

8

Aviation Development



8.1. Introduction

The ongoing development of both the airfield and terminal to meet forecast passenger and aircraft demand is fundamental to the successful operation of Adelaide Airport.

Terminal developments provides additional capacity to meet the forecast passenger demand in 2039 and beyond. It provides flexibility in implementation and is adaptable to meet passenger expectations for both a safe and relaxed travel experience, as well as the changing requirements of airlines.

Airfield developments and enhancements are planned to provide sufficient capacity to meet the projected passenger and air traffic demands at Adelaide Airport in 2039.

Taxiway developments will be based on safety, efficiency of operation and meeting demand. Planned apron developments respond to proposed terminal developments, enable growth of aviation-support facilities and provide layover stands for aircraft parking flexibility.

8.2. Overview

- The existing runway system provides sufficient capacity to handle the forecast volumes of air traffic beyond the 20-year planning horizon of this Master Plan
- The first eight years of the Master Plan, to 2027, will focus on expansion of Terminal 1 to the north-east, with subsequent expansion being to the south-west
- The current Terminal Expansion Project (TEx) will significantly upgrade the international arrivals and departures, and create more retail and dining options for both domestic and international travellers. It provides the building blocks for Terminal 1 improvements for the next eight years
- New technologies and finding innovative solutions will improve customer experience, optimise operations and reduce disruptions
- A staged program of development to increase passenger terminal facilities, aircraft parking and apron expansion is proposed over the 20-year planning horizon, responding to both demand and airlines' needs

8.3. Terminal Development Plan

Airport terminals around the world are the interface between the travelling public, airlines and operators. They are constantly changing, responding to passenger needs and aviation growth. Most recently, the focus has been on passenger processing, with the aim to provide an 'end-to-end' passenger experience that is secure, seamless and efficient.

The Adelaide Airport Terminal 1 is an integrated terminal for all international, domestic and regional passenger flights. The 71,000 square metre terminal building over three levels provides aesthetic, modern and efficient facilities to meet the needs of the travelling public, airlines and operators. It was opened in 2005.

Terminal 1 provides flexibility in design and operation, with 'swing gates' providing the flexibility of passenger boarding lounges to be used for both international and domestic aircraft to match airline schedules. Check-in facilities are located in a combined hall for both international and domestic passengers and include fast-travel initiatives such as kiosks and bag drops.

Terminal 1 features an extensive range of retail and food and beverage outlets; as well as lounges operated by Qantas, Virgin Australia and Singapore Airlines.

New technologies will improve customer experience, optimise operations and reduce disruptions. Technologies already being implemented at Adelaide Airport include the progressive upgrade from conventional check-in counters to self-service check-in and bag drop, use of permanent bag tags to replace paper bag tags, and SmartGate automated self-service border control services.

The location of Terminal 1 is shown in Figure 8-1.

AAL works to provide facilities that promote accessibility for all members of the community including passengers and visitors with disabilities or special needs. Terminal 1, along with car parks and pathways, has been designed and constructed to the latest Australian Standards and building codes for people with disabilities.

8.3.1. Terminal Development Triggers

The International Air Transport Association (IATA) publication Airport Development Reference Manual (ADRM) is a guide for planning new, or extending existing, airport facilities. The ADRM is an important source for the planning and design of airports. It is used by Adelaide Airport in conjunction with other planning tools including simulation, customer surveys, industry benchmarking and extensive stakeholder consultation to determine future development needs.

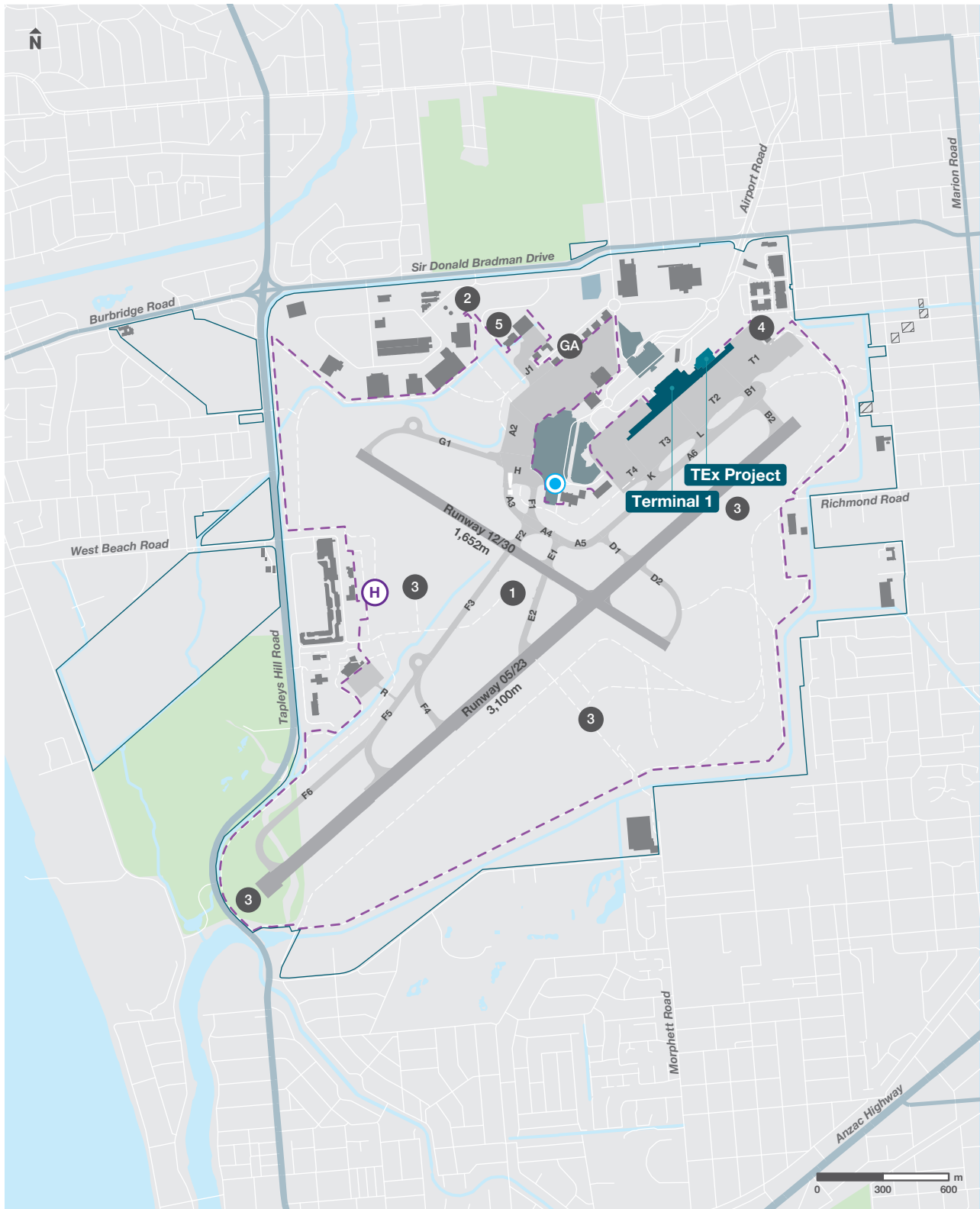
The more recent version of the ADRM considers both space required and wait times to ensure that an optimum level of service is provided. Developments must also be flexible while catering for the many different operations and operators.

The need to build new, extend or improve a terminal facility, including the sub-processes within the terminal (e.g. check in, security etc.) may be triggered for a number of factors including:

- Growth in the peak periods (busy-hour demand)
- Improving customer experience
- Reducing processing delays (such as improving security-screening processing times)
- Introduction of new security requirements that may impact on infrastructure or spatial requirements and passenger facilitation rates
- Improving safety
- Catering for special events

The size of a terminal building (including the number of aircraft parking positions) is based on the forecast number of passengers, aircraft movement and visitors during the 'design busy hour'. The busy-hour calculations are an extension of the annual passenger and aircraft movements forecasts, and consider the airline current and forecast schedule profiles.

Adelaide Airport also works closely with airlines to ensure that the terminal is fit for purpose. Developments are subject to commercial negotiations with both domestic and international airlines depending upon the part of the terminal and/or process being considered.



LEGEND

Airport Boundary	Buildings	Arterial Roads
Freehold Land	Airport Car Parks	Local Roads
Runways	Taxi Lay-off Area	Airside Roads
Taxiways/Aprons	Parks and Reserves	Security Fenceline
Airport Terminal	Watercourses	Air Traffic Control Tower
Terminal Expansion Project		Helipad West

ELEMENT DESCRIPTION

X#	Taxiways
GA	General Aviation
1	Aviation Rescue and Fire Fighting Service
2	Joint Oil Storage Facility
3	Navigation Systems
4	Cold Storage
5	Catering

Figure 8-1: Current Airport Layout



8.3.2. Terminal Expansion Project (TEx)

Construction of a \$165 million terminal expansion commenced in August 2018. Terminal Expansion Project (TEx) will significantly upgrade international arrivals and departures, and create more retail and dining options for domestic and international travellers.

TEx will ensure Adelaide Airport continues to provide a high level of customer experience for all travellers well into the future. TEx will upgrade and expand the main terminal at Adelaide Airport to support the continued increase of international passengers.

Scheduled for completion in 2021, TEx will:

- Improve passenger processing and security-screening facilities
- Dedicate Gate 18 as a permanent international gate
- Expand the duty-free precinct for international arrivals and departures
- Provide new food, beverage and retail offerings
- Improve family-friendly facilities, including play areas in international departures area
- Relocation of Border Agencies' offices and installation of a second international-arrivals reclaim belt

- Relocate the international passenger screening from level 2 to level 1 with provision for a third screening lane
- Relocate and expand the Virgin Australia Lounge
- Provide VIP facilities for international arrivals and departures
- Deliver a common-user premium international lounge
- Improve disability access facilities
- Expand office areas for airport operators

As part of TEx, the historic Vickers Vimy aircraft will be relocated to a purpose built exhibition space planned to be located on the ground floor.

Figure 8-2 visualises TEx after completion and Figure 8-3 shows the TEx project plans.

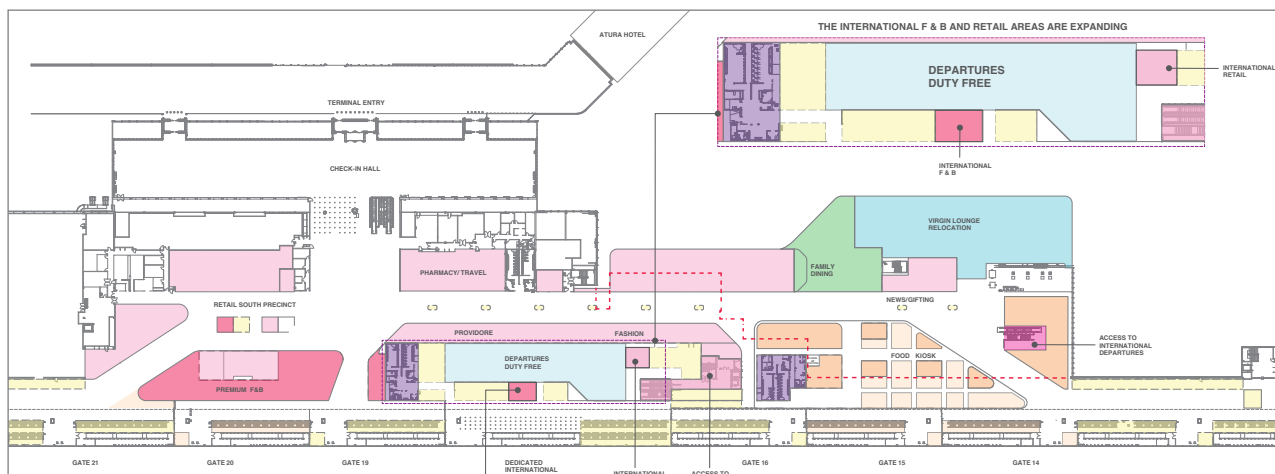
8.3.3. Security Screening

Aviation security arrangements are regularly under review by the Commonwealth Department of Home Affairs. In addition to the TEx project, AAL will be implementing new security measures at screening points and throughout the airport as required.

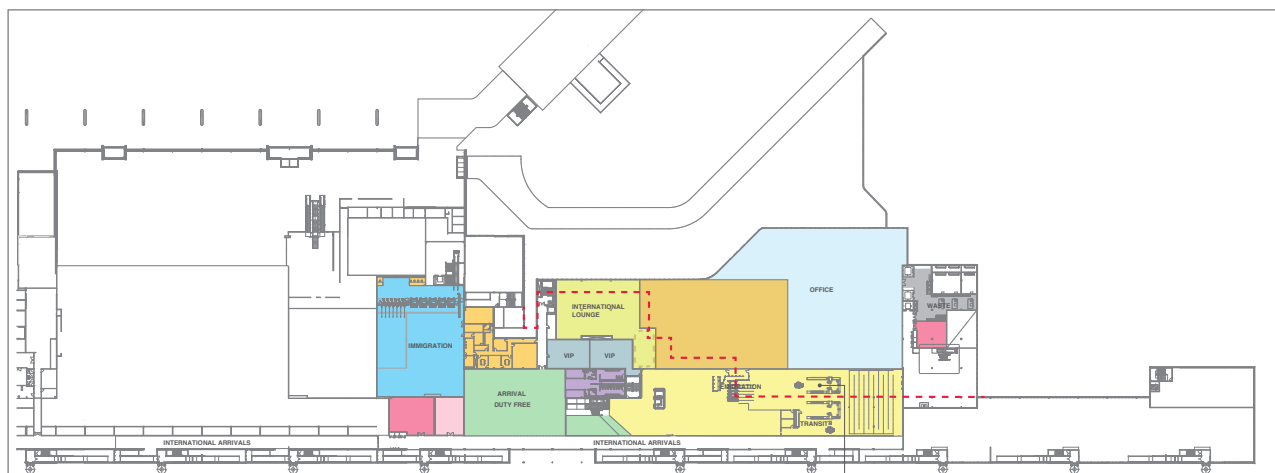


Figure 8-2: Artist Impression of Terminal Expansion Project

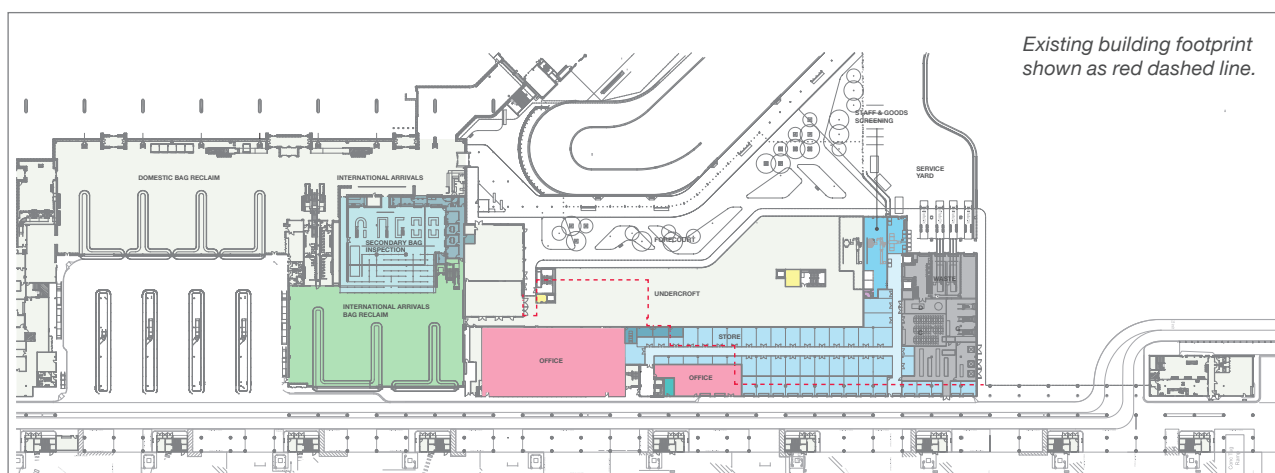




TEx Project Level 2



TEx Project Level 1



TEx Project Ground Level

Figure 8-3: Terminal Expansion Project (TEx)

8.3.4. Future Terminal Expansion

Long-term planning for terminal layouts needs to consider the interrelationship with both the ground transport system and the airfield system (runway, taxiway and aprons). Sound terminal planning follows a long-term vision that maximises the terminal and its ancillary relationships, and also ensures that all sub-systems are working in harmony.

Technologies available today and into the future are rapidly changing and therefore it is difficult to predict the long-term terminal space requirements. Therefore, a Terminal Zone is defined. The long-term terminal zone for Adelaide Airport will see the terminal, in the first instance, expanded both to the north-east and to the south-west before the need to provide a pier towards the current General Aviation area. This is shown in the concept diagram in Figure 8-4.

The Terminal Zone could either be built from or routes that facilitate passenger boarding.

The principles that support the long-term vision include:

- Delivering innovative solutions for all airport users
- Flexibility to respond to the forecast traffic growth for international, domestic, regional or general aviation operations
- Developing an Adelaide Airport of tomorrow that will feature new technologies and processes that make the customer experience faster, easier and more intuitive
- Maintaining common-use and equitable access to facilities to maximise efficiency of infrastructure

- Ensuring sufficient aircraft-parking positions for long-term demand, catering for a variety of aircraft types and sizes
- Maintaining a landside plaza ensuring required terminal stand-off distances, increases opportunities for entertainment and commercial offerings, while also facilitating passenger processing
- Maintaining safe, efficient and free-flowing ground movements of aircraft on taxiway and apron areas while minimising taxiing distances, reducing fuel usage and increasing runway capacity now and into the future
- Maintaining land available for ground transport, including roads and improved public transport offers (including potential future high capacity public transport) that caters for various transport modes and changing technologies
- Maximising the integration and connectivity across the Airport Business District
- Providing necessary car parking and locating car rental facilities close to Terminal 1 until traffic levels and space availability trigger the need for remote-parking facilities
- Ensuring the terminal layout optimises potential and current commercial performance and ensures a level of flexibility if common departure lounges were to be implemented

The timing and staging of terminal expansion towards the long-term vision will be determined by demand for terminal capacity and aircraft-parking positions.

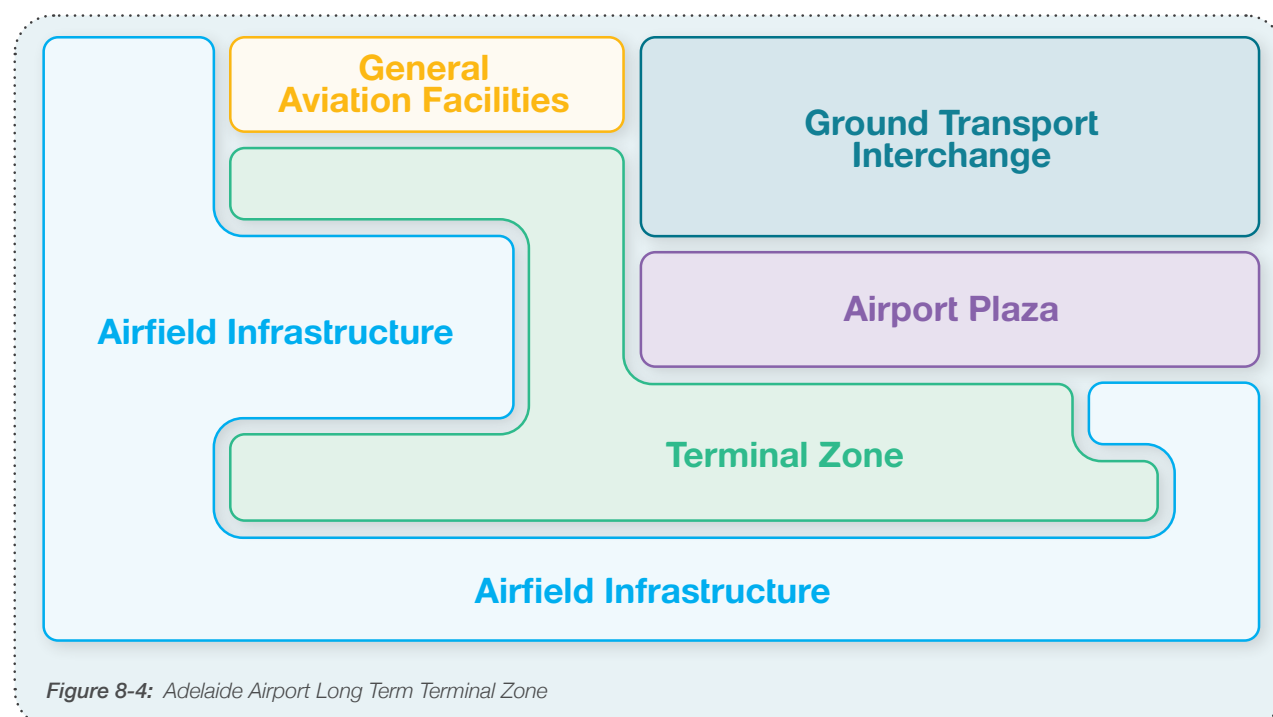


Figure 8-4: Adelaide Airport Long Term Terminal Zone



8.3.4.1. Innovation in Design

The development and implementation of this Master Plan is not just about building infrastructure, but about delivering innovative solutions that are right for customers, being passengers, tenants and airlines.

Future technologies that may be considered during the planning period may include:

- Use of smart phones to guide passengers through the entire travel journey, from when they leave home to when they are at the airport
- Permanent bag tags embedded in passenger luggage that allows:
 - Decentralised bag drop, such as a drive through at the airport or at hotels or in the city, to allow passengers to arrive at the terminal with bags already checked-in and unencumbered by luggage
 - Bag factory, allowing luggage to be checked-in at any time and screened and stored until ready for loading on aircraft
- Combined security and emigration walk-through screening that applies biometric technology
- Self-boarding or boarding by autonomous shuttle for aircraft departures
- Baggage on demand, which provides smart phone notification when bags are ready for collection and allows bags to be delivered direct to the customer within the terminal or to the customer's destination (e.g. house, or hotel)
- Vertical lift (commuter drones)

Technological advances expected over the next 20-years will result in more efficient and common-user facilities. The expansion of check-in facilities is likely to use fast-travel technology instead of traditional counter processing. Emigration and Immigration are expected to take full advantage of one-step biometric technology.

8.3.4.2. Proposed Terminal Developments

Based on current forecasts, it is anticipated that by 2027 the following areas will need to be extended and or upgraded:

- Expansion of the central security-screening point (due to changes in security regulations)
- Expansion of the departure lounge to the north to accommodate domestic traffic which will support additional aircraft parking positions
- Reconfiguration of the baggage handling system
- Expansion of the baggage make-up area to the south
- Increased check-in capacity, including 'common-user, fast check-in technology and bag-drop

Between 2027 and 2039, it is anticipated that the following areas may need to be extended or upgraded:

- Expansion of the departure lounge to the south and commencement of a new pier development
- Expansion of the departure lounge which could see airline lounges move to level 3
- Domestic baggage-reclaim expansion. The number of baggage-reclaim units may need to double which is likely to require an expansion of the baggage hall beyond the existing building footprint
- Improved retail offerings throughout the terminal
- Further expansion of the International baggage-reclaim area
- Increase space required for International airline lounges
- Expansion of the Emigration Hall to meet peak passenger requirements
- Expansion of the International Arrivals Hall

8.4. Airfield Development Plan

The airfield is the area of the airport used for aircraft operations. It includes the runways, taxiways, aprons and parking stands.

Runways represent the backbone of airport infrastructure. Adelaide Airport has two runways:

- The main runway 05/23 is 3,100 metres long and 45 metres wide
- The cross runway 12/30 1,652 metres long and 45 metres wide

The main runway accommodates larger, long-haul wide body international aircraft (Code F) as well as smaller domestic narrow body and regional aircraft. Being shorter in length at 1,652 metres, the cross runway is limited to regional aircraft and some domestic operations. The cross runway does however provide sufficient runway capacity in the event of a 20-knot crosswind on the main runway for aircraft up to Code D.

The current airfield layout is shown in Figure 8-1.

8.4.1. Airfield Development Triggers

Airfield infrastructure is planned and designed according to international and national standards and recommended practices. CASA is responsible for developing the detailed technical requirements that are necessary for the safety of aerodromes and air navigation of airports in Australia. The Manual of Standards for Part 139 of the Civil Aviation Safety Regulations 1998 sets out the standards for airfield infrastructure. The standards are based on a reference code that refers to a grouping of aircraft types based on characteristics such as aircraft wingspan and wheel track. The reference code then corresponds to a 'critical aircraft' which is the most demanding aircraft type for the airport infrastructure. For Adelaide Airport this is a Code 4E aircraft which represents an Airbus A350 or a Boeing B777. However, the 'critical aircraft' does change when considering the design of aircraft parking positions and access to the General Aviation area.

The need to construct new, extend or improve airfield infrastructure may be triggered for a number of reasons including:

Apron

- Growth in peak periods (busy-hour demand)
- Improving customer experience
- Introduction of a new aircraft types including larger aircraft
- Increasing demand for overnight parking
- Improving safety

Taxiways

- Reducing taxiing distances, delays, fuel burn or emissions
- Reducing runway occupancy time
- Introduction of a new aircraft types including larger aircraft. This may also require taxiway shoulders to be widened
- Improving safety

Runway

- Growth in peak-period aircraft movement (demand for arrivals, departure or a mix of arrivals and departure)
- Annual aircraft movements for long-term planning
- Improving airline on-time performance
- Introduction of new, larger aircraft types

As with terminal planning, AAL works closely with airlines to ensure that the airfield infrastructure is fit for purpose and that developments are subject to commercial negotiations with international, domestic and regional operators. Planning for airfield infrastructure also requires close collaboration with CASA and Airservices to ensure operational safety and efficiency.



8.4.2. Runways and Taxiways Development Plan

The existing runway system has sufficient capacity for arriving and departing aircraft to handle the forecast volume of air traffic over the 20-year planning period of this Master Plan and beyond.

Land is reserved within the Runway, Tapleys, Terminals & Business and West Beach precincts for a future third runway. The third runway is planned to be located parallel to the main runway and on the western side of Terminal 1. While it is not envisaged that the third runway will be required within the planning period of this Master Plan, the reserved land will be maintained and preserved for the long-term development potential for a third runway.

Both the main runway and the cross-runway are served by a full-length taxiway system which provides for the safe and efficient movement of aircraft between aprons, holding bays and runways.

Consideration has been given to supplementing the existing taxiway system to facilitate improved access and egress from the two runways to the adjacent terminal apron and facilitate queuing of aircraft. As such, the Master Plan provides for future enhancements to the taxiway system – including a taxiway extension, a new taxiway and enhancements to improve efficiency – providing greater flexibility of use and meeting future demand.

8.4.3. Aircraft Parking Development Plan

Aircraft parking positions provide for the safe parking of aircraft, transfer of passengers and freight and also enable the servicing and maintenance of aircraft.

Aircraft parking at Terminal 1 accommodates all international, domestic and regional aircraft that operate at Adelaide Airport, and can accommodate some parking of non-active aircraft during non-peak times.

An expansion of the southern apron area, to the south-west of Terminal 1, was completed in recent years. The expansion added approximately 20,000 square metres to the southern apron and created additional aircraft parking for four aircraft, two of the bays are Code C equivalent (Boeing B737, Airbus A320).

Terminal 1 has current capacity for up to 31 aircraft, depending on the types and sizes of aircraft to be accommodated. A separate aircraft parking apron is provided for most other aircraft, including general aviation, dedicated freight and layover aircraft.

To consider the future requirements for aircraft parking positions, a stand demand (aircraft parking bay) forecast has been undertaken. The results for which are shown in Table 8-1.

PEAK STAND DEMAND	2018		2027		2039	
Active	Code E	2	Code E	4	Code E	6
	Code C	12	Code C	14	Code C	21
	Turbo Prop	12	Turbo Prop	12	Turbo Prop	11
	Total	26	Total	29	Total	38
Non-Active	Code E	0	Code E	2	Code E	2
	Code C	3	Code C	3	Code C	5
	Turbo Prop	2	Turbo Prop	3	Turbo Prop	5
	Total	5	Total	8	Total	12
Total	Code E	2	Code E	6	Code E	8
	Code C	15	Code C	17	Code C	26
	Turbo Prop	14	Turbo Prop	14	Turbo Prop	16
	Total	31	Total	37	Total	50

Table 8-1: Aircraft Parking Demand



LEGEND			
Airport Boundary	Watercourses	Airport Terminal	Turbo Prop Aircraft
Runways	Air Traffic Control Tower	Terminal Expansion Project	Code C Aircraft
Taxiways/Aprons	Local Roads		Code E Aircraft
Airport Car Parks	Airside Roads		Inactive Aircraft
Buildings	Potential New Road Links		

Figure 8-5: Existing Apron



LEGEND			
Airport Boundary	Watercourses	Airport Terminal	Turbo Prop Aircraft
Runways	Air Traffic Control Tower	Proposed Expansion Within Terminal Zone	Code C Aircraft
Taxiways/Aprons	Local Roads	Proposed Pavement Expansions	Code E Aircraft
Airport Car Parks	Airside Roads		Inactive Aircraft
Buildings	Potential New Road Links		

Figure 8-6: Proposed 8-Year Apron Development Plan



LEGEND			
Airport Boundary	Watercourses	Airport Terminal	Turbo Prop Aircraft
Runways	Air Traffic Control Tower	Proposed Expansion Within Terminal Zone	Code C Aircraft
Taxiways/Aprons	Local Roads	Terminal Zone	Code E Aircraft
Airport Car Parks	Airside Roads	Proposed Pavement Expansions	Inactive Aircraft
Buildings	Potential New Road Links		

Figure 8-7: Proposed 20-Year Apron Development



The Master Plan proposes staged developments of aircraft parking layouts to meet the forecast stand demand through to the 20-year horizon, as detailed in Table 8-1. Considering the annual forecasts and anticipated airline schedules, it is expected that an additional six aircraft parking positions will be needed by 2027 and a total of 50 aircraft parking positions will be required by 2039. Flexible use of aircraft parking areas will be considered, including Multiple Aircraft Ramp System positions.

In the medium term, it is anticipated that the expansion of aircraft parking area may require an expansion of the apron to the north. This may include relocation of regional airlines to the western side of the northern pier and establishment of three additional Code C gates at the end of the northern pier or the northern area could continue to be used for regional aircraft with more Code C parking positions provided to the south. An expanded tow-off apron may be established at the northern end of the apron adjacent to the cold-storage building to facilitate parking for long-stay aircraft and allow future expansion. Expansion may then continue as the terminal expands, which is anticipated to be to the south and then south-west in line with the development of the pier towards the General Aviation area.

The location and timing of future expansion of aircraft parking positions will be determined in consultation with airlines.

Potential aircraft parking position layouts and staging are shown in Figure 8-5, Figure 8-6 and Figure 8-7.

8.4.4. Freight Facilities

Streamlined and integrated freight operations are integral to the success of Adelaide Airport. There are three cargo terminal facilities at Adelaide Airport with direct airside access operated by Qantas Freight, Pak Fresh and Toll. All are located in the Terminals & Business Precinct.

Adelaide Airport currently has eight freight aircraft stands across the General Aviation apron and aircraft parking areas to the north and south-east of Terminal 1. These are to be retained.

The majority of air freight is transported in the cargo hold of scheduled passenger flights, including exports from Australia. Major exports include fresh, chilled or frozen fruit or vegetables; fish, wine and livestock; as well as high-value pharmaceutical goods. Demand for mail and parcel services, including online shopping, is also expanding (using both passenger aircraft and dedicated freight aircraft).

Freight capacity at Adelaide Airport is expected to increase as air-traffic movements increase, particularly with airlines looking to enhance their commercial returns by using spare cargo-hold capacity for freight. The demand for air freight at Adelaide Airport is outlined in Chapter 6. Dedicated freight-aircraft parking facilities are not envisaged in the short to medium term.

Adelaide Airport is continuing to consolidate freight facilities into a major freight, transport and logistics hub in the Airport East Precinct. The Airport East Precinct provides streamlined airside access to Terminal 1 aircraft parking positions where the majority of freight is then loaded or unloaded from passenger aircraft. In the longer term, aircraft-parking positions associated with freight operations may also be co-located.

A dedicated cold-storage facility of 3,200 square metres with airside access is currently located in the Terminals & Business Precinct immediately to the north of Terminal 1. The cold store has several dedicated aviation-freight operators specialising in the processing and export of meat, seafood and fresh produce.

Due to terminal and aircraft parking position expansion to the north, the cold-storage facility may need to be relocated. The timing of the relocation will be subject to demand and commercial negotiations with airlines. It is likely that the cold-storage facility will be relocated to the Airport East Precinct.





8.4.5. General Aviation

The general aviation area provides facilities for intrastate operations, general aviation and charter operations including a General Aviation Terminal which is located at the southern end of Sir Richard Williams Avenue.

Land within the general aviation area is well developed. Opportunities will continue to arise to redevelop or upgrade existing facilities, resulting in expanded and more modern multi-use facilities.

A new general-aviation terminal replacing the existing facility was initially planned to be developed prior to 2019. The timing of the construction of the proposed facility (which primarily supports general-aviation and charter operations related to the resources sector) is dependent on general-aviation business models, operational needs and forecast demand. A new general-aviation terminal is expected to occur within the planning horizon of this Master Plan.

As Terminal 1 is developed to meet demand, facilities within the general aviation area will be incrementally extended to adjacent areas to the west or relocated to the Tapleys Precinct or Morphett Precinct.

8.4.6. Helicopters

The current operations of helicopters at Adelaide Airport are largely associated with medical and police operations.

Helicopter facilities are situated in the Runway and Tapleys Precincts where a helipad and strip are provided for air taxiing as well as landing and take-off in an east-west orientation.

As demand for development within the Tapleys Precinct grows, the helicopter operations and parking may be shifted to a potential location further to the northern section of the Precinct.

8.4.7. Drone Operations

CASA regulates the use of drones around active airports to ensure safe operations.

As the technology evolves, AAL will continue to work with CASA and relevant stakeholders to ensure the ongoing safe operations of the airport and to explore future drone operations.

8.4.8. Space Tourism

There is an opportunity for spacecraft to operate at Adelaide Airport for space tourism activity in the future. Adelaide Airport will work with space tourism operators to consider the terminal and airfield requirements for spacecraft operations.

8.4.9. Airfield Support Infrastructure

A range of aviation support infrastructure is provided to ensure safe air navigation and aircraft operation at Adelaide Airport.

8.4.9.1. Airservices Australia

Airservices is Australia's air navigation service provider, responsible for providing air traffic control, navigational aids and Aviation Rescue and Fire Fighting (ARFF) services to airports throughout Australia. At Adelaide Airport, Airservices has the following facilities:

- Air Traffic Control tower, maintenance and office complex
- ARFF station and training ground
- Navigational aids

Air Traffic Control Tower

A new Air Traffic Control tower was opened in 2013. It is centrally located between the two runways with good lines of sight to all existing and proposed aircraft movement areas. No further works or upgrades to this facility are envisaged as part of this Master Plan.

Airservices will continue to ensure appropriate air traffic service delivery to meet regulatory requirements and may consider digital tower technology as appropriate, although this is not a current project at Adelaide Airport.

Aviation Rescue and Fire Fighting Service

The current ARFF facility is located within the Runways Precinct, approximately 330 metres east of the intersection of the main runway and cross runway.

It is expected that the ARFF facility could be replaced in the future, with timing likely to coincide with any Code F (Airbus A380) operations that are introduced at Adelaide Airport. Potential locations include a site near the existing ARFF facility, dependent on future taxiway realignments; or within the Tapleys Precinct to the northern side of the existing helicopter operations. Prior to this occurring, Adelaide Airport will engage extensively with Airservices to determine a suitable location which meets legislative requirements.



Navigation Systems

Airservices maintains the following navigational aid facilities at Adelaide Airport:

- Instrument Landing System (ILS), comprising a localiser and glide-path antenna
- Doppler VHF Omni-Directional Range (DVOR) and Distance Measuring Equipment (DME), and
- Terminal Area Radar (TAR)

The facilities will be regularly reviewed to ensure the requirements over the 20-year planning horizon are met.

Any potential development in the western area of the Runway Precinct (just east of the Tapleys Precinct) will consider the DVOR/DME critical area or consider the possible relocation in consultation with Airservices. Retention or removal would be based on requirements at the time, aircraft avionics fit, and industry agreed national ground-based navigational aid requirements.

8.4.9.2. Approach Lighting

Aircraft approach lighting is operated and maintained by AAL. The approach lighting is located at the ends of the Adelaide Airport runways, extending into residential areas at West Richmond for Runway 23 where such lighting is generally held under easement or by ownership of specific allotments. The long-term continuity of this lighting in the vicinity of the current sites is aligned with aviation services at Adelaide Airport. It is possible that such lighting will be replaced with more efficient systems within the next 20 years.

AAL has purchased freehold land outside of the airport site to ensure the long-term protection of the runway approach lighting corridor. Additional land will be secured as it becomes available.

Transmissometers are planned to be installed by AAL to provide runway visual range information to Airservices Air Traffic Control.

8.4.9.3. Engine Run-Up Bay/Area

Engine ground running is undertaken to test aircraft engines following maintenance. Adelaide Airport has five ground run-up locations in various parts of the airfield.

8.4.9.4. Aviation Fuel

The safe and reliable supply of aviation fuel is critical to continued and future air services at Adelaide Airport.

The Joint Oil Storage Facility (JOSF) caters for the bulk storage of Avgas and Jet A1 aviation turbine fuels used by jet and turboprop aircraft. Exxon Mobil currently owns and manages the JOSF, which is located within the Terminals & Business Precinct.

At present, there are two bulk fuel storage tanks, with a combined total capacity of 2.8 megalitres. There is current fuel storage capacity of approximately 3.5 days' supply.

Bulk fuel is presently transported by fuel trucks daily from the Birkenhead fuel terminal. Maintaining access for fuel trucks is critical to the current and future ground transport planning.

AAL is undertaking a study to assess using part of the previous Port Stanvac to Birkenhead multi-fuel pipeline for aviation fuel purposes.

It is anticipated that two additional fuel storage tanks will be required over the next 20 years to meet forecast demand, bringing the total to four storage tanks. It is anticipated that one tank will be operational by 2027 while the other will be operational by 2034. There is sufficient space to install two additional tanks within the existing fuel storage site. Land south-west of the existing fuel storage facility has been reserved for additional tanks should they be required beyond 2039.

AAL will also consider alternative locations for fuel storage to ensure competitive and efficient supply of fuel.

The JOSF is connected to apron fuel hydrants at Terminal 1 via a Joint User Hydrant Installation (JUHI, an underground fuel-hydrant system). Tanker trucks are primarily used to transport and refuel regional, general aviation turboprops and other jet aircraft that do not have fuel hydrants available at the aircraft parking bays.





8.4.9.5. Flight Catering Facilities

In-flight catering is prepared on-site in the Alpha Flight Catering Facility, which has a landside area for delivery and waste-disposal vehicles; and an airside area for cabin-service vehicles.

The existing facility caters for the preparation of 6,900 meals daily (1,900 international and 5,000 domestic).

By 2039, it is estimated that 17,000 meals will need to be prepared daily to cater for the growth in departing flights and passengers. To prepare this quantity, expanded or new facilities are likely to be required. The potential new facility will require both airside access (to facilitate access to the aircraft) and landside access. It may be possible to develop a facility on the current site or a new larger facility in the Airport East Precinct.

8.4.9.6. Aircraft Maintenance

Aircraft-maintenance facilities at Adelaide Airport service large commercial airliners, corporate jets, small general aviation turboprops and helicopters.

Aircraft maintenance and engineering facilities at Adelaide Airport are currently operating out of two precincts:

- Terminals & Business Precinct: services commercial airliner jets, corporate jets and general aviation turboprops
- Tapleys Precinct: services helicopters and the Royal Flying Doctor Service Central Operations facility

The facilities include:

- Hangars
- Paint hangar (for stripping and painting aircraft)
- Engine overhaul and testing (currently located at three strategic locations around the airfield)
- Component overhaul (including landing gear)
- Avionics maintenance
- Technical stores (for the storage of spare parts)
- Dangerous-goods store (includes paint, brake fluid, etc.)

The future requirements for aviation maintenance facilities are dependent on the requirements of operating airlines, the establishment of maintenance facilities by third party operators, and government incentives for establishing maintenance facilities and/or aircraft manufacturing.

The future expansion of Terminal 1 and aprons require the relocation of some of the existing maintenance hangars in the Terminals & Business Precinct. Future hangars and maintenance facilities can be accommodated in the Morphett Precinct, Tapleys Precinct and/or Airport East Precinct.

8.4.9.7. Airfield Maintenance

Airfield maintenance facilities are essential to maintaining an aerodrome. Such facilities are used to store materials for maintenance on plant and equipment in aerodrome buildings, pavement repairs, airside vehicles, radio, communications and other electrical equipment.

The landside airport maintenance facility building is in the Terminals & Business Precinct. The airside maintenance facility is also located in this precinct, with direct airside and landside access.

By 2034, it is anticipated that the existing airport-maintenance facilities will need to be relocated to allow for further expansion of the Terminal 1 passenger area and apron facility. The airport maintenance facilities are likely to be relocated to the Airport East Precinct, however, other precincts may also be considered.