Submission 009
Received 28/02/12

Australian Government

Department of Infrastructure and Transport

File Reference: 11/4170
Contact: Peter Robertson 02 6274 6271

Ms Julia Morris
Committee Secretary
House of Representatives Standing Committee on
Infrastructure and Communications
PO Box 6012
Parliament House
CANBERRA ACT 2600

Dear Ms Morris

INQUIRY INTO THE AVIATION TRANSPORT SECURITY AMENDMENT (SCREENING) BILL 2012

Thank you for the opportunity for the Department of Infrastructure and Transport to provide a submission to the Inquiry into the Aviation Transport Security Amendment (Screening) Bill 2012.

Background

On 25 December 2009, a passenger attempted to set off an explosive on North West Airlines Flight 253 en route from Amsterdam to Detroit. The passenger had successfully smuggled a viable improvised explosive device through aviation security screening and onto the aircraft without being detected. The device, which was concealed inside the passenger's underwear, contained no metallic components and was therefore able to be carried through a walk through metal detector without triggering any alarm. This event highlighted a significant vulnerability in global aviation security screening practices, including Australia.

In response to this incident, the Government announced the $200 million Strengthening Aviation Security Initiative on 9 February 2010. The initiative included funding for a range of measures, including body scanners at international departure and transit points at Australia's eight international gateway airports - Adelaide, Brisbane, Cairns, Darwin, Gold Coast, Melbourne, Sydney and Perth. The Government proposes to introduce body scanners at those airports in the second half of 2012. Body scanners represent the most advanced passenger screening technology available and are capable of detecting a range of sophisticated threats that current screening technologies are not able to detect.

Policy Settings

The Government's policy settings to support the proposed introduction of body scanners have been informed by an extensive consultation process with other government agencies, community stakeholders and industry. In particular, the consultation aimed to ensure that any health and privacy issues associated with the use of body scanners were fully explored, and

that interested groups and organisations had opportunities to participate in the policy dialogue.

In summary, the key policy settings are:

Technology: The Government will require that body scanners deployed at Australian airports must meet certain certification standards including that they are required to use non-ionising millimetre-wave energy (as opposed to X-ray technology);

Privacy: To protect the privacy of the travelling public, only body scanners equipped with automated threat recognition technology may be used. This technology eliminates the need for a screening officer to review raw or 'naked' images of the person being scanned. Instead, when a scan is conducted, the body scanner automatically analyses the data received from the scan and uses a generic human outline, which does not display gender, size, shape or any distinguishing features, to highlight any area on the body that may require further examination. In addition, individual scans are not able to be stored or transferred to other devices.

No invasive frisk searches: The only alternative method of screening that would provide a similar level of assurance to that of a body scanner is an enhanced full body frisk search. The Government has considered overseas practice in conducting these types of searches and does not propose introducing invasive body searches as part of Australia's airport security arrangements. For this reason, passengers selected for body scanner screening will not be able to choose inferior or significantly intrusive alternatives. Consequently, if a person refuses to undergo a body scan, they will be refused clearance and not allowed to pass through the screening point. People who have a physical or medical condition that prevents them from being screened by a body scanner can be screened by alternative means appropriate to their circumstances.

Consultation

The Department engaged the Office of the Australian Information Commissioner (OAIC) to provide advice on the introduction of body scanners and to assist the Department engage interested stakeholder groups. On 22 September 2010, the OAIC facilitated a privacy roundtable with the Department and invited stakeholders to consider privacy issues arising from the Government's decision to introduce body scanners for aviation security screening. Stakeholders included representatives from privacy, disability, religious and civil liberties organisations. A second privacy stakeholder roundtable discussion was held on 21 September 2011 to provide a further opportunity for discussion.

The Department has developed a privacy impact assessment for the introduction of body scanners. A draft consultation of this assessment was released for public comment on 3 August 2011. The Department received three responses: from the OAIC, the Australian Privacy Foundation and Vision Australia. The comments contained in these responses have been incorporated into the final version of the document, which is included at Attachment A. The privacy impact assessment is available on the Department's TravelSECURE website at: <*www.travelsecure.infrastructure.gov.au*>.

The Department has consulted extensively with other government agencies, including the Australian Radiation Protection and Nuclear Safety Authority (ARPANSA), the Department of Health and Ageing, the Therapeutic Goods Administration and state and territory radiation regulators. The Department has also liaised extensively with partner agencies overseas to remain informed of technology developments to ensure that the technology used in Australia is safe and follows international best practice. A Health and Safety Information Sheet on

millimetre-wave body scanners has been released publically by the Department following this consultation and is included in Attachment B of this submission.

Voluntary Trial

The Department conducted a voluntary trial of body scanning carry on baggage screening equipment, at Sydney International Airport from 2 – 19 August and Melbourne International Airport from 5 – 30 September 2011. The main objectives of the trial were to measure the impact that the introduction of body scanners and multi-view X-ray equipment might have on passenger facilitation and to assist the eight international gateway airports prepare for their introduction. The trial also provided the travelling public with the opportunity to familiarise themselves with the new technology.

Privacy stakeholders were provided with the opportunity to view a demonstration of the body scanner during the trial. Stakeholders viewed the body scanner in operation and engaged with security personnel and Departmental officers during the process. Following consultation with industry, the Department has produced the Optimal Technologies Proof of Concept Trial Report, which is included at Attachment C. This report will be available on the TravelSECURE website.

The Department would welcome the opportunity to discuss the submission in more detail or to provide any other information that might be required.

Yours sincerely

Paul Retter, AM
Executive Director

28 February 2012

Attachment A – Privacy Impact Assessment
Attachment B – Health and Safety Information Sheet
Attachment C – Optimal Technologies Proof of Concept Trial Report

Submission 009
Received 28/02/12

Exhibit 001 to sub 009
Received 28/02/12

Australian Government

Department of Infrastructure and Transport

The use of body scanners for aviation security screening in Australia: Privacy Impact Assessment

February 2012

Contents

Contents 2
1 Executive Summary 4
2 Purpose 5
2.1 Background 5
3 What is a Privacy Impact Assessment 6
3.1 Consideration of the National Privacy Principles 6
4 Stakeholder Consultation 7
5 Overview 8
5.1 Layers of preventive security 10
6 Policy Framework 13
6.1 The Aviation White Paper 13
6.2 Strengthening Aviation Security Initiative 13
6.3 Previous security initiatives 13
7 Current Screening Arrangements 16
7.1 Airport screening procedures 16
7.2 Aviation security screening authorities 16
7.3 Aviation security screening providers 17
8 The Body Scanner Initiative 17
8.1 Rationale for the introduction of body scanners 18
8.2 Equipment 18
8.3 Automatic Threat Recognition technology 19
8.4 The body scanner proof of concept trial 20
8.5 Quality assurance and equipment compliance 21
8.6 Comparative experience overseas 22
9 Implementation Arrangements 23
9.1 Passenger selection 23
9.2 Proposed screening arrangements 23
9.3 Resolution of body scanner alarms 23
10 Privacy Impact Analysis 24
10.1 Stakeholder consultation 24
10.2 Collection of personal information 25

10.3 The body scanner process 26
10.4 Privacy management 28
10.5 No opt-out policy 28
10.6 Travellers with special circumstances 29
10.7 Scanning of children 30
10.8 Pregnant women 30
10.9 People with disabilities, older people and people who carry medical equipment 30
10.10 Transgender and intersex communities 31
10.11 Passengers who are hearing or vision impaired 31
10.12 Religious and cultural needs 32
11 Communications 32
11.1 Complaints 33
12 Conclusion 34
13 Terminology 35
Appendix A - Stakeholder issues table 36
Appendix B – Submissions received on consultation draft 42

1 Executive Summary

This Privacy Impact Assessment (PIA) outlines how the Australian Government intends to manage the potential privacy impact that may arise from the introduction of body scanners at Australian airports. The Government takes privacy concerns seriously and understands that the security of personal information is paramount.

Extensive consultation has been undertaken in the development of this PIA. The Department of Infrastructure and Transport, with assistance from the Office of the Australian Information Commissioner, has conducted a number of stakeholder engagement initiatives including two privacy roundtable workshops. A series of presentations for privacy stakeholders was also held at Sydney and Melbourne International Airports. During these presentations, stakeholders received a briefing and watched a demonstration of the body scanner in operation. They also had the opportunity to engage with screening officers and departmental personnel to ask questions about the process. The issues raised during stakeholder consultation are summarised at **Appendix A**.

This PIA demonstrates that no identifying or personal information is collected, used or disclosed during body scanner screening and provides an undertaking that all reasonable steps will be taken to:

- inform passengers of the reasons for introducing body scanners into aviation security screening; and
- protect the physical security of any data collected during the scanning process against loss, unauthorised access, use, modification or disclosure (noting that data collected during the scanning process does not constitute 'personal information' under the *Privacy Act 1988*).

Measures to achieve this will include:

- implementation of a public communications strategy to support the rollout of body scanners;
- the introduction of legislation that makes it a requirement for any image of a person produced by a body scanner to be a generic body image that is gender-neutral and from which the person cannot be identified;

- a requirement that body scanners used for aviation security screening in Australia do not have the ability to store, transfer or print data from individual scans; and
- an ongoing compliance regime carried out by Departmental Transport Security Inspectors to ensure the equipment being used at airports meets the Government's requirements.

2 Purpose

The purpose of this PIA is to identify the impact of using the new body scanning technology on the privacy of the travelling public and to provide analysis of those identified impacts. This will include a discussion of how the privacy impact is to be addressed.

2.1 Background

The Department is responsible for advising the Government on transport security matters. On 9 February 2010, the Government announced a package of measures to strengthen aviation security.[1] This was in response to the failed terrorist attack on 25 December 2009, in which an attempt was made to detonate an explosive device on board Northwest Airlines Flight NW253 from Amsterdam to Detroit. This package included $28.5 million to assist the aviation industry to introduce a range of optimal screening technologies at international passenger screening points. These technologies include body scanners, next-generation explosive detection system capable multi-view X-ray machines, and bottled liquid scanners capable of detecting liquid-based explosives. The new body scanning technology will be used to screen outbound international passengers at Australia's eight international gateway airports from mid 2012. These airports include Adelaide, Brisbane, Cairns, Darwin, Gold Coast, Melbourne, Perth and Sydney. All body scanners installed at Australian airports will use non-ionising millimetre-wave radio-frequency energy, they will not generate any identifiable images of individuals and they will not be capable of storing data from individual scans.

The Australian Customs and Border Protection Service is planning to trial internal body scanners to improve the management and examination of international passengers who are suspected of concealing drugs within their bodies. This is entirely separate to and distinct

[1] Media Release from the Minister for Infrastructure and Transport: http://www.minister.infrastructure.gov.au/aa/releases/2010/February/AA024_2010.aspx

from the Government's initiative to strengthen aviation security through the use of external body scanners at departure points in Australian international airports.

3 What is a Privacy Impact Assessment

A PIA is used to determine privacy issues associated with the collection, use and disclosure of personal information as defined under the *Privacy Act 1988*. The benefit of a PIA is that it assesses the privacy impact of any new or amended processes or initiatives and allows identification and analysis of those impacts. It also assists in determining and managing the approach on how the privacy impact can be reduced.

This PIA has been undertaken by the Department to identify and assess privacy implications relating to the introduction of body scanners at Australia's eight international gateway airports. The Department has worked closely with the Office of the Australian Information Commissioner (OAIC) to ensure that interested stakeholders have had input into the discussion and their views are considered when addressing policy issues.

3.1 Consideration of the National Privacy Principles

The Department has conducted an assessment regarding the use of body scanners for aviation security screening in Australia against the National Privacy Principles (NPPs). The Department does not consider that the information – in this case a generic representation with no personal identifiers – displayed on the control panel of a body scanner constitutes personal information as defined in the *Privacy Act 1988*. No identifying or personal information is collected, used or disclosed during the process of undertaking a body scan.

The *Privacy Act 1998* states that "*personal information* means information or an opinion (including information or an opinion forming part of a database), whether true or not, and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion". As the body scanning process does not involve a collection of 'personal information' by the aviation security screening authorities, the NPPs do not apply.

This is discussed further in the **Privacy Impact Analysis** located in **Section 10**. The development of the PIA has worked towards directly addressing the concerns of various

stakeholder groups, with the Government remaining committed to achieving an appropriate balance between security and privacy. The assessment was conducted against the NPPs because aviation screening is undertaken by private industry, hence the Information Privacy Principles do not apply.

4 Stakeholder Consultation

On 22 September 2010, the OAIC facilitated a privacy roundtable between the Department and invited stakeholders to consider privacy issues arising from the Government's decision to introduce body scanners for aviation security screening. The roundtable discussion revealed that much of the concern held by stakeholders stems from the possible misuse of realistic 'naked' images of the type typically produced by first generation body scanners. The Government has addressed this concern by requiring that all body scanners used for aviation security screening use automatic threat recognition (ATR) technology. This means that the body scanner uses a generic human outline or 'stick figure' that is exactly the same for every person scanned in order to highlight any areas on the body that require further examination. It is also a government requirement that body scanners are not equipped with the capability to store, transmit or print any information about individual scans. In addition, no biographical identifiers such as names, passport numbers or boarding pass details are captured by the body scanner or the screening officers.

The Department has met with and/or received written submissions from a range of stakeholders including the Australian Catholic Bishops Conference; Australian Federation of Islamic Councils (Muslims Australia); Australian Human Rights Commission; Australian Privacy Foundation; Australian Youth Affairs Coalition; Civil Liberties Australia; Cyberspace Law and Policy Centre UNSW; Disability Council NSW; Liberty Victoria; NSW Council for Civil Liberties; Organisation Intersex International; Public Interest Advocacy Centre; QANTAS; Queensland Council for Civil Liberties; Sydney Airport Corporation Ltd; The Gender Centre and Vision Australia.

A consultation draft of this assessment was released for public comment, with formal submissions being accepted from 3 August to 30 September 2011. Three submissions were received in response to the draft PIA. A table summarising the comments received and the

Department's response to them is included at **Appendix B**. A second privacy stakeholder roundtable discussion was also held on 21 September 2011.

A trial of the new body scanning technology was conducted at Sydney and Melbourne international airports during August and September 2011. During the trial, privacy stakeholders were invited to attend a briefing and demonstration of the body scanner to provide them with an understanding of how the body scanners will operate in practice. These sessions also included an opportunity for stakeholders to ask questions of the Department and the screening authorities.

5 Overview

Australia's aviation security regime has protected travellers and the general public from major incidents to date. However the system must continue to improve and evolve to meet a growing and changing airline industry and ongoing security threats. The Government remains committed to providing an aviation security regime that is efficient, delivers effective preventive security, and maintains good passenger facilitation. It is important that Australia's aviation security regime not only reflects the current international best practice but also remains flexible to future challenges that will confront the aviation sector.

The aviation sector includes a number of characteristics that make it an attractive target for terrorists. It is easily accessible, gathers large numbers of people together at regular, predictable times, and a successful attack has the potential to generate significant economic consequences. Terrorist groups are knowledgeable about aviation operations, seek to identify vulnerabilities, and have the capability to mount sophisticated attacks with catastrophic consequences. The greatest security threat to Australia continues to come from groups associated with, or inspired by, global terrorist movements.

Since the unprecedented attacks against aviation in September 2001, Australia's aviation security regime has been significantly strengthened. Measures which have been implemented include:

- expansion of the regulatory regime defining security controlled airports to cover airports handling passengers, operators of freight aircraft, charter flights and private and corporate jets;

- the implementation of comprehensive security programs and security measures based on individual airport risk assessments;
- the requirement for hardened cockpit doors on all regular passenger and charter aircraft with a seating capacity of more than 30 passengers;
- the extension of the regulatory regime for international air freight to cover domestic services;
- trialling of new freight screening technology;
- the expansion of the Aviation Security Identification Card (ASIC) scheme to cover all staff at airports servicing passenger and freight aircraft;
- the extension of the checking process associated with the ASIC scheme to include all pilots and trainee pilots;
- the requirement for general aviation aircraft to have anti-theft measures; and
- the introduction of limits to liquids, aerosols and gels that may be carried on international flights.

Aviation security incidents over the last several years have highlighted vulnerabilities in aviation security screening systems due to the limitations of screening technologies that are currently in place. New and emerging techniques employed by terrorists to target the aviation industry mean that the Government must frequently review and revise aviation security measures to ensure these measures adequately address the threat environment. The passenger screening process in Australia has not changed significantly since it was developed to counter the threat of hijacking in the 1970s. It is primarily designed to detect metallic weapons either on the passenger or in carry-on luggage. The process is less effective in detecting non-metallic weapons concealed on a passenger. Given the evolving attack techniques used by terrorists to target aviation, new measures are required to mitigate the threat.

Mid-flight bombings and suicide hijackings are two tactics that terrorists continue to consider in their planning. To mitigate the risk of such attacks, there are a range of measures in Australia's multi-layered aviation security regime, including random explosive trace detection, X-ray of carry-on baggage and walk through metal detector screening. These methods reduce the likelihood of a terrorist being able to smuggle a bomb or other weapon through a screening point into a sterile area and on-board an aircraft. The ability of screening

personnel to detect prohibited, suspicious, or altered items during the screening process is essential for effective security screening.

The introduction of hardened cockpit doors and flight-deck security procedures are important measures in reducing the risk of a hijack attack. With these measures in place, in-flight bombings are likely to remain a terrorist focus. Weapons such as knives or non-metallic sharpened objects (such as ceramic knives or wooden stakes) are less likely to be used to cause a catastrophic risk event in the current environment, but could be used to threaten the safety of passengers and airline staff.

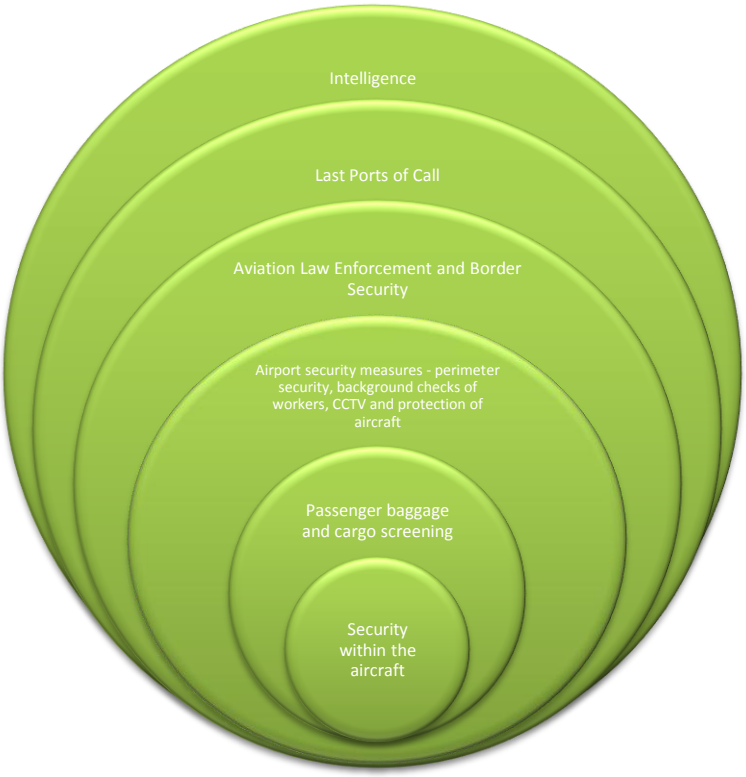
The 2006 plot to use liquid explosives to bomb transatlantic airliners mid-flight and the 2009 attempted bombing of flight NW253 demonstrate the unwavering intent and increasing capability of terrorists to develop innovative methods of smuggling explosives through aviation security screening in order to mount sophisticated attacks on aircraft.

5.1 Layers of preventive security

Aviation security measures and procedures are designed to deter and detect unlawful interference with aviation and to provide a safe and secure environment for passengers, visitors and staff. Security screening is only one component of Australia's integrated preventive security regime. The Government's approach to security is risk based and multi-layered. In this complex operating environment where it is possible there will be no intelligence warning prior to a terrorist attack, the best defence against the threat of attack is a layered preventive security plan that both includes physical security measures and recognises the importance of a robust security culture.

In its present form, Australia's aviation security regime combines multiple layers of preventive security, as illustrated over the page, and covers over 180 airports, more than 250 airlines, approximately 90,000 industry employees and in excess of 950 air cargo agents.[2]

[2]Aviation White Paper: Flight Path to the Future
http://www.infrastructure.gov.au/aviation/nap/white_paper/chapter8.aspx



- *Intelligence*
    - Australia's intelligence agencies play an important role in ensuring threat assessments are up to date and accurate. This information is distributed, as appropriate, to law enforcement agencies and industry participants to inform appropriate measures.

- *Last Ports of Call*
    - Australian Transport Security Inspectors carry out regular assessments of international airports with originating flights travelling to Australia. These assessments have assisted in identifying vulnerabilities in existing systems and, importantly, building capacity in a range of countries in South East Asia and South West Pacific.

- *Aviation law enforcement and border security*
    - A police presence is applied at major airports.

- *Airport security measures*
    - Regulated aviation industry participants are required to have an approved transport security program in place. These programs outline security measures to manage and maintain security, and respond to security incidents.

- Staff working in secure areas of the airport and onboard aircraft must be background checked and hold an Aviation Security Identification Card (ASIC). Visitors who need to access the airside area or any landside security zone of the airport need to wear a visitor identification card and they must be supervised by a person displaying a valid ASIC until they leave that area or zone.
- Upgraded closed circuit television capability exists at major airports.
- People and goods entering the airside of airports are subjected to a comprehensive airside inspection regime.

- *Screening what goes on board aircraft*
  - Screening of passengers and carry-on baggage, including X-ray of carry-on and checked baggage, metal detection equipment, random and continuous explosive trace detection and physical searches.
  - There must be appropriate air cargo security measures in place, including explosive trace detection equipment at designated airport cargo terminals, and transport security programs for regulated air cargo agents.
  - Passengers are currently restricted in the amount of liquids, aerosols and gels they can take in carry-on baggage on international flights to, from and within Australia.

- *Aircraft on-board physical security*
  - Hardened cockpit doors must be installed in aircraft with a seating capacity of 30 or more seats, where these planes are used for regular public transport or open charter operations. From July 2014, all aircraft with a maximum take-off weight greater than 10,750kg will be required to have hardened cockpit doors.

6 Policy Framework

6.1 The Aviation White Paper

On 16 December 2009, the Government released the *National Aviation White Paper – Flight Path to the Future* (the Aviation White Paper). This paper highlights the Government's long-term policy objectives for the aviation industry and the way forward on many aviation issues. As presented in the Aviation White Paper, the Government's aviation security policy framework will continue to embody:

- the mitigation of the key risks to the security of air passengers and the general public;
- cooperative and effective partnerships between government and industry;
- an alignment of regulatory requirements with international practice; and
- minimal disruption to passenger and cargo facilitation.

For further information on the Aviation White Paper, please go to the Department's website at: http://www.infrastructure.gov.au/aviation/nap/index.aspx

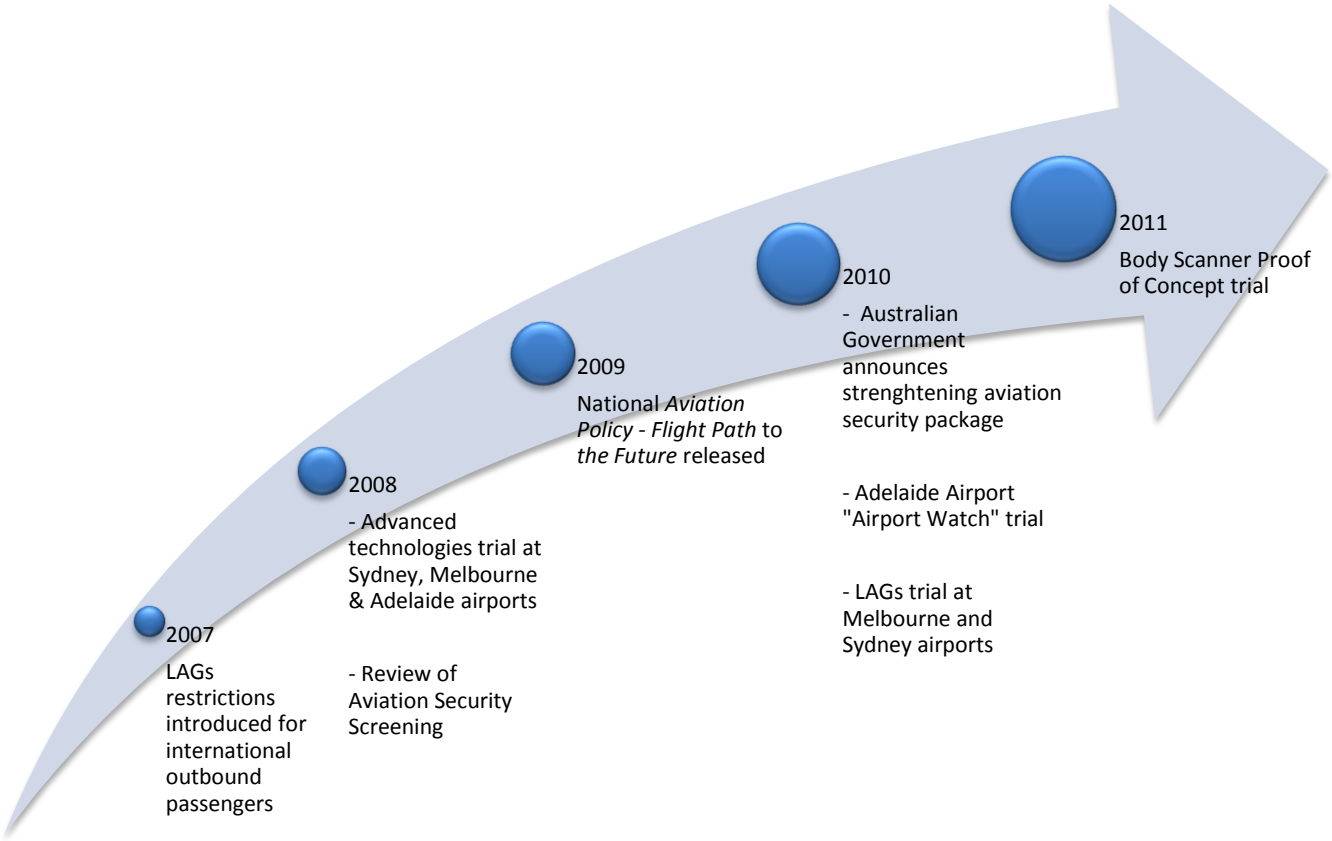
6.2 Strengthening Aviation Security Initiative

On 9 February 2010, the Government announced a package of measures to strengthen aviation security. This package included $28.5 million to assist the aviation industry to introduce a range of optimal screening technologies at international passenger screening points. These technologies include body scanners, next generation multi-view X-ray machines and bottled liquid scanners capable of detecting liquid-based explosives.[3]

6.3 Previous security initiatives

On the following page is a brief outline of key dates and initiatives together with details about recent aviation security trials.

[3] To read more about the Government's announcement, please go to the Minister's website at: http://www.minister.infrastructure.gov.au/aa/releases/2010/February/AA024_2010.aspx



- In early 2007, in line with international changes, the Government implemented liquids, aerosols and gels (LAGs) restrictions to limit the amount of LAGs that were able to be taken through the screening point. LAGs such as drinks, creams, perfumes, sprays, gels and toothpaste are required to be less than 100 millilitres and be able to fit into a 20cm x 20cm transparent resealable plastic bag.[4]

- In 2008, a review of aviation security screening was conducted to examine current screening mandated requirements and practices within the broader context of the regulatory regime, including the legislative framework.[5]

- In August 2008, the Government trialled advanced multi-view X-ray technology for carry-on luggage, body scanners and liquid explosive detectors at Sydney, Melbourne

[4] Further information relating to Liquids, Aerosols and Gels (LAGs) restrictions is available at: http://travelsecure.infrastructure.gov.au/international/lags/index.aspx
[5] The Review of Aviation Security Screening is available at: http://www.infrastructure.gov.au/transport/security/aviation/screening/index.aspx

and Adelaide airports. These trials recorded and analysed passenger flows and other technical data during the trial.[6]

- On 16 December 2009, the Government released the National Aviation Policy, *Flight Path to the Future*, which recommended more than 130 policy initiatives, including 13 relating to aviation security. This forms part of a comprehensive framework to guide and protect future growth of Australia's aviation industry.[7]

- On 9 February 2010, the Government announced the $200 million Strengthening Aviation Security Initiative. The Government's comprehensive package of measures will be implemented to strengthen Australia's international and domestic aviation security regime against emerging threats.[8] This includes the introduction of optimal technologies for aviation security screening, including body scanners.

- During April 2010, OTS and the Australian Federal Police worked with Adelaide Airport to conduct an evaluation trial of an 'airport watch' system over a six-week period. The aim of this trial was to increase the awareness of the Adelaide Airport community in detecting and reporting suspicious activity.[9]

- During November and December 2010, technology to detect explosives in LAGs was trialled by the Department at Melbourne and Sydney Airports.[10]

- During August and September 2011, body scanners were trialled at Sydney and Melbourne International Airports to refine processes and procedures ahead of the introduction of the technology.

---

[6] Media Release for the Advanced Technology Trials is available at: http://www.infrastructure.gov.au/department/media/2008/d2_2008.aspx
[7] The Nation Aviation Policy - White Paper is available at: http://www.infrastructure.gov.au/aviation/nap/files_white_paper/091215_Full.pdf
[8] Media Release from the Minister of Infrastructure, Transport, Regional Development and Local Government is available at: http://www.minister.infrastructure.gov.au/aa/releases/2010/February/AA024_2010.aspx
[9] Further information relating to Airport Watch is available at: http://www.infrastructure.gov.au/transport/security/aviation/watch/index.aspx
[10] Further information relating to the trial to detect explosives in LAGs is available at: http://www.minister.infrastructure.gov.au/aa/releases/2010/November/AA476_2010.aspx

7 Current Screening Arrangements

7.1 Airport screening procedures

A range of measures are in place at Australian airports to safeguard against unlawful interference with aviation. These are prescribed under the *Aviation Transport Security Act 2004* (the Act) and the Aviation Transport Security Regulations 2005 (the Regulations).[11] The Act and the Regulations include provisions for the clearance of persons to board an aircraft and to enter certain zones in an airport. In practice, the Act and Regulations require all persons wishing to pass through a screening point at an airport to be cleared by a screening officer.

The current screening process for departing international passengers and their personal effects consists of two stages, primary screening and, where an alarm needs to be resolved, secondary screening. These screening procedures are concerned with detecting weapons, prohibited items and oversized LAGs products.

- Primary screening involves the use of a walk-through metal detector for passengers and an X-ray machine for carry-on baggage. In addition, passengers may also be randomly selected to undergo explosive trace detection screening, and at international airports only, a frisk search and a physical search of baggage to detect any concealed LAGs items.

- Secondary screening is used to resolve an alarm from a primary screening method. It can involve the use of a hand-held metal detector, explosive trace detection, frisk searches and/or the physical inspection of items.

7.2 Aviation security screening authorities

Certain aviation industry participants, including an operator of a security controlled airport and an operator of a prescribed air service, are required to have an approved transport security plan. These plans set out, among other things, how screening will be conducted.

[11] For further information on the *Aviation Transport Security Act 2004* and Aviation Transport Security Regulations 2005, please visit our website: http://www.infrastructure.gov.au/transport/security/aviation/legislation/index.aspx

Screening is conducted by entities appointed as 'screening authorities' such that:

- there is at least one screening authority for the whole of the sterile area of the airport; and
- if one or more screening authorities are specified for part of the area, there is a least one screening authority for the remainder of the area.[12]

The appointment of a screening authority and the approval and monitoring of a transport security program form the basis of the aviation security management arrangements between the Government and the aviation industry.

The Department ensures that screening services are delivered in accordance with the legislation through the conduct of audit and compliance activities by the Department's transport security inspectors. Penalties may be imposed for non-compliance and can include withdrawal of appointment as a screening authority.

7.3 Aviation security screening providers

Screening authorities may choose to undertake screening operations themselves or to sub-contract to one or more screening service providers. The choice of screening provider in all cases is a commercial and security decision for the screening authority. Screening authorities at some regional airports choose to undertake screening directly.

8 The Body Scanner Initiative

The need to address the threat from non-metallic weapons has seen an increase in the use of body scanners for aviation security screening internationally. This is particularly so in the USA, where there are currently over 530 scanners installed at over 130 airports. Other countries including Canada, the United Kingdom, Thailand and the Netherlands have also introduced body scanners for aviation security screening.

The Government recognises that there must be a balance between achieving security outcomes and protecting the individual's privacy and is working to ensure that the new technology and associated processes achieve that balance. It is anticipated that body scanners

[12] Aviation Transport Security Regulations 2005 (4.03)
http://www.infrastructure.gov.au/transport/security/aviation/legislation/index.aspx

will be progressively introduced at outbound international screening points in Australia's eight international gateway airports from the second-half of 2012. The Government has funding available to assist airports with the purchase of approximately 30 body scanners, which will supplement walk through metal detectors at about half of the international screening lanes.

8.1 Rationale for the introduction of body scanners

The aviation screening regime in Australia has not changed significantly since it was developed to counter the threat of hijacking in the 1970s. It is primarily designed to detect metallic weapons either on the passenger or in carry-on luggage. The process is less effective in detecting non-metallic weapons concealed on a passenger. The aviation security environment has significantly evolved over this period and it will continue to do so. Given the evolving attack methods used by terrorists to target aviation, new measures are required to mitigate the threat.

The 2006 plot to use liquid explosives to bomb transatlantic airliners mid-flight and the 2009 attempted bombing of flight NW253 demonstrates that the aviation sector faces a range of sophisticated threats that our screening regime must be capable of detecting in order to ensure the safety of the travelling public. Walk through metal detectors and the style of frisk search currently used at Australian airports simply cannot provide the same security outcome that a body scanner can. The benefit of introducing body scanning technology is that it can identify a variety of sophisticated threats that cannot be detected by existing screening technology. The Government is committed to introducing body scanners as this technology offers the greatest chance of detection, owing to the ability of the technology to detect and pinpoint the location of both metallic and non-metallic items present within or underneath a person's clothing.

8.2 Equipment

Body scanners will be used in a similar way to existing walk through metal detectors. The scanning experience will differ little from the current walk through metal detector procedures, other than the requirement for passengers to stand still and raise their hands for a few seconds for the scan. The only type of body scanner technology that the Government will allow to be used in aviation security screening is millimetre-wave technology. This technology uses non-ionising radio frequency energy in the millimetre-wave spectrum to scan

passengers. Millimetre-wave body scanners operate at very low power levels within the radio frequency spectrum.[13] The energy projected by one of these body scanners is 10,000 times less than a mobile phone transmission, which is significantly less than the maximum permissible exposure levels for the public set by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

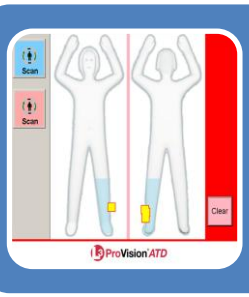
Source: Department of Infrastructure and Transport

8.3 Automatic Threat Recognition technology

Some countries currently operate first generation body scanners that produce raw or 'naked' images that are viewed by a remote image interpreter to determine whether any potential prohibited items are present on the person or within their clothes. In these situations, passengers are asked to enter the body scanner, stand as instructed while the scan takes place, and the technology creates an image of the individual passenger. A remotely located officer views and analyses the image. The remote operator then advises screening staff located at the scanner of any anomalies detected so that the anomalies can be resolved.

[13] ARPANSA Factsheet: Airport Passenger Screening Technologies (The latest airport security screening technologies use radiation for whole-body imaging) – Millimetre wave technology http://www.arpansa.gov.au/radiationprotection/Factsheets/is_AirportScreening.cfm

Equipment manufacturers have responded to privacy concerns about these raw images and have developed new software that in practice performs the role of the image interpreter. In the new generation body scanners, when a scan is conducted the numerical data obtained during the scan is analysed by the body scanner's automatic threat recognition (ATR) technology. With ATR technology, the scanner processes the data itself to determine if any potential prohibited items are present, eliminating the need for a human operator to interpret raw images. The ATR software knows generally what a male and female body should look like and looks for any anomalies that might require further investigation. If the ATR detects an anomaly on the body, the software highlights the anomaly by using a generic human outline or 'stick figure' and places a box over the appropriate area to indicate its location. The aviation screening officer can then work with the passenger to determine what the ATR has detected. It is a government requirement that body scanners installed at Australian airports for aviation security screening be fitted with ATR.[14] These machines are not capable of producing 'raw' images. Furthermore, they will not have the capability to store or transmit data from individual scans. It will therefore not be possible for data to be extracted from the body scanners so that raw images can be constructed.



An example of one type of generic 'stick figure' and ATR (showing an area that requires further examination on the left leg)

(Source: L3 Communications)

8.4 The body scanner proof of concept trial

The Body Scanner Proof of Concept Trial was conducted at Sydney (Kingsford Smith) Airport from 2 – 19 August and Melbourne International Airport from 5 – 30 September 2011. The aim of the trial was not to test and measure the effectiveness of the technology for aviation security screening, as this technology is proven and already in use. Instead, the main objectives of the trial were to measure the impact of the new technologies on passenger facilitation and to assist the eight international gateway airports plan for their introduction.

[14] Body Scanner Grant Program Guidelines
http://www.infrastructure.gov.au/transport/security/aviation/strengthening.aspx

Passengers were asked if they would like to volunteer to undergo a body scan instead of undertaking normal screening by a walk through metal detector.

The trial, conducted over seven weeks, was highly successful and saw over 23,000 scans conducted. Data from the trial shows that nearly 60 percent of passengers who undertook a body scan were immediately cleared.

During the trial, privacy stakeholders were invited to attend a briefing and demonstration of the body scanner to provide them with an understanding of how the body scanners will operate in practice. These sessions also included an opportunity for stakeholders to ask questions of the Department and screening officers. Overall, the reaction from the public and the media was extremely positive, with many passengers remarking that the process was quick and easy.

8.5 Quality assurance and equipment compliance

Body scanners are a proven technology and have been used overseas for aviation security screening purposes since 2007. It is the Government's requirement that all body scanners to be used in Australia must have undergone stringent testing in line with associated standards and be approved for use by an accepted overseas regulator. Approved overseas regulators include the United States, Canada and the European Commission.

The ongoing quality assurance regime will involve the Department's Transport Security Inspectors conducting ongoing testing to ensure the compliance of this technology against detection capability requirements. This measure is the same for existing screening technologies including walk-through metal detectors and X-ray machines. Where a piece of equipment does not meet detection capability requirements, the equipment cannot be used until the problem is resolved.

The Department understands that other countries are conducting trials to determine the suitability of body scanning technology for their aviation security requirements. These trials involve the use of different technologies, equipment models and ATR algorithms, which mean the results from overseas trials cannot be readily applied to the type of body scanners to be implemented in Australia.

8.6 Comparative experience overseas

An increasing number of other countries have already installed body scanners as a screening measure. The Department is working closely with overseas partners to ensure that the procedures for body scanners align with international best practice, as well as meeting the privacy and health concerns of the Australian public.

The United States has used body scanners, or Advanced Imaging Technology, at its airports since 2007. Currently, there are more than 530 imaging technology units at more than 130 United States airports, with additional units purchased for deployment. The United States trialled ATR software on body scanners in 2011 and began rolling out the feature to existing equipment. This decision provides additional privacy protection for passengers while ensuring the same high level of security.[15]

The United Kingdom began using body scanners at its airports in early 2010 in response to the Northwest Airlines flight NW253 incident in 2009. Currently, body scanners are in operation at several major airports and will be rolled out more widely in the future. The UK uses first generation scanners that produce raw images. These images are viewed and analysed remotely in a separate room from the machine and are deleted immediately after analysis. The images cannot be recovered at a later date from the machines. This means that passengers being scanned at UK airports are not seen directly by the person that is viewing the scanned image.[16] The UK has announced its intention to upgrade its scanners to include the use of ATR. The UK has also implemented a no scan, no fly policy for body scanners, so that where a person refuses to undergo a body scan, they are refused clearance to pass through the screening point.

The Netherlands has been using body scanning technology since 2006. Millimetre-wave imaging technology fitted with ATR is the only type of body scanning technology currently used in the Netherlands.[17]

[15] http://www.tsa.gov/press/releases/2012/0126.shtm
[16] http://www.dft.gov.uk/pgr/security/aviation/airport/securityscanners/
[17] www.schiphol.nl/Travellers/AtSchiphol/CheckinControl/SecurityChecksUponDeparture/SecurityScan.htm

9 Implementation Arrangements

9.1 Passenger selection

Body scanners are being introduced at Australian airports for use as a primary screening procedure and as such, any passenger may be selected to undergo a body scan on a random basis. Those passengers who are not selected for a body scan will be screened by a walk through metal detector. Selection of individuals will not be based on profiling and an individual will not be selected for a body scanner due to their sex, race or religion.

9.2 Proposed screening arrangements

Prior to a person undertaking a body scan, they will be asked to remove all items from their pockets including mobile phones, wallets and travel documents. Individuals will also be asked to remove overcoats and jackets, belts with heavy buckles and some types of footwear, such as long boots. Divesting these items will help minimise body scanner alarms and delays through the screening point.

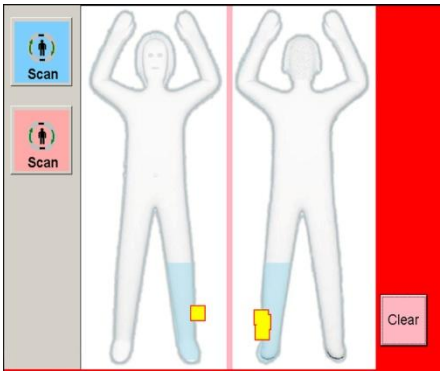
Personal effects will be screened in line with current screening procedures and may include:

- X-ray examination;
- random Explosive Trace Detection testing; and
- a random physical search.

Passengers will be asked to step into the body scanner and stand with their legs approximately 50cm (shoulder width) apart with their hands raised above their head and remain still for a approximately two seconds while the scanner analyses the data. The screening officer will then ask the passenger to exit the body scanner.

9.3 Resolution of body scanner alarms

Where the body scanner identifies an item on a passenger that requires further assessment by a screening officer, a coloured square is imposed over a generic human outline or ‘stick figure’ to alert the screening officer as to the approximate location of the item on the person’s body.



This scan has highlighted an item on the passenger's left leg that requires further assessment by the screening officer.

The screening officer will ask the passenger if they are aware of anything that might be causing the body scanner to highlight this area. Where possible, the passenger will produce any items not previously divested for inspection as per the current screening arrangements. Screening officers may perform a targeted frisk search of the area to ensure that no further items are present. Items that cannot be easily or conveniently removed, such as prosthetic devices, will be screened in accordance with the current screening practice guidelines. This could include a frisk search, ETD test or use of a hand-held metal detector. Passengers will be required to surrender any prohibited items identified during the screening process before they are cleared to pass through the screening point. The screening practice guidelines are available from the Department's website at:
http://www.infrastructure.gov.au/transport/security/aviation/screening/guidelines.aspx

10 Privacy Impact Analysis

10.1 Stakeholder consultation

The Office of the Australian Information Commissioner facilitated two roundtable discussions between privacy stakeholders and the Department on 22 September 2010 and 21 September 2011. The issues raised during these discussions form the basis of this analysis. The stakeholder issues table located at **Appendix A** outlines and addresses each issue or concern raised by stakeholders at the roundtable meetings. In addition, a consultation draft of the PIA was circulated for public comment in September 2011. Three submissions were received, and the concerns raised are summarised in **Appendix B**.

The introduction of body scanners will not impact on the privacy of the travelling public as defined under the National Privacy Principles as personal information will not be collected, stored or disclosed. However, it may have an impact on a number of community groups who

have certain medical conditions or special circumstances. Screening by a body scanner will mean that for some passengers it will become necessary for them to disclose personal conditions to aviation security screeners in order to explain why a body scanner has alarmed. While measures will be implemented to ensure that such passengers are screened respectfully and discreetly, it is acknowledged that the introduction of body scanners may create a degree of anxiety among some passengers. This section of the PIA outlines the major stakeholder concerns and discusses measures that will be taken to reduce these concerns.

10.2 Collection of personal information

The Privacy Act 1998 states that "*personal information* means information or an opinion (including information or an opinion forming part of a database), whether true or not, and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion".

The Department does not consider that the information – in this case a generic human outline – displayed on the control panel of a body scanner constitutes personal information. No identifying information such as names, passport numbers or flight details is collected, used or disclosed during the process of undertaking a body scan. Automatic threat recognition software installed in a body scanner 'reads' the scan in a numeric representation and an algorithm is then applied to the entire image. This means that a human operator is not required to look at 'raw' or near naked images. Versions of the software to be installed at Australia's eight international gateway airports will not be loaded with the imaging software, nor will they be physically able to store data from individual scans, and as such, no images can ever be reconstructed.

Individuals selected to undergo a body scan may need to discuss medical or personal issues with the screening officer affecting their ability to be scanned. This information will not be recorded anywhere and is only for the use of screening officers to assess the best method of screening to be applied to that individual. It is also important to note that screening officers do not have access to any identifying details attributed to the passenger. To prevent anyone from overhearing a conversation between the screening officer and the passenger selected to undergo a body scan, the passenger may request to talk to the screening officer in a more private area. Similarly, if the body scanner alarms and identifies a personal item on an

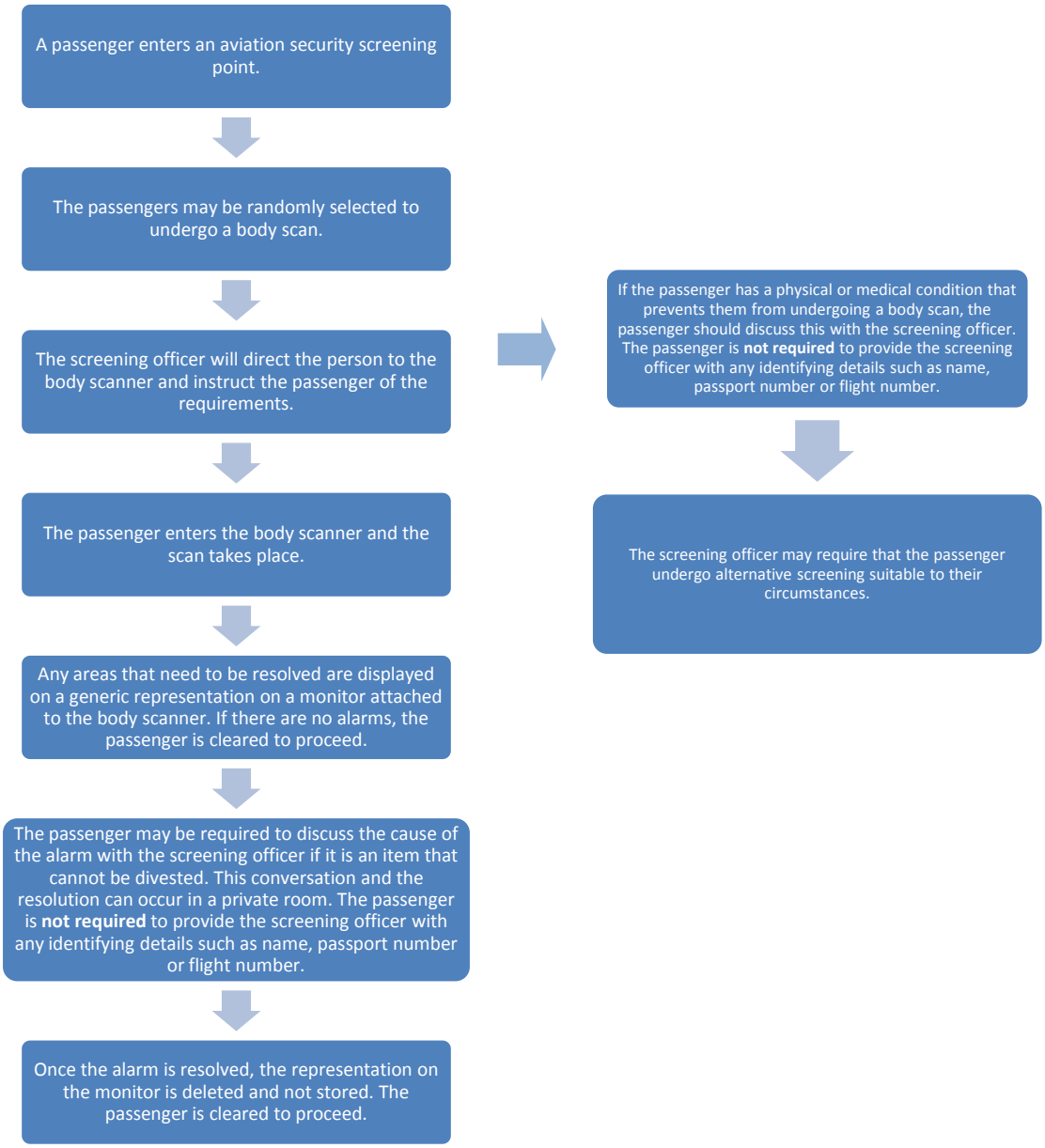
individual, no information is recorded regarding this personal item, nor do screening officers have access to any identifying details attributed to the passenger. Passengers are given the choice to resolve the alarm by divesting the personal item in a private room with the screening officer.

Screening officers are trained to handle all matters with discretion. The screening officer will not record or disclose any information that is provided during the screening process. All screening officers are required to hold Aviation Security Identification Cards which require detailed background checks.

10.3 The body scanner process

The diagram on the following page outlines the process a passenger will experience if selected to undergo a body scan. The process of undertaking a body scan may involve a passenger discussing information of a sensitive nature, such as medical or personal details, with a screening officer to ensure that the screening is conducted in a way sensitive to that person's circumstances. To prevent anyone from overhearing a conversation between the screening officer and the passenger, the passenger may request to talk to the screening officer in a more private area. The Department does not consider this to constitute 'personal information' as defined in the *Privacy Act 1988* as it is not recorded or stored and is not accompanied by any identifiers that could be attributed to an individual.

The Body Scanner Process



10.4 Privacy management

One of the most commonly identified concerns regarding the use of body scanners stems from the potential for misuse of images generated by the body scanner. As discussed previously, the Government has responded to these concerns by making it a requirement for all body scanners in use at Australian aviation security screening points to be equipped with ATR technology. ATR software eliminates the need for a human operator to look at raw or 'naked' images and instead uses a generic 'stick figure' outline of a body to highlight any areas that require further investigation. The body scanner collects a numeric representation of the subject and an algorithm is then applied to this representation. It is not possible to use this data to display images without special imaging software and the addition of a workstation. The body scanners to be used at Australian airports will not be equipped with the imaging software or workstations, nor will they be physically able to store or transmit data collected from the scans. No images can be reconstructed.

10.5 No opt-out policy

A major stakeholder concern was the question of whether or not people will be allowed to refuse a body scan and instead be cleared by alternative screening methods. The Government understands that some people may be apprehensive about being screened by the body scanner for a variety of reasons. Therefore, careful consideration has been given to all options in relation to offering passengers alternatives to body scanner screening. In the consultation draft of this assessment, released in September 2011, it was stated that passengers would be offered alternative screening if they did not wish to undergo a body scan. The Government has since reassessed this decision based, in part, on the experience of overseas transport security regulators.

The benefit of introducing body scanning technology is that it can identify a variety of sophisticated threats that cannot be detected by existing screening technology. Australia's current security environment is such that we are vulnerable to these types of threats. Walk through metal detectors and the style of frisk search currently used at Australian airports simply cannot provide the same security outcome that a body scanner can. Body scanners offer the greatest chance of detection, owing to their ability to detect and pinpoint the location of both metallic and non-metallic items present within or underneath a person's clothing. The only alternative method of screening that would provide a similar level of assurance to that of

a body scanner is an enhanced full body frisk search. The Government does not intend introducing invasive body searches as part of our airport security arrangements.

The Government intends that passengers selected for body scanner screening cannot choose inferior or significantly intrusive alternatives. Accordingly, a no opt out policy will be enforced in relation to screening at airports. If a passenger refuses to undergo a body scan they will not be allowed to pass through the screening point and therefore not be allowed to board their aircraft. This policy will not only apply to passengers, but also airport and airline staff. Exceptions will be made in cases where a person has a physical or medical condition that prevents them from undergoing a scan, for example if they are unable to stand and hold their hands above their head. In these cases the person will be screened by alternative means appropriate to their circumstances.

10.6 Travellers with special circumstances

The Government understands that some screening technologies, including body scanners, may not be suitable for all individuals due to special circumstances, including disabilities or other medical conditions. The Government will therefore ensure that appropriate measures are in place to allow individuals who cannot undergo a certain screening procedure due to a physical or medical condition to be screened by alternative methods that are more suitable to their circumstances.

All aviation security screening officers have been background checked as part of the Australian Government's Aviation Security Identification Card issuing process and have been trained in the correct use of the equipment. Screening officers are trained in how to deal with issues sensitively and to protect passengers' privacy. In addition, preparation for the introduction of body scanners has led to an increased focus on the training of aviation security screening officers to ensure that all people, including those with a disability, are treated with compassion, respect and dignity.

Stakeholder consultation has identified a number of community groups, such as people with medical aids, external prostheses and the transgender and intersex communities, who would ordinarily pass through aviation security screening without their particular circumstances coming to the attention of security screeners. Body scanners, however, have different detection capabilities and may reveal more personal conditions than current screening

methods. On the other hand, passengers with some implanted prosthetic devices, such as artificial hips, will find the clearance process simpler as these devices will not be detected by a body scanner, whereas they are currently detected by the metal detector. For those passengers with external medical aids or prostheses that cause the body scanner to alarm, there are procedures currently in place for the appropriate clearing of medical devices and aids and these will continue largely unchanged. For further information on the screening of passengers with special circumstances please go to the TravelSECURE website at: http://travelsecure.infrastructure.gov.au/international/special_needs.aspx

Stakeholders also noted that there will be several categories of people who will need assistance in order to undergo a body scan, including frail and elderly passengers or passengers who have vision impairment. Where a person is unable to undergo a body scan, a screening officer may use alternative screening methods that are appropriate for that person's circumstances in order to clear that person properly. In these circumstances, all necessary steps will be taken to ensure that the passenger receives the assistance they require to complete the screening process.

10.7 Scanning of children

Persons under the age of 18 years of age are required to pass through the body scanner if selected. As only one person at a time is allowed to use the body scanner, children will need to pass through independently. Infants and small children will not be selected for a body scan.

10.8 Pregnant women

Millimetre-wave technology does not use X-ray technology and does not emit ionising radiation. Millimetre-waves are reflected off the surface of the skin. Based on information from the Australian Radiation Protection and Nuclear Safety Agency there is no scientific evidence that an unborn baby is at risk when being scanned using this technology.

10.9 People with disabilities, older people and people who carry medical equipment

In order to be scanned effectively, it is necessary for passengers to be able to stand for a few seconds with their hands raised above their heads. Those passengers who are unable to do so will undergo alternative screening measures. The screening of aids such as wheelchairs will be in line with the current procedures carried out at airport screening areas. Passengers with a

prosthesis or a colostomy pouch will not be required to carry a medical certificate or letter from a medical professional. However, to aid in the screening process, it may be helpful to let the screening officer know about such items prior to the start of the scan. These conversations can occur in private if the passenger wishes. Passengers will not be required to expose devices such as colostomy pouches or prostheses for inspection.

10.10 Transgender and intersex communities

Any unknown object on the body will show up on a scan as an item that requires additional screening. If further screening such as a frisk search is required following a scan, passengers will always be offered the use of a private screening room. It may also be appropriate for transgender passengers to choose at the time whether they are more comfortable with a female or male screening officer conducting their frisk search. Training provided to security screening officers is designed to ensure everyone is treated fairly and with respect when going through security screening at the airport. The Government is working with industry to ensure that the training of aviation security screening officers is relevant and sensitive to passenger requirements. As such, it will include training focused on the issues sounding screening for the transgender and intersex communities.

10.11 Passengers who are hearing or vision impaired

Passengers who are hearing or vision impaired may have specific needs and requirements when flying out of Australia. Screening officers may use hand signals to gain the attention of a passenger who is hearing-impaired. Officers are trained to talk to the hearing-impaired passenger rather than their carers or travelling companions and they understand the importance of ensuring that the passenger understands what is happening throughout the screening process. Hearing aids are considered to be part of the person who is wearing them, and as such, the wearer will not be asked to remove their hearing aid prior to being screened.

In the case of visually impaired passengers, screening officers will make certain that each step of the process is verbally communicated in a manner that ensures the passenger is comfortable enough to proceed through the screening process. Where possible, communications material is provided in Braille or large size 18 font. A screening officer may determine that in some cases, vision-impaired passengers may be more effectively screened by undergoing a frisk search rather than a body scan. The passenger can request that they

stand or sit for the frisk search, and have the option for the screening to take place in private, if they wish. If a visually impaired passenger is travelling with a service animal, they will not be separated from their service animal at any time throughout the screening process. A screening officer will perform a hand inspection of the service animal including its collar, harness, leash, backpack, vest, etc. The items will not be removed from the animal at any time. Where it is necessary for security screening officers to search the belongings of a person who is vision-impaired, the items will be replaced in their original locations so they can easily be found again.

10.12 Religious and cultural needs

Everyone, regardless of their religious or cultural background, is required to be screened before they can board a plane. The Government understands that some cultures incorporate elements of clothing into their religious observance. The material in a hijab is free flowing and does not contain large buttons, zippers or padding and therefore is unlikely to cause the body scanner to alarm. The kirpan (short ceremonial sword) or salaee (a small pointed tool used for tucking ends of hair) may alarm. As with regular walk through metal detectors, significant amounts of any metal will cause an alarm. Wigs, hairpieces or turbans may require additional screening if they are bulky or not form-fitting. If requested, any secondary screening that is required as a result of a body scanner alarm can take place in a private screening room by a person of the same gender as the passenger.

11 Communications

The Department is committed to ensuring that the travelling public is fully informed of the introduction of body scanning technology and the processes involved with undergoing a body scan. The Department will make available additional advice on body scanning technology and procedures on the TravelSECURE website (www.travelsecure.infrastructure.gov.au) to ensure that the public are able to access information about the technology. This information will include fact sheets, answers to frequently asked questions, as well as details of when airports will introduce body scanners. The Department is also working with industry to ensure that sufficient communications material, such as posters, videos and announcements, are used at airport screening points to inform passengers of this new technology.

The Department's consultation with civil interest groups has reinforced the need to make these products available to all members of the community, including people with vision or

hearing impairments. Special needs will be taken into account in the development of communication products.

11.1 Complaints

If an individual has a complaint about an incident at a screening point, there are a number of avenues for pursuing the complaint. The existing arrangements for handling complaints will not change with the introduction of body scanners.

At the Airport:

Screening Authorities are responsible for undertaking aviation security screening at Australia's airports. Complaints about security procedures at the airport should be addressed as soon as possible with airport staff. If you have a complaint or concern regarding security screening, you can ask to speak to a supervisor at the screening point.

After the Event:

If you are unsatisfied with the response of the Screening Authority supervisor, or you would like to make a formal complaint about screening after you have left the airport, you may wish to contact the airport directly.

The following websites are available for airport complaint handling:

Sydney:	http://www.sydneyairport.com.au/contact-us.aspx
Melbourne:	http://www.melbourneairport.com.au/Contact-Us.html
Brisbane:	http://bne.com.au/community/send-us-your-feedback/send-us-your-feedback
Perth:	http://www.perthairport.com.au/ContactUs.aspx
Adelaide:	http://www.adelaideairport.com.au/footer/contact
Darwin:	http://www.darwinairport.com.au/contact
Gold Coast:	http://goldcoastairport.com.au/regulatory/complaints-2/
Cairns:	http://www.cairnsairport.com.au/Corporate/Contact.aspx

If contacting the airport does not resolve the issue, complaints can be made directly to the Department of Infrastructure and Transport.

The Department has a central mail contact point:

The Department of Infrastructure and Transport

GPO Box 594

CANBERRA ACT 2601

Alternatively, complaints can also be made through:

- the TravelSECURE website: http://travelsecure.infrastructure.gov.au/;
- through an email to: transport.security@infrastructure.gov.au; or
- feedback can also be left at: http://www.infrastructure.gov.au/utilities/feedback.aspx.

Complaints may also be taken to other Government authorities for resolution. The Commonwealth Ombudsman can investigate complaints about the actions and decisions of Australian Government agencies. A complaint can be sent to the Ombudsman through: https://forms.australia.gov.au/forms/ombudsman/ombudsman-complaint-form.

For complaints specifically about privacy matters, the Office of the Australian Information Commissioner (OAIC) may be able to assist. Complaints can be made to the Commissioner through: http://www.oaic.gov.au/privacy-portal/complaints_privacy.html.

12 Conclusion

The Department has conducted an assessment against the National Privacy Principles and has determined that no personal or identifying information is being collected, used, stored or disclosed as a result of body scanner screening. The Government is committed to achieving an appropriate balance between security and privacy. The introduction of body scanning technology for aviation security screening is necessary to address new, sophisticated threats that cannot be detected by current screening methods and equipment.

Through a comprehensive stakeholder consultation process undertaken by the Department, it has been identified that the greatest privacy concern held by stakeholders was the potential for misuse of revealing images, such as those produced by first generation body scanners. To mitigate this privacy impact, the Government is introducing legislation that only permits body scanners that produce a generic, gender-neutral body image from which the person

cannot be identified. Furthermore, it is a requirement that body scanners used for aviation security screening will not be capable of storing, transmitting or printing any data produced from a body scan of a person.

Stakeholder consultation also identified a preference amongst privacy groups for passengers to be offered an alternative method of screening for those who do not wish to undergo a body scan. The only screening measure that would provide a similar level of assurance to that of a body scanner is an enhanced full body frisk search. The Government does not intend introducing invasive body searches as part of Australia's airport security arrangements. The Government has decided that passengers selected for body scanner screening will not be able to choose inferior or significantly intrusive alternatives. Exceptions will be made for passengers with a physical or medical condition that prevents them from being screened by a body scanner.

13 Terminology

ASIC	Aviation Security Identification Card
The Act	*Aviation Transport Security Act 2004*
ATR	Automatic threat recognition
The Department	The Department of Infrastructure and Transport
ETD	Explosive trace detection
LAGs	Liquids, aerosols and gels
NPPs	National Privacy Principles
OAIC	Office of the Australian Information Commissioner
OTS	Office of Transport Security
PIA	Privacy Impact Assessment
The Regulations	Aviation Transport Security Regulations 2005

Appendix A - Stakeholder issues table

ISSUE		COMMENT
General privacy		
Is the introduction of body scanners a proportionate and effective response to the identified threat, especially in regards to the possible reduction in basic privacy standards? Note: Stakeholders acknowledged that there may be tradeoffs required between achieving national security for optimum privacy outcomes, and that an appropriate balance of competing public interests needs to be found.	Yes	The passenger screening process in Australia has not changed significantly since it was developed to counter the threat of hijacking in the 1970's. It is primarily designed to detect metallic weapons either on the passenger or in carry-on luggage. The process is less effective in detecting non-metallic weapons concealed on a person. The 2006 plot to use liquid explosives to bomb transatlantic airliners mid-flight and 2009 attempted bombing of flight NW253 demonstrate the unwavering intent and increasing capability of terrorists to develop innovative methods of smuggling explosives through aviation security screening in order to mount attacks on aircraft. Body scanners are the best technology available for detecting non-metallic threats concealed on a person.
Technology		
What kind of body scanning technology is the Office of Transport Security (OTS) proposing to adopt? Note: Stakeholders consider that, to develop appropriate responses and comments, they require that OTS provide detailed information in writing, and prior to further consultation.	N/A	The Australian Government intends to use body scanning equipment that uses millimetre wave technology and automatic threat recognition software. Details of this equipment are contained in this assessment.
Operational		
Will there be an opt-out system? (Will a person who does not wish to undergo a body scan be able to refuse and undergo alternative screening methods?) Note: Some stakeholders suggested that certain classes of passengers be exempted from body scanning as a matter of course. Some stakeholders also suggested that a system of exemptions may not lead to better privacy outcomes as individuals would have to demonstrate they met an exemption.	No	Everyone is required, under the *Aviation Security Act 2004*, to be cleared before they can board a plane. If a passenger is randomly selected to undergo a body scan, they cannot choose an alternative method of screening. If the passenger refuses to undergo a body scan they will not be allowed to proceed through the screening point. If a person who is selected to undergo a body scan has a physical or medical condition that prevents them from being screened by a body scanner, they will undergo alternative screening.

ISSUE		COMMENT
Images of Body Features		
Will images reveal anatomical details, personal information such as non-visually apparent gender, and health or sensitive information such as whether the subject is wearing a prosthetic device or carries medical equipment? Note: Some stakeholders agreed that technology that imposed a filter on raw images to create a 'stick-figure'/'gingerbread man' avatar could be acceptable with respect to concerns (religious or otherwise) about modesty and embarrassment. However, stakeholders agreed that it would be imperative that the raw images (which may reveal anatomical detail) not be viewable. Some stakeholders noted that a system which utilised an avatar and automatic threat recognition detection may likely lead to a high incidence of false positives with certain groups, i.e., transgendered people, people with disabilities, people who carry medical equipment or prostheses. Such people would then always be subject to secondary screening, such as physical frisks and questioning. However, a system which used a (remote) human operator might be able to identify such items as non-threats.	No	As mentioned previously, all machines installed in Australia will utilise automatic threat recognition technology (ATR). It will be a legislative requirement that any image of a person produced by a body scanner must be generic, gender-neutral and such that a person cannot be identified. This means that no individual will be able to view anatomical details or other personal information as a 'raw image' is not displayed. Instead, potentially prohibited items will be indicated by a box being overlaid on a generic 'stick figure' outline. In order for the ATR technology to work properly, the screening officer is required to select the gender of the person being scanned. Screening officers will make this selection based on the person's outward appearance. This may mean that some transgendered passengers will require secondary screening involving questioning and/or a frisk search. The passenger can always request that such screening takes place in a private room. Screening officers are trained to treat all passengers with compassion, dignity and respect.
Storage and transmission		
Is there the potential for body scanner images to be stored and/or transmitted? Note: Stakeholders expressed concern about the potential for scanned images (specifically, raw images that show anatomical detail or may reveal other information) to be stored and/or transmitted. Some stakeholders suggested that law enforcement agencies may seek access to stored body scanning images, that those agencies may seek to link that information with other personal information and it may be difficult for OTS/screening authorities to resist such demands from law enforcement (Australian Privacy Foundation (APF)). Likewise, it may be difficult for the Australian Government to refuse requests for such information from foreign jurisdictions, particularly after a security incident.	No	The data produced by the scans cannot be stored or transferred and is deleted once the automated assessment processing is complete. No 'raw' or 'naked' images are produced.

ISSUE		COMMENT
Scanning of Children		
Will children under the age of 18 be required to undergo body scanning? Note: Stakeholders noted that there may be issues with gaining the consent of children to undergo body scanning. Generally, stakeholders expressed concern about security staff viewing (raw) images of children, and possible storage and transmission of images for unauthorised purposes. Stakeholders identified the following particular issues as areas for concern: • adolescents often deal with a great deal of personal insecurity regarding their bodies, and being subject to revealing body scan could be highly intimidating, • offhand comments from security staff regarding anatomical detail revealed in body scans could be extremely traumatic, • children are generally acknowledged to have a heightened risk with respect to radiation exposure, not only because of their state of physical development but because of the higher risk of exposure during their lifetimes; and • young people are often discriminated against and unfairly targeted by law enforcement and security.	N/A	Persons under the age of 18 may be selected on a random basis to undergo a body scan, however, infants and young children will not be selected for body scanning. All machines installed in Australia will utilise automatic threat recognition technology. It will be a legislative requirement that any image of a person produced by a body scanner must be generic, gender-neutral and such that a person cannot be identified. This means that no individual will be able to view anatomical details or other personal information as a 'raw image' is not displayed. Instead, potentially prohibited items will be indicated by a box being overlaid on a generic 'stick figure' outline.
Pregnant Women		
Will pregnant women have the option to refuse a body scan on the ground of radiation (etc.)? Note: Some stakeholders suggested that pregnant women be exempted from body scanning. Some stakeholders noted that, if an 'opt-out' system were employed, it would only have privacy enhancing value if passengers were not required to justify their decision to opt out. Otherwise, opting out will still require the disclosure of health or sensitive information.		Millimetre-wave body scanners are perfectly safe for pregnant women. Millimetre-wave technology does not emit ionising radiation. Based on information from Australian Radiation Protection and Nuclear Safety Agency there is no scientific evidence that an unborn baby is at risk when being scanned using this technology.
ISSUE		COMMENT
People with disabilities/older people/people who carry medical equipment		
Will body scanners identify prosthetics and medical equipment carried on the body as a 'threat', which will then requiring secondary examination, i.e., physical frisking and questioning? Note: Body scanning may require such persons to reveal personal health information of a sensitive nature, e.g., urinary catheters, pacemakers, and prosthetics, to security (and possibly fellow passengers in line). Some stakeholders made the point that Australia has an ageing population, and the vast majority of older people will have a disabling condition by the time they are 85 years of age. It was noted that some individuals with restricted movement (e.g., older or disabled	Yes	The introduction of body scanners is likely to result in more passengers with medical devices and aids being detected as part of the screening process. Investigation of any medical devices or aids will be the same as is currently carried out at airport screening points. Passengers will always be offered a private room when an alarm needs to be resolved and screening will be undertaken in a sensitive manner. In acknowledgement of this, an increased emphasis will be placed on the training of screening staff. Passengers with some implanted prosthetic devices, such as an artificial hip, will find the clearance process simpler as these devices will not be detected by a body scanner whereas they are currently detected by the metal detector. In order to be scanned effectively, it is necessary for

people) may not be capable of adopting the required scanning position (with arms lifted above the head). Compulsory body scanning would have the consequence that such persons would have their privacy invaded (by secondary examination and questioning) every time they wanted or needed to use air travel, although it was noted that currently individuals who are unable to pass through a metal detector due to their reliance on equipment (e.g., wheelchairs) are already subjected to a frisk search. Some stakeholders suggested that people with disabilities and people who carry medical equipment or prosthetics be exempted from body scanning. Stakeholders questioned whether the proposal is or will be consistent with Australia's obligations under the UN Convention on the Rights of Persons with Disabilities.		passengers to be able to stand for several seconds with their hands raised. Passengers who are unable to do so will undergo alternative screening measures.
ISSUE	COMMENT	
Transgender and intersex communities		
How is OTS proceeding with issues surrounding body scanners likely to impact on the transgender and intersex communities? Note: Many transgender and intersex people are not open about their status. There is significant concern in the transgender and intersex communities that body scanning will cause them to be 'outed' during security checks, resulting in ridicule, harassment and discrimination. Those communities are subject to high levels of harassment and discrimination (including at airports), and are highly reluctant to be (and may be fearful of being) outed. Transgender people often wear prosthetics which would likely be detected as a threat by an auto-threat detection system. False positives would likely trigger secondary screening, including physical frisking and questioning – if not outed through the body scanning process, it is likely that a transgender or intersex person would be outed through the secondary processes. Stakeholders further noted that revealing a transgender or intersex person's status at their point of departure may also mean that they are outed to other passengers travelling to the same destination (thus also outing them at their destination). Stakeholders strongly felt that if transgender and intersex people are forced to out themselves every time they go through an airport, they may be prevented from using air travel by the fear of being outed.	N/A	In order for the automatic threat recognition technology to work properly, the screening officer is required to select the gender of the person being scanned. Screening officers will make this selection based on the person's outward appearance. This may mean that some transgender passengers will require secondary screening involving questioning and/or a frisk search. The passenger will always be offered a private room for this screening to take place. Transgender passengers would need to inform the screening officer if they are more comfortable with a female or male screening officer conducting the frisk search, again, this conversation can occur in private. Screening officers are trained to treat all passengers with compassion, dignity and respect and all passengers are screened in a sensitive manner.

ISSUE	COMMENT	
Blind and low vision people		
Will the screening procedure differ for passengers with a visual impairment? Note: Stakeholders advised that, as a general point, for people who are blind/low vision, airports are very difficult and intimidating places. People who are blind or have low vision almost always have to rely on others, and are often placed in positions in which they have little or no control. This is especially the case in airports. Body scanning technology will significantly increase the level of stress experienced by people who are vision impaired in airports.	No	The introduction of body scanners is not expected to alter significantly the current screening process for passengers with a visual impairment. Where a visually impaired passenger is travelling with an assistance animal they will not be separated from the animal at any time during the screening process and as such, will not be required to undergo a body scan. For those unable to pass through a body scanner, a combination of other procedures already in use at screening points will be used. If a potentially prohibited item is detected, resolutions will continue in the same manner as is currently used for visually impaired passengers.
Will assistance be provided for people who are visually impaired to use body scanners?	Yes	Screening officers should ensure that they verbally communicate each step of the process to visually impaired passengers so that they feel comfortable and confident enough to proceed. It has been recognised by screening authorities that a key element in the successful use of body scanners will be effective training for screening staff.
Will assistance animals be body scanned?	No	No changes to the current screening arrangements are anticipated. If a passenger with a visual impairment is travelling with a service animal, they will not be separated from their service animal at any time during the screening process. A screening officer will perform a hand inspection of assistance animals and its belongings (collar, harness, leash, backpack, vest, etc.). Belongings will not be removed from the animal at any time.
Can canes be taken into the machines?	No	Canes cannot be taken through a body scanner. A person with a cane can be screened via alternative methods if they are not comfortable being separated from their cane. A seat is offered for mobility impaired passengers to sit whilst their mobility aid is being screened.
Public Education and Notification		
Will passengers be made aware of their rights and obligations with respect to body scanning required at airports? Note: Stakeholders noted that poor public notification of these issues in other countries have led to an increase in complaints.	Yes	A comprehensive communication strategy is being developed to inform passengers about body scanners. The Department will make information available on body scanning technology and procedures on the TravelSECURE website (www.travelsecure.infrastructure.gov.au).

ISSUE	COMMENT	
Jurisdiction		
Do body scans (as proposed to be used) fall within the definition of 'personal information' for the purposes of the *Privacy Act 1988?*	No	The image displayed on the body scanner monitor does not fall within the definition of 'personal information' for the purposes of the *Privacy Act 1988* as no personal information is collected, stored or transmitted. It will be a legislative requirement that any image of a person created by a body scanner is gender neutral and does not contain any identifiable features.
As complaints about body scanning are likely to encompass more than just privacy issues, and that those complaints would not fall under the jurisdiction of the OAIC, where can complaints be made? Note: Some stakeholders stated that they wanted an independent organisation to act as complaints body, and that they wanted the complaints regime to include community oversight, speedy responses, published public statistics, the addressing of systemic issues, and the collection of demographic information to identify discrimination.	N/A	Please see Section 11.1 for the complaint handling process.
Function Creep		
Will OTS, or any other law enforcement or government agency, have the authority to enable the capability of body scanners to save and transmit images?	No	It is a requirement that all body scanners used for aviation security screening do not have the ability to save and transmit images.
Will security staff be able to misuse this technology or will other individuals be able to gain unauthorised access to images?	No	All machines will be equipped with ATR technology and they will not have the ability to generate 'raw' images. Scanners to be installed at Australia's eight international gateway airports will not be able to produce details, individual images of passengers and will not be able to store data from individual scans.
Will staff be properly trained to deal with privacy issues relating to the use of body scanners? Note: Several stakeholders identified staff training as an important issue, although it was noted that no amount of training will prevent all inappropriate behaviour; this is especially the case with transgender and intersex issues.	Yes	The Department is continuing to work with airports to ensure that screening officers are sufficiently trained to operate the equipment and deal with the various privacy issues that are associated with the use of body scanners in a sensitive manner.
Is there a possibility that raw images could be captured on handheld cameras, camera phones, and CCTV images? Note: Some stakeholders advised that even with appropriate criminal sanctions, there was likely to be an unlawful trade in (raw) body scan images (if possible).	No	No raw images will be generated by the body scanner.
Stakeholders asked if it was possible to restrict the viewing access of the control panel on the body scanners		The body scanner control panel may be visible to other passengers, however, no revealing images or identifying information will be displayed. It is important that airports maintain good passenger facilitation rates at screening points and therefore it is unlikely that the results of a scan will be displayed on the control panel for more than a few seconds.

Appendix B – Submissions received on consultation draft

Issue/Recommendation	Comment
Vision Australia • Recommended that the OTS work with Vision Australia to ensure that information about body scanning technology is available including at airports where the technology is being used, in accessible formats including Braille and large print. • Recommended that the OTS work with Vision Australia and other organisations to develop a program for training staff responsible for using the body scanner in how to assist people who are blind or have low vision. • Recommended that the OTS work with Vision Australia and other organisations to revise and expand the Screening Practice Guidelines so that they cover typical situations that arise during security screening, include the most current advice, and specifically include advice about how to assist a person who is blind or has low vision when using a body scanner. • Recommended that the OTS develop more effective strategies for promoting the Screening Practice Guidelines to security staff, including initial and periodic refresher training for all staff. • Recommended that the OTS develop a process for monitoring and reviewing the effectiveness of the Screening Practice Guidelines and training provided to staff in their application. • Recommended that the OTS work with Vision Australia and other organisations to develop appropriate selection criteria and associated processes and procedures to ensure that people who are blind or have low vision are not adversely impacted by the introduction of body scanners and, in particular, those procedures identify and address areas of potential concern. • Recommended that the OTS ensure that all criteria, processes and procedures relevant to people who are blind or have low vision are clearly and comprehensively documented for screening staff, and that appropriate information be accessible.	Measures will be considered for incorporation into the communications strategy to ensure all passengers including those with special needs due to vision impairment have access to all required information. The Department works with the Aviation Access Working Group, which includes representatives from several disability advocacy groups and the Disability Discrimination Commissioner, to ensure that the needs of people with special screening needs are addressed. The Department does not conduct screening officer training, which is the responsibility of the screening service provider. Screening officers are a required to pass a training competency in dealing with people with disabilities. The Department is also working with the aviation industry and the Transport and Logistics Industry Skills Council on the development of screener competencies. Training is delivered through the Australian Government's Vocational and Training system in accordance with the requirements under the Australian Qualifications Framework.

Issue/Recommendation	Comment
Australian Privacy Foundation (APF)	
• Recommended that a justification be included for the introduction of body scanners detailing: - the nature of the problem being addressed, - how the proposed measure addresses the problem - how the anticipated benefits will arise - what the measures of effectiveness will be in addressing the problem.	The justification behind the decision to introduce body scanners at Australia's international airports is outlined at Section 8.1.
• Recommended that more information on quality assurance be provided. - This should include information from existing technology trials	The quality assurance and compliance measures are outlined in Section 8.4.
• Recommended that more detail be included on operational procedures, specifically the triggers for individuals to be selected for a body scan	Operational procedures, including the selection of individuals to be screened by a body scanner, are outlined in Section 9. A diagram of the processes involved in undergoing a body scan is included at Section 10.2. An assessment against the National Privacy Principles has been included in Section 3.1.
• Recommended that more detail be included on special circumstances screening and persons refusing to undergo a body scan.	Details on the processes for those passengers with special circumstances, as well as those passengers who refuse a body scan, is outlined in Section 10.
• Recommended that the PIA be remodelled in accordance with guidance material provided by the Australian Privacy Foundation.	This assessment has been developed in accordance with the Privacy Impact Assessment guidelines published by the Office of the Australian Information Commissioner.
• Recommended more detail be included in relation to the communications strategy.	The Department's communications strategy is outlined in Section 11.
• Recommended the inclusion of details of a complaints handling scheme, including a line of appeal to an independent body.	The process for making complaints is outlined in Section 11.1.
Office of the Australian Information Commissioner (OAIC)	
• Recommended that OTS further explains the basis on which it has formed the view that no personal information will be collected.	An explanation of OTS's assessment that no personal information will be collected is included in Section 10.2.
• Recommended that OTS prepare a checklist against the National Privacy Principles (NPPs) and include it as a further appendix to the PIA.	The Department has conducted an assessment against the NPPs in accordance with the checklist. The results of this assessment have been included at Section 3.1.
• Recommended that a map of information flows associated with the use of the body	A map of the processes involved in undertaking a

Issue/Recommendation	Comment
scanners be included in the PIA	body scan is outlined in Section 10.3, demonstrating that personal information as defined under the *Privacy Act 1988* is not collected during body scanner screening.
• Recommended that a section on complaints handling be included in the body of the PIA, rather than just the appendix.	The complaints process is included in Section 11.1.

Exhibit 002 to sub 009
Received 28/02/12

Australian Government
Department of Infrastructure and Transport

Millimetre-wave Body Scanner

Health and Safety Information Sheet

Millimetre-waves are part of the radio frequency spectrum. Other parts of the radio frequency spectrum are utilised by many devices in every day public use, such as mobile phones and wireless network devices. There is no evidence to suggest that millimetre-wave body scanners, or other devices in this frequency and at the power density used by scanners, are a health risk for the travelling public or the operators.

How the millimetre-wave body scanner works

The L-3 ProVision millimetre-wave body scanner works in three stages:

1. A weak beam of radio waves is transmitted at the person being scanned from two rotating masts inside the body scanner. The masts contain transmitting and receiving antennas. The exposure of individuals to electromagnetic fields during a scan is very short and does not exceed 2 seconds.
2. The energy reflected by the body or any other object on the body is received by the machine and analysed by the unit's software (automatic threat recognition algorithm) to detect anomalies, such as those produced by items detected on the body or inside clothing.
3. When an anomaly is detected, a small box indicating its location is superimposed on a generic human image or 'stick figure' that is displayed on a monitor for analysis by screening staff.

Exposure Levels

People being scanned by the L-3 millimetre-wave body scanner are exposed to exceptionally low levels of electromagnetic energy. These levels are thousands of times lower than that of a single phone call and comparable to passive exposure to a mobile phone used several metres away. The United States of America Transport Security Administration has stated that the technology emits 10,000 times less radio frequency energy than an average mobile phone call.

The power density that a person could be exposed to within the ProVision body scanner is significantly less than the maximum permissible exposure levels for the public specified in the Australian Radiation Protection and Nuclear Safety Agency's (ARPANSA) Radiation Protection Standard: *Maximum Exposure Levels to Radiofrequency Fields – 3 kHz – 300 GHz*. This standard sets a maximum permissible exposure level for members of the public, including children, of 10 watts per square metre. In comparison, the power density of the ProVision body scanner has been measured to be between 40 and 640 micro-watts per square metre (or between 0.00004 (4×10^{-5}) and 0.00064 (6.4×10^{-4}) watts per square metre), which is several thousand times less than the maximum exposure levels set in these standards. In addition, these measurements are taken at the closest accessible point, between 2 - 3 cm, to the antennas. Under standard operating conditions, the individual being scanned would be about 30 – 60 cm from the antenna, which further reduces the exposure to the person being scanned.

Compiled with the assistance of the Australian Radiation Protection and Nuclear Safety Agency and the Therapeutic Goods Administration, July 2011.

The high frequency used in the millimetre-wave body scanner means the penetration into the human body will be lower than from most other exposures encountered in daily life. Most of the millimetre waves used in the ProVision scanner are reflected within the outer 1 mm of the body and bounce back to the receiving antennas within the scanner. Even if operated continuously, the ProVision millimetre-wave body scanner cannot cause significant heating of skin tissue.

Security Personnel

The waves emitted during a scan are directed towards the interior of the body scanner. Outside the scanner, the exposure of aviation security screeners responsible for operating millimetre-wave body scanners working everyday in close proximity to these machines can be considered to be insignificant.

Implanted Medical Devices:

Active implantable medical devices, including pacemakers and defibrillators, are designed to meet the series of standards relating to electrical safety and protection by the International Electrotechnical Commission. One part of that standard requires medical devices to be protected from interference from external energy sources, such as mobile phones and other electronic equipment. The power levels (and peak electric field levels) for the ProVision body scanner are significantly lower than what a person might experience from the use of other everyday electronic equipment, such as mobile phones. Due to the location of the medical devices (under the skin) and the electromagnetic compatibility of these devices, there are no known safety concerns in relation to people with these devices undergoing a body scan.

Exhibit 003 to sub 009
Received 28/02/12

Australian Government

Department of Infrastructure and Transport

Optimal Technologies

Proof of Concept Trial Report

Contents

Executive Summary 3
Key Findings 3
Introduction 4
Trial Design 4
Trial Results 6
Equipment Detection Capability 6
Human Factors – Screening Officers 7
Human Factors – Passengers 7
Communications 8
Conclusion 10

Executive Summary

The Optimal Technologies Proof of Concept Trial (the trial) was conducted at Sydney (Kingsford Smith) Airport from 2 – 19 August and Melbourne International Airport from 5 – 30 September 2011. The main objectives of the trial were to measure the impact that the introduction of body scanners and multi-view X-ray equipment might have on passenger facilitation, and to assist the eight international gateway airports prepare for their introduction.

The trial attracted a high number of volunteers, with 23,577 body scans being conducted over a total of seven weeks. It was observed that, although alarm rates were higher in the body scanner due to its ability to detect both metallic and non-metallic items, 57 percent of passengers were cleared to proceed immediately after being scanned. Whilst the higher alarm rate associated with the body scanner did slightly reduce throughput, the trial demonstrated that effective and efficient screening operations can be maintained with the new technologies in place.

It was determined that human factors will play a significant role in ensuring the successful introduction of these technologies. In particular, it was noted that training for screening officers will require a much greater focus on customer service. A strong communications strategy will be another essential element to ensure a successful rollout. Overall, public reaction to the trial was positive. A post-screening survey of volunteers indicated that passengers were very satisfied with the body scan process, with most remarking that it was quick and easy.

Key Findings:

- The average time taken to process a passenger in the trial lane was several seconds longer than in the regular screening lanes. This was due to a body scan taking slightly longer than walk through metal detector screening and the higher alarm rate.
- Alarm resolution following a body scan was often quicker than alarm resolution for the walk-through metal detector due to the fact that the body scanner indicates the area that has alarmed, making it easier for screeners and passengers to identify what has caused the alarm.
- The most common removable items that alarmed in the body scanner included high boots with buckles, currency, hairclips, watches and jewellery. There were also some non-removable items that caused alarms, these included pockets on cargo pants and studs and additional zips on jeans and pants.
- Human factors will play a significant part in ensuring the successful rollout of the technology. Particular focus on customer service is required to ensure that screening officers are prepared for the increased level of passenger interaction. Effective and clear communications to inform passengers about the process will also be essential.
- The trial found that most volunteers were happy with the body scanning experience and very few had difficulty with the body scan process.

Introduction

Following the attempted bombing of North West Airlines flight NW253 over the United States of America on Christmas Day 2009, the Australian Government announced a package of measures to strengthen aviation security in Australia. The package, now referred to as the Strengthening Aviation Security Initiative, included the introduction of body scanners and multi-view X-ray machines for the screening of passengers and their carry-on luggage at Australia's eight international gateway airports.[1]

Body scanners are a proven technology and have been used overseas for aviation security screening purposes since 2007. The Department has previously trialled both body scanners and multi-view X-ray machines to determine their suitability to the aviation security screening environment. In addition, these new technologies must be tested and approved by an overseas regulator that is recognised by the Department before they can be used for aviation security screening in Australian airports.

The purpose of this trial was to test operational policies and procedures in order to determine the impact the new technologies may have on the passenger screening process. The trial was also used to examine communications strategies and determine the key messages and mediums to be used in supporting the introduction of this equipment.

Trial Design

The trial was conducted at Sydney (Kingsford Smith) Airport from 2 – 19 August and Melbourne International Airport from 5 – 30 September 2011. Each airport established one trial lane at their main international aviation security screening point and departing passengers were invited to be screened through the trial lane on a voluntary basis.

Publicity

The Department conducted a media launch at Sydney Airport on 1 August 2011 with the Honourable Anthony Albanese, Minister for Infrastructure and Transport, in attendance. Invited media were given the opportunity to view the body scanner in operation and ask questions about the technology. A webpage was established on the Department's 'TravelSECURE' website for the travelling public, providing general information about the trial and specific information regarding the use of body scanners. The website included fact sheets and answers to frequently asked questions, as well as details

The Hon Anthony Albanese MP, Minister for Infrastructure and Transport, launching the trial at Sydney Airport.

[1] The eight international gateway airports are Sydney, Melbourne, Brisbane, Gold Coast, Cairns, Darwin, Perth and Adelaide airports.

of how to obtain further information or lodge complaints. At each airport, banners and postcards were available and displayed to make passengers at the screening point aware of the trial.

Privacy

To protect the privacy of the travelling public, the body scanner used during the trial was equipped with automated threat recognition (ATR) technology. ATR eliminates the need for a screening officer to review raw images of the person being scanned. Instead, when a scan is conducted, the ATR automatically analyses the data received from the scan and uses a generic human outline, which does not display gender, size, shape or any distinguishing features, to highlight any area on the body that may require further examination. Individual scans are not able to be stored or transferred to other devices. The Department also released a draft privacy impact assessment for comment during the trial.

Trial Process

Passengers waiting in the main queue were asked if they would like to volunteer to participate in the trial. Volunteers were directed to the trial lane where they were randomly selected to go through the body scanner. Volunteers with metal joints, pacemakers and other metallic implants that make it difficult for them to be screened by a walk-through metal detector were also allowed to opt in for body scanner screening. Those not selected for the body scanner proceeded through the walk-through metal detector in line with current procedures. Every volunteer's carry-on baggage was screened by the multi-view X-ray equipment. Volunteers were then randomly selected to undergo explosive trace detection screening.

The trial lane at Melbourne Airport (photo courtesy of Melbourne Airport).

Data Collection

Lonergan Research Pty Ltd was contracted to undertake data collection during the trial. Data collected included alarm rates and causes, processing times and a qualitative passenger survey.

Trial Results

Data captured during the trial indicated that the average passenger screening time was several seconds longer in the trial lane than in the regular screening lanes. This was caused by a number of factors, some of which can be mitigated through refining processes and procedures, and some of which will be minimised as screening officers and passengers become familiar with the new technology.

Equipment Detection Capability

As expected, due to its ability to detect both metallic and non-metallic items, passengers alarmed considerably more frequently when screened by the body scanner than the walk-through metal detector, with the data suggesting that the average passenger is six times more likely to alarm in the body scanner. The trial comprised of 23,577 body scans, with 57 percent of passengers cleared to proceed immediately after being scanned.

Due to the ability of the body scanner to detect a greater range of items than the walk-through metal detector, passengers were required to divest items that they were not accustomed to divesting at aviation screening points, such as tissues, pills etc. A divestible item is any personal effect within or underneath a person's clothing, or on a person's body, which can be easily removed by the person and screened by X-ray equipment. On average, the body scanner detected 230 divestible items per 1000 passengers compared with 49 divestible items per 1000 passengers for the walk-through metal detector. The five most common divestible items detected by the body scanner were high boots with buckles, currency, hairclips, watches and jewellery including bangles, bracelets and necklaces. As watches and many jewellery items are worn on the wrist or hand, body scanner alarms resulting from these items could usually be resolved by a quick visual inspection. The table below provides further details on divestible alarms captured during the trial. The communications strategy for the implementation of this new technology will inform the travelling public of those items that will be required to be divested if they are selected to undergo a body scan.

Item Type	As a percentage of all divestible alarms
Hair clips	21%
Jewellery (including bangles, bracelets and necklaces)	20%
Currency (including notes, coins and wallets)	17%
Watches	7%
High boots with buckles	5%
Miscellaneous items	30%

Data collection revealed that a higher number of non-divestible items caused alarms on the body scanner than on the walk-through metal detector. The five most common non-divestible items

detected by the body scanner during the trial were clothing items such as pockets on cargo pants, studs on jeans, additional zips and buttons, baggy clothes that created folds in the material and sequins on shirts. As the majority of these alarms occurred in the leg area, they could usually be resolved by a quick targeted frisk search to determine that there were no other items present. These results demonstrate that the body scanner is able to detect a greater range of metallic and non-metallic items than a walk-through metal detector. Once screening officers became familiar with these types of alarms, it was easier for them to identify the source of the alarm and quickly resolve it. As the technology is deployed, screening officers will become increasingly familiar with non-divestible items that may cause the body scanner to alarm.

Alarm Resolution

A range of options were available to screening officers for the resolution of body scanner alarms, including the use of visual inspections, targeted frisk searches and explosive trace detection tests. The data indicated that in situations where a targeted frisk search was used to resolve a body scanner alarm, the process was often as quick, or quicker than the process that occurs when a passenger causes the walk-through metal detector to alarm. This, in part, is due to the fact that the body scanner indicates the area that has alarmed, hence making it easier for screeners and passengers to determine what has caused the alarm.

Human Factors – Screening Officers

There is a much greater element of human interaction associated with body scanner screening and therefore a greater requirement for screening officers to possess strong communication skills. It was noted that the introduction of body scanners will alter the skill-set that is required by screening staff, with an increased need for screening officers with superior customer service skills.

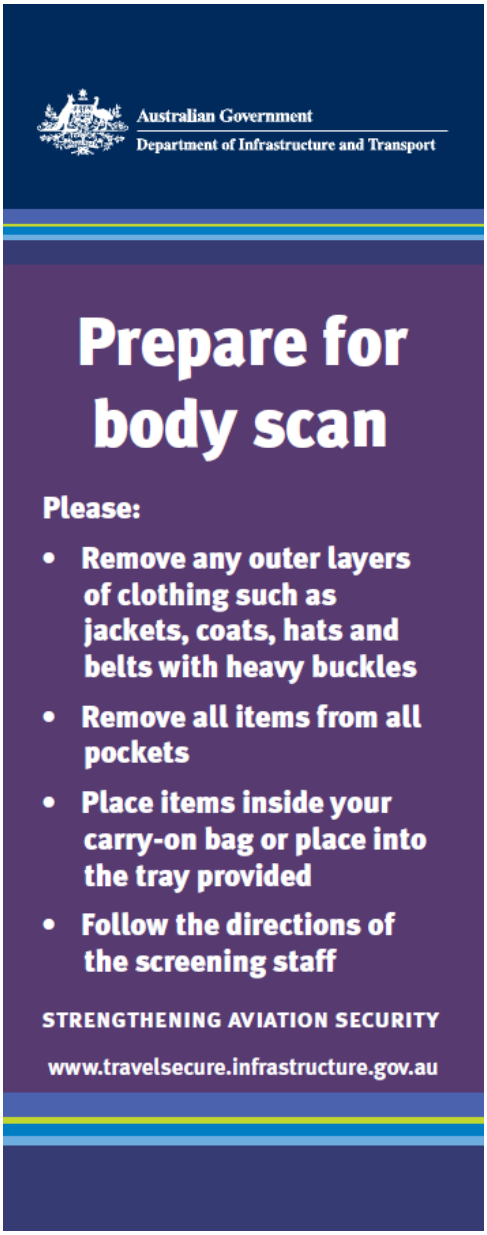
There was a recognised need for screening officers to exhibit empathy and be able to put themselves in the shoes of passengers who may believe that they are being unduly inconvenienced or mistreated. As such, screening officer training for the trial focussed on factors such as tolerance, cultural and disability awareness, good manners and conflict resolution. With the increased need for screening officer/passenger interaction, language barriers will become more apparent. Multi-lingual instruction cards may provide some assistance in overcoming this challenge and the Department will consider this in its communications strategy.

Human Factors – Passengers

A voluntary post screening survey was conducted to capture passengers' views of the body scanning process. The survey indicated that overall, volunteers were very satisfied with the process with most remarking that it was quick and easy.

Of those passengers who expressed dissatisfaction (less than 2 percent), most had experienced longer processing times due to alarms that required additional resolution. A very small number of volunteers had difficulty adopting the required pose for the body scan. It is intended that when body scanners are introduced, passengers physically incapable of holding the required pose for a body scan will be screened using alternative methods appropriate to their circumstances.

It was observed that there were some passengers who preferred to be screened by the body scanner rather than a walk-through metal detector as it was more suitable to their circumstances. This included people with pacemakers and metallic implants such as hip joints. As the body scanner is designed to detect items worn or carried on the body, it offers an effective method of screening for those passengers with metallic implants who cannot be screened by a walk-through metal detector and instead currently must undergo a frisk search.



A banner used during the trial to instruct passengers.

Previous experience with using random and continuous selection for security methods at airports has shown that a percentage of those travellers randomly selected form a belief that they have been personally and deliberately targeted. An electronic randomiser mat was used during the trial to randomly select which volunteers would go through the body scanner. Overseas experience indicates that using technology to perform the random selection, rather than having screening officers manually performing this task, is much more readily accepted by the passenger.

Communications

A number of communications products were developed by the Department in consultation with the airports to communicate information about the body scanner to passengers during the trial. Given the active nature of a screening point, the communications materials developed were short and direct to quickly convey key messages to passengers.

These communications products included:

- banners and signs;
- slideshows on video monitors; and
- information postcards.

The key messages contained in the communications material were:

- that the body scanner protects privacy and only displays a stick figure image;
- that body scanners are safe;

- information on how and what to divest; and
- how to stand in the body scanner.

The Department also published information including fact sheets, answers to frequently asked questions and a privacy impact assessment on its website. While the website goes some way to informing some passengers of the introduction of body scanners, the majority of passengers will be exposed to this information for the first time when they are already at the airport.

During the trial, a screening video was developed and the Department will work to make this available to airports to display on monitors at the screening point when body scanners are permanently in operation. This will provide passengers with a demonstration of what to expect if they are selected for a body scan.

Conclusion

Overall, the trial held at Sydney and Melbourne International Airports in August and September 2011 is considered to have been highly successful. Through data analysis, it was determined that the passenger screening time through the trial lane took slightly longer than the passenger screening time through a standard screening lane. However, the trial demonstrated that effective and efficient screening operations can be carried out using the new technologies. The lessons learnt from the trial will be taken into consideration to ensure that the use of body scanners and multi-view X-ray equipment for passenger screening is optimised. When body scanning technology is introduced, it will be essential that screening officer training focuses on effective passenger interaction to ensure that processes such as divesting and undertaking a body scan flow smoothly. Results from the trial will also inform the development of alarm resolution methods that are quick, effective and palatable to the public, whilst achieving a strong security outcome. A comprehensive communications strategy is being developed to address the needs of the public, including the needs of special circumstances passengers.