

Airport Operating Standard

Airside Safety & Driving

Incorporating Airside Driving Authority Category 2 to 4





Contents

Introduction	1
Part 1 Airside Safety	2
Aerodrome hazards.....	3
1. Aircraft hazards	3
2. Vehicle hazards.....	6
3. Runway incursions.....	6
4. Environment	6
5. Wildlife	9
6. Human factors.....	9
Important safety rules	11
Manoeuvring your way safely around the aerodrome	13
Apron signs and markings	13
Runway signs and markings	16
Taxiway strips and markings	18
Other markers.....	19
Aerodrome movement area guidance signs (MAGs)	20
Aerodrome lighting.....	21
Part 2 Airside Driving Authority [Category 2].....	22
Authority to Drive Airside.....	23
Airside access	23
Important safety rules (Category 2 drivers)	24
Part 3 Airside Driving Authority [Category 3 & 4]	28
Applying for a Category 3 or 4 ADA.....	28
Rules specific for Category 3 or 4 ADA holders	28
Planning your aerodrome operations.....	30
Towing operations	30
ATC procedures.....	31
Communications and radio procedures.....	32
Further enquiries, contacts and emergencies	38
Definitions and acronyms	39
References	41

Changes: all changes are highlighted in blue font



Introduction

The **Airside Safety & Driving Airport Operating Standard (AOS)** has been created to promote safe airside operations at Perth Airport and applies to all aircraft operators, ground handling agents (GHA), refuelling companies, aircraft servicing companies and any person working and / or driving airside and are to be performed in conjunction with each individual organisation's procedures and requirements.

This Standard aims to be a quick reference guide and provide a safe environment for airside operations and basic awareness of potential hazards, as well as describing features of the airside environment necessary to assist in identifying and mitigating associated risks. A significant risk at Perth Airport involves apron and runway incursions and the content of this handbook aims to provide drivers with the tools necessary to avoid a runway incursion and generally promote the principles of runway and manoeuvring area safety.

This Standard, and the procedures described within, may be amended from time to time by Perth Airport Pty Ltd (PAPL) on recommendation of the Perth Airport's Airfield Operations Management Committee (AOMC) in consultation with the Ramp Safety Committee. Any changes and updates to this Standard will be communicated through a distribution of a Perth Airport Notice (PAN) and via the Ramp Safety Committee meeting.

It is the responsibility of each operator to keep informed of any amendments and use the most current version of this Standard, which is available on the Perth Airport's Extranet. For major and significant changes, PAPL will endeavour to provide sufficient notification of changes to aircraft operators and ground handling agents if such changes originated from PAPL. Any changes to this Standard resulting from CASA changes to regulations will be advised by a PAN without prior consultation with the Ramp Safety Committee.

Operators must perform the Airside Services in the most environmentally responsible manner practicable and which otherwise mitigates any harm to the Environment, or risk of any harm being caused to the Environment.

Part 1 of this Standard, *Airside Safety*, will help airside operators understand the hazards and risks involved in working on an aerodrome, and will help protect them from those hazards.

Part 2, *Airside Driving Authority (Category 2)*, provides information on the *Authority to Drive Airside* (ADA) requirements and associated rules.

Part 3, *Airside Driving Authority (Category 3 & 4)*, provides information on driving practices for holders of Category 3 and 4 ADA.

This Standard is designed to be read in conjunction with the *Perth Airport Operating Protocol*, the *Perth Airport Airside Vehicle Control Handbook (AVCH)* as well as the following Airport Operating Standards and other documents:

- *Aircraft Turnaround*
- *Aircraft Scheduling and Facilities Allocation*
- *Staging and Storage of Ground Support Equipment (GSE) and Unit Load Devices (ULDs)*
- Perth Airport Notices (PANs) issued to airside operators from time to time, normally on planned disruptions
- Ops Advice issued to airside operators from time to time on immediate operational disruptions
- Perth Airport Safety Bulletins issued to airside operators from time to time.

The electronic version of this Standard is available on PAPL's corporate page on the Perth Airport website www.perthairport.com.au/AOP.

Part 1: Airside Safety





Aerodrome Hazards

The most serious hazard is being on an aerodrome with insufficient knowledge or consideration of the risks and being unaware of the protective mitigating measures required.

The apron is the area for parking and ground servicing of aircraft and where passengers embark and disembark the aircraft.

Before working airside at Perth Airport, you need to be familiar with the hazards associated with aerodromes, these include:

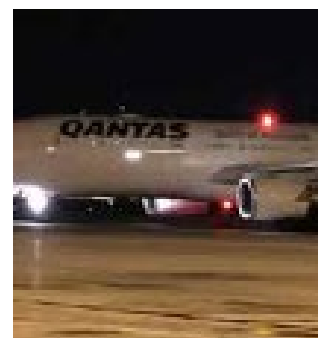
1. Aircraft
2. Vehicles
3. Runway incursion
4. Environment
5. Wildlife
6. Human factors.

1. Aircraft Hazards

It is important to be aware of anti-collision beacons located on all aircraft.

The anti-collision beacon is a flashing light located on top, and in most cases underneath, the aircraft fuselage. Whilst anti-collision beacons are predominantly red, it is important to note that some smaller aircraft have a white anti-collision beacon. When the anti-collision beacon is activated, this indicates the aircraft is:

- Operational and the crew are in the cockpit, and/or
- The engines are running, and/or
- About to start up, and/or
- About to be pushed back or towed.



Indicators that an aircraft is about to activate its anti-collision beacon include, but is not limited to:

- No vehicles left servicing the aircraft
- A pushback tug or power push unit is attached
- The wheel chocks have been or are being removed.

1.1 Noise

Noise is a hazard, particularly when combined with other hazards. Localised environmental noise can mask other hazards which we might otherwise be aware of by the noise they make.

Protection measures:

1. Wear appropriate ear protection in a noisy environment
2. Remember that hearing protection can reduce awareness of other hazards
3. Maintain situational awareness.



1.2 Jet Blast and Propeller Wash

It is dangerous to be near an aircraft when the engines are running. Turbine and propeller driven aircraft pose one of the greatest hazards to personnel working airside.

Jet blast is the blast caused by aircraft engines and can be particularly hazardous. The effects of jet blast can kill or cause serious injury to people. In order to prevent being exposed to the hazard from jet blast, always keep well clear of aircraft whilst operating on the manoeuvring area.

Unsecure equipment or foreign objects increase the potential for serious injury or death as they can be picked up and propelled at great speeds.

Propeller wash can cause objects to be impacted by the strong winds created. Propeller driven aircraft must be approached with extreme caution, whether the propellers are rotating or not. A light breeze can cause propellers to spin and become a hazard. At night or in low visibility or under certain lighting conditions, propellers can appear to be motionless when they are in fact rotating at very high speed. This is a strobe effect and should be considered before approaching any propeller aircraft.

The exhaust from jet engines and the wash from propellers can be powerful enough to lift a person off their feet and propel them some distance away.

Ground equipment can be prone to movement in strong winds. Large empty cargo containers are a particular issue as they are light and often stored on aprons.

The hazard is most acute when aircraft are moving off from parking or arriving on bay.

Protection measures:

1. Stay well away from the blast areas behind jet engines and propellers
2. Always be aware of aircraft that have 'engines running' while you on the apron.

1.3 Intake Suction

Engine intakes of aircraft are often at an ideal height to ingest a person if they get too close, even when running at idle thrust. Such an encounter invariably has catastrophic results.

Ingestion (jet intake) of foreign objects into aircraft engines can also cause catastrophic failure of the engine and serious injury or death. The area in front of and to the sides of turbine jet engines should never be approached by unauthorised workers.

It may not be obvious the engine is running when seen from the side. Ear protection may also mask engine noise when the engine is running.

Protection measures:

1. Do not approach aircraft with engines running and where anti-collision beacons are active
2. Wait until appropriately trained staff give the 'all clear' before approaching the aircraft.

1.4 Rotor and Propeller Strike

Propellers should be considered as 'live' even if not rotating, which is another hazard with usually catastrophic results.

Protection measures:

1. Stay well away from engines and propellers, whether rotating or stationary.

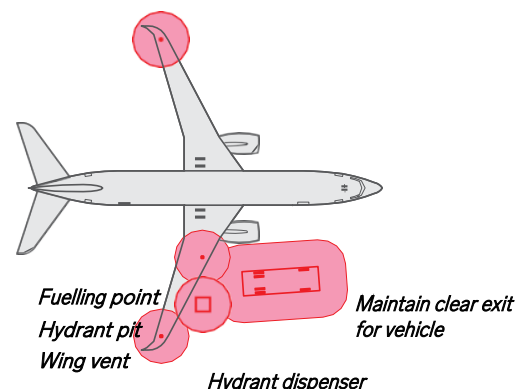


1.5 Aircraft Refuelling

Aircraft refuelling involves large volumes of fuel transferred under pressure and is particularly hazardous.

Fuel hazard zones include:

- The hydrant pit
- Fuelling point
- Hoses
- Dispenser
- Wing vents



Protection measures:

Within 3 metres of the fuel hazard zones the following restrictions apply:

1. Keep all mobile phones and vehicles outside of the hazard zones
2. Keep all passengers who are on the apron at least 3 metres away from fuelling equipment, hydrant pits and the wing vents
3. Ensure passengers have mobile phones and cameras turned off if within hazard zones
4. Only intrinsically safe electrical equipment may be used within hazard zones
5. No vehicles, personnel or equipment should be parked under the wing vents as fuel may pour from the wing vent onto the ground in the event of aircraft fuel control system failure.

Safety measures (emergency fuel stop buttons):

Emergency fuel stop buttons are located on aircraft parking bays where hydrant refuelling is conducted. The emergency stop buttons are clearly sign posted. All personnel working airside are required to familiarise themselves with the locations and how to activate them. Pressing the button will stop the flow of fuel from the hydrant.

In case of an emergency, all personnel, regardless of their normal job, have the authority and responsibility to activate the fuel emergency stop system to shutdown fuel flow.

You must notify the ACC on (61) 8 9478 8572 or refuelling staff as soon as possible.

Do not reset the fuel emergency stop button under any circumstances once activated, even if you realise later that there is no emergency. Fuel Emergency Stop buttons must only be reset by the refuelling company.



1.6 Limited Visibility

The flight crew can have limited visibility from the flight deck and may not be able to see people moving around the outside of the aircraft. If you need to work near the aircraft, ensure the flight crew know you are there.

Protection measures:

1. Do not approach aircraft unless it is part of your role, and you have been trained to do so.
2. Always follow your company operating procedures.



2. Vehicle Hazards

Hazards from vehicles operating on the movement area of an aerodrome are similar to those encountered on public roads and highways, subsequently, similar precautions should be taken.

If you are wearing hearing protection or there is significant aircraft noise nearby, you may not hear approaching vehicles as clearly.

Please note, electric tugs also operate airside and generally known for being very quiet, especially at low speeds.

2.1 Aircraft Support Vehicles

Some airport support vehicles are designed specifically for servicing and handling aircraft and are unique to aerodromes. Catering trucks, pallet loaders, baggage trains and tugs all have external moving parts which present hazards.

Be aware that airport vehicles have platforms that are power operated and may rise and fall without notice. The operator may have limited vision and not be aware of your presence.

2.2 Aviation Rescue and Fire Fighting Services

A particular hazard is posed by Aviation Rescue and Fire Fighting Services (ARFFS) vehicles. ARFFS respond to emergencies on the aerodrome, and you must always give way to ARFFS emergency vehicles operating under lights and sirens.

Protection measures:

1. Wear high visibility clothing
2. Remain vigilant to what is happening around you.

3. Runway Incursion

Runway incursions represent one of the most significant aviation hazards and involve a person or vehicle (or aircraft) entering a runway when it has not received a clearance to do so. Several major aircraft accidents have occurred following runway incursion incidents and have resulted in multiple fatalities.

Human factors failures are a primary cause of runway incursion incidents. This standard aims to reduce the risk of you being involved in a runway incursion incident through promoting:

- Sound knowledge of the aerodrome manoeuvring area layout
- Understanding of key phrases and terminology
- Importance of planning your aerodrome operation to prevent unexpected situations
- Radio communication procedures.

4. Environment

Environmental hazards at aerodromes can be extreme. The movement areas are open and offer little protection from the sun, as a result apron surfaces can reach extreme temperatures.

Thunderstorm activity, strong winds and reduced visibility due to heavy fog pose additional hazards.



4.1 Low Visibility Procedures

Low visibility procedures (LVP) commence when visibility falls below 2,250 metres due to fog, rain squalls, dust storms, smoke or low cloud.

During low visibility procedures, vehicular movements airside are restricted to those servicing aircraft and emergency vehicles in the event of an emergency (noting that emergency service vehicles are required to be escorted by authorised vehicle operator (PAPL AOO or ARFFS)). When low visibility procedures commence, an Ops Advice notification will be issued and airside access through gates 1, 4 & 14 will be restricted to only those vehicles required to service aircraft. Vehicles already airside and not required for servicing aircraft must leave the airside by the closest gate or park in their designated airside area.

In addition, PAPL will issue a Perth Airport Notice (PAN) advising about the LVP activation and cessation.

During low visibility procedures, drivers must exercise extreme caution and pay closer attention to their surroundings. Speed must be reduced to ensure the driver can identify hazards and aircraft manoeuvring in the vicinity. If in doubt or unsure of their surroundings, the driver should proceed to the nearest storage or parking area and cease driving activities.

4.2 Strong Winds

The loading and unloading of empty aircraft containers is not to be undertaken in strong winds as it is not feasible to restrain them on scissor-lift equipment. There is a strong likelihood of an empty aircraft container causing serious injury or damage if blown off GSE.

All GSE must be secured during strong winds. High-lift vehicles must be lowered and the stabilisers deployed. Mobile stairs must be moved to protected positions. Freight pallets and containers must be tied down and trolleys chocked or adequately restrained. Dollies loaded with containers must have the park-brake applied where fitted, and if not fitted, dollies should either be chocked or connected in a train.

Maintenance stands and non-motorised steps should have their stabiliser jacks fully deployed and, be either laid on their side or tied to a tie-down block. Caution should be taken if maintenance stands and non-motorised steps are used at or near an aircraft and they are not to be left unattended, unless suitably restrained. Alternatively, all stands must be positioned well away from aircraft.

Procedures should be in place for all containers (which may be subject to unplanned movement in strong winds) to be adequately restrained, whether a strong wind warning has been issued or not. Container racking provides the most suitable restraint for containers and should be the first priority. Remaining containers can be stored on dollies which have pallet locks or restraining straps. In all cases, empty containers must have the container flap in the closed and locked position.

Any other miscellaneous items of equipment should be adequately secured.

Blocks have been provided by PAPL to assist operators in securing their equipment, ultimately the operator is to ensure the equipment is secure by use of PAPL tie down blocks or other means.

Each operator is responsible for selecting an appropriate tether for the equipment to be secured and that is complies with WHS regulations, ensuring that it is visible and clear from trip hazards.

Blocks must be painted in yellow reflective colour.





4.3 Thunderstorm Warning System (TWS)





Thunderstorms are difficult to forecast, and the location and timing of lightning cannot be accurately or conclusively determined.

Reasonable endeavours are used by airline meteorological teams in monitoring thunderstorm activity and assessing the intensity in relation to the risk of lightning strike. However, due to the above, they cannot guarantee they will warn PAPL (and subsequently airside personnel) of impending activity and none of these parties are liable for a failure to predict lightning strikes.

It remains the responsibility of each airside operator to conduct a risk assessment on the lightning strike risk associated with their operations and to determine what systems, processes or equipment are appropriate for their operations based on the prevailing weather conditions. Each operator must undertake its own operational assessment as to what actions to undertake when the TWS activates and develop its procedures in alignment with the system alert phases.

When necessary, activation of the thunderstorm warning system will occur in accordance with the phases below. At all times, airside personnel are to respond in accordance with their company's internal operating procedures.

Phase 1: Storm Watch	Initial advice of thunderstorm activity is typically received from Bureau of Meteorology (BoM) forecast or weather warnings. This Phase of the TWS means that a thunderstorm is within 46 km of Perth Airport, but not within 16 km. During this phase the TWS equipment is not activated. Recipients of BoM forecasts or warnings should consider the potential for thunderstorm and plan or prepare accordingly. Airport Control Centre (ACC) operator monitors the thunderstorm activity.	
Phase 2: Thunderstorm approaching	Thunderstorm is within 16 km of Perth Airport, but not within 8 km. The Perth Airport Ramp Safety Committee recommends Airside Operators prepare for Phase 3.	White strobe lights are activated, and siren sounds for a short period of time. 
Phase 3: Thunderstorm in immediate vicinity	Thunderstorm is within 8 km of Perth Airport. The Perth Airport Ramp Safety Committee recommends Airside Operators take appropriate shelter.	Blue strobe lights activated, and siren sounds continuously. 
Phase 4: Thunderstorm cancellation	Thunderstorm has receded beyond 16 km of Perth Airport.	Strobe lights and audible sirens on aprons will cease.
Note	Phase 3 is normally followed by a return to Phase 2 until the thunderstorm clears 16 km. However, during this phase, additional thunderstorms could be approaching. Refer to Phase 2 above.	

Protection measures:

1. Stay informed of local weather forecasts
2. Heed any local weather warnings
3. Adhere to your company's internal operating procedures
4. Wear protective clothing appropriate to the conditions
5. Ensure you keep well hydrated
6. Personnel should never shelter under the wings of an aircraft or remain on open vehicles during thunderstorms. Ideally, take shelter inside buildings, aircraft or fully enclosed metal bodied vehicles.



5. Wildlife

Wildlife may also pose a direct hazard to personnel working on the apron. Although infrequent, snakes may be present, particularly in hangars.

Protection measures:

1. Know first aid and the location of first aid kits
2. Be aware of potential wildlife threats
3. Do not approach wildlife without the appropriate training
4. Ensure all rubbish and food scraps are appropriately disposed of in rubbish bins with secured lids.

It is important that if you are working on the aprons, you are aware of the potential risk wildlife pose to aerodrome operations. Reducing the attractiveness of the airport to wildlife, particularly birds, should be a prime consideration for all those working routinely on the movement area.

6. Human Factors

Aerodromes present a number of hazards and risks to personnel, which can be mitigated individually. It is very rare that hazards present themselves individually, and there are many different combinations of hazards, which sometimes makes it difficult to assess risk clearly.

Awareness of the hazards and their mitigation, training, and effective management are all means of addressing human factor risks found in active aerodrome environments. Airside personnel must be alert to what is happening around them. A person's situational awareness can be affected by a variety of factors including workload, fatigue or boredom.

Protection measures:

1. Be aware of the hazards and risks found when operating on the movement area and that these hazards and risks may interact in unpredictable ways
2. Be situationally aware of your surroundings and look out for safety hazards that may affect other people
3. Plan ahead
4. Do not use mobile telephones unless essential for your work and ensure you remain clear of aircraft refuelling zones
5. Follow AOS's and company Standard Operating Procedures
6. Be vigilant – be aware of other vehicles and aircraft movements
7. Concentrate on the task at hand.

6.1 Drugs and Alcohol

Personnel are not permitted airside while under the influence of alcohol or drugs.

6.2 Foreign Object Debris

Foreign object damage occurs when loose material and debris (FOD) on the movement / manoeuvring area causes damage to aircraft. FOD incidents are a significant hazard to airlines and result in millions of dollars of damage and lost productivity through aircraft downtime each year. Airside workers have a duty of care to preserve the safe operations of aircraft by reducing FOD. Prevent FOD by ensuring all equipment is appropriately maintained and in good working order, and all loads are appropriately secured. Any FOD detected on the aerodrome manoeuvring area must be immediately reported to the ACC on (+61)8 9478 8572 so that it can be recovered by Airfield Operations staff. Yellow FOD bins are supplied at the head of aircraft parking bays for retrieved FOD.





Important Safety Rules

Personal Protective Equipment

As a minimum, Perth Airport mandates the wearing of the following when working airside, and in close proximity to, aircraft:

- High visibility garment (vest) in accordance with Australian Standards regulations
 - Hearing protection in accordance with Australian Standards regulations
 - Appropriate enclosed footwear suitable for the work you are doing.
-

Parking of Vehicles & Equipment

Parking vehicles and ground handling equipment outside the designated 'equipment storage' and 'equipment clearance' areas represents a safety hazard to both aircraft and other traffic. Vehicles or equipment must not be left unattended outside these areas.

Operators must not do anything that may interfere with or obstruct the use of equipment that is owned, leased or operated by other parties at Perth Airport.

Seat Belts

It is mandatory that where fitted, seat belts are worn when the vehicle is in motion or as a passenger in a vehicle airside.

No Seat – No Ride

A vehicle must not be operated with a passenger load in excess of its designated seating capacity.

No Smoking & Naked Flame

Smoking and naked flames, including the use of e-cigarettes and vapes, is not permitted anywhere airside at Perth Airport.

Spills

All spills must be notified to the ACC on (+61) 8 9478 8572. Every company must have spill kits available to enable them to respond to their own spills.

Walking Airside

Walking beyond the aircraft parking clearance lines or rear of stand roads is prohibited unless you are:

- Part of the dispatch team for a departing aircraft
- Part of the receipt team for an arriving aircraft that is required to stop in the apron taxiway/lane and be towed onto the parking position
- Pilot (with or without passengers) or maintenance personnel walking to an aircraft on the Central GA Apron
- Accompanied by a vehicle and driver with the appropriate ADA and AUA for the area.



Fire Extinguishers



Fire extinguishers are provided on aircraft parking bays for the initial intervention of a fuel fire. All motorised vehicles should ideally be equipped with fire extinguishers.

Consideration should be given to personnel engaged in apron activities being trained by their employer in the use of fire extinguishers.

Emergency Eye Wash & Showers

To ensure that airside workers have unimpeded access to eye wash stations, under no circumstances is equipment to be parked or left impeding access.



Incident & Hazard Reporting

If you see a hazard and/or an incident it must be reported to:

- In a life-threatening emergency situation – 000 then the ACC emergency line on (+61)8 9478 8500
- In an emergency situation – ACC emergency line on (+61)8 9478 8500
- Any other occurrence – ACC (+61)8 9478 8572.

Reportable incidents include:

- Any damage to aircraft
- Any unplanned movement of aircraft or GSE
- Any person, vehicle or equipment near misses with an operating aircraft
- Any incident where a person or persons are injured
- All fuel / oil or other material spills
- Any accident, defect or want of repair that affects PAPL fixtures, equipment or any utilities (including water supply, electricity, drainage or other services), whether or not the operator has caused it.

On request, the operator must provide a written report (Incident Report) to PAPL. Further details regarding the Incident Report requirements are available in the [Incident Reporting and Responding AOS](#).

Impending Aircraft Movements

When travelling on rear-of-stand roadways, it is imperative that the driver looks out for signs that aircraft are either about to leave or arrive onto the bay. Passengers can assist drivers by keeping a lookout and not distracting the driver.



Manoeuvring your way safely around the Aerodrome

Familiarity with aerodrome signs and markings will help you to reduce risks. Common road signs that meet WA State Regulation standards are used airside and mean the same as on landside roads. Take notice of all signage on the airport and ensure that you understand the following principles of aerodrome markings.

Apron Signs & Markings



Stop Signs and Ground Markings

Your vehicle must come to a complete stop before proceeding.

Give Way Signage and Ground Markings

As you approach signage, reduce speed, check for any other traffic before safely proceeding



Aircraft Stand Give Way Markings

Approaching drivers must observe aircraft arriving and departing from the bay indicated on the marking.

Airside Roadway

These are defined by a single continuous white line on each side. Where a double white line is provided separating the direction of travel, vehicles are not permitted to overtake.



Apron Roads Adjacent to a Taxiway

Where an apron road is located adjacent to a taxiway, the side closest to the taxiway is indicated by double white lines. The double white lines indicate the vehicle limit line and must not be crossed. Extreme care should be taken at all times when driving in these areas. The aircraft parking clearance line may also be present or omitted



Live Taxiway Crossing

Where an apron road or other airside road crosses a taxiway or an apron taxi-lane, the road is marked on each side by a 'zipper' line. When approaching the crossing, you should slow down, have a thorough look for aircraft movements and be sure that the taxiway is clear before proceeding across it.

When approaching a live taxiway crossing, a driver may only proceed:

- If there are no aircraft movements
- After the taxiing aircraft or aircraft under tow has safely cleared the roadway
- After giving way to vehicles using the taxiways.



Aircraft Parking Clearance Line (Yellow-Red-Yellow)

Aircraft parking clearance markings are used to define an area in which the whole of a parked aircraft and equipment servicing that aircraft is to be confined. The parking clearance line separates the apron from the taxilanes/taxiways and vehicles must remain on the apron side of this line.

Equipment Storage Areas

Equipment storage areas are defined by a solid white-red-white line or solid red line and are where vehicles, plant or equipment may be stored.

Ensure brakes are applied and equipment is secured. Refer to the *Staging & Storage of GSE & ULD's* and *Aircraft Turnaround AOS's* for further information.



Equipment Clearance Areas



Equipment clearance areas are defined by a broken white-red-white line and are areas where vehicles and equipment can be staged for up to 45 minutes prior to an arriving aircraft. If the same GHA is using the bay for the next scheduled aircraft, then the equipment can remain between services. Refer to the *Staging & Storage of GSE & ULD's* and *Aircraft Turnaround AOS's* for further information.

Equipment Clearance Line

Equipment clearance lines are broken red lines (dashed) and may be found on the T1 Domestic apron. This line is marked with the aircraft parking position that it is protecting. You must remain behind this line when aircraft are arriving at, and departing from, the bay indicated on the marking. This line is strictly prohibited for pre-staging unattended GSE.





Aerobridge Clearance Zones

Aerobridge clearance zone areas are marked as hatched areas and must be kept clear of all equipment, vehicles, and personnel at all times. When aerobridges are in operation a warning light and alarm will activate.

Unserviceable Area

These are marked with red/white cones. Do not enter unless you are authorised to do so. At night, these areas are accompanied by red lights.



Works Area Limit Marking

Cones are used to mark areas on the airfield. At night these markers are supplemented by the use of amber temporary lights.

Security Restricted Area (SRA) Marking

Where possible, the SRA is fenced around the manoeuvring area and is monitored by radar and also includes signage. Where fencing is not possible, the SRA is bound by a continuous double green line, highlighted white in the centre.

DO NOT CROSS the SRA boundary in either direction. Crossing an SRA boundary may result in withdrawal of access provisions and/or receiving an airside driving infringement.



Mobile Ground Power Unit Markings

Pre-staged mobile GPU markings are installed at T3/T4 Terminal aprons and Network Aviation Apron. These areas are used for pre-positioning of a mobile GPU prior aircraft arrival and should not be obstructed.



Runway Signs & Markings

Runways are the areas where aircraft are most vulnerable and a great deal of effort goes into protecting them.

Although Category 2 ADA drivers should **NEVER** find themselves in close proximity to the runways, it is imperative **ALL** airside drivers understand the following markings in the event they become disoriented.

Colour

In understanding aerodrome markings, remember the following principles:

- Runway markings are primarily white
- Taxiway markings are primarily yellow.

Examples of common markings are outlined below.

Runway Strip Markers

White gable markers show the edge of the runway strip graded portion. Vehicles are not permitted to enter the **runway strip graded portion** without specific clearance from ATC. At Perth Airport, the strip is defined by the gables at a distance of 75 metres from the runway centreline, giving an overall width of the strip as 150 metres. The declared strip width is an area that also includes the fly over areas of the runway strip, out to a width of 150 metres from the runway centreline, marked by the herbicide line.

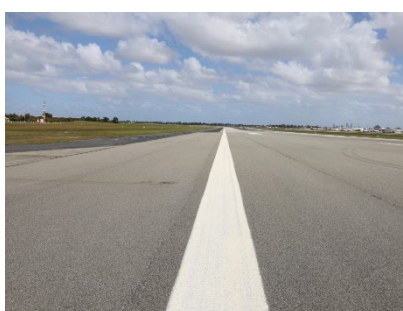


Runway Centreline and Edge Surface Markings

These markings indicate the centre and edge of a runway. The centreline is a white broken line and the edge is a continuous white line. You must not tow or drive heavy vehicles outside the defined sidelines of the runway. All runways at Perth Airport are 45 metres wide.



Centreline Runway Markings



Runway Edge Markings



Aiming Point Markings



Runway Threshold and End Markings



The runway threshold is marked by a series of markings commonly known as the piano keys. A set distance for the touchdown area is marked by the aiming point markings and touchdown markers. The Threshold is lit by a series of green lights as viewed from an aircraft on approach. These are collocated with red lights opposite at the end of the runway identifying the runway end to an aircraft taking off in the opposite direction.

Runway Holding Position

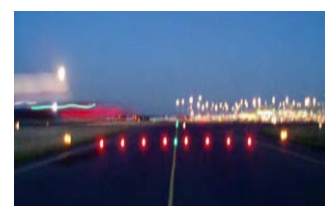
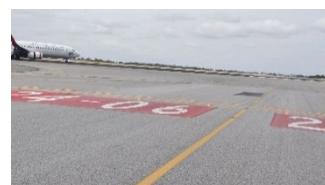
These markings indicate the holding positions for aircraft and vehicles prior to entering a runway. You must not cross in the direction of the solid lines without an approval from ATC. When instructed to 'hold short', always stop prior to the first solid line of the runway holding point marking.

Stop bars are also installed at all runways holding points and are an additional visual cue for pilots and drivers that they are approaching a runway. Stop bars consist of inset red lights, 3m apart, across the full width of the taxiway. When taxiway lights are operating, the taxiway lights leading onto the runway beyond the stop bar will be extinguished, an additional cue NOT to enter the runway.

You must **never** cross a lit stop bar. Ensure you have an ATC clearance, and the stop bar has been de-activated prior to entering the runway.

In addition, enhanced taxiway centreline markings will be applied on each side of the taxi guideline centreline to indicate the proximity of a runway holding position (refer to the next page for further details).

Category 2 and 3 drivers must never pass runway holding position markings and stop bars at any time. If you find yourself next to one of these – STOP – you have gone too far. Call for assistance or just wait and a Perth Airport airfield operations vehicle will assist.





Taxiway Strips & Markings

Taxiway Strips

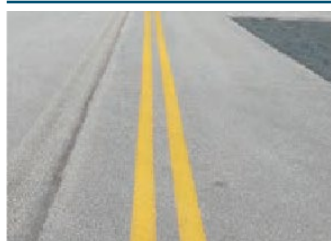
The taxiway strips at Perth Airport are not defined by markers. The majority of taxiways are defined as 23 metre taxiways (operational pavement width).

To ensure appropriate clearance to taxiing aircraft, the following minimum distances from the centreline of the taxiway must be maintained by vehicles and personnel operating adjacent to taxiways.

Code Letter					
A	B	C	D	E	F
15.5 m	20 m	26 m	37 m	43.5 m	51 m

Intermediate Holding Position Markings

Intermediate holding position markings are provided where taxiways join or intersect another taxiway. The markings include 3 amber lights to provide visual reference.

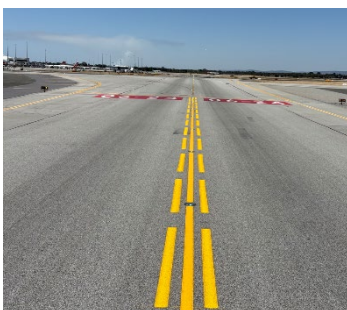


Taxiway Edge Markings

These markings indicate the edge of a taxiway or apron surface. The edge is a continuous double yellow line. The double yellow line also indicates low strength pavement from the outside edge. You must not tow or drive heavy vehicles outside the defined taxiway edge markings.

Taxiway Centreline

The taxiway centreline marking is a solid yellow line that is located centrally along the taxiway. At night, the centreline is marked by green centreline lights (refer to Page 20). When vacating a runway at night, the centreline lights alternate in colour (green / yellow) from the runway to beyond the runway strip on the exiting taxiway. Aircraft under tow must position the nose gear of the aircraft to follow the centreline.



Enhanced Taxi Guidelines

The enhanced taxiway centreline markings may be provided on a taxiway before a runway holding position. These markings consist of parallel yellow dashed lines on each side of the taxi guideline centreline to indicate to drivers that they are approaching a runway intersection. PAPL will apply these markings at all taxiway intersections during the 2025/2026 summer period.



Other Markers



Red and White Unserviceability Cones

Mark the areas restricted for access due to unserviceability. Entry to these areas is restricted unless authorised by PAPL. Marked at night with red lights.

ILS Critical Area Markers

These identify restricted areas that require ATC approval to enter as they are sensitive areas and vehicle entry could cause interference to navigation aids.

The main landing aids at Perth Airport consist of the localizer and glide path. The signals transmitted from this equipment assist aircraft to set up the approach for landing.



Localiser



Glide Path



Localiser

Precision Approach Path Indicator (PAPI)

Visual aids such as PAPI are also used by aircraft to set up an approach for landing along with other radio navigational aids.

It is important to ensure you do not park directly in front of, behind or adjacent to these structures.





Aerodrome Movement Area Guidance Signs [MAGs]

Along with aerodrome markings and lights, [aerodrome movement area guidance signs](#) are designed to assist you in navigating the aerodrome. The types of signs are outlined below.

Mandatory Instruction Signs

Mandatory Instruction signs identify the entrance to a runway or critical area, and areas prohibited for use by aircraft and vehicles. It has a white inscription on a red background.

Remember: RED and WHITE = RUNWAY in SIGHT.

Remember: As a Cat 3 driver you must never pass runway guard mandatory instruction signs at ANY TIME.



Runway Holding Position Sign

This is a mandatory instruction sign located at the entrance to a runway, adjacent to the yellow painted runway holding position marking.

This example indicates that you are on Taxiway Alpha 9 holding short of Runway 21/03. The runway 03 threshold is to your right; the Runway 21 threshold is to your left.

Remember: RED and WHITE = RUNWAY in SIGHT.



Location Sign

Identifies the taxiway you are currently located on. It has a yellow inscription on a black background. This example shows a location sign, co-located with a direction sign.

This sign indicates you are on Taxiway Alpha, and Taxiway Alpha 9 is located ahead and to the left.

Remember: Black square, you are there.



Direction Sign

Identifies the designation of taxiways leading out of an intersection along with an arrow indicating the approximate direction of turn needed to align with that taxiway. They are located prior to the intersection, normally on the left side and usually with a location sign. It has a black inscription on a yellow background. You can use these signs to confirm your location. This example sign confirms your location on Taxiway Bravo, the apron is ahead, Taxiway Hotel 3 is on your left and Taxiway Hotel 4 is on your right.





Aerodrome Lighting

Elevated Runway Guard Lights

Runway guard lights are located at runway holding positions on each taxiway. At Perth Airport, runway guard lights are installed in the following configurations:

Yellow lamps flashing alternate either side of the runway holding point. Stop bars are also installed at all runway holding points. Refer runway holding position section (page 16) for further information.



Runway Edge and Centreline Lights

Runway edge lights (60 metres spacing) and runway centreline lights are white, and within 600m of the end of the runway the edge lights are yellow.



Taxiway Centreline Lights

Taxiway centreline lights are green. In some locations around apron areas, taxilane edge lights are installed and these are blue. When vacating a runway at night, the centreline lights alternate in colour (green / yellow) from the runway to beyond the runway strip on the exiting taxiway. Aircraft under tow must position the nose gear of the aircraft to follow the centreline.



Taxiway Edge Lights

In the event of a taxiway centreline light unserviceability, blue edge lights may be positioned on the edges of a taxiway or portion of taxiway. Operators must remain central to the edge lights.

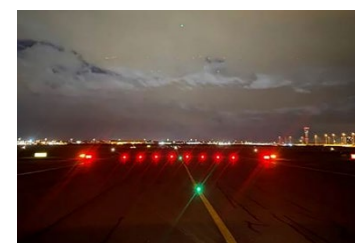
Stop Bar Lights

Stop bars are installed at all runways holding points and are an additional visual cue for pilots and drivers that they are approaching a runway. Stop bars consist of inset red lights, 3m apart across the full width of the taxiway.

The elevated stop bars at runway holding positions at TWY A7, TWY A9, TWY A11, TWY J1, TWY V (north side) and TWY N were installed in late 2024 to supplement the existing inset stop bar lighting.

You **must never** cross a lit stop bar. Ensure you have an ATC clearance and the stop bar has been de-activated prior to entering the runway.

Cat 2 and 3 drivers must never pass runway holding position markings and stop bars at any time. If you find yourself next to one of these – **STOP** – you have gone too far. Call for assistance or just wait and a Perth Airport airfield operations vehicle will assist.



Part 2: Airside Driving



Category 2



Authority to Drive Airside

Application for an Authority to Drive Airside (ADA) must be made in strict accordance with the Perth Airport Airside Vehicle Control Handbook (AVCH).

Commonwealth Regulations set out rules in relation to the operation of vehicles airside. Perth Airport is authorised to enforce those rules on both drivers and companies. The rules are in place to protect yourself and others.

Drivers are required to carry a current ADA and always display a current ASIC while airside. Unless escorted, any motorised vehicle being driven airside must be 'airside registered' and display a current Authority to Use Airside (AUA) permit.

ISS has the right to check an ADA or AUA prior allowing a driver / vehicle to enter airside.

To operate a vehicle on the aprons, drivers must operate a vehicle equipped with an amber rotating beacon (vehicle warning light) visible from 360°.

Category 2

Category 2 drivers are restricted to aprons (including delineated marked service road crossings on live taxiways) and perimeter roadways as defined in the AVCH.

Category 2 holders are not permitted to drive on runways and taxiways. Driving on these areas requires a Category 3 or 4 ADA and are subject to clearance by Perth Air Traffic Control.

Endorsements

ADA holders are eligible for endorsements based on their operational requirements and the companies they work for. Further details about four types of the endorsements are provided in the AVCH.

Endorsements will apply across all ADA categories; however, may not be transferable when an employee changes a company.

Airside Access

There are three security-controlled access gates which provide 24/7 airside/landside vehicle access:

- Gate 4 – which is located south of Terminal 3 (off Boud Avenue)
- Gate 1 – which is located south of Terminal 2 (off Airport Drive)
- Gate 14 – which is located east of Terminal 1 (off Grogan Road into Service Road).

The primary emergency access gate is Gate 6 which is located off Dunreath Drive. This gate is unmanned.



Important Safety Rules [Category 2 Drivers]

You must not drive on runways and taxiways.

Category 2 drivers may only drive on airside service/perimeter roads, aprons, and apron taxilanes where no service road is provided, and you are operationally required to do so.

Remember:

Category 2 drivers may only drive on the aprons and the Northern Perimeter Road. In order to drive on the Southern Perimeter Road, you will need the endorsement 'S'. You must apply for this endorsement if you have operational requirements to use the southern road.

You must apply for the escort endorsement if you need to escort vehicles due to operational requirements. The maximum limit of vehicles under escort applies (refer to the AVCH for further details).

At all times, you must have in your possession your ASIC and ADA.

The vehicle you are driving must have a valid AUA permit, and you must only be driving in areas where you have a valid operational reason.

Beacons

All vehicles operating on the movement area (e.g., aprons) must have and operate an amber rotating beacon that is viewable from 360 degrees.

Driving – Speed Limits

While airside, you must obey all signs and, unless indicated otherwise, adhere to the speed limits as documented in the AVCH.

The speeds indicated are the maximum for that area. It is your responsibility to use caution and drive at reduced speeds to suit the operating environment.

Location	Speed	Remarks
Apron roadways (<i>including Taxiway Romeo, GA Lane and marked zipper crossings of taxiways/taxilanes, and other areas where there are no designated roads</i>)	25km/h maximum	Unless otherwise marked
Aprons (within 15m of aircraft, not on a marked road)	10km/h maximum	Unless otherwise marked
Service tunnels	5km/h maximum	Unless otherwise marked
Perimeter roads	50km/h maximum	Unless otherwise marked
Perimeter roadways adjacent to runway end	10km/h <u>minimum</u>	Strictly no stopping

Please familiarise yourself with the speed signage around the airfield.



Right of Way

All aircraft have right of way over all other vehicles. Where an aircraft's anti-collision beacon is activated, it indicates the aircraft is about to start engines, has its engines running, is moving or is about to move. The anti-collision lights are the flashing lights located on top, and in most cases underneath, the aircraft fuselage. This is a signal to keep clear of the aircraft bay and give way to aircraft.

You are not permitted to drive in front or behind an aircraft if the aircraft anti-collision beacon is active.

Headlights

When operating on aprons at night and during low visibility conditions, headlights must be on low beam.

Mobile Phones

While driving Airside you must not answer, use, or attempt to answer a handheld phone. All other functions including texting, video messaging, online chatting, reading messages or emailing are strictly prohibited.

Use of a mobile phone to make or receive phone calls while driving airside is restricted to the use of an acceptable hands-free device where:

- The mobile phone is secured in a fixed mounting
 - If not in a fixed mounting, use of the mobile phone does not require the driver to touch or manipulate the phone in anyway.
-

Secure Load

Drivers are responsible for the load they carry; therefore, it must be secure. This includes all loose material, garbage, plastic, wastepaper as well as containers on rolling stock. The driver must ensure the load is adequately secured to avoid becoming FOD.

Overtaking Other Vehicles

When overtaking another vehicle, you must ensure that it is safe to do so and that you:

- Overtake on the right-hand side
 - Do not exceed the speed limit for that area
 - Do not cross solid white lines.
-

Lost on the Airfield

If, when driving Airside, you become lost or disorientated, or your vehicle becomes immobilised – **STOP** – and call for assistance from the ACC on (+61) 8 9478 8572.

Passenger Movements

If you are driving on the Apron and you observe passengers walking to or from the terminal or from buses to or from an aircraft, and they are in your intended route, you must stop and let the passengers proceed. Where provided, pedestrians are to be directed to use marked pedestrian crossings. Vehicles must always stop and give way to pedestrians.



Northern Perimeter Road

Vehicles travelling on the northern perimeter road are required to give way to all arriving and departing aircraft on Runway 03/21. Signage and pavement markings in this vicinity must be adhered to.

Southern Perimeter Road

Driving on the southern perimeter road requires a minimum **Category 2** ADA with an **“S” endorsement** on your ADA. You also must have a valid reason for driving in that area. A Category 3 or 4 ADA does not automatically provide access to the Southern Perimeter Road. A shortcut between terminals is not a valid reason.

When travelling along the Southern Perimeter Road next to Taxiway Alpha you must not move any further than 3 meters off the roadway.

Height Restrictions – Gates and Head-of-Stand Roadways

Vehicles entering the airside area through Gates 00, 1, 4 & 14 or using the head-of-stand roadways on Terminal 1 or entering any other height restricted area are restricted to a maximum height.

You must be aware of the vehicle height or equipment height you are operating, and ensure you will clear the height restrictions. Height limits do change across the airfield.

For vehicles 2.1 metres in height and/or 3 metres in width or larger, the operating height and width should be displayed within the vehicle so that it is visible by the driver.

Aircraft Movements – Rear-of-Stand Roadways

When travelling on rear-of-stand roadways, it is imperative you look for signs that aircraft are either about to leave or arrive onto the bay. The following are some indicators that will assist you in identifying whether an aircraft arrival/departure is imminent.

Aircraft preparing to push back:

- Aircraft beacon is activated
- No cargo or luggage is being loaded into the aircraft and cargo doors are closed
- Tug or push power unit is attached to the aircraft
- The aerobridge or stairs are clear of the aircraft
- Engineer or ground handler is connected at the front of the aircraft for push back.

Preparing for aircraft to arrive on bay:

- A marshaller or engineer is waiting on the bay
 - The aerobridge is showing a green light
 - There are ground staff and service vehicles waiting
 - The Nose in Guidance System (NIGS) (where provided) is showing aircraft type and direction arrows.
-

Vehicle Breakdown

If you break down or are involved in an accident you must call the ACC immediately. The ACC number is located on the rear of the following cards:

- Perth Airport issued ASIC
- ADA card
- Perth Airport issued Contractor Induction card.

Part 3: Airside Driving Authority



Category 3 & Category 4



Applying for a Category 3 or 4 ADA

Application for an ADA must be made in strict accordance with the Perth Airport's AVCH.

Applicants seeking to apply for a Category 3 or Category 4 ADA must have successfully attained a Category 2 ADA and have operated under this category for a minimum period of 6 weeks.

Category 3 ADA holders are permitted to operate in accordance with a Category 2 ADA plus taxiways and taxilanes for the repositioning of aircraft and/or servicing of facilities.

Category 4 ADA holders are permitted to operate in accordance with a Category 3 ADA plus runways.

Endorsements

ADA holders are eligible for endorsements based on their operational requirements and the companies they work for. Further details about the types of endorsements are provided in the AVCH.

Rules specific for Category 3 and 4 ADA Holders

In addition to the safety rules documented in Part 2 of this document, Category 3 and 4 ADA drivers must comply with this section and the AVCH. Important requirements relating to driving rules for Category 3 and 4 ADA holders are outlined below.

Beacons

All vehicles operating on the movement area must have, and always operate, an amber rotating beacon. The beacon must be visible from 360 degrees.

Veelo

All vehicles operating on the Perth Airport manoeuvring area (runways and taxiways) must be equipped with a serviceable Veelo unit, which, when mounted to a vehicle, transmits a signal to the ATC, enabling identification of the vehicle. Any vehicle not equipped with a Veelo unit will not be permitted to enter the manoeuvring area, unless under escort by a Perth Airport Operations vehicle.

A Veelo unit is required for vehicles conducting aircraft towing and is encouraged for vehicles performing aircraft pushback.



Call Sign

Each vehicle is allocated a call sign which is directly linked to the unique code assigned to the Veelo unit fitted to the vehicle. Know your vehicle call-sign.



Driving – Speed Limits

While airside, you must obey all signs and, unless indicated otherwise, adhere to the speed limits as documented in the AVCH.

The speeds indicated are the maximum for that area. It is your responsibility to use caution and drive at reduced speeds to suit the operating environment.

Location	Speed	Remarks
Runways (no aircraft or vehicles nearby)	80 km/h maximum	Unless a higher speed is operationally required
Runways (with aircraft or other vehicles nearby)	40 km/h maximum	
*All taxiways/taxilanes (where no aircraft or vehicles nearby)	60 km/h	Unless a higher speed is operationally required
*Taxiways/taxilanes (where there are aircraft nearby)	40 km/h maximum	Nil
<i>*Excludes Taxiway Romeo, GA Lane and marked zipper crossings of taxiways/taxilanes (*where apron road speed limits apply)</i>		
Apron roadways	25km/h maximum	Unless otherwise marked
Aprons (within 15m of aircraft, not on a marked road)	10km/h maximum	Unless otherwise marked
Service tunnels	5km/h maximum	Unless otherwise marked
**Perimeter roads	50km/h maximum	Unless otherwise marked
<i>**Perimeter roadways adjacent to runway end must maintain 10 km/h minimum</i>		

Please familiarise yourself with the speed signage around the airfield.

Familiarity

Drivers operating on the manoeuvring area must be familiar with:

- The designations of the runways and taxiways
- Aviation radio procedures
- The meaning of ATC light signals
- Signs and markings used on the manoeuvring area
- Content of the AVCH.

Under no circumstances are vehicles, other than Airfield Operations vehicles and emergency services vehicles in an emergency, permitted on the manoeuvring area during low visibility conditions.

Drivers must be aware of the hazard that can be created by jet blast and propeller wash when operating a vehicle in the vicinity of the manoeuvring area.

Drivers should not drive from unsealed areas directly onto paved aircraft surfaces to avoid FOD.

You must maintain a 'listening watch' for other vehicles, aircraft and radio transmissions at all times whilst operating on the manoeuvring area.

Vehicle Unserviceability

If your vehicle becomes unserviceable at any time on the manoeuvring area, contact ATC immediately to advise them of your location, and then remain with the vehicle. A PAPL Airport Operations Officer (AOO) will co-ordinate with ATC for assistance.



Planning Your Aerodrome Operation

A thorough knowledge of the manoeuvring area physical characteristics is essential for safe driving.

Take a moment to think about where you need to go and how you are going to get there. Listed below are important points of interest to consider **BEFORE** driving on Perth Airport's runways and taxiways:

- You should only enter the manoeuvring area when you have an operational need to do so
- Have a current Perth Airport plan of the manoeuvring area available to use. A current manoeuvring area plan is available from the Perth Airport Airfield Operations office adjacent to Gate 4
- Listen to the ATIS to determine the runway/s in use
- Check NOTAMs to determine any areas of the aerodrome that may be restricted due to unserviceability or aerodrome works
- Plan the tasks to be completed whilst you are on the manoeuvring area, and avoid any tendency to rush tasks
- Ensure your vehicle is serviceable, and any loose items that could become FOD are removed and/or secured
- Check the proposed route against the manoeuvring area plan and pay special attention to any complex intersections
- Always be aware of where you are and what is around your vehicle – especially when operating close to a runway
- If in doubt of your current location on the manoeuvring area, **STOP** and request ATC assistance. Someone will come to assist you. If possible, move off the taxiway or runway to a safe position
- Know the light signals being used by ATC in the event of radio failure as outlined in this guide
- Conduct a briefing with passengers to ensure they are familiar with 'sterile' environment techniques to avoid introducing any distractions within the vehicle.

Situational awareness is key to avoiding a runway incursion incident. Take note of the following:

- Maintain a 'sterile environment' in the vehicle by switching **OFF** unnecessary distractions such as external radios and mobile phones
- Avoid conversations with passengers that may distract you from responding to ATC clearances/instructions or may contribute to you becoming unfamiliar with your location
- Minimise 'head down' activities whilst the vehicle is moving.

Towing Operations

If you are conducting aircraft towing activities on the manoeuvring area, then you must be mindful of the following:

- Direct line of communication between the tug and the aircraft must be always available during the tow
- The aircraft's anti-collision beacon **MUST** be activated ([unless the aircraft's Auxiliary Power Unit \(APU\) is inoperative, in which case the dispatcher or tow crew must ensure that other vehicles are aware of the pending movement and give way](#))
- All persons involved in the tow operation are aware of their roles and responsibilities and must be familiar with the specific company towing procedures
- Where a PAPL Airfield Operations escort is being provided, follow all instructions of the Airfield Operations Officer in charge of the escort.



ATC Procedures

Drivers of vehicles must obtain an ATC clearance and instructions before entering the manoeuvring area.

Once receiving an ATC clearance or instruction you should:

- Ensure that you understand the instruction and ask for clarification if unsure
- Read back the clearance or instruction including your vehicle call-sign
- Monitor ATC clearances/instructions issued to other vehicles and aircraft to help you achieve an awareness of what is happening around you
- Be cautious of similar sounding call-signs of other aircraft and vehicles. Call-sign confusion is a common causal factor of runway incursion incidents
- Avoid transmitting over other aircraft or vehicles when reading back an ATC clearance (referred to as 'stepping on another's radio call') as this could contribute to a runway incursion incident. If you are unsure that ATC has received your readback, then you should ask for clarification
- Listen carefully to avoid responding to a clearance/instruction intended for someone else
- Advise ATC if you anticipate a delay, or are unable to comply with their instructions
- Look for light signals from the tower if you suspect radio problems.

Remember, an ATC instruction to operate on taxiways or other areas of the aerodrome is NOT a clearance to cross a runway holding position, or to enter or operate on a runway. Only the words CROSS or ENTER authorise a vehicle to operate on a runway.



Communications & Radio Procedures

Effective driver / ATC controller communications are vital to safe aerodrome operations. You can help enhance the controllers understanding by responding (read back procedures) appropriately and using standard phraseology.

Guidelines for clear and accurate communications:

- Use standard phraseology when contacting ATC to ensure clear and concise communication. Your initial transmission should contain these elements:
 - Who you are calling
 - Your call-sign
 - Where you are located
 - A concise description of what you want to do
- State your position whenever making initial contact with any tower or ground controller, regardless of whether you have previously stated your position to a different controller
- Focus on what ATC is instructing you to do. Do not perform any non-essential tasks while communicating with ATC
- Keep your communications concise and to the point
- Acknowledge all clearances - read back all required elements of the clearance and end your transmission with your call-sign. Remember, keep transmissions clear and concise
- Read back the holding position specified in a clearance or instruction and any clearance or instruction to:
 - Hold short of a runway
 - Enter a runway
 - Cross a runway
- Include the runway designator in all read backs
- Clarify any misunderstanding or confusion concerning ATC instructions or clearances.

Conditional Instruction

A conditional instruction or clearance means the tower may give approval to undertake a task or action and include a condition as part of the approval.

Note: If your request is complex, you should consider contacting ATC by phone to discuss any special procedures that may be required prior to the first radio transmission.

Entering the Manoeuvring Area

Before you request to enter the manoeuvring area, you must consider the following:

- The communications equipment is in good working order (radio check should be considered to check equipment)
- Be sure you are on the correct frequency
- Ensure the squelch is set correctly if manually adjustable
- Volume is set to an acceptable level
- Ensure the frequency is clear by listening prior to transmitting (i.e., there are no other communications in progress – this also allows you to gain an awareness of other traffic and current RWY availability)
- If transmitting from an open vehicle, a headset and wind protected boom mike should be considered
- All other communications equipment that may be a distraction must be switched OFF.



The below is an example of a radio transmission between a vehicle and Perth Ground.

Identify who you are calling:

"PERTH GROUND"

Tell Ground who you are:

"TUG TWENTY-TWO WITH VH-ABC."

Tell Ground where you are:

"ON BAY ONE EIGHT."

Tell Perth Ground what you wish to do:

"REQUEST TO PUSH BACK AND TOW TO BAY SEVEN ZERO THREE."

Your transmission:

"GROUND TUG TWENTY-TWO WITH VH-ABC ON BAY ONE EIGHT REQUEST PERMISSION TO PUSH BACK AND TOW TO BAY SEVEN ZERO THREE."

Perth Ground responds:

"TUG TWENTY-TWO, PUSH BACK AND TOW VIA THE APRON, TAXIWAY BRAVO AND THE SEVEN ZERO ZERO LANE TO BAY SEVEN ZERO THREE."

Your transmission:

"PUSH BACK AND TOW APPROVED VIA THE APRON, TAXIWAY BRAVO AND THE SEVEN ZERO ZERO LANE TO BAY SEVEN ZERO THREE. TUG TWENTY-TWO."

All instructions from ATC must be carried out promptly and safely – if you are not 100% sure of an instruction or clearance, **DO NOT MOVE**. Confirm the instruction or clearance and if you hear a conflicting transmission on either frequency, advise ATC immediately!

If you have been given a clearance to cross or enter a runway, you must monitor transmissions for that runway. If you detect a landing or take-off clearance on the runway you are operating on, confirm your clearance immediately, conduct a visual check and if you are in any doubt vacate the runway without delay.

Anyone using a radio (VHF to communicate with ATC) is required to hold an Aeronautical Radio Operator Certificate (AROC). All instructions by ATC must be responded to immediately. Unauthorised transmissions on an ATC registered frequency may lead to prosecution.

Radio Frequencies

Radio frequencies (MHz) currently in use at Perth Airport are as follows:

127.4	Perth Tower Aerodrome Controller
121.7	Surface Movement Controller (West)
122.2	Surface Movement Controller (East)
123.8	Automatic Terminal Information Service (ATIS).



Transmission Techniques

The efficient use of two-way radio depends on microphone technique, the method of speaking and the choice of words used by the operator.

You should make use of the following principles:

- Think before you transmit
- Be concise
- Speak clearly
- Speak plainly and end each word clearly to prevent consecutive words running together
- Avoid the tendency to shout
- Avoid hesitant sounds such as 'er' and 'um'
- Maintain a business-like manner and do not use colloquialisms, first names or be unduly familiar with others
- If improvisation is required, make it brief and unambiguous.

Signal Strength

Readability of radio signals (i.e., how well a transmission can be heard):

- Unreadable
- Readable now and again
- Readable but with difficulty
- Readable
- Perfectly readable.

Radio Failure Procedures

For vehicles which experience a radio failure adopt the appropriate following procedure (excluding tugs):

- If on a runway, vacate the runway immediately
- Vacate the manoeuvring area using the safest direct route available
- Upon vacating the manoeuvring area, establish contact with the ATC Tower using another radio or by mobile telephone and advise that you are clear of the area
- Do not re-enter the manoeuvring area until the radio has been replaced/repaired.

Light Signals from ATC

Where communications with ATC are lost, ATC may attract your attention through visual signals. If you receive signals from the Tower, you should respond immediately. The meaning of these signals must be displayed on the vehicle within easy sight of the driver.

The signals are as follows:

FLASHING RUNWAY OR TAXIWAY LIGHTING	Vacate the manoeuvring area and observe the Control Tower for light signal.
STEADY RED	Stop immediately.
RED FLASHES	Move off runway or taxiway and watch out for aircraft.
GREEN FLASHES	Permission to cross Runway or to move to a taxiway.
WHITE FLASHES	Vacate manoeuvring area in accordance with local instructions.



Phonetic Alphabet

The International phonetic alphabet is used to assist in voice transmission of call signs, Runway/Taxiway designators and the spelling of proper names and unusual words.

The phonetic alphabet is made up of particular words to denote the letters. When used, the pronunciations as shown are to apply:

A	ALFA	Al-fah
B	BRAVO	BRAH-voh
C	CHARLIE	CHAR-lee or SHAR lee
D	DELTA	DELL-tah
E	ECHO	ECK-ho
F	FOXTROT	FOKS-trot
G	GOLF	Golf
H	HOTEL	Ho-TELL
I	INDIA	IN-dee-A
J	JULIETT	JEW-lee-ETT
K	KILO	KEY-loh
L	LIMA	LEE-mah
M	MIKE	Mike

N	NOVEMBER	No-VEM-ber
O	OSCAR	OSS-cah
P	PAPA	Pah-PAH
Q	QUEBEC	Keh-BECK
R	ROMEO	ROW-me-oh
S	SIERRA	See-AIR-rah
T	TANGO	TANG-go
U	UNIFORM	YOU-nee-form or OO-nee-form
V	VICTOR	VIC-tah
W	WHISKEY	WISS-key
X	X-RAY	ECKS-ray
Y	YANKEE	YANG-key
Z	ZULU	ZOO-loo

Numbers are to be transmitted using the following pronunciations:

1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
DECIMAL	DAY-SEE-MAL

THOUSAND	TOU-SAND
10	ONE ZERO
75	SEVEN FIVE
100	ONE ZERO ZERO
583	FIVE EIGHTTHREE
5000	FIVE THOUSAND
11000	ONE ONE THOUSAND
24000	TWO FOUR THOUSAND
38143	THREE EIGHT ONE FOUR

In general, numbers except whole thousands are to be transmitted by pronouncing each digit separately.



Commonly Used Phrases

ACKNOWLEDGE	Let me know that you have received and understood my message
AFFIRM	Yes
APPROVED	Permission for proposed action granted
BREAK	I hereby indicate the separation between portions of the message (to be used when there is no clear distinction between the text and other portions of the message)
CONFIRM	Have I correctly received the following...? Or did you correctly receive this message?
CONTACT	Establish radio contact with. . .
CORRECTION	An error has been made in this transmission (or message indicated) the correct version is...
DISREGARD	Ignore previous transmission
FINAL	Commonly used to mean that an aircraft is on the final approach course or is aligned with a landing area.
GO AHEAD	Proceed with your message (normally only after stand by – THIS IS NOT A CLEARANCE TO ENTER OR CROSS)
HOLD POSITION	Stay in place, where you are currently located
HOLD SHORT	Hold at the appropriate holding position for the runway or the runway strip edge at the intersection of a crossing runway (remember that the runway strip edge will not be the sealed surface of the runway. It will be marked by gable markers and / or a holding point).
HOW DO YOU READ (RADIO CHECK)	What is the readability of my transmission? The readability scale is: 1. unreadable 2. readable now and then 3. readable but with difficulty 4. readable 5. perfectly readable.
I SAY AGAIN	Repeat for clarity or emphasis
NEGATIVE	'No' or 'permission not granted' or 'that is not correct'
READ BACK	Repeat all, or the specified portion of this message back to me exactly as received
ROGER	I have received all of your last transmission. Under no circumstances to be used in reply to a question requiring readback or a direct answer in the affirmative or negative.
SAY AGAIN	Repeat all or the following part of your last transmission
STAND BY	Wait and I will call you
VACATE	Move off the runway / taxiway area immediately
VACATED	I have vacated runway / taxiway area
WILCO	I (fully) understand your message / instruction and will comply

Your safety as an airside operator is important to us and particularly as a holder of an ADA. You are responsible for your own safety and the safety of those around you.

Here are some safety points to remember:

Aircraft Have the Right of Way

It is important you understand the environment you work in. The road system on this aerodrome will take you behind and around aircraft. You must always remain observant and situationally aware.

Know Where You Are

The airfield is a complex environment. Category 2 drivers are not allowed to drive on taxiways or runways. If you need help, please call the ACC on (61) 8 9478 8572 for assistance. If you find yourself lost – STOP – where you are and someone will come to assist you.

See and Be Seen

Remember you should always wear your high visibility clothing when you are airside. Other PPE should be worn as required by your company's Standard Operating Procedures.

Communication

Mobile telephones and radios can be a distraction. If you must use a hands-free phone – keep the call short. Concentrate on what you are doing.



Further Enquiries, Contacts & Emergencies

Further Enquiries & Changes

If you have any questions in relation to this Standard, please contact:

General Manager Operations
Perth Airport Pty Ltd
PO Box 6
Cloverdale, Western Australia, 6985

Phone: (+61) 8 9478 8879

For proposed changes or enquires to this Standard, please email document.controller@perthairport.com.au.

Changes will be considered by the Ramp Safety Committee and where applicable, the Local Runway Safety Team.

Important Contacts

Airport Control Centre (ACC)

Phone: (+61) 8 9478 8572

Head of Airfield Operations

Phone: (+61) 8 9478 8441
Mobile: (+61) 407 087 360

Airfield Duty Manager (ADM)

Phone: (+61) 8 9478 8424
Mobile: (+61) 419 195 790

Emergencies

In case of emergency contact **000** (if a life-threatening situation) then ACC on (+61) 8 9478 8500.



Definitions & Acronyms

Term	Definition
Aerodrome Controller (ADC-Perth Tower)	A position within Airservices Australia (AsA) that controls the movement of aircraft and vehicles on the runways of an aerodrome. This position provides take-off and landing clearance to aircraft.
Aeronautical Information Publications (AIP)	Procedural information pertaining to the operational requirements at Australian Aerodromes produced and published by AsA.
Airport Control Centre (ACC)	The centre at the Airport known as the 'Airport Control Centre' and being the centre from which PAPL controls and coordinates Airport operations, including airfield, terminal and landside operations.
Airport	Perth Airport
Airside	The following areas, access to which is restricted by the aerodrome operator, or by a Federal or State authority, to authorised persons only: <ul style="list-style-type: none"> (a) The movement area of the aerodrome; (b) Where their purpose and use is to directly support aircraft operations – the terrain and buildings adjacent to the movement area, or particular portions of such adjacent terrain and buildings. (Part 139 MOS section 3.01).
Airside Vehicle Control Handbook (AVCH)	The regulatory document under which an airport operator on Federally Leased land controls the access and vehicle movement requirements on an aerodrome.
Apron	The apron is the defined area on a land aerodrome to accommodate aircraft for the purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance. (Part 139 MOS section 3.01).
Advanced – Surface Movement Guidance and Control System (A-SMGCS)	A system providing routing, guidance and surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all weather conditions within the aerodrome visibility operational limit while maintaining the required level of safety (ICAO definition).
Air Traffic Control (ATC)	A branch within AsA that controls the movements of aircraft at a controlled aerodrome.
Authorised Escort Officer	An ADA holder who accompanies a vehicle and accepts responsibility for its use Airside. Authorisation for this must be given by Perth Airport in writing.
Authority to Drive Airside (ADA)	Issued in accordance with Commonwealth Regulations, authorising the holder to drive an approved vehicle airside (also called an airside driver's licence).
Authority to Use Airside (AUA)	A permit issued by PAPL for a vehicle or equipment for its use airside subject to an assessment of functionality.
Aviation Security Identification Card (ASIC)	A card which provides a means of identification for persons who have a justifiable need for unescorted access to an airside or landside security zone of a security-controlled airport. ASICs may be colour coded to define areas of permitted access.



Term	Definition
Escort	Supervision of a vehicle airside where the supervising person takes responsibility for the vehicle being escorted.
Landside	That part of the Airport not designated Airside and to which the non-travelling public normally has free access and otherwise defined in the Airports Regulations and the <i>Aviation Transport Security Act 2004</i> .
Low Visibility Conditions	Conditions where visibility at the aerodrome has reduced below 800 metres horizontally. Special procedures are implemented in low visibility conditions by ATC and the aerodrome operator to protect the runways.
Manoeuvring Area	Those parts of the airport used for the take-off, landing and taxiing of aircraft, excluding aprons (e.g., taxiways and runways).
Part 139 (Aerodromes) Manual of Standards (MOS)	Sets out the standards and operating procedures for certified, registered aerodromes and other aerodromes used in transport operations. It is made in accordance to Civil Aviation Safety Regulations Part 139.
MAGS	Means movement area guidance sign.
Markers	A physical structure used that defines a particular area or hazard.
Markings	A line, symbol or group of symbols, displayed on the surface of the movement area to convey information.
Movement Area	That part of the Airport that is used for the surface movement of aircraft including manoeuvring areas and aprons.
NOTAM (Notice to air men/air missions)	Publication produced by Airservices Australia via the NOTAM Office advising changes to physical and operating standards of the aerodrome.
Perth Airport Pty Ltd (PAPL)	The owner / operator of land and infrastructure on the Perth Airport estate.
Runway Strip	A specific area on each side of the runway designed to reduce the risk of damage to an aircraft should it run off the runway.
Surface Movement Controller (SMC–Perth Ground)	A position of ATC that controls all aircraft and vehicle movements on the manoeuvring area.
Taxiway Strip	A declared area on each side of the taxiway designed to ensure an obstacle free area for the safe taxiing of aircraft.
Veelo	Electronic surveillance equipment fitted to a vehicle in order for that vehicle to be permitted to operate on the manoeuvring area. Electronic surveillance equipment must meet the technical standards defined in Part 139 MOS Section 14.03(5).



References

Airports Council International (ACI), *Runway Safety Handbook*, First Edition, 2014

Airservices Australia, *An airside driver's guide to Runway Safety*, Six Edition, October 2016

Civil Aviation Safety Authority, *Part 139 (Aerodromes) Manual of Standards 2019* (as amended)

Civil Aviation Safety Authority, *Advisory Circular AC 139.C-13 Apron Safety Management* (as amended)

Civil Aviation Safety Authority, *Advisory Circular AC 139.C-14 Airside Vehicle Control* (as amended)

Civil Aviation Safety Authority, *Advisory Circular AC 139.C-09 Visual Aids, Markings, Signals and Signs* (as amended).

[illegible]

[illegible]

Perth Airport Pty Ltd
Level 2, 2 George Wiencke Drive Perth Airport WA 6105
PO Box 6, Cloverdale WA 6985
T: +61 8 9478 8888
W: perthairport.com.au



COPYRIGHT

©Copyright – 2025 Perth Airport Pty Ltd

Copyright in this document vests in Perth Airport Pty Ltd. Enquiries regarding copyright should be addressed to Perth Airport.