sense at individual agency level. However, we are not keeping pace with the opportunities that are available to DES – i.e. can't continue to improve service delivery.

Yes in a business sense. Don't think they're keeping up in an operational sense in terms of big ticket items like infrastructure, etc.

**3. Do you believe that the current state of your PSC systems is impacting upon the agency's service delivery?**

Yes. As above, can't continue to improve! No worst service but cannot move quickly enough in a collective sense to increase efficient with current systems.

We need to be more "agile".

**4. How would you rate your organisation's maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Level 2 (with a bullet). Can't give a 3 as ICT shouldn't drive the business.

**We do have some embedded practises but in the corporate side, not the operational side – i.e. need to understand operations better.** The nature of this area is that it is almost impossible to unravel and separate IT from operations.

For example - E-mail is now embedded in operations for key response and information sharing functions. E-mail therefore needs to have high availability. Paging is a tertiary response (i.e. from QAS requirements). However we will probably always need telephones to be highly available and reliable.

**Day-to-day critical is QAS with 600 Code 1 (i.e. life threatening cases) per day in the Brisbane region and approximately 500 calls per day on the Gold Coast. Overall about 1,000 Code 1's per day in southeast Queensland.** Which is why voice is the primary (radio and telephony) means of communications – digital communications and mobile telephony.

Need digital communications and mobile communications – i.e. we need to talk to the community and our people.

ICT needs to be embedded within DES. ICT always has been supported from “the top” but overall it has been hard to prioritise from a DES perspective. Now we are acting more like a Department (not as 3 separate entities as in the past) – especially in the past 6 months – than ever before.

QAS have historically been easily captured by technology.

Lack of capability to prioritise.

#### **FUTURE ENVIRONMENT:**

#### **5. What external (or collaborative) drivers are shaping the way you will do business and the way you will use PSC services?**

**BUSINESS DRIVERS ARE ALL ABOUT COMMUNITY BENEFITS.**

Main drivers are cost and the need for agility and to be able to work together to provide outcomes to give a community outcome – (i.e. QPS focus on response and the Department of Communities focus on outcomes with DES's assistance).

Another significant driver is **actual capacity** - staffing. Currently it is hard to attract and retain staff and hence managed services (including outsourcing) **should be considered**. DES and QPS need to pool resources as PSC skills are generally scarce (i.e. skill shortage) and DES in particular has an “old workforce and aging” – i.e. post retirement age (55-60).

There is a need for a policy on managed services and the sharing of resources across agencies to support any shared PSC systems.

We need to “bite the bullet” and share the resources we have across agencies. For us that means QPS and DES because no one has the infrastructure coverage we need for radio and mobile communications.

We need to start growing our resource base (i.e. succession planning).

We are only just getting to the realisation that we need to be planning for the future whilst maintaining service delivery. Key timeframe is the 3-5 year forward horizon for maintenance and managed growth. Future investment needs to be planned for outer years past that horizon.

#### **6. What whole-of-government factors will affect future investment in PSC capability?**

Cost and management capability.

DES and QPS need to focus on whole-of-government policy – e.g. the Technology Transformation Program (TTP), and how that relates to our service delivery needs.



## **7. What cross-agency consideration will affect future investment in PSC capability?**

How well the Public Safety Cluster (DES, QPS, JAG and Corrections) can benefit and assist others and also how well we can collaborate with others – such as Queensland Health and the Department of Communities.

The main consideration is how well the public safety cluster can identify and deliver on joint requirements. Consideration should also be given to what other agencies are relevant to the cluster in terms of sharing infrastructure, such as QLD Health and the Department of Communities.

## **8. What parts of PSC services should be internally / individual agency managed?**

Consideration of the impact of service delivery on the ground, i.e. those services that directly impact our service delivery on the ground (i.e. the PSC gear in our vehicles and appliances).

PSC in the vehicle.

The quasi-technical support should be maintained internally – with the field deployment in a catastrophe in sourced.

## **9. What parts of PSC services could be alternatively sourced?**

All and any network arrangements can be managed and provided by others (i.e. managed service).

The desired model is to a technician to go with the forward command. In the field you then need a communications/dispatcher type person in conjunction with resources to assist with the physical deployment of PSC technology.

QAS need this for major planned events whilst QFRS need to deploy straight to the fire ground. More importantly ICT Services wants to ensure capability exists to deploy services when and where existing communications have failed – i.e. the result of a cyclone.

### **JOINT PSC PERCEPTIONS:**

#### **10. With regard to joint or shared PSC capabilities, how would you rate your organisation's maturity level in regard to 1) investment decisions and 2) operations? (Level 1-4)**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

Level 1 – Investment.

Level 1 – Operations.

We do a lot on the ground but need to do more at an agency level.

RE: PSCP – You can only fail when you try and in reality DES and QPS have been serious since 2002-2003 not since Recommendation 57 in 1993. A number of confounding factors have made it difficult to progress as desired.

**11. Please suggest (5) key guiding principles you feel should apply to investment decisions affecting joint or shared PSC capabilities.**

1. Common Operating Picture (connected and shared data sets and visualisation needs);
2. Embrace technologies that deliver operational services;
3. Focus on community expectations and understanding the maturity of communities use of technologies;
4. Must support talking to the community and to our people; and
5. Robust governance.

**GOVERNANCE:**

**12. What barriers constrain business outcomes related to joint ventures in PSC?**

Need to have a joint operations planning model and hence must have joint investment planning to succeed.

Need to be informed by the strategic directions of all agencies – This must come out of any Program Management Office / Function.

**13. Please comment on the current governance arrangements of the PSCP.**

Currently we do not have any investment governance arrangements for PSC critical elements.

Practical day-to-day issues requires a policy framework which does not exist yet.

**14. How could investment decisions in (potentially joint) PSC be best decided?**

Need to have clear policy and guidelines on:

- How things are to be funded;
- How elements will be managed; and
- How Business Cases are derived.

Review of DES CIO and C&IC should be completed by November.

Development of the new DES Program Management Framework is led by SPES and its report has been delivered to the D-G.

Any investment decision model will more than likely see DES progress via the C&IC to any Program Management Office / Function before entering the joint PSC space.

**15. How could operational provision of (potentially joint) PSC capabilities be best managed?**

Refer five key guiding principles listed in response to Question 12.

**16. What is your vision for joint PSC ventures between QPS and DES?**

Need digital communications, mobile services and good quality people to support PSC.

Co-location is a "no-brainer" – but we need to articulate a shared vision in order to progress co-location.

There needs to be a policy framework containing a clear set of guidelines for joint investment; funded; managed; business cases derived.

Internally for DES (& ICT) the key is the C&IC and the program management function. This function is evolving and may be established within the C&IC over the next two months. Strategic Policy and Executive Services will report within a month on the program management function. It is being considered as a function and not a specific position (or office) at this point in time.

At the moment dysfunctional within C&IC, capital works is improving as is workforce management, and finance is good. The review of the C&IC will improve the governance and functionality generally.

**OTHER ITEMS:**

• **Any other points you would like to raise?**

In regard to co-location of communications centres, we cannot afford **not** to make infrastructure savings where possible. This has been on the agenda for some time now. However, it should be considered within the strategic priorities of each agency.

If there was to be consolidation, then there would need to be a **policy position** and a **business case** developed with true options and benefits fully reasoned within the business case.

The priority of any PSC investment should be:

- 1. Digital Radio Communications**
- 2. Mobile Services**
- 3. Joint Communications Centres – least priority.**

END.



STRATEGIC ASSESSMENT  
OF PUBLIC SAFETY COMMUNICATIONS  
REPORT (SAP REPORT)

VOLUME 2 (CONTINUED)

APPENDICES C-9 to H-4

## APPENDIX C-9: MR TREVOR DANN & MR GRAHAM WHITE (QLD TREASURY)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

#### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



Queensland  
Government  
Department of  
Emergency Services

### RECORD OF INTERVIEW

INTERVIEW NO.	9	DEPARTMENT:	Queensland Treasury
VENUE:	80 George Street, Brisbane.		
DATE/TIME:	17 September 2008 – 11 am.		
PARTICIPANTS:	Mr Trevor Dann (Treasury), Mr Graham White (Treasury), Mr Nicholas Moss (DES), S/Sgt Samantha Purcell (QPS) and Mr Tim Malone (GQ-AAS).		

#### General:

- How do your responsibilities overlay with the scope of public safety communications?

From a central agencies perspective seeing the PSC picture as a whole.

#### Strategic Assessment:

1. What are Treasury's expectations of a Strategic Assessment undertaken in the context of Public Safety Communications? What would success look like?

Need to get an overall picture and how does it all fit together and where are we going. Within this context – What is the scope? – i.e. the identification of the synergies.

Bigger Picture – What is the ask? What is achievable? Why does/will something work for one critical asset or agency, but not for others? What is critical vs. nice to have?

From a maturity model perspective, Treasury does not have a brilliant understanding of the technology, the business needs or the scope for synergies. However, they would like to improve and go on the "journey" – hence a maturity rating of between Level 1 and 2. The process is basically Business Case, but should be supported by discussions with officers (regular formal and informal). From a QPS and DES perspective it is evident that there is a good understanding of the technology and needs – but there is a strong need to articulate these better to Central Agencies.

Treasury expects QPS and DES to come together and focus on service delivery elements as in general there is wariness of undertaking big ICT projects.

The aspect of agencies prioritising their submissions for capital-vs-ICT shows greater emphasis on capital investment (infrastructure). For example, year after year we see the same submissions, but in a different priority. For the last 7 years DES have been submitting mobile data requests and last year that request was prioritised as number 3 but has had varying priority over the years. This can appear confusing as to the actual priority of the ICT/PSC investment.

The must-haves-vs-the nice-to-haves need to be clearly defined.

Treasury want to see the long term plan – how all the PSC/ICT investments fit into the long term plan. It is also essential that any submission clearly defines the link to the 'service delivery element' otherwise there is a tendency to be wary of big ICT investments that don't articulate the benefits.

There is a broad perception that the PSCP activities have not been as cohesive collaboratively as they could have been. Although the last 12 months and especially lately has shown a willingness to collaborate in the PSC domain. This is apparent due to a range of factors including financial needs (significant large scale shared investment) and the strategic aspects from government – for agencies to consider shared investment and economies of scale.

There is a need for agencies to present the broader picture, to be able to look at the investment map and visualise how each aspect of PSC fits into the broader picture and when investments might occur. For example QPS CAD and how it fits into the future of PSC and collaboration with DES. Knowing where each element fits within a timeline whether there is any compatibility/whether each investment is consistent with the broader picture.

#### **Collaboration by QPS and DES:**

#### **2. What is Treasury's perception of the history of collaboration by QPS and DES?**

It hasn't been as cohesive as it could have been. However it seems to have been much better over the past 12 months. QPS and DES heeding the message that Government wants to see the "big picture".

#### **3. What is Treasury's perception of the recent collaborations by QPS and DES?**

PSN is the most notable example to date. Collaboration seems to have been much better over the past 12 months.

#### **How would you rate maturity level in regard to effectively managing and planning the technologies associated with PSC:**

**Level 1 – Beginning** - Limited capability for managing technology performance across the organisation. Agency complies with statutory requirements for public governance.

**Level 2 – Developing Competency** - Supervision and monitoring systems are in place. Several elements of technology performance management need further development.

**Level 3 – Embedded** - Sound technology performance management practices are used across the organisation to drive the business.

**Level 4 – Leading** - The organisation is proactive, uses internal and external data to plan for and actively ensure that outcomes are achieved.

**Level 2+ –**

Maturity wise QPS and DES appear to have a good grasp on managing and planning the technologies associated with PSC:

However QPS/DES don't always articulate the picture. For example this is going to fall over because of 'x'. 'X' needs to be explained so that it is understood from a service delivery perspective and from a broader picture perspective.

**4. What is Treasury's perception of the ICT Program Management maturity of the Public Safety Sector?**

Very early days and so probably at a Level 1-2 maturity stage.

**5. What is Treasury's perception of the ICT Program Management maturity of Government?**

Again very early days – Level 1 to 2.

**Possible Approaches to Collaborative Solutions:**

**6. What benefits would be available from co-location of communications centres of Police, Ambulance, Fire and Emergency Management? What draw-backs would there be?**

Intrinsically assume that with co-location there would still be some benefits in coming together although any benefits from a fully integrated model would be expected to be greater.

Regarding Townsville Joint Facility Pilot – What is the business case? – i.e. what are the synergies in the proposed model? A 10 year plan of consolidation of communication centres (as under consideration by QPS) would be a good thing to see on the table first.

In terms of co-location in communications centres, you would intrinsically assume that there are benefits for sharing a building – some synergies. However, these need to be fully explored to support such a proposal. There may be some marginal benefits such as security or generators however; these are yet to be clearly defined.

**In terms of the Joint Communications Facility Pilot – Townsville (JCFP-T) it is not clear to Treasury as to what the benefits of co-location actually are.**

The direct benefits of co-locating-vs-separate centres need to be defined for any co-located investment as well as the future benefits. In regard to the shared call centre facility at Zillmere Policelink is separate to other agencies' services. 'DES were in and then they were out'.

In terms of communications centres, Treasury (have not seen) don't know what the agencies are planning for the next 10 years.

**7. What benefits would be available from the collaborative provision of mobile (voice) radio services for Police, Ambulance and Fire?**

For example if you had other players on the network there may be greater benefits.



There is a need to discuss beyond the technical capabilities and into the business opportunities. At the moment it is not clear what is a refresh and what is part of any new service delivery model. If there is a collaborative approach, then funding for definition and scheduling may be possible.

**However if there was a Tsunami (in times of disaster) you should be able to disable the other players to allow priority for relevant services over the network.**

Treasury are more likely to fund a digital radio network if they can see the bigger picture.

**8. What benefits would be available from the collaborative provision of mobile (data) services for Police, Ambulance and Fire?**

From the recent Expression of Interest (EOI) led by DES/QAS, Treasury understand the big dollars required, but need to see how it all comes together and where it sits within the bigger PSC landscape.

Explanation by TM on the need for a digital resilient network. TD – in terms of the network, do you need the same service level across all areas? TM identifying 'the best bang for your buck' concept in terms of buy/build/share - of what to invest in and what managed services to invest in.

**9. What benefits would be available from the collaborative provision of computer-aided dispatch (CAD) services for Police, Ambulance and Fire?**

Intrinsically Treasury would expect that the benefits would be similar for QPS, QAS and QFRS, but more discussion occurs on what is different. This does not help anyone understand the challenges/issues.

From our basic understanding CAD is a system that provides information from the communications centres to the vehicles, police ambulances and manages these resources – as to the calls for service.

**10. What benefits would be available from QPS and DES joining in a more widely-based GRN? How extensive (membership and coverage) would any likely GRN be?**

What are aspects of the broader network that we could tap into in order to obtain benefits such as cost effectiveness, resourcing benefits, better coverage, etc? How would things go in an emergency? Does it (Ubinet) meet most of our business needs? Do not get the cart before the horse?

**11. What benefits would be available from establishing a separate Authority (such as Victoria's ESTA) for the provision of public safety communications?**

Treasury are interested in understanding more about other jurisdictions and service delivery models.

What was the "before" state? How does this compare to the "after" state?

In selling the model the broader picture with the clearly defined benefits needs to be depicted. Comparison of costs for similar services in other states would assist.

The government is keen for both agencies to focus on the frontline. So whether the model is an independent model such as the Victorian ESTA model or a PSN type model the benefits will need to be clearly shown.

(If an ESTA type model then there would need to be a centralised budget?).

There is a need to define the risks if we keep going down the same path.

#### **Whole of Government Directions:**

#### **12. Considering Technology Transformation (TTP), what role does Treasury expect QGCIO would play in the strategy of any aspects of Public Safety Communications?**

Advisory/standards role – Program Management.

PSN is a reasonably good model that demonstrates collaboration. As a host Police have done a good job.

Would not like to see PSC activities held up by what CITEC or any other agency might or might not do in the near-term or longer-term future.

There could be benefits with the Ubinet proposal – this may involve other players and could be examined in a preliminary evaluation of mobile services.

#### **13. Considering Technology Transformation (TTP), what role does Treasury expect CITEC would play in the provision of any aspects of Public Safety Communications?**

QGCTO and CITEC – Don't hold up PSC/SA opportunities or work until this change management initiative (the TTP) is complete. However, need to be cognisant of the end "big picture".

#### **Other Matters:**

- **Any other guidance for the Strategic Assessment?**

QPS and DES need to focus on core business (front line service delivery).

The Public Safety Network (PSN) seems to be a good collaborative model – (and on time and within budget). However, remember that the PSN had to identify and then put aside significant funds to establish the structures to support the project and the end service delivery model – i.e. It costs to support yourself – but does reap benefits!

#### **Other Items:**

- **Any other points you would like to raise?**

No.

END.

## APPENDIX C-10: MS KIRRILY BOOKER & MS SUSIE KRIMMER (DPC)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

#### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



Queensland  
Government  
Department of  
Emergency Services

### RECORD OF INTERVIEW

**INTERVIEW NO.** 10      **DEPARTMENT:** Dept. of the Premier & Cabinet (DPC)  
**VENUE:** 80 George Street – Level 13  
**DATE/TIME:** 23 September 2008 – 2.30 pm  
**PARTICIPANTS:** Ms Kirrily Booker (DPC), Ms Susie Krimmer (DPC), Senior Sergeant Samantha Purcell (QPS), Mr Nicholas Moss (DES), and Mr Tim Malone (GQ-AAS).

#### General

- **How do your responsibilities overlay with the scope of public safety communications?**

Emergency Services is part of the portfolio that we look within Social Policy.

Recently, we had a more direct role in the QAS Audit and the QFRS Sustainability Review, and also keep a view from an overall funding policy perspective.

Observer role on the Public Safety Communications Project (PSCP) Steering Committee, providing information back to DP&C.

#### Strategic Assessment:

- 1. What are the DPC's expectations of a Strategic Assessment undertaken in the context of Public Safety Communications? What would success look like?**

Given the long history of this project (PSCP), to see some clear outcomes in the not too distant future is important.

Very clear options in terms of governance models that would support any joint investment and the benefits and disadvantages of the models defined.

The benefits and disadvantages on the absence of investment – the impact on service delivery.

Clear financial consideration and political consideration as far as inter-agency arrangements needs to be considered.

The Premier is very keen on reducing duplication within the Queensland Government.

'Economies of scale usually works better in the one department'.

### **Collaboration by QPS and DES:**

#### **2. What is DPC's perception of the history of collaboration by QPS and DES?**

In the past it could have been better but it comes down to personalities and that applies anywhere. When you have the right personalities in the positions then there does not appear to be any threat or barrier to joint ventures.

So seeing signs of things getting better.

#### **3. What is DPC's perception of the recent collaborations by QPS and DES?**

Of recent times there has been a definite move towards collaboration.

However relying on this good will and collaboration due to positive relationships is not a foundation to build a governance model on as it could all change with the next change of personalities - 'that does not last though'.

Moving senior executives between agencies provides an understanding of how the other agency operates. An example of this is the recent appointment of the QAS Commissioner David Melville with his previous QPS experience and connections (and kudos) is positive for the PSCP and associated initiatives.

#### **4. What is DPC's perception of the ICT Program Management maturity of the Public Safety Sector?**

Not qualified to answer this question.

#### **5. What is DPC's perception of the ICT Program Management maturity of Government?**

General observations show that QLD generally seeks to re-invent the wheel. It does not tend to learn from other jurisdictions lessons. QLD government/agencies are still developing their maturity in the ICT domain. ICT is an area that we could really improve on. There is a mindset that if something is working we tend to leave it alone. Yet, when we decide to invest in ICT we want Rolls Royce model to start on day one, rather than using building blocks (i.e. gradual) ICT investment.

Do you think the messages are coming through from Premiers?

No, that's why I think we put QGCIO in place to manage ICT for us? You do need the policy framework to do some of the ICT.

### **Possible Approaches to Collaborative Solutions:**

#### **6. What benefits would be available from collocation of communications centres of Police, Ambulance, Fire and Emergency management? What draw-backs would there be?**

There would have to be a lot of clinical efficiencies from mobile technologies for all agencies.



In terms of common call taking there would be a need to the 000 calls based on the skill set of the operators. You could have ambulance and health together (such in the US) because of the similar business needs. However, police is a very different type of business, more crime related.

Considering 13health and secondary triage – they have a particular skills level. Nurses and trained people take the calls in the call centres – the right people doing the right job. Still confidentiality issues that need to be addressed to facilitate additional information exchanges.

Common call taking is a major issue for the agencies – with the latest marketing 'don't call 000' assists in the change process with community awareness.

**Is there an expectation of collocation between QPS/DES?**

'As long as your service does not drop – don't do it unless you have to'.

**Challenges**

*When it crashes, it crashes for everyone. So business continuity is a potential drawback.*

**7. What benefits would be available from the collaborative provision of mobile (voice) radio services for Police, Ambulance and Fire?**

In terms of the mobile office (vehicle) there is always going to be a fixed location – not just a mobile vehicle.

I would have to read the report and be advised as to the benefits and drawbacks of collaboration.

**8. What benefits would be available from the collaborative provision of mobile (data) services for Police, Ambulance and Fire?**

Unknown – need to wait and see – "What do we know?"

**9. What benefits would be available from the collaborative provision of computer-aided dispatch (CAD) services for Police, Ambulance and Fire?**

Unknown – need to wait and see – "What do we know?"

**10. What benefits would be available from QPS and DES joining in a more widely-based GRN? How extensive (membership and coverage) would any likely GRN be?**

Unknown – need to wait and see – "What do we know?"

**11. What benefits would be available from establishing a separate Authority (such as Victoria's ESTA) for the provision of public safety communications?**

To make any judgement it would be beneficial to view the description of the models and any lessons learned from other jurisdictions.

**How do you see the QLD government standing up an independent authority?**

*It depends upon how attractive it is – if there is the spotlight on this – in terms of selling this – and having it established and up and running prior to any event (such as the Olympic Games, the Soccer world Cup, etc) before rather than timing it with the event.*

*To achieve recognition the outcomes and benefits need to be clearly defined. If you can do something positive that will bring in revenue. That is why it is hard to progress doing this under any disaster banner and this is a risk argument vs a direct / indirect income statement,*

*In terms of separate authority and whether we can stand one up – I have my doubts that government has the required expertise, but it depends on who you get to lead that authority. For example QLD Health employed a very experienced person with the right skill sets needed at the time to **implement the government policy.***

*Needs some marketing. You want a very good writer of this report – don't let it be a huge tomb? Have someone who is a proper writer and editor to write this. If you want Cabinet to engage – you will need the Spin Doctor's to assist. Depends upon the level you are pitching this at – the audience – if it is only to the Steering Committee that's ok. But if it is for Cabinet then it will need to be clearly articulated and even pointed.*

*For example the strategic assessment presentation was good, quite pointed – which is good.*

**Whole of Government Directions:**

**12. Considering Technology Transformation (TTP), what role does DPC expect QGCIO would play in the strategy of any aspects of Public Safety Communications?**

Not sure - SDPC driven (hence effectively out of DPC-we develop the policy but don't deliver on the ground) – What are the required skills? Perhaps QGCIO would be able to inform. They may be building up their skills, but unsure if they are there yet?

Perhaps QGCIO could deliver some part, and some of the other services could be delivered by someone else.

**13. Considering Technology Transformation (TTP), what role does DPC expect CITEC would play in the provision of any aspects of Public Safety Communications?**

It always comes down to having the right skills set the mixture – because not everyone is going to have the full skill set.

**Other Matters:**

**14. Any other guidance for the Strategic Assessment?**

There is a perception that actioning any recommendations in the strategic assessment report would require consideration and approval (support) at the highest level. That the Ministers would have to approve such changes or recommendations and that the sponsors and co-chairs would be the gatekeepers.

The mutual assurance model could be a step toward the authority model and should include adequate time frames for the implementation.

*END.*



## APPENDIX C-11: MR JOHN SPINAZE (QGCIO) & MR BOB GURNETT (QGCTO)



### STRATEGIC ASSESSMENT OF PUBLIC SAFETY COMMUNICATIONS

#### QUESTIONS AND ANSWERS FROM BUSINESS & STRATEGIC LEVEL INTERVIEWS



Queensland  
Government  
Department of  
Emergency Services

### RECORD OF INTERVIEW

**INTERVIEW NO.** 11      **DEPARTMENT:** Department of Public Works (DPW - QGCIO & QGCTO)  
**VENUE:** 111 George Street  
**DATE/TIME:** 1 October 2008 – 9 am.  
**PARTICIPANTS:** Mr John Spinaze (DPW - QGCIO), Mr Bob Gurnett (DPW - QGCTO), Mr Nicholas Moss (DES), S/Sgt Steve Jenkins (QPS) and Mr Tim Malone (GQ-AAS).

#### General:

- **How do your responsibilities overlay with the scope of public safety communications?**

*John Spinaze (JS)* - The Queensland Government Chief Information Office (QGCIO) within the Department of Public Works provides strategic leadership, management and advice to ensure that whole-of-Government information and communication technology (ICT) initiatives are maximised. This is achieved through whole-of-Government portfolio analysis, the development of information management and ICT strategies and directions, the Government Enterprise Architecture, industry liaison, telecommunications strategic direction and the development of methodologies and toolkits to strengthen the planning and project management capability of agencies.

The QGCIO also plays an integral part in building relationships and identifying opportunities for collaboration between agencies, cross-jurisdictionally, with the ICT Industry and with the tertiary sector.

The SI-ICT Committee is awaiting the Strategic Assessment of Public Safety Communications Report. They have seen what's happening in other states (GRNs etc.) and Queensland is shaping up to be the "Last Man Holding Out" so to speak.

There needs to be a coordinated approach – everything that we've already written down before (in previous reports/reviews). The technology used needs to be common across the agencies. This could be achieved through the use of private providers or multiple public private partnerships managed by the Services.

Need to identify voice and data as business needs and have a plan that people have got to stick to it. Five years is better than ten.



QGCTO will do whatever it can to ensure any joint public safety communications business case for funding is supported in Treasury.

*Bob Gurnett (BG)* - The Queensland Government Chief Technology Office (QGCTO) is established within CITEC.

CITEC is the primary technology service provider for the Queensland Government delivering both whole-of-government and agency specific ICT services.

The QGCTO provides leadership, collaboration, management and direction on whole-of-Government ICT issues to Government and agencies. Working closely with the Queensland Government Chief Information Office (QGCTO) and the Queensland Government Chief Procurement Office (QGCPO), the QGCTO ensures that the whole-of-government investment in technology and applications is optimised to meet information management and integrated service delivery outcomes.

Arrangements need to reflect Government Enterprise Architecture: : I recommend that business processes and information models (particularly around interoperability between participants) are agreed between public safety network participants before addressing technology architecture. These form part of the business requirements that the technology architecture must satisfy.

#### **Strategic Assessment:**

##### **1. What are DPW's expectations of a Strategic Assessment undertaken in the context of Public Safety Communications? What would success look like?**

Presentation of the Big Picture – What is the objective? What is achievable? What are the building blocks and how does it all fit into the overall architecture?

Key measure of success will eventually be an agreed common public safety communications architecture.

Look for any quick wins e.g. single technology CAD.

#### **Collaboration by QPS and DES:**

##### **2. What is DPW's perception of the history of collaboration by QPS and DES?**

It hasn't been as cohesive as it could have been. Evidence of good will, but essentially it has not produced the desired results.

##### **3. What is DPW's perception of the recent collaborations by QPS and DES?**

PSN is the most notable example to date and DES is only now revisiting its position on the PSN (i.e. active participant rather than just an observer). So again, good will, but now only possibly being turned into a full collaboration.

You don't have to do it overnight – Must have a plan and get the architecture right (GEA).

##### **4. What is DPW's perception of the ICT Program Management maturity of the Public Safety Sector?**

Unclear given the PSCP SC is one of the most visible examples of collaboration across a program.

**5. What is DPW's perception of the ICT Program Management maturity of Government?**

Early days, but positive results are being demonstrated.

**Possible Approaches to Collaborative Solutions:**

**6. What benefits would be available from co-location of communications centres of Police, Ambulance, Fire and Emergency Management? What draw-backs would there be?**

This is a business decision. Need to address this via the Business and Information layers of the GEA and the associated methodologies and tools available.

**7. What benefits would be available from the collaborative provision of mobile (voice) radio services for Police, Ambulance and Fire?**

Needs to be managed as a whole and probably a mixture of public and private.

Look at how Telstra and Optus have outsourced certain parts of their infrastructure.

Need to seriously investigate the UbiNet opportunity. Ubinet potentially offers towers, huts, power, access, roads and backhaul sharing for use by public safety communications.

**8. What benefits would be available from the collaborative provision of mobile (data) services for Police, Ambulance and Fire?**

From the recent Expression of Interest (EOI) led by DES/QAS, DPW understand the big dollars required.

Again, need to look at other government investments and adding to these, e.g. UbiNet.

Voice and Data (and we are looking a broadband magnitude information/application requirements) must be considered together.

Look at what DES is doing with the "small box" – i.e. their Clever Networks program.

**9. What benefits would be available from the collaborative provision of computer-aided dispatch (CAD) services for Police, Ambulance and Fire?**

Makes sense to have only one CAD platform for all. Any deviation from this must include in the business case the costs of integration and information exchange.

**10. What benefits would be available from QPS and DES joining in a more widely-based GRN? How extensive (membership and coverage) would any likely GRN be?**

Need to look at a consolidated radio network (statewide), managed as a whole, including voice and data that will be in reality a mixture of public and private networks.

Need to also consider the National Broadband Network and use of converged technologies and existing backhaul paths.

**11. What benefits would be available from establishing a separate Authority (such as Victoria's ESTA) for the provision of public safety communications?**

Authority, GOC, etc are all models that can be considered provided the architecture work is done as a priority as you "can't outsource a mess".

**Whole of Government Directions:**

**12. Considering Technology Transformation (TTP), what role do you expect QGCIO would play in the strategy of any aspects of Public Safety Communications?**

TTP does not (as yet) include WAN so mainly the focus area here is to look to QGCIO and QGCPO (i.e. procurement) to assist in any number of ways – i.e. reviewing, baselining, benefits management, etc.

However the TTP and how all DPW works together is a good model to look at and learn from.

So in summary, a key advisory/standards role – ICT Program and Project Management.

**13. Considering Technology Transformation (TTP), what role do you expect QGCTO/CITEC would play in the provision of any aspects of Public Safety Communications?**

QGCTO could assist, (would like to assist), and should be involved regarding architecture and interconnectivity of PSC to wider Queensland Government ICT transformation program and ICT service delivery via say CITEC.

**Other Matters:**

**14. Any other guidance for the Strategic Assessment?**

QPS and DES need to focus on core business (front line service delivery).

First focus on getting the Governance in place then in parallel, start on the Business and Information Architecture prior to progressing business cases.

END.





## APPENDIX D: INFORMATION FROM INTERSTATE VISITS

### South Australia Police Service

<b>Strategic Assessment of Public Safety Communications Project</b>
<b>Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit</b>
<b>1st to 5th September 2008</b>

**Centre Operations:**  
**Scope:**

**Date:** 2nd September 2008

South Australia Police (SA Pol)  
Dorrington Street, Adelaide  
Superintendent Colin Cornish  
Officer in Charge - Communications Branch

**Model/Structure:**

Centre Co-Located with others

Integrated operations

Number of Centres in the State:

Staffing: Numbers

Own/Outsourced

Common call taking Yes/No

When Implemented

Redundancy arrangements

No

No

One

96 (All sworn)

No

No

Purpose built in 1990

Fire and Ambulance Service

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

The Police Communications Centre Complex also houses the Police Operations Centre; State Emergency Operations Centre and Disaster Recovery Centre.

Location - Security - Critical infrastructure - needs to be outside the CBD.

Workstations, chairs etc. common across agencies.

Centre staff receive 22% shift allowance as opposed to penalties and work on a block roster. Waiting list of officers wanting to work there.

**Computer Aided Dispatch**

**Technology**

Type

State-wide

Joint

When Implemented

Inter-agency messaging

Redundancy arrangements

GIS

Tiburon88 (Cobol language)

Yes

No

20 years ago

No

Move to SA Ambulance

Mapping

If Yes, type / level

UBD

Aerial Photography/Satellite Imaging

Google Earth

Vehicle location Display

Vehicle Location/Status Monitor (last advised position)

Automated Vehicle Location (AVL-GPS)

Currently being trialled in 2 vehicles - Next G polling every 50 Metres, monitor Lights & Sirens, speed (SA Pol developed)

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Also have Alarm Management software - monthly reports of multiple activations & referred to companies (SMC 12/268) 94.73% false in Feb  
Security Companies must be registered with SA Police otherwise alarm activation notifications will not be accepted.  
CAD search capability from DESKTOP - Reduced requirement for requests to PCC - Intel searching

**Radio**

**Technology:**

Type  
State-wide

GRN  
Yes

(Digital 155 Repeater sites)  
Except for 1 single officer station - 14 Local Service areas (7 Regional, 1 Semi-Reg and 6 metro)

Joint

Yes/No

Yes

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

When Implemented

1983 Bushfires - Coronial Inquiry Findings and Recommendations  
Configured in 1999 - Implemented in 2000 (metro for Olympics) to 2003

Redundancy arrangements

Multiple base station options for local areas.  
Integrated Simplex Channels  
HF utilised in Country areas

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Other agencies dial in 017 to notify police of desire to contact.

Dial 166 to talk to other agencies direct  
(Digital Encrypted \$250M)

Includes AFP, Corrections, Primary Industries and Fisheries and Transport  
Treasury own and fund GRN - 1 for 1 replacement with additional units available at Service expense with an \$80 p/unit/mth access fee

Radios fitted in interstate vehicles for cross boarder operations



### Telephony

#### Technology:

Type

Redundancy arrangements

Caller Line Identification (CLI)

Automated emergency location (E000)

Issues/Pitfalls/Lessons Learned (Positive or Negative)

Centre operates CC PULSE - Records operations and the Number, Time, Duration etc. off all calls

BRIO Intelligence (Since Dec '02) - Management tool for performance monitoring, hourly summaries 15-minute intervals, Traffic lights against benchmarks

Enhanced 000 Call Monitoring program (developed by SA POL) - Searching, Messages recorded, statistics

Divert '000' nuisance callers to a Recorded Voice Message which lasts 3 minutes - (Caller must be registered first).

Identify the number of calls from ESOs.

VoIP calls increasing

NEC (Same as other Services)

SA AS

Yes

No

### Mobile Services (In-Car Computer)

#### Technology:

Type

Carriage medium:

State-wide

Joint

When Implemented

Applications provided (e.g. programs/functions)

Redundancy arrangements

Technisys

(The Only 1 of 6 units tested that survived)

Radio (GRN)

Looking at Next G

31 sites mostly metro

No

1990 - KDT 840s, 2004 - Current units - on 3rd Gen software

Voice - Data is only secondary system anyway



**Governance:**

Organisational Change management issues associated with migrating to the current arrangement

Change management Process - Road Show - engage early - sell and listen

Productivity achievements

Significant reduction in radio traffic

Legislative arrangements/issues

Privacy - encrypted voice/data - Privacy Commission consulted

Issues/Pitfalls/Lessons Learned (Positive or Negative)

Psychological issues associated with task by text arrangements - need for voice over

Operational issues - also supports need for voice over.

Include patrol officers on development and implementation teams.

**DON'T OVERSELL**

Sub-network of GRN

Initial cost \$10K per unit - cheaper now

330 units in use.

Other public safety communication related services/issues implemented or being considered

Emergency Vehicle Pre-emption (EVP)

No

Looking at possibility but not formally planned as yet - DRIVEN Brand (Made in Korea)

Live vision from Helicopter + FLIR into PCC/POC - good for UDD & Sitreps.



## South Australia Ambulance Service

### Strategic Assessment of Public Safety Communications Project

#### Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit

1st to 5th September 2008

**Centre Operations:**

**Date:** 1st September 2008

**Scope:**

South Australia Ambulance Service (SAAS)

216 Green Hill Road, Eastwood (Adelaide)

Mr Kevin Bate

General Manager, Operational Services

Mr Stephen Bigg

Telecommunications Manager

**Model/Structure:**

Centre Co-Located:

Integrated operations

Number of Centres in the State:

Staffing:

Numbers

Own/Outsourced

Common call taking

**Business Needs/Drivers/Rationale associated with implementing to the current arrangement:**

**SA Ambulance operations incorporated into the SA Health Department in 2006.**

**Redundancy arrangements:**

SA Police Comms Ctr.

No

No

One

92

Own

No

Consolidated 4 country centres into metropolitan operations about 5 years ago  
Positions (more in numbers due to Job Sharing and Part-Time arrangements)

Issues/Pitfalls/Lessons Learned  
 (Positive or Negative)  
 SA Health operate a team of Mental Health Counsellors at the SA Ambulance Ctr. 1 in 5 calls referred there to be dealt with as opposed to dispatching an ambulance (5-6 counsellors on at all times).

**Computer Aided Dispatch**

**Technology**

Type Home grown  
 State-wide Yes (Single Centre)  
 Joint No  
 When Implemented About 20 years ago  
 Inter-agency messaging No  
 Redundancy arrangements Relocate operations to SA Police Centre  
 GIS

Mapping

If Yes, type / level UBD

Aerial Photography/Satellite Imaging Google Earth

Vehicle location Display Vehicle Location/Status Monitor (last advised position)

Automated Vehicle Location (AVL-GPS)

No - Business Case being prepared. Concept has already been approved.

**Traffic Congestion / Suggested Routing**

**Radio**

**Technology:**

Type GRN Motorola VHF  
 State-wide Yes  
 Joint Yes

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Progression / migration to current in 2000



Redundancy arrangements

Satellite phones in all country units (Optus CUG)

Issues/Pitfalls/Lessons Learned  
(Positive or Negative)

Cost to implement digital approx. \$11M.

Proposed - not yet funded

Telephony

Technology:

Type

Details

When Implemented

Centre fitted with AMS Audio Management System Omnitronics Telstra Spectrum - Common to all ES agencies

Caller Line Identification (CLI)

Automated emergency location (E000)

Resource Ownership arrangements and issues

Issues/Pitfalls/Lessons Learned  
(Positive or Negative)

Same phone system across the three ES agencies. Personnel from each agency can log in with same password at other centres.

Mobile Services (In-Car Computer)

Nil

Business Case being prepared for implantation in conjunction with the new CAD

Other public safety communication related services/issues  
implemented or being considered

Emergency Vehicle Pre-emption (EVP)

Yes - limited - Codes with single point of contact for pre-set routes into Hospitals

No

No

In-Car Video

Integrated Traffic Camera System

Emergency Information & Communications Technology (E-ICT) Network, e.g. Qld Public Safety Network (PSN)

State-Net - extremely secure - limited access - difficult to get info onto - not suitable for operational purposes



## South Australia Metropolitan Fire Service

<b>Strategic Assessment of Public Safety Communications Project</b>
<b>Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit</b>
<b>1st to 5th September 2008</b>

**Centre Operations:** Date: 2nd September 2008

**Scope:** South Australian Metropolitan Fire Service  
 99 Wakefield Street, Adelaide  
 Mr Steve Moir  
 Communications Call Receipt & Dispatch Manager

**Model/Structure:**

Centre Co-located with others  
 Integrated operations

No  
 No  
 One  
 32  
 Own  
 No  
 SA Ambulance and Police Comms Ctrs

Number of Centres in the State:

Staffing: Numbers  
Own/Outsourced

Common call taking

Redundancy arrangements

**Governance:**

Organisational Change management issues associated with migrating to the current arrangement

Issues relating to who pays

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

**Computer Aided Dispatch**

**Technology**

Streets SA - Home Grown - enhanced version of WA Alarm monitoring system

State-wide

Yes

Joint

No

When Implemented

Approx. 1991

Inter-agency messaging

No

Redundancy arrangements

SA Police Comms Ctr / SA Ambulance Comms Ctr.

GIS

Mapping

If Yes, type / level

UBD

CFS have Aussie Explorer

Aerial Photography/Satellite Imaging

Vehicle location Display

Vehicle Location/Status Monitor (last advised position)

Automated Vehicle Location (AVL-GPS)

Currently in Mobile Data Units in trucks

Testing 2nd Version

Link with Transport Dept to provide Green Light Corridor metro wide.

Traffic Congestion / Suggested Routing

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

**Radio**

**Technology:**

Type

GRN

State-wide

Yes

Joint

Yes/No

Yes

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Coroners Findings - 1983 bushfires

When Implemented

1983



**Governance:**

Redundancy arrangements  
Issues/Pitfalls/Lessons Learned  
(Positive or Negative)

Multiple back-ups.

Country Fire Service have additional radio units in Tactical Response Units for back-up in hilly areas where GRN not effective

**Telephony**

**Technology:**

Type NEC - same as Ambulance and Police

Caller Line Identification (CLI)

Yes

Automated emergency location (E000)

No

Issues/Pitfalls/Lessons Learned (Positive or Negative)

**Mobile Services (In-Car Computer)**

**Technology:**

Type

Yes

Motorola

(Mobile computer Terminal 40G HD 12" in trucks and 18" in Cars)  
Looking at 3G as carriage medium with GRN as back-up.

Carriage medium:

GRN

State-wide

Metro

Joint

Yes/No

No

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

When Implemented

15-16 years ago

Redundancy arrangements

Radio

Issues/Pitfalls/Lessons Learned (Positive or Negative)

Training - upskilling

When voice required, Tone recognition of voice req to acknowledge called heard until operator able to respond.

**Other public safety communication related services/issues implemented or being considered**

Emergency Vehicle Pre-emption (EVP)

In-Car Video

Integrated Traffic Camera System

Emergency Information & Communications Technology (E-ICT) Network, e.g. Qld Public Safety Network (PSN)

No

Video into State Ops Ctr

**Emergency Services Telecommunications Authority (ESTA) – World Trade Centre (Victoria Police)**

<b>Strategic Assessment of Public Safety Communications Project</b>	
<b>Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit</b>	
<b>1st to 5th September 2008</b>	

**Centre Operations:** **Date:** 3 September 2008

**Scope:** Emergency Services Telecommunications Authority (ESTA)  
World Trade Centre (Victoria Police Centre)

**Service/Agency** **Michael Kiernan**  
**Bryan Holman**

**Location** **ESTA Centre Manager**  
**ESTA Customer Service Manager**

**Interviewee/s**

**Position**

**Interviewee/s** **Inspector Peter Ferguson (Victoria Police)**

**Position** **Specialist Support Portfolio, Police Communications (D24) Division**

**Model/Structure:**

**Centre Co-Located with others** **Yes** **If Yes, With:** **Vic Pol / SES**

**Integrated operations** **Vic Pol and SES - 000 plus 132500 (SES) Centre will also receive and take CFS details re any misdirected 000 calls TO Fire and Ambulance.**

**Number of Centres in the State:** **Three**

**Staffing:** **ESTA 190, Vicpol 30**

**Common call taking Yes/No** **Cell of Police Call Takers at Ballarat assist with peak demand periods Police SES Yes, approx. 10% of operators also trained for Fire and Ambulance Calls**

Business Needs/Drivers/Rationale associated with implementing to the current arrangement

**Government requirement**

When Implemented

1995

Initially whole process outsourced to Intergraph

2002 - taken back into government

2005 - ESTA created

Vic Pol maintain manual back-up process operating from Police Academy (Business Continuity Plan)

Redundancy arrangements

**Governance:**

Organisational Change management issues associated with migrating to the current arrangement

Overselling benefits

Level of training and experience required

Service delivery enhancements achieved

Criticality/Investment priorities

Resource Ownership arrangements and issues

Issues/Pitfalls/Lessons Learned (Positive or Negative)

All agency response from 1 phone call. 80 sec to 2 minute saving in inter-agency notification times  
Same level of Service State-wide service - better capable of handling surges in demand

CAD (ESTA) - Radio (Motorola)

Need CAD, AVL and mobile Services to achieve full operational benefits of synergies  
Economies of scale

Funding arrangement - should be direct from Government to ESTA - no agency billing  
ESTA should be Service provider as opposed to Revenue Raiser.  
Enhanced inter-agency communications



## Computer Aided Dispatch

### Technology

Type Intergraph

State-wide Yes

Joint Yes - VicPoI/SES and CFA/SES at Ballarat

When Implemented N/A - Common CAD

Inter-agency messaging Manual Job Cards

Redundancy arrangements State Government provided (Lands Dept) - upgraded bi-annually

GIS

Mapping

If Yes, type / level

Aerial Photography/Satellite Imaging No

Vehicle location Display Vehicle Location/Status Monitor (last advised position)

Yes - CAD - Operator modified from Status and Officer modified through MDT

Automated Vehicle Location (AVL-GPS) Yes

Yes - system capable not function not utilised

Traffic Congestion / Suggested Routing

Governance:

Productivity achievements

Issues/Pitfalls/Lessons Learned (Positive or Negative)

Performance Indicators - Call Answer and Accept to Dispatch

Structured Call Taking utilised - On-screen prompts only.

Standardisation of Processes

I/Net Viewer provides external capability to view only tasks from previous 28 days.

**Radio**

**Technology:**

Type

State-wide

Motorola (Contract managed by ESTA)  
No - Metropolitan Mobile Radio (MMR) - Digital  
Country - Telstra VHF Analogue

Joint

Yes/No

Yes

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:  
Benefit of continual upgrade in step with technology advances and 1 for 1 replacement at end of life.

When Implemented

Redundant talk groups built into system - geographic based - site trunking

**Governance:**

Contract - Motorola own all assets from Desk to the vehicle

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Radios have an inter-operability zone programmed in for interstate, SES and Alpine Resorts. Facilitates direct comms from vehicle the vehicle and command and control in field operations

Talk Groups v. Channels - Channels better - partitions between agency frequencies

Ambo's use Talk groups and opposed to channels - increases congestion

Change assessment required to identify impact on other agencies of planned system changes

**Telephony**

**Technology:**

Type

When Implemented

Caller Line Identification (CLI)

Spectrum

1995

Yes - Pre-populates into CAD

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**  
**Level of expertise in Telstra questionable**  
**Call Forced process in place - increased performance as first 2 seconds lost in system (6 sec max call answer required)**  
**Exchange overflow an issue, i.e. 000 calls come in through the Exhibition Exchange and can overflow to Windsor Exchange, however only the Windsor Exchange can overflow to Ballarat and Tally Ho**

**Mobile Services (In-Car Computer)**

**Technology:**

Type Motorola - Dedicated Network - Motorola In-Car Tower & Program

Carriage medium: 3G

State-wide

No - Greater Metropolitan area (700 units VicPol)

Joint

Yes

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

When Implemented

Applications provided (e.g. programs/functions)

Redundancy arrangements

Motorola Business Continuity Plan

Revert to Radio - Data only secondary system

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Still seek on-air voice confirmation of receipt of task data

**Other public safety communication related services/issues implemented or being considered**

Emergency Vehicle Pre-emption (EVP)

No - Not planned - safety concerns re multiple units proceeding to incidents simultaneously

In-Car Video

Yes - Current project to evaluate - 100 units in traffic and country vehicles

Issues relation to operation, removal and storage of data need to be addressed

Also live feed from VicPol Airwing -

Video Considered to be the way of the Future - good for decision-making

Integrated Traffic Camera System

Limited access





**Emergency Services Telecommunications Authority (ESTA) – Tally Ho  
(Metropolitan Fire and Ambulance Services)**

**Strategic Assessment of Public Safety Communications Project  
Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit  
1st to 5th September 2008**

**Centre Operations:** Date: 4th September 2008

**Scope:** Emergency Services Telecommunications Authority (ESTA)  
**Service/Agency** Lakeside Drive, Burwood East, Melbourne  
**Location** Mr Mark Lowe  
**Interviewee/s** Centre Manager, Tally Ho

**Position**  
**Model/Structure:** Yes/No If Yes, With: Ambulance / Fire / Country  
**Centre Co-Located with others** No - some staff multi-skilled - overflow  
 Fire Authority

**Integrated operations**  
**Number of Centres in the State:** One  
**Staffing:** 160 - (100 Ambulance, 60 Fire)  
 Numbers  
 Own/Outsourced

**Common call taking Yes/No** No - some staff multi-skilled  
**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

**ESOs wish to hold onto Comms**  
**Initial service requirements too Descriptive** Made Comms Ctr Ops difficult  
 Need to be Outcome Driven not Process  
**Multi-skilling facilitates skills based routing of calls - workloads - peak times**  
**Funding / Staffing arrangements an issue (increased demand not reflected in staffing levels)**

Need common standards for call taking staff across the Services  
 Need to allow CAD and operators to determine most appropriate response - Liaison Officers not to override unless absolutely necessary

**Computer Aided Dispatch**

**Technology**

**Type**

Vehicle location Display	Intergraph
	Refer to ESTAMicPol Responses
	Vehicle Location/Status Monitor (last advised position)
	Automated Vehicle Location (AVL-GPS)
	Ambulance Vehicles Yes - Fire vehicles No

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Pro QA (Medical Q&A Triage Program) used as an attached Interface to CAD

**Radio**

**Technology:**

**Type**

MMR  
 Refer to ESTAMicPol Responses

**Telephony**

**Technology:**

**Type**

**Details**

**Redundancy arrangements**

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Netcom call management program utilised for Centre Management and Performance

Spectrum

Same as WTC

Same as WTC

**Mobile Services (In-Car Computer)**

**Technology:**

Type

Motorola

Joint

Yes/No

No

Ambulance Yes - Fire No

**Other public safety communication related services/issues implemented or being considered**

Emergency Vehicle Pre-emption (EVP)

No - being discussed for a number of years

In-Car Video

No

Integrated Traffic Camera System

Emergency Information & Communications Technology (E-ICT) Network, e.g. Qld Public Safety Network (PSN)





**New South Wales Police Force**

<b>Strategic Assessment of Public Safety Communications Project</b>	
<b>Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit</b>	
<b>1st to 5th September 2008</b>	

**Centre Operations:** Date: 5th September 2008

**Scope:**

**Service/Agency** Location

**Interviewee/s**

**Position**

**Model/Structure:**

**Centre Co-Located with others**

**Integrated operations**

**Number of Centres in the State:**

**Staffing:**

**Common call taking Yes/No**

**Business Needs/Drivers/Rationale associated with implementing to the current arrangement:**

**Standardisation of technology, training and Operating Procedures**

**Common recording of material**

**000 telephony arrangements**

**Media arrangements**

**Regionalisation**

**Linked Communications capability for Redundancy**

New South Wales Police Force

Sydney Police Centre, Surry Hills

Chief Superintendent Brad Shepherd

State Operations Manager

Operational Communications and Information Command

No If Yes, With:

No (assists with SES calls during emergency operations)

Six

665 (includes all Technical, operational and Admin)

Own (mostly civilian)

No

Numbers

Own/Outsourced

Common call taking Yes/No

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Standardisation of technology, training and Operating Procedures

Common recording of material

000 telephony arrangements

Media arrangements

Regionalisation

Linked Communications capability for Redundancy

When Implemented	Rationalised about 10 years ago
Redundancy arrangements	BCP - If No CAD - PAL take calls and task
Issues/Pitfalls/Lessons Learned (Positive or Negative)	
Radio infrastructure architecture needs to support equity in workloads across centres	
Need to be careful when agreeing to minimum staffing levels	
Need for flexible deployment staffing models and a flexible workforce	
<b>Computer Aided Dispatch</b>	
Technology	Fujitsu Fortek
Type	Yes
State-wide	No
Joint	Yes/No
Business Needs/Drivers/Rationale associated with implementing to the current arrangement:	
When Implemented	2007
Inter-agency messaging	ICEMS - Inter-agency CAD Electronic Messaging System (NSWFB)
Redundancy arrangements	Linked to Traffic Management Centre
GIS	
	BCP - If No CAD - PAL take calls and task
	Mapping
	If Yes, type / level
	State Government Lands Department Data
	Aerial Photography/Satellite Imaging
	Google Earth
	Vehicle location Display
	Vehicle Location/Status Monitor (last advised position)
	Automated Vehicle Location (AVL-GPS)
	Tested to Proof of Concept Stage - Business Case to be prepared
Traffic Congestion / Suggested Routing	Pre-determined routes for CBD Evacuation in CAD

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

On-demand SOPs linked to CAD

Thin Client - Incident entry function available at Station level

**Radio**

**Technology:**

Type

Digital Encrypted in Greater Metropolitan area

State-wide

No

Joint

Yes/No

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

When Implemented

Redundancy arrangements

Overlap radio areas - loss of one base site not critical to maintaining operations

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

NSWPF agreeable to go onto GRN if/when GRN can provide equal or better service

Reintroducing HF in remote areas

Analogue Liaison channels for non-police users and units from outside digital area

26 channels operated across the state - microwave links

500 base sites - largest privately owned radio network in the southern hemisphere

**Telephony**

**Technology:**

Type

NEC

Details

When Implemented

Caller Line Identification (CLI)

Same as NSWFB



**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

**IVR - Integrated Voice Response System at stations - divert to head station (50% reduction in calls to Comms Ctr.)**  
As of 6th May 2008, 000 calls received at PAL - Comms receives overflow

**Mobile Services (In-Car Computer)**

**Technology:**

Type

Panasonic Tough book (3rd Generation software)

Replaced Mavericks - not suitable

Carriage medium:  
State-wide

e.g. Radio/telephone/3G

No. MDTs in all Highway Patrols Vehicles. In all 1st response vehicles  
by 1st Q/2009

Joint

Yes/No

No

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Trailing link to CAD - Still use voice for Mission Critical transmissions  
Enhanced productivity

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

**Other public safety communication related services/issues implemented or being considered**  
Emergency Vehicle Pre-emption (EVP)

No - Traffic Management Centre liaise with VKG as required, Medivac's etc.

In-Car Video

Yes -All Highway Patrol vehicles - trailing in 1st response vehicles at Surry hills

Need to consider Australian Standards and Design Modification Rules etc.

Need to determine rationale and policy in respect to data capture, storage and uses, e.g. evidence handling procedures

Operators can't override system

Complaints dropped

Conviction at Trial increased



**Increased compliance with Safe Driving Policy**

**Enhanced public safety**

**ISSUE - Defence making vision available to public - e.g. U-Tube**

Integrated Traffic Camera System

No

Emergency Information & Communications Technology (E-ICT) Network, e.g. Qld Public Safety Network (PSN)

**CCTV in Comms Ctr from RTA, Rail Corp, City Safe and PolAir**



**Ambulance Service of New South Wales**

<b>Strategic Assessment of Public Safety Communications Project</b>
<b>Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit</b>
<b>1st to 5th September 2008</b>

**Centre Operations:** **Date:** 5th September 2008

**Scope:** **Ambulance Service of New South Wales (ASNSW)**  
**Sydney Ambulance Centre, Everleigh**  
**Superintendent Peter Payne**  
**Manager, Sydney Operations Centre**

**Model/Structure:** **No** **If Yes, With:**  
**No**  
**Four (Sydney, Newcastle, Wollongong and Dubbo)**  
**Numbers**  
**Own/Outsourced**  
**Own**  
**No**

**Common call taking Yes/No** **Business Needs/Drivers/Rationale associated with implementing to the current arrangement:**  
**Eleven centres operated on paper based system. Rationalisation identified as essential to**  
**gain efficiencies from implementation of new CAD system.**

**When Implemented** **1996**  
**Redundancy arrangements**  
**Transfer calls to other Centres**

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**  
 Need to be careful not to overstate estimated saving in Business Case.  
 Initial savings may be quickly lost due to increased demand. (e.g. staff requirements rose from 150 to 190 quite rapidly)  
 Need to address Industrial and HR issues - commit to retaining / redeployment etc.  
 Politics & Community concern - need to sell rationalisation process  
 Change Management Plan - Identify and utilise change agents  
 Develop package to highlight benefits (e.g. reporting & dispatch benefits)  
 Business process re-engineering (replace local CSAs)

**Computer Aided Dispatch**

**Technology**

Type

Visy TriTech

State-wide

Yes

Joint

Yes/No

4 systems linked through Rozelle Data Centre (Archive & Transfer)  
 No - but system is capable of multi-agency enablement

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Eleven centres operated on paper based system. Rationalisation identified as essential to gain efficiencies from implementation of new CAD system.

When Implemented

1996

Inter-agency messaging

Not direct from CAD

Achieved through ICEMS program (Inter Cad Electronic Messaging System)  
 ICEMS - operates alongside CAD and required operators enter free-text data in respect to job details notification etc.

Redundancy arrangements

Back-up centre at St Leonards  
 Dual feeds from Exchanges (2)



GIS

Mapping  
If Yes, type / level  
Aerial Photography/Satellite Imaging  
Vehicle location Display  
Government Mapping Service  
Vehicle Location/Status Monitor (last advised position) - YES  
Automated Vehicle Location (AVL-GPS) Yes  
No - however CAD is capable of performing this function

Traffic Congestion / Suggested Routing

**Governance:**

Organisational Change management issues associated with migrating to the current arrangement

**Management need to understand capacity, capability and limitations of CAD**

Productivity achievements  
Service delivery enhancements achieved

Auto assign based on unit location - nearest unit - reduce response times

Criticality/Investment priorities

Systems status management

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Need for Business Rules (inter-agency) - 70% of calls from Police identified as not requiring Ambulance attendance  
Systems testing will not always identify all scenarios - need ability to develop workarounds  
Polling frequency varied by time delta and distance delta dependant upon unit activity (programmed)  
Staff training - May be appropriate to turn functions in new CAD on progressively as opposed to all at once - overwhelming for operators.

**Radio**

**Technology:**

Type

GRN Metro and west.

VHF - PMR (Private Mobile Radio) Network elsewhere

State-wide

Yes (collectively)

Joint

Yes/No

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Complete integration with telephone system

Recent migration to digital

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

Need to have appropriate and adequate funding arrangements in place - not transfer back to another Gov't department

**Telephony**

**Technology:**

Type

Genesis

Caller Line Identification (CLI)

Yes

**Mobile Services (In-Car Computer)**

**Technology:**

Type

King MDT

Carriage medium:

GRN

Joint

Yes/No

No

**Issues/Pitfalls/Lessons Learned (Positive or Negative)**

**GRN not capable of handling required traffic (GPS polling etc.)**

**Severe restrictions initially - moved to Mobitex set-up.**

**MDT identifies best hospital for patient to be transported to based on location, type of case, recent hospital intakes**

**MDT network has scope to incorporate other agencies**

**Other public safety communication related services/issues implemented or being considered**

**Emergency Vehicle Pre-emption (EVP)**

**No - Green Light Corridor arranged via Traffic Management Centre - agreement with move out of City**

**In-Car Video**

**Integrated Traffic Camera System**

**Emergency Information & Communications Technology (E-ICT) Network, e.g. Qld Public Safety Network (PSN)**

**No - having discussions for implementation in rural areas**





## New South Wales Fire Brigades

### Strategic Assessment of Public Safety Communications Project

#### Interstate Emergency Management Communication/Operations/Contact/Call Centres Visit

1st to 5th September 2008

Centre Operations:

Date: 5th September 2008

Scope:

New South Wales Fire Brigades

Wyndham Street, Alexandria

Chief Superintendent Mary Whybro

Assistant Director, Preparedness and Response

Superintendent Paul McQuiggan

Manager, Operational Support

Model/Structure:

Centre Co-Located with others

Integrated operations

Number of Centres in the State:

Four (Sydney, Newcastle, Wollongong and Katoomba)

Staffing:

130 State-wide

Numbers

Own/Outsourced

Common call taking Yes/No

Own (All uniform Fire-Fighters)

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

No

Nine Centres State-wide consolidated

Redundancy arrangements

Hot Stand-by Centre maintained at Greenacres

Organisational Change management issues associated with migrating to the current arrangement

Change Management itself

Issues/Pitfalls/Lessons Learned (Positive or Negative)

Stakeholder engagement essential - perception of civilisation developed - associated staff issues

### Computer Aided Dispatch

#### Technology

Type

State-wide

Joint

Fujitsu Forteck- FireCAD

Yes

Yes/No

No

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:

Identified need for standard protocols across the Fire Service

When Implemented

1994

Inter-agency messaging

ICEMS - Inter CAD Electronic Messaging System

Redundancy arrangements

Systems interlinked between centres

GIS

Mapping

If Yes, type / level

Yes - State Government Lands Department data

Vehicle location Display

Automated Vehicle Location (AVL-GPS)

3 Months trial commenced 12 months ago

Consider user configurability issues

Overseas experience - AVL Mission critical

Encourages units to remain in own area - Enhances service delivery - e.g. Suburban Units cruising around Civic in ACT and tasked alarms.

### Issues/Pitfalls/Lessons Learned (Positive or Negative)

Data cleansing essential prior to changing over to new system

Include costs of data cleansing in project costs

Programs limited by Firewalls

Radio

Technology:

Type GRN (Motorola / Telstra)

State-wide No - GRN in metro and western areas, NSWFB owned in rest of state)

Joint Yes/No Yes - GRN

Business Needs/Drivers/Rationale associated with implementing to the current arrangement:  
Government decision

When Implemented Late 1980s

Redundancy arrangements

Phones  
Open Radio Channels

Issues/Pitfalls/Lessons Learned (Positive or Negative)  
NSWFB radio network to be digitised  
Caution - Changes to Channels by one organisation may affect operations of another

#### Telephony

##### Technology:

Type

Details

When Implemented

Caller Line Identification (CLI)

Issues/Pitfalls/Lessons Learned (Positive or Negative)

Smart phones and VoIP in Fire Trucks (Embed best connectivity)

Will provide connectivity for other Emergency Services in line of sight from Fire Unit.

Cad & Telephone integrated - consider loss of one or other - what do you loose if you loose one component

Mobile Services (In-Car Computer)

##### Technology:



Trail conducted with 23 units - Basic Mobile Data only, e.g. push button status changes

Other public safety communication related services/issues implemented or being considered

No - Considering Red Light Corridor - always have one lane free.

No - Smartphone video capability - helmet and mask mounted - stream to ICC and MIR

Emergency Vehicle Pre-emption (EVP)

In-Car Video



## **APPENDIX E: SUMMARY OF PSC IN JURISDICTIONS NOT VISITED**

This section gives an overview of the current state of public safety communications, call taking and dispatch functions in the following Australian States and Territories:

- Western Australia
- Northern Territory
- ACT
- Tasmania

These were the States and territories not visited by the any member of the Strategic Assessment Project Team.

## **APPENDIX E-1: WESTERN AUSTRALIA**

### **Overview**

Western Australia (WA) has around 8,000 emergency services personnel serving a population of approximately 2 million.

### **WA Police**

WA Police installed Motorola's Premier CAD in 2004 (upgraded in 2005), replacing a previous custom solution (CADCOM) that had had a history of operational difficulties, as well as budget and time overruns.

In May 2005 WA Police opened a new \$26M Police Assistance Centre (PAC) to handle non-emergency calls diverted from police stations and district offices. The PAC is intended to handle 38,000 calls each month at full capacity, thereby freeing up a significant amount of time for the frontline officers. At this time a new state-wide toll free number, 131 444, was launched for non-emergency police calls.

In 2008 WA Police completed rolling out a new Motorola P25 digital radio network (Police Metropolitan Radio Network, or PMRN) to replace the previous analogue UHF radio network. The PMRN project has also implemented a new mobile data network in the metropolitan area, with AVL-enabled MDTs integrated with the Motorola Premier CAD. Planning is now underway to upgrade the WA Police regional radio network to a P25 based system, compatible with the PMRN, with trunked digital extensions north to Lancelin, east to Northam and south to Dunsborough, and P25 conventional digital elsewhere across the State.

The overall PMRN project also included the establishment of the new Police Communications Centre in Midland. A new secondary (disaster recovery) site is due for completion by the end of 2008. There are also plans to extend the private mobile data network to higher population regional areas.

Both emergency (000) and non-emergency (131 444) calls made in country areas are routed to regional police stations for action/dispatch.

### **Fire and Emergency Services Authority (FESA)**

In 2004 there was an effort to merge all FESA Emergency Dispatch, Management and Support systems into two main systems:

- FESA Emergency Dispatch System (FCAD); and
- CFA Operational Management System (OMS) database for emergency management and support.

The in-house FCAD system was developed by FESA's ICT Technology group and supports metro and regional fire, but not SES. A new system has been re-engineered from the ground up over the last 3-4 years as a replacement for the original FCAD, and is intended to provide state-wide mapping and AVL, as well as accommodating SES in future.

The new FCAD was due to go live mid-2008 and run in parallel with the old system for an initial trial period. SES are not included initially but will be added in future.

### **St John's Ambulance CAD**

The State Ambulance Operations Centre in Belmont handles the call taking and dispatch of over 155,000 ambulance cases each year for both metropolitan and regional Western Australia; all call taking was centralized here in 2005.

A new CAD System was deployed in late 2004, developed in-house, and includes comprehensive geographical and incident information, as well as AVL. ST Johns' radio system consists of a UHF and VHF network used for analogue voice and data, with plans to upgrade the metropolitan voice network to P25 compatible.

In 2007 a new back-up facility was established in Francisco Street Belmont. This involved some re-engineering of the radio and CAD systems, which was due to complete by early 2008.

### **Other relevant projects**

In 2005, the West Australia State Government approved a FESA proposal and committed \$20 million over three years to the development of a new state wide interoperable emergency radio communications system. Known as the WA Emergency Radio Network (WEARN), the proposal includes the replacement of existing radio networks with new VHF (country) and UHF (metro) networks, the introduction of new dual-mode mobile radios, and the use of 'Radio Over Internet Protocol' (RoIP) to enable radio interoperability between all ESOs in WA for incident management.

## **APPENDIX E-2: NORTHERN TERRITORY**

### **Overview**

The Northern Territory (NT) has a population of just 0.2 million, served by 1,714 emergency services personnel.

### **NT Police, Fire & Emergency Services (NTPFES).**

The Joint Emergency Services Communications Centre in Darwin (JESCC) hosts police, fire and St John Ambulance operators in the same location and handles calls for service for the Darwin greater metropolitan area. Police Auxiliaries process incoming calls and dispatch resources for police, emergency services and fire, and trained St John operators process calls and dispatch ambulances for medical assistance. The services provided through the JESCC were expanded in 2004 to include non-emergency call processing.

In Darwin, a single multi-agency CAD system (Intergraph), was implemented 1999 for use in the Darwin metropolitan area. From 2007, this has been expanded to provide limited CAD access in a number of other locations including Alice Springs, via a secure web interface.

Call taking and dispatch for regional and remote areas are handled by local police stations.

The NTPFES operates a shared Motorola SmartZone digital trunked radio network in metropolitan Darwin, plus conventional analogue mobile radio networks in rural NT. In 2008 the SmartZone network is currently being upgraded to P25 and extended to Katherine and Alice Springs.

There is no dedicated mobile data network.



## **APPENDIX E-3: AUSTRALIAN CAPITAL TERRITORY**

### **Overview**

The Australian Capital Territory (ACT) has a population of 0.3 million. There are approximately 520 emergency services personnel serving the ACT, not including another 3,600 from the Australian Federal Police.

### **Australian Federal Police (AFP)**

The AFP operates call taking and dispatch at the Policing Communications Centre which is located at the Winchester Centre, and utilises Intergraph CAD. Emergency calls can be re-routed to the Emergency Services Agency Communications Centre in Curtin as a backup or disaster recovery situation.

The AFP operates a P25 conventional (non-trunked) encrypted digital radio network in the Canberra greater metropolitan region.

### **Emergency Services Agency (ESA)**

The ESA was originally formed after the 2003 Canberra bush fires as an independent Authority comprising four member services: the ACT Fire Brigade, Rural Fire Service; Ambulance Service and State Emergency Service. In 2006 the ESA became re-absorbed as an Agency under the ACT Justice and Community Safety Department.

A new CAD system (Fortek Vision, implemented by Fujitsu) was deployed in 2004, and introduced a number of new technologies including paging dispatch, mobile data terminals and AVL.

The ESA handles 000 call taking and dispatch for all member services from the ESA Communications Centre in Curtin. In a backup/disaster recovery situation calls are diverted to nominated lines at other ESA sites in the ACT, and the AFP's Policing Communications Centre at the Winchester Centre.

The ESA agencies have historically used a number of analogue UHF and VHF mobile radio networks. More recently, the ACT Trunked Radio Network (TRN) is a Motorola SmartZone trunked network that has been created for use by ESA agencies by extending the NSW GRN with new sites located in the ACT. New sites continue to be added in 2008. The TRN is used for voice and low speed data across most of the ACT and allows interoperability into NSW.

## **APPENDIX E-4: TASMANIA**

### **Overview**

Tasmania is Australia's smallest state, with a population of 0.5 million served by around 2,300 emergency services personnel.

### **Police and SES**

Tasmania Police have an in-house CAD system that has been in operation for some time, probably in excess of 10 years. The system continues to meet requirements, and there is no immediate plan to upgrade.

Tasmania Police use an EDACS analogue trunked radio network shared with electricity supplier Hydro Tasmania. In 2007 the Tasmanian Government completed negotiations to acquire this network from Ericsson Australia. The network is now known as the Tasmanian Government Radio Network (TasGRN). The network continues to be operated and maintained by Ericsson.

In April 2008 Ericsson Australia was awarded a \$13M project to upgrade the network to digital operation and improve coverage, particularly outside metropolitan areas. The upgrade project will also include a trial of a new AVL system. The Government's stated intention in the long term is to extend the network to include other emergency services.

### **Ambulance Service (Department of Health and Human Services) and Fire Service**

The Tasmanian Ambulance Service operates from 44 Stations state-wide with a fleet of approximately 105 ambulance vehicles and 25 support vehicles. It has a combined staff of approximately 750, made up of approximately 520 volunteer ambulance officers and 225 salaried staff.

The Ambulance Service was badly impacted by severe funding cuts in the 1990s. Money was injected from 2000 to upgrade the radio network (\$1.5m) and the ambulance fleet (\$7.5m), but the service continues to operate within tight funding constraints.

TAS Ambulance uses an old commercial CAD system that is no longer supported by the vendor, which was last upgraded in 2003. In 2006 the Dept. of Health and Human Services issued an RFI to test the market for a replacement CAD system but this was subsequently withdrawn, possibly for funding reasons.

Tasmanian Fire service uses its own CAD system (deployed in the 1990s) and manages call taking and dispatch for the whole State from a central communications centre in Hobart ('Firecomm'). Tasmania Ambulance and Fire service radio networks are linked to maximise coverage for both agencies, and a paging network is used for Ambulance dispatch.

## **APPENDIX F: MULTI-AGENCY CAD SYSTEMS**

### **CAD technology**

As public safety CAD systems have evolved since the first generation systems were introduced during the 1980s, there has been progressive development and convergence in technology to common software and hardware platforms, common architecture and standard data formats and communication protocols.

The first generation of CAD systems were developed using a plethora of different technologies popular at the time such as COBOL, C, Unix, and HPUX etc. These tended to be monolithic in design, allowing relatively little tailoring to specific agency needs without significant custom software development effort. Support for interoperability with other systems was limited by the use of multiple different database engines and proprietary protocols and data formats.

By comparison, today's CAD systems have converged into a small number of common technologies predominantly the Microsoft/Intel family of enterprise products that includes SQL Server, Microsoft NT and Windows Server operating systems, Intel server hardware platforms and, increasingly, the Microsoft .NET framework.

Today's software architectures are highly modular, with clear separation of database, business logic and human interface elements. Standard protocols such as TCP/IP and XML facilitate interoperability with other systems, however, there is still some system architecture development required, and there is still a need for operator intervention by both the sending and receiving agencies.

All of these factors make for systems that are much more capable of being tailored to specific agency workflows and needs through configuration changes, without the need for software changes to the core product. Standard data formats and protocols make the systems capable of being extended with the addition of custom modules, which will integrate with, or interface to, third-party or legacy systems.

### **CAD Provision Approaches**

There are essentially two approaches to the provision of multi-agency CAD:

1. Integrate separate agency CAD systems via custom interfaces to allow data exchange between them; and
2. Implement a single multi-agency CAD system from a single vendor.

Both of these approaches are represented in public safety CAD systems in use in Australia.

### **CAD-CAD interfacing**

The challenge of exchanging data from one CAD system to another has existed for many years, particularly in the US market where numerous small jurisdictions operate independent CAD systems from many different vendors.

The APCO (Association of Public Safety Communications Officers) Project 36, an effort in the late 1990s to develop standards for data interchange, found that many of the most significant issues were procedural, not technical, in nature, having to do with the changing assignment and ownership of responsibility for incidents or units transferred from or shared between one agency CAD and another as part of a coordinated incident response.

From the technical perspective, modern CAD software tends to be built internally on a modular, message-based framework. This facilitates extending message-based interfaces to other information systems, including other CAD systems, through established standards such as TCP/IP and XML, typically via a central message switch. The diagram below depicts the many interfaces that may be required of a modern police CAD system.



In Australia, an example of CAD-CAD interfacing is the Inter-CAD Emergency Messaging System (ICEMS) developed in NSW and championed by the Australian Fire Authorities Council. ICEMS allows for limited exchange of incident data between CAD systems in real time to enable one agency to request a response from another, or transfer an incident. However, this transfer of information is not seamless: operator intervention is still necessary at both the sending and receiving stages.

ICEMS currently includes interfaces between the NSW Police Force, which operates on Fujitsu Fortek CAD, the Roads and Traffic Authority (RTA), and NSW Fire Brigades which also utilises Fujitsu Fortek CAD (FireCAD). The Ambulance Service of NSW, which uses Visy TriTech CAD, will be connected to the other agencies via ICEMS in due course.

The major CAD vendors themselves have their own interface modules that can potentially enable not only incident transfer and request for response, but also real time exchange of unit status and location information.



## **Multi-agency CAD**

All the public safety CAD vendors represented in the Australian market supply multi-agency CAD systems, with one vendor in particular (TriTech) stating prominently on their promotional material that their "sole focus is the development of multi-agency, multi-jurisdictional public safety software solutions."

In all products, while the core CAD and GIS system may be common, agency-specific modules provide workflows specific to the different operational needs of police, fire and ambulance services.

Modern CAD software tends to be customised for every deployment. At one level, all vendors' products are designed to allow a significant amount of configuration in terms of screen layouts, colour schemes, codes, unit capabilities, regions and business rules such as assignment preferences for specific incident types or locations. Beyond this level of configuration, every CAD deployment involves an element of custom engineering to interface with legacy systems and meet the specific needs of the agencies involved.

Today's CAD solutions are typically extensible with custom modules to support operational processes, workflows or functions specific to a particular agency, examples being alarm monitoring or towing services provided by police, triage services provided by ambulance, etc. Although custom software development adds vendor cost, the associated requirements analysis and business process reengineering tend to be the most critical, and usually the most time consuming and expensive, aspects of implementing a CAD solution.

## **Multi-Agency CAD in Australia**

Australia is at the forefront globally in the adoption of multi-agency CAD, with the following multi-agency CAD systems in use or planned in Australia today:

NT Police, Fire and Emergency Services – Intergraph;

Queensland Ambulance and Fire – TriTech;

ACT Emergency Services Agency (Fire, Ambulance and SES) – Fortek;

Victoria Police, Fire and Ambulance services – Intergraph; and

South Australia Police, Fire and Ambulance – Intergraph.

Australia faces unique challenges in that the States and Territories are significantly larger in scale than the much smaller jurisdictions typical in the US, where most CAD systems originate (UK-based Fortek being one of the few exceptions).

There are two significant approaches to multi-agency CAD systems in Australia. For example, in Victoria call taking and dispatch is 'outsourced' by emergency service agencies to a single dedicated entity, the Emergency Service Telecommunications Authority (ESTA) which owns and operates the CAD system (Intergraph).

In South Australia, the SACAD project will deliver a multi-agency CAD solution in which each agency will continue to operate separate Communications Centres, utilising an agency-specific interface to a single multi-agency CAD system (Intergraph). The SA CAD will be owned and maintained by the South Australian Attorney-General's Department.

## **Victoria (Emergency Services Telecommunications Authority – ESTA)**

Victoria has a fully-integrated multi-agency CAD system based on Intergraph i/Dispatcher that has been in place (through several technology updates) since 1995. This system is used by ESTA in providing call taking and dispatch functions for the following ESOs:

- Country Fire Authority (CFA);
- Metropolitan Ambulance Service (MAS);
- Metropolitan Fire & Emergency Services Board (MFESB);
- Victoria State Emergency Service (VicSES); and
- Victoria Police (VicPol)

The system features a number of custom modules developed by Intergraph Australia, plus custom interfaces used by two private sector fire alarm monitoring companies. It is connected to a PABX system that allows for voice-announcing at staff stations, and to the state-wide paging system for volunteer brigades.

A dedicated interface between the CAD system and the Motorola MDN network provides AVL and field dispatch status update for approximately 700 VicPol and 300 MAS vehicles equipped with Motorola MDTs.

Outsourced entirely to Intergraph in 1995, responsibility for the call taking and dispatch (CTD) function was transitioned back to the State of Victoria in 2002. Call taking and dispatch then became the responsibility of the Bureau of Emergency Services Telecommunications (BEST).

In 2005, the Emergency Service Telecommunications Authority (ESTA) was established by virtue of the *Emergency Services Telecommunications Authority Act 2004 (Vic)* (the ESTA Act). The ESTA's role and function in respect to CTD are prescribed in Section 7. 'Functions of the Authority', of the ESTA Act.

The ESTA is the largest multi-agency emergency CTD operation in Australia. The Authority operates 24/7 with approximately 390 civilian emergency service call takers and dispatchers and receives approximately 1.2 million emergency calls per annum. The Authority operates from three State Emergency Communications Centres (SECCs); two metropolitan based (World Trade Centre in the Melbourne CBD, and Tally Ho at Burwood East), and one in rural Victoria (Ballarat).

The ESTA CAD system primarily serves Metropolitan Melbourne. In rural areas, 000 calls continue to be routed directly to regional emergency service agency dispatch centres. Business Cases have been prepared to continue rationalisation and centralise the functions of the remaining rural centres into the main ESTA CTD functions, thereby totally centralising all ESO CTD functions to the ESTA.

### South Australia Computer Aided Dispatch Project (SACAD)

SACAD is South Australia's inter-agency CAD system project that will involve the supply, installation and support of CAD and related systems to 5 emergency service organisations (ESOs) in South Australia. Call taking and dispatch services for these ESOs are provided state-wide by metropolitan emergency communications centres as follows:

- Ambulance - SA Ambulance Service (SAAS);
- Fire - SA Fire and Emergency Services Commission (SAFECOM) (Incorporating the SA Metropolitan Fire Service, Country Fire Service, and the State Emergency Service), and
- Police - SA Police (SAPOL).

Each communications centre is primarily dedicated to its "managing agency." Each centre provides some degree of back-up capability (redundancy) for the other agencies (via the shared SA Government Radio Network and the use of common telephony and radio switching and control systems). This allows personnel from one agency to relocate to another agency's ComCen and continue to operate their own dispatch processes in the event that their own ComCen is lost or unavailable.

SACAD will replace the three different CAD systems currently in use by the agencies, all of which were installed between 12 and 20 years ago.

The SACAD project was originally proposed in the 2002/03 State budget. The South Australian Government recently announced that Intergraph was the preferred system provider. The system will be owned and maintained by the South Australian Attorney-General's Department. Design, implementation and transition of the three agency groups is expected take approximately 18 months commencing from Q4 2008.

A summary of CAD in Australia follows:

State	Agency	CAD	Notes
NSW	NSW Police	2007: Fujitsu/Fortek Vision	Dedicated P25 digital encrypted radio network
	NSW Fire Brigades	2005: New ESCAD joint CAD announced, in planning phase	NSW GRN, multi-agency SmartZone mixed analogue/digital trunked radio network.
	NSW Rural Fire Service		
	NSW SES		
Ambulance Service of NSW	1999: TriTech VisiCAD, upgrading to latest version in 2008.		

Victoria	Victoria Police	2007: ESTA currently reviewing CAD status and options up upgrade multi-agency Intergraph CAD system (first installed in 1994)	Metro voice and mobile data networks are multi-agency, upgraded in 2004/5: MMR P25 digital radio network, MDN DataTac data network, both owned/operated by Motorola.
	Metro Fire Brigade		
	Country Fire Authority		
	Victoria SES		
	Metro Ambulance Service		
	Rural Ambulance Victoria		
Queensland	Queensland Police	ESCORT + IMS in-house CAD systems. 2004-2008: Business case/requirements developed for new CAD system	2007/8 projects include PSNP and new police contact centre.
	Queensland Fire and Rescue Service	2005: SDSI/Tritech VisiCAD Command	Multiple conventional analogue PRM networks (UHF/VHF). Proposal to move to common digital trunked network in future. Mobitex data network due for replacement: 2007 EOI.
	Rural Fire Service		
	Queensland Ambulance Service		
	Queensland SES	In-house CAD	
WA	WA Police	2004: Motorola Premier CAD	New Police Metropolitan Radio Network rollout completed Q1 2008 inc. P25 digital radio, mobile data, new MDTs, AVL, etc. Planning underway for regional P25 network.

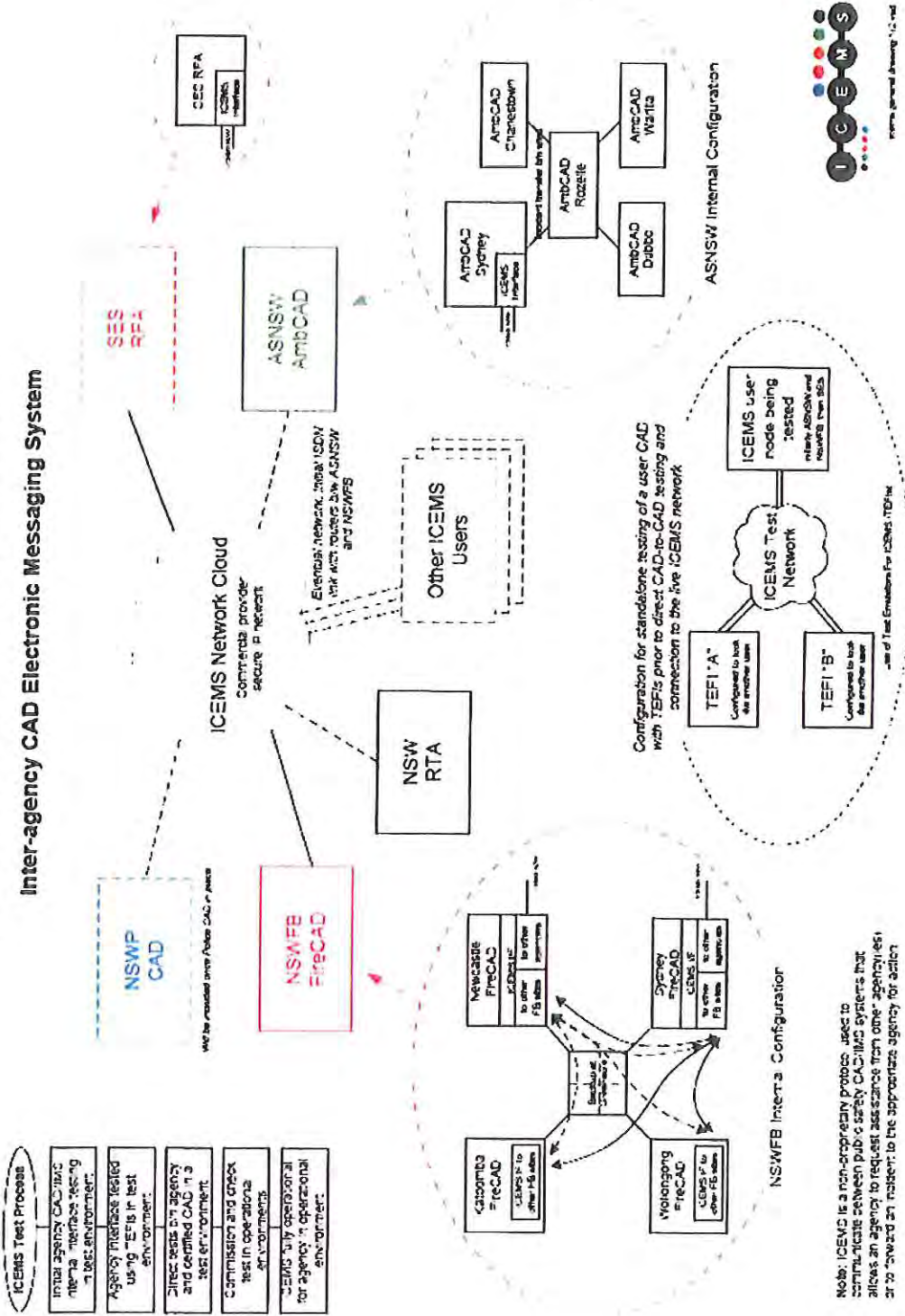


	Fire and Emergency Service Authority of WA	In-house FCAD system developed by FESA's ICT Technology group. Re-engineered over the last 3-4 years; new system due to go live in 2008. Will add AVL and use existing MDTs. Current CAD system is used by metro and rural fire. New system will include SES as well in future.	Western Australian Emergency Radio Network (WEARN), \$20m awarded in 2006 to create interoperable radio network based on FESA agencies' networks using dual-mode UHF/VHF handsets and Radio-over-IP bridging.
	WA St John Ambulance	2004: New in-house CAD system with AVL	Call taking centralised to Belmont call centre in 2005. Plans to upgrade analogue metro radio network to P25-compliant, potentially improving interoperability with FESA.
South Australia	SA Police	2008: SACAD new interagency CAD in tender evaluation phase	SA Govt Radio network (SAGRN), multi-agency analogue/digital trunked, state-wide (Motorola SmartZone) + statewide paging network and metropolitan mobile data. Long-term expectation is that SAGRN will be upgraded to P25.
	SA Metro Fire Service		
SA Country Fire Service			
SA SES			
SA Ambulance Service			
Tasmania	Tasmania Police	Separate in-house commercial CAD systems circa 1990s	TasGRN (EDACS trunked)
	Tasmania Fire Service		
	Tasmania SES		
	Dept. Health and Human Services	2006: Ambulance CAD tender issued, but withdrawn	Various UHF/VHF radio networks. Fire and ambulance networks share infrastructure.

NT	NT Fire & Rescue, Police and Emergency	1999: Intergraph I/CAD multi-agency	Joint Emergency Services Communications Centre (JESCC) for police, fire and St John Ambulance dispatch. SmartZone digital trunked radio (metro) plus conventional analogue (rural).
	NT St John Ambulance		
ACT	Australian Federal Police	1998: Intergraph I/CAD	P25 digital radio
	ACT Emergency Services Agency	2004: Fujitsu/Fortek Vision	ACT Trunked Radio Network (TRN) extension of NSW GRN

# APPENDIX G: ICEMS ARCHITECTURE

## Inter-agency CAD Electronic Messaging System







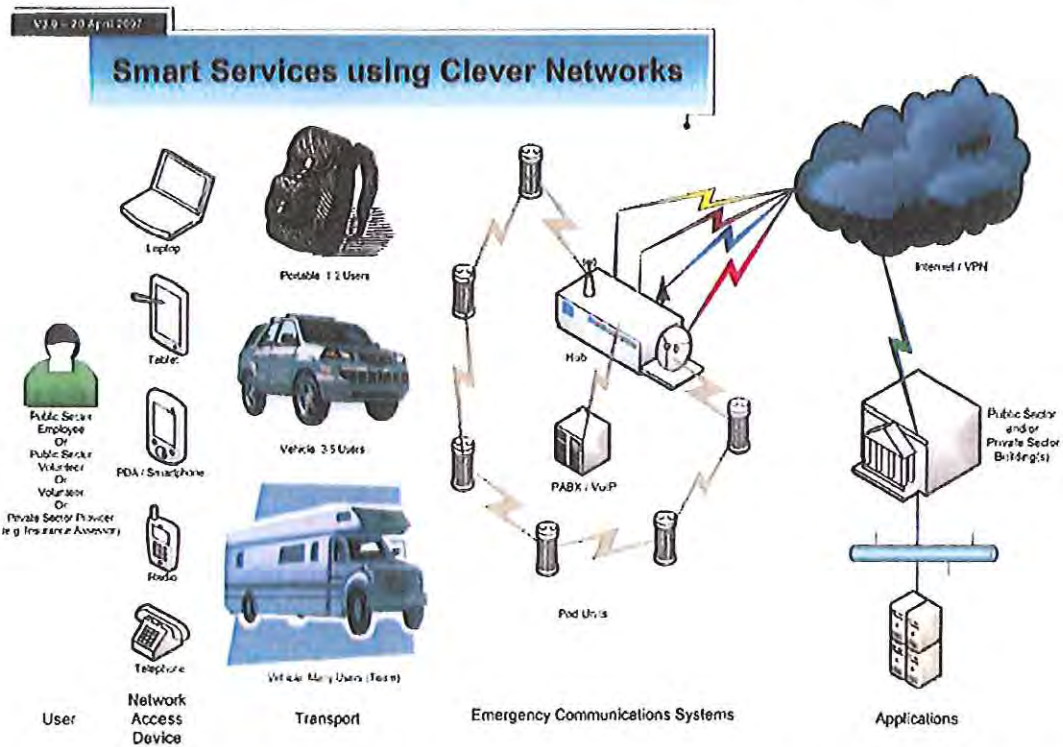
## APPENDIX H: OPPORTUNITIES

### APPENDIX H-1: CLEVER NETWORKS

Cooeenet@qld is an \$11 million project supported by funding from the Australian Government under the Clever Networks program being undertaken by Queensland Health (QHealth) and its partners, the Department of Emergency Services (DES) and the e-Health Research Centre.

DES's role is focused on developing generic, modular and scalable communications systems that enable electronic services to be delivered at the service delivery demand point rather than at explicit and typically fixed locations – *"Smart Services using Clever Networks"*.

Conceptually, Clever Networks is about the evolution of technology solutions to assist public safety, support incident response and provide community services:



The DES component of Cooeenet@qld is known within DES as the Clever Networks Project and hence the label of this opportunity as Clever Networks.

The outcome will be the creation of the core mobile infrastructure for small teams of officers and for all forms of transport.

To achieve this, the project is further developing the mobile technologies concept to provide support systems for Queensland Fire and Rescue Services (QFRS), Emergency Management Queensland (EMQ) and Queensland Ambulance Service (QAS) operations. Examples include:

- Providing the potential for QAS to transfer clinical and visual data from the field or during transport, by road and air to health care providers for their support in patient care treatment; and
- Providing improved reporting of situational awareness and access to information by QFRS and EMQ operations personnel.

The Clever Networks Project is currently funded up to 31 December 2009

DES has been the leading agency in introducing this technology to the Queensland Government and has established a Standing Offer Arrangement (SOA) for Free2Move technology that is available to any Queensland Government agency.

Synergies exist with the Queensland Police Service (QPS) "White Box" submission that was part of a 2005-2006 unsuccessful proposal by the Queensland Government to the Commonwealth, to establish a security focused Cooperative Research Centre (CRC), to be based in Queensland, known as CRC SAFE.

Currently under the banner of the Clever Networks Project, DES is providing the mobile technologies for a Queensland Health BreastScreen Van based in Townsville. In addition, DES, QPS and Main Roads are jointly exploring this technology to complement the technology about to be trialled in Bundaberg in an Emergency Vehicle Pre-emption (EVP) Trial.

In addition Queensland Transport (buses) and Queensland Rail (Gold Coast line) have been exploring opportunities that Free2Move technology can provide each organisation.

## **APPENDIX H-2: EMERGENCY VEHICLE PRE-EMPTION (EVP)**

Managing traffic and managing an emergency service are not mutually exclusive and hence EVP provides a unique opportunity for The Department of Main Roads (DMR), the Queensland Police Service (QPS) and the Department of Emergency Services (DES) to enter into a mutually beneficial collaboration for Queensland that exceeds the value of the individual parts we each bring to the initiative.

This will be achieved by:

- Adapting what we already have;
- Sharing infrastructure;
- Leveraging off existing investments; and
- Strategic partnering.

The start of collaboration around EVP will essentially commence via an EVP pilot project in Bundaberg that will involve DMR, QPS, DES, and the local council during the second half of 2008.

The EVP service is a component of STREAMS, DMR's Enterprise Intelligent Transport System (ITS) product developed and maintained by Transmax. The EVP service within STREAMS manages the EVP process that is implemented through traffic signals at controlled intersections.

The principle of EVP is that it interrupts normal traffic signal operations to provide a green signal to emergency vehicles as quickly as possible. By interfacing STREAMS with the respective Computer Aided Dispatch (CAD) systems, response times are improved as the quickest route, not necessarily the shortest route is identified.

This pre-emption process differs from a complimentary priority process, in that priority only attempts to reduce delays experienced at controlled intersections for specific vehicles and does not provide a privileged run. DMR are trialling the priority process in a parallel trial involving public transport vehicles (i.e. buses) that will be conducted in Cairns.

This EVP service, developed for the Bundaberg EVP Pilot Project, (the Pilot) will be a simplified version of the actual solution expected for the deployment of the EVP system in Queensland. This service is expected to be redesigned and redeveloped based on the lessons learnt and feedback from the Bundaberg EVP Pilot Project.

On 6th June 2008 at the Emergency Vehicle Pre-emption (EVP) Executive Presentation, it was agreed to establish an EVP Leadership Group, (the Group), to oversee the Pilot and to provide the governance framework for progressing EVP as a potential Smart State initiative.

The Group will initially be chaired by Mr. Gary Mahon, Executive Director, Strategic Policy and Executive Services, who DES is nominating to become a member of the PSCP SC, and it is expected to include another member of the PSCP SC, Assistant Commissioner Paul Stewart as one of two representative from QPS.

This group will meet monthly until the end of 2008 and be responsible for reviewing the Report on the outcomes and lessons learnt from the Pilot. The Group as a priority will also progress the framework for briefing Ministers, other agencies and industry.

The first meeting of the Group will be scheduled before mid July 2008 to coincide with appropriate milestones that will be reached by the Pilot.

This opportunity, raised by the SA WP is being progress by the governance framework attached and will ultimately result in a safer and more secure community, and deliver higher quality services that improve the life of all Queenslanders.



## APPENDIX H-3: NATIONAL ICT AUSTRALIA (NICTA)

*Smart State* is the Queensland Government's vision of a state where knowledge, creativity and innovation drive economic growth to improve prosperity and quality of life for all Queenslanders.

The vision is for Queensland to develop into a knowledge-based economy and diversify its traditional economic base of mining and agriculture.

While Queensland currently enjoys a strong economy with low unemployment, it needs to continue broadening its economy and developing new industries or risk being left behind in the future.

The *Smart State Strategy* is the Queensland Government's **signature policy** to create a Smart State: a state where knowledge, creativity and innovation can flourish.

The *Smart State Strategy 2008-2012* signals a change in direction for the government's Smart State investment program.

Over the last decade, the government has invested strongly in education and training reforms, research and development infrastructure and broadening the state's industry base. In that time, \$3.4 billion was invested in R&D and innovation, resulting in 36 new research institutes and creating 60,000 jobs in industries such as aviation, biotechnology, advanced manufacturing and creative industries.

Having laid this solid foundation, it's time to invest more in our people, to make the most of our research infrastructure.

The highlight of the 2008 strategy is a trebling of investment in people including:

- \$23.3 million to attract and retain some of the brightest minds in science and industry through the Innovation Skills Fund
- \$25 million to attract leading clinical researchers via the Health and Medical Research Program.

The *Smart State Strategy 2005-2015* was published in April 2005 after wide public consultation.

The strategy outlined Queensland's short to mid-term investment program, with funding concentrated in the following areas:

- innovation
- new technologies and industries
- research and development infrastructure
- education and training reforms
- infrastructure
- commercialisation

Under the *Smart State Strategy 2005 -2015*, NICTA was given \$4M in 2004 to establish a Queensland Laboratory (Lab) which was seen as a significant component of the Queensland Government's ICT Centre of Excellence and represents the Queensland node of NICTA operations. NICTA is Australia's peak information and communications technology organisation and is funded by the Commonwealth Government.

Over the past three years the Lab has built up a national research capability in crisis management systems and cognitive systems engineering. Practical applications include working to improve CCTV imaging and analysis for Queensland Rail and developing XML language for both cyclone and tsunami warning systems.

This work has included collaboration with officers from both DES and QPS and culminated in a recent (early 2008) demonstration of the research capability of NICTA was presented at the Port of Brisbane. The presentation included a multi-agency desktop scenario and demonstrated real time imaging, facial recognition and the identification of vehicles and objects.

In mid-2007 an application for funding was received by the Queensland Government titled "National ICT Australia (NICTA) - Expansion of Queensland Lab". Essentially, NICTA's Queensland Lab sought to build on the research expertise it has established, linking more with the research needs of the Queensland Government and local information and communications technology industry, as well as establish a clear national and international presence.

The proposal was accepted by the Queensland Government in late 2007 and \$10 million was provided to NICTA's QLD Lab to expansion their research program to the end of 2011.

QPS and DES therefore have access to the NICTA's QLD Lab to undertake any identified public safety communications work.

## APPENDIX H-4: UBINET

Ergon Energy operates an extensive telecommunications network within Queensland, for both corporate communications requirements and operational functions to support its electrical network.

In 2007, Ergon proposed a significant extension of this telecommunications network infrastructure to accommodate the growth in communication requirements. This growth has resulted from an increase in the level of monitoring and control, is required to operate their electrical distribution network.

The planned network will contain two major elements – a core backbone linked to Ergon Energy's Rockhampton and Townsville Network Operations Centres and a cellular radio network. The terrestrial trunk backbone will support the proposed cellular radio network and provide direct connections to Ergon Energy sites, such as depots and substations. The cellular radio network will connect remote power network management devices as well as provide staff communications. When completed, the network is planned to provide coverage to greater than 93% of Ergon Energy's electricity network.

The first phase of this infrastructure initiative was to issue an Expressions of Interest (EOI) on 22 September 2007 (closing on 17 October 2007), for the provision of microwave and optical fibre equipment as well as the cellular radio network. The Ergon Energy Board then approved funding of \$150,000 for Ergon Energy to proceed with the next phase (validation) of the project, named UbiNet. As result of the validation phase of UbiNet, the Ergon Energy Board approved \$140M (?) to implement the first stage of the network, largely for the western areas of Queensland.

Once completed, UbiNet will be a \$300 - 500 million initiative that has the potential to significantly impact on the coverage of cellular mobile radio in Queensland, as well as the availability of high speed microwave and/or optical fibre transmission links for the provision of a range of improved telecommunications services.

This is partly due to Ergon Energy forming a Joint Venture with Energex, who are currently assessing their radio communications requirements for South East Queensland.

Queensland Government Chief Information Office (QGCI) have been involved in meetings held between Ergon Energy and the QGCI to assess how this extensive rollout of State owned telecommunications infrastructure (SOTI) could be further utilised to improve the coverage of not only carrier cellular mobile radio services but also radio services used by Government agencies, particularly the Queensland Police Service (QPS) and the Department of Emergency Services (DES).

A draft Memorandum of Understanding (MOU) has been prepared for Ergon Energy, Energex, Queensland Rail, QPS and DES to facilitate working together to investigate telecommunications infrastructure solutions that could deliver operational efficiency gains and improved outcomes for each organisation, the Queensland Government and the Queensland community. To date DES have signed the MOU as an interested participant. The QPS remains an interested observer and participant although they have not signed the MOU.

The ubiquitous network (UbiNet) proposed by Ergon Energy provides an opportunity for the development of telecommunications infrastructure and implementation of a statewide telecommunications network that could also meet the radio and data needs of the QPS and DES. However this proposal is still in the concept stage and from a Public Safety Communications (PSC) perspective and if determined by the Public Safety Communications Project (PSCP) Steering Committee as a tangible opportunity, then a working party will need to be established to progress this opportunity - possibly as part of any established Digital Communications Working Party, under the banner of the PSCP Steering Committee.