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Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 139.C-14 v2.0

Airside vehicle control

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Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

Artwork: James Baban.

Advisory circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to:

- all aerodrome users
- aerodrome operators
- air traffic control
- airlines and ground handling agencies
- aviation rescue and fire fighting services.

Purpose

The purpose of this AC is to provide guidance about the efficient management of airside vehicle operation. Aerodrome operators should use the guidance offered in this circular to inform their decision-making process in meeting the requirements of Part 139 of the Civil Aviation Safety Regulations 1998 (CASR), and the Part 139 Manual of Standards (MOS).

Aerodrome operators should always consider the context of their own current and future operational environment, and the operational needs of pilots, aircraft operators and associated stakeholders, including but not limited to aircraft size and complexity.

It is important to note that this guidance does not create or permit deviations from regulatory requirements.

For further information

For further information or to provide feedback on this AC, visit CASA's contact us page.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

Status

This version of the AC is approved by the National Manager, Flight Standards Branch.

> **Note:** Changes made in the current version are annotated with change bars.

Table 1: Status

Version	Date	Details
v2.0	June 2026	• New reference to ground handling services in section 2.13. • Removal of repetitive information in the previous paragraphs 3.2.3, 3.2.6 and 3.2.11, and in the previous Notes under paragraphs 3.2.11, 3.3.4, 3.4.4, 3.5.5, 3.5.6, 3.7.4 and 3.7.6. • Updated reference the Airports (Control of On-Airport Activities) Regulations 2026. • New note referring to monitoring mechanisms under paragraph 3.7.3. • New section regarding interfaces with ground handling services in Section 3.8. • New section about emerging vehicle technologies in section 3.9. • Correction to an AC reference in section 4.2. • New Appendix E - AC cross reference matrix. • New CASA template applied.
v1.0	June 2023	Initial AC.

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1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Table 2: Acronyms

Acronym	Description
AC	Advisory Circular
ADAS	advanced driver assistance systems
ADP	airside driver permit
AIP	Aeronautical Information Publication
ATC	air traffic control
ATS	air traffic service
ATSB	Australian Transport Safety Bureau
CAR	*Civil Aviation Regulations 1988*
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
CTAF	common traffic advisory frequency
EV	electric vehicle
ICAO	International Civil Aviation Organization
MOS	Manual of Standards
PANS	Procedures for Air Navigation Services
RMP	risk management plan
SMS	safety management system
TSIR	Transport Safety Investigation Regulations 2021
VHF	very high frequency

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Table 3: Definitions

Term	Definition
aircraft movement	means one of the following: a. the landing of an aircraft at an aerodrome; b. the take-off of an aircraft from an aerodrome; c. a touch-and-go manoeuvre of an aircraft at an aerodrome.
aircraft movements	when referred to numerically for an aerodrome, for a financial year, means the numbers of aircraft movements at the aerodrome during the financial year, as compiled by the aerodrome operator or the ATS provider. Note: CASA may require an aerodrome operator or an ATS provider to provide it with aircraft movement data: see regulations 139.140 and 139.145 of CASR.
airside	means the following areas, access to which is restricted by the aerodrome operator, or by a Federal or State authority, to authorised persons only: 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. Note: The word “landside” is used colloquially to denote areas of an aerodrome that are not airside, for example, passenger terminals.
airside driver	means a person who drives or operates an airside vehicle.
airside vehicle	means a vehicle, including equipment that is mobile under its own power, that is operated airside under the authorisation of the aerodrome operator.
air transport operation	has the same meaning as in clause 3 of Part 2 of the CASR Dictionary: 1. An air transport operation is a passenger transport operation, a cargo transport operation or a medical transport operation, that: a. is conducted for hire or reward; or b. is prescribed by an instrument issued under regulation 201.025. 2. Despite subclause (1), an air transport operation does not include an aerial work operation or a balloon transport operation.
air transport passenger movement numbers	for an aerodrome, for a financial year, means the numbers, published by the Department, of air transport passenger movements at the aerodrome during the financial year, and any reference to air transport passenger movements is a reference to the movements compiled in these numbers. **Note:** This note is not part of the official definition. At the time of publishing v2.0 of this AC, the Department referred to in this definition is the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts.

Term	Definition
manoeuvring area	means that part of the aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.
movement area	means that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the aprons
NOTAM	is a notice issued by the NOTAM Office containing information or instructions concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to persons concerned with flight operations.
obstacles	means fixed (whether temporarily or permanently) and mobile objects, structures, and parts of such objects and structures, that: a. are located on an area provided for the surface movement of aircraft; or b. extend above a defined surface designated to protect aircraft in flight; or c. stand outside the defined surfaces mentioned in paragraphs (a) and (b) and that have been assessed as being a hazard to air navigation

1.3 References

Legislation

Legislation is available on the Federal Register of Legislation website https://www.legislation.gov.au/

Table 4: Legislation references

Document	Title
Part 64 of CASR	Authorisations for non-licensed personnel
Part 91 of CASR	General operating and flight rules
Part 139 of CASR	Aerodromes
Part 139 MOS	Part 139 (Aerodromes) Manual of Standards 2019
TSI Act 2003	Transport Safety Investigation Act 2003
TSI Regs 2021	Transport Safety Investigation Regulations 2021

Advisory material

CASA's advisory materials are available at https://www.casa.gov.au/publications-and-resources/guidance-materials

Table 5: Advisory material references

Document	Title
AC 139.C-01	Aerodrome Manual
AC 139.C-03	Serviceability inspections
AC 139.C-04	Aerodrome technical inspections and aerodrome manual validations
AC 139.C-26	Safety management systems for aerodromes

Document	Title
	Note: This AC is relevant to aerodrome operators.
AC 139.C-27	Risk management plans for aerodromes
Multi-Part AC 139.H-06, AC 143-01, AC 171-06, AC 172-06, AC 173-07 and AC 175-01	Guidelines for preparing a safety management system **Note:** This multi-part AC is relevant to ARFFS providers.
Multi-Part AC 64.B-01, AC 139-14 & AC 172-04	Radiotelephony manual for ground operators
Multi-Part AC 139-05, AC 171-05 and AC 172-03	All-weather operations at aerodromes
	Sample aerodrome manual template for Part 139 of CASR **Note:** There are 2 accompanying documents to this sample manual template, the sample aerodrome manual guide and an Appendix to the sample aerodrome manual regarding global reporting format and aerodrome serviceability inspections.

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from http://store1.icao.int/

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (https://elibrary.icao.int/home).

Table 6: ICAO references

Document	Title
International Civil Aviation Organisation (ICAO) Annex 14	Aerodromes, Vol 1 (Aerodrome Design and Operations)
ICAO Doc 9981	PANS - Aerodromes

Other reference material

Table 7: Other reference material

Document	Title
Privacy Act 1988	Privacy Act

2 Introduction

2.1 Airside vehicles are an essential part of airside operations, as vehicles (including mobile plant and equipment) are used by personnel executing activities to support aircraft ground services, passenger services and aerodrome operations. Generally, these vehicles are operated by personnel working for or on behalf of aircraft operators, aircraft ground handling and maintenance organisations, aerodrome operators and other service providers functioning on the airside of the aerodrome.

2.2 Airside vehicles are operated by persons deemed suitably competent to drive within the boundary of the aerodrome, known as airside drivers. Airside drivers are those people who drive or operate a vehicle or self-propelled ground servicing equipment (also known as plant) within the airside boundary of an aerodrome, including aircraft parking aprons, aircraft maintenance areas, and the manoeuvring area.

2.3 Airside drivers play a fundamental role in airside safety at all aerodromes. Hence their operating protocols and practices need to follow standardised procedures developed by the aerodrome operator that are commensurate with the local operating environment.

2.4 Typically, airside drivers face more complex and challenging situations in airside operating environments than they may in other operating environments. Aerodrome configurations, including apron types, types of activities performed on the apron, type of vehicles used, use of aeronautical radios and mix of traffic (including aircraft, ground vehicles and equipment), all add to the complexity of airside vehicle operations.

2.5 Each aerodrome has a unique combination of movement areas, terminal precinct layout and features that may present challenges to airside drivers. For instance, an aerodrome may have taxiways that lead to a runway situated near an apron, predisposing the risk of airside drivers inadvertently operating on the manoeuvring area without appropriate situational awareness. Similarly, an apron may have an aircraft stand taxi lane, that dissects the aircraft parking positions on both sides, where airside drivers may interact with moving aircraft.

2.6 Furthermore, the types of vehicles used, and their operational usage is likely to vary significantly commensurate with the services offered at the aerodrome. These differences also make airside driving more complex. For instance, an aircraft push-back or tow tractor operates close to moving aircraft while a fuel tanker, which is larger in size and more difficult to manoeuvre, operates close to stationary aircraft.

2.7 Each of these factors existing in isolation, or in combination, can make airside vehicle operations a source of hazards that can potentially affect the safe movement of aircraft or their supporting operations, airport operations and those working at the aerodrome.

2.8 To mitigate the risks associated with airside vehicle operations, aerodrome operators should, through their safety management system (SMS) or risk management plan (RMP), consider developing localised procedures and safety measures. The mitigation measures should, as far as reasonably practicable, identify and implement controls designed to reduce risks in the airside operating environment, without introducing additional hazards. Also, appropriate oversight and surveillance mechanisms may be introduced to ensure continued compliance with procedures and risk mitigation measures.

2.9 Aerodromes with more than 350,000 air transport passenger movements or more than 100,000 aircraft movements, in a financial year[1] are required to:

a. establish a permit system for the airside operation of airside vehicles

b. verify the competency of all airside drivers

[1] Refer to Chapter 14 of the Part 139 MOS

c. actively monitor airside drivers for possession of a valid State or Territory driver's licence and compliance with established driving rules.

2.10 Risk mitigation programs developed by an aerodrome operator may include:

a. Airside driver training and subsequent issuance of an airside driving permit, licence, or authorisation.

b. Airside vehicle permits, and vehicle condition and maintenance requirements.

c. Documented airside driving rules.

d. Processes for the monitoring of driving standards and initiating remedial actions.

2.11 Section 11.14 of the Part 139 MOS requires airside vehicle control procedures, where established, to be included in the aerodrome manual. Detailed guidance on the content of the aerodrome manual is contained in the '*Sample aerodrome manual template for Part 139 of CASR'* of the Part 139 MOS and, if aerodrome operators use the Manual Assessment and Authoring Tool (MAAT) to develop and maintain their manual, templates are also provided in the MAAT.

2.12 Procedures and risk mitigation programs associated with an aerodrome operator’s airside vehicle control program should be included or linked to the aerodrome manual and, where appropriate, SMS or RMP.

2.13 Where airside vehicles are operated by, or in support of, ground handling service providers, aerodrome operators should ensure that airside vehicle control procedures are integrated with apron and ground handling safety arrangements, including training, authorisations, and operational oversight

3 Airside vehicle and driver requirements

3.1 Airside driver training

3.1.1 Implementing a robust airside driver training program is an effective mitigation measure to control the risks associated with airside vehicle operations.

3.1.2 The objective of an airside driver training program is to set out requirements and guidance to minimise the risk of accidents and injury to persons, as well as damage to aircraft and property, arising from the use of vehicles in airside areas.

3.1.3 An airside driver training program should be commensurate with the size and complexity of airside operations in an aerodrome.

3.1.4 The aerodrome operator should determine the competency requirements and vehicle requirements for each organisation's airside driving needs, and document those requirements. Airside driver training, or airside driver familiarisation, may be provided by the aerodrome operator, ground handling operator, or an authorised third party. Further information about airside driver competencies can be found on the 'Training.gov.au' website, at: AVIO0020 - Monitor airside access and airside driving.

3.1.5 For aerodromes with scheduled air transport operations, an airside driver must be trained to know and understand the following[2]:

a. terminology used to describe movement area as outlined in the Aeronautical Information Publication (AIP)

b. purpose and location of all airside areas

c. hazardous and prohibited airside areas

d. significance and meaning of aerodrome visual aids, signs, markings, and aerodrome ground lights.

3.1.6 For aerodromes with no scheduled air transport operations, a driver induction program may substitute for formal training, provided that points in paragraph 3.1.5 are covered in the induction. Refer to Section 3.6 of this AC for more information, and to Appendix D for further information about airside driver induction considerations.

3.1.7 Under Section 14.03(5) of the Part 139 MOS, an airside driver required to use a radio when operating on a runway strip, a runway, a taxiway strip or a taxiway must hold an aeronautical radio operators' certificate issued under Part 64, or equivalent licence, to use an aeronautical radio. The relevant radio frequency must be monitored at all times when on the manoeuvring area.

Note: A person is prohibited from transmitting on a radio frequency of a kind used for the purpose of ensuring the safety of air navigation unless the person is qualified to do so[3].

2 Refer to Chapter 14 of the Part 139 MOS

3 Refer regulation 91.625 of the CASR

3.1.8 An airside driver training program may also include[4]:

a. Radiotelephony operating procedures, including verification of any certificates or licences required to use aeronautical radios, as required. Refer to Multi-Part AC 64.B-01, AC 139-14 and AC 172-04 Radiotelephony manual for ground operators for further information.

b. Airside operating rules and procedures.

c. Emergency procedures (e.g., accidents or vehicle breakdown).

d. Right-of-way requirements, etc.

3.1.9 As a further resource, the Department of Employment and Workplace Relations offers information on how people can achieve competence in airside driving. Training information on the following topics may be viewed at 'Training.gov.au' website, as amended from time to time:

a. AVIC4002 - Administer airside driving

b. AVIO0020 - Monitor airside access and airside driving.

3.1.10 Depending on the scale and complexity of the aerodrome and the individual operational requirements of the respective drivers, the training program may be adjusted for local applications.

3.1.11 Where required under section 3.1.5, an aerodrome operator verifying the competency of all airside vehicle drivers should develop such competency checks to include:

a. Vehicle operation in the context of airside driving, including any licences or permits required to use nominated vehicle types.

b. Ability to navigate on the airside and locate different zones.

c. Where required and when requested, the ability to operate radiotelephony equipment.

3.1.12 A competency verification may vary according to the type of vehicle, operation and aerodrome location assessed.

3.2 Airside driver permit

3.2.1 An aerodrome operator may introduce a system of issuing dedicated airside driving licences, permits or authorisations to permit or qualify drivers to operate airside vehicles. Typically, an airside driver is also required to hold a valid State or Territory driver's licence.

3.2.2 Where the aerodrome operator has introduced an airside driver permit scheme, the scheme should be appropriate for the size and complexity of airport operations, and the aerodrome operator should include all relevant procedures in the aerodrome manual.

3.2.3 For complex, busy or large aerodromes, a permit scheme may be categorised into multiple specific airside areas such as roads and aprons, manoeuvring areas excluding runways, manoeuvring areas including runways, or location based (refer to Appendix A for airside driver competency framework).

3.2.4 A permit system to operate in certain airside areas may allow a driver to operate on aprons and airside roads. Apron edge taxiways and apron taxi lanes may or may not be included in this level of permit or authority. Unless otherwise specified, or the driver is escorted by an appropriately qualified person, an airside driver's permit should expressly not permit operations on manoeuvring areas such as taxiways and runways.

3.2.5 A permit for operating in manoeuvring areas may explicitly state whether a driver is permitted to operate on a runway or within the runway strip. No driver should be permitted to operate a vehicle on a runway without prior approval from the aerodrome operator, and entry to the

[4] Refer to Appendix A for a comprehensive airside driver training framework.

runway should be strictly in accordance with the conditions set by the aerodrome operator. Where ATC is operational, any conditions and instructions from ATC must also be followed.

3.2.6 When using a vehicle on the manoeuvring area of a controlled aerodrome, and when ATC is operating, airside ground vehicles must be equipped with at least one aeronautical VHF radio receiver capable of monitoring the ATC frequency[5]. Drivers should be made aware that ATC may use a signal light to control vehicle entry in the event of a suspected vehicle radio failure.

3.2.7 At controlled aerodromes (including ATC operational and non-operational hours) and at uncontrolled aerodromes, an operator of an airside vehicle transmitting on aeronautical frequencies published in the AIP or NOTAM, as directed by ATC, should:

a. hold a flight crew licence or be certified under Part 64 of CASR for use of radiocommunication equipment

b. monitor relevant radio frequencies at all times when operating on the manoeuvring area[6].

3.2.8 At uncontrolled aerodromes, or aerodromes when ATC is not operational, persons operating an airside vehicle on the manoeuvring area should maintain a radio listening watch and monitor the Common Traffic Advisory Frequency (CTAF), or other relevant aeronautical radio frequency.

3.2.9 Where an aerodrome does not meet the requisite number of passenger or aircraft movements, a categorised driver permit system is not a mandatory requirement. However, procedures should be in place for drivers accessing movement areas, such as monitoring published aeronautical radio frequencies when operating on or adjacent to the manoeuvring area. Refer to Multi-Part AC 64.B-01, AC 139-14 and AC 172-04 Radiotelephony manual for ground operators for further information.

3.2.10 It is advisable that airside driver permits have a defined validity period as specified by the aerodrome operator. Conditions for airside driver permit renewal such as refresher training, competence checks, etc. should be documented.

3.2.11 An airside driver permit system should include the requirements for a driver to disclose to their employer any change of status to their State or Territory driving licence.

3.2.12 The purpose of the airside driver's permit process is to ensure the person can operate their vehicle or plant on the movement area of the aerodrome in a safe manner. An airside driver's permit does not in itself demonstrate a person's competence in the operation or use of specialist vehicle-mounted equipment (e.g. fuel tankers, aircraft loaders). Separate training, competence demonstration and authorisation is required when vehicles and plant include specialist vehicle-mounted equipment.

3.3 Airside vehicle condition, lighting, and maintenance requirements

3.3.1 Vehicles, including motorised ground equipment, should be maintained in a serviceable condition and be suitable for their intended purpose. Each vehicle, or item of equipment, should be assessed to ensure it is safe for the intended operational environment, and whether special conditions are necessary to ensure safe operations.

3.3.2 Aerodrome operators should incorporate procedures in their aerodrome manual to ensure the safe condition of ground vehicles and equipment operating on the airside of the aerodrome.[7]

5 Refer to Chapter 14 of the Part 139 MOS

6 Refer to Chapter 14 of the Part 139 MOS

7 Refer to Section 14.03 of Part 139 MOS

3.3.3 Serviceability criteria developed by the aerodrome operator for vehicle condition and ongoing maintenance requirements may include, but are not limited to:

a. Specifications for identifiable lights and markings on the vehicle or equipment.

b. Requirements for use of lights and obstruction lights for low-visibility and night operations.

c. Periodic maintenance as per manufacturer requirements and rectification of faults.

d. Periodic inspections and daily checks by qualified personnel, to ensure suitability of vehicles and equipment to be operated airside.

Note: The performance requirements of VHF radio communications and types of mobile communication devices used should be carefully considered. See Appendix C for further information.

3.3.4 Vehicles are to be appropriately lit when operating[8]:

a. Within the movement area at night.

b. When low-visibility procedures are in effect.

c. On the manoeuvring area including runways, runway strips, taxiways, and taxiway strips.

3.3.5 The lighting requirements for an airside vehicle operating at an international aerodrome or an aerodrome with scheduled air transport operations, when operating in the manoeuvring area, include the fitting of a dedicated rotating or flashing light, which must be:

a. Yellow or amber in colour.

b. Flash at the rate of 60-90 flashes per minute.

c. Where possible, have a peak intensity of between 40cd and 400cd.

d. Be placed on top of the vehicle to be visible from all directions unless this is impossible.

e. Under such circumstances, additional flashing lights must be provided to ensure visibility from all directions.

f. This flashing light must be operated whether the vehicle is stationary or moving in the manoeuvring area, including daylight hours.

3.3.6 At aerodromes not servicing scheduled air transport operations, airside vehicles operating in manoeuvring areas during daylight hours do not require a flashing light on top of the vehicle. The use of vehicle manufacturer-fitted vehicle hazard warning lights that conform to Australian standards is considered a suitable alternative.

3.3.7 At any aerodrome, vehicles connected to an aircraft (e.g. towing), including gliders, are exempted from fitting a flashing light on top of the vehicle during daylight hours. However, a condition of this exemption is that standard manufacturer-fitted vehicle hazard warning lights that conform to Australian standards are operated.

3.3.8 Additional lights must be provided on airside vehicles when lights cannot be fitted on top of the vehicle, to ensure visibility from all directions[9].

3.3.9 Lighting requirements are also exempted for:

a. non-motorised aircraft servicing equipment used only on an apron

b. an airside vehicle or equipment escorted by another vehicle, which escort vehicle is compliant with the aerodrome operator vehicle requirements.

[8] Refer to Section 14.05 of the Part 139 MOS

[9] Refer to Section 14.05 of the Part 139 MOS

3.4 Airside vehicle permit

3.4.1 For aerodromes with more than 350,000 air transport passenger movements or more than 100,000 aircraft movements, the aerodrome operator must establish a process for issuing permits, or authorisations for ground vehicles and motorised equipment operating within the airside environment[10].

3.4.2 When issuing vehicle permits, aerodrome operators may specify the conditions that vehicles and equipment should meet. Such conditions may be determined by the aerodrome operator according to local requirements.

3.4.3 Such requirements or conditions can include:

a. Specifications for vehicles used both airside and non-airside to be registered under State or Territory requirements.

b. Procedures for inspecting vehicle/equipment, or a system to ensure vehicle serviceability, prior to issuing permits.

c. Displaying vehicle permits on vehicles or equipment.

d. Conditions or limitations for operations including access to different areas in the airside.

e. Circumstances when a vehicle may not be taken airside at regulated aerodromes (for example, refer to Division 4 of the *Airport (Control of On-Airport Activities) Regulations* 2026)

f. Insurance requirements.

3.4.4 Airside vehicle permits may have a fixed validity as determined by the aerodrome operator.

3.5 Airside driving rules

3.5.1 Aerodrome operators may establish speed limits for airside vehicles on the movement area and have systems to monitor and enforce traffic rules, including speed limits (refer to Section 14.03 of the Part 139 MOS).

3.5.2 Aerodrome operators may apply different speed limits across different locations within an airside environment. Speed limits may be determined based on the complexity of the location, hazards identified as per local procedures, proximity to aircraft, etc. or as a part of a risk mitigation program.

3.5.3 Aerodrome operators must establish procedures to ensure airside vehicles that are not involved in the servicing of the aircraft are not driven:

a. Underneath an aircraft.

b. Within 3m of lateral clearance or within 1m of overhead clearance of any part of an aircraft[11].

3.5.4 Aerodrome operators may establish and publish further rules for airside vehicle operations appropriate to their local conditions, including:

a. Keeping to the left-hand or to the right-hand side of two-way roads, usually the same as local driving rules.

b. Avoiding vehicles being left unattended with engines running in the vicinity of aircraft.

c. Having doors and shutters closed on ground vehicles when they are operated airside to reduce injury risks and prevent FOD in the movement area.

d. Specifying an airside driver's responsibility to ensure safe clearance from other aircraft, vehicles or buildings while operating airside vehicles, including any part under tow.

[10] Refer to Section 14.02 of the Part 139 MOS

[11] Refer to Section 14.03 of the Part 139 MOS

e. Usage of obstruction lights in manoeuvring areas; and movement areas under low-visibility conditions and during the night.

f. Parking restrictions at different airside locations.

g. Giving way to aircraft when under power, about to taxi, being pushed back or under tow at all times.

h. Ensuring right-of-way to emergency vehicles when they are responding to an emergency (i.e., operating under lights and/or sirens).

i. Maintaining a minimum safe distance from operating aircraft to avoid exposure to jet blast, propeller wash or downwash.

j. Where deemed necessary, avoiding the need to reverse a vehicle in movement areas unless necessitated during servicing an aircraft, and using a person external to the vehicle to provide guidance to any reversing vehicle.

k. Prohibitions on the use mobile phones and other electronic devices when driving, in accordance with local State or Territory public road use requirements.

3.6 Induction training

3.6.1 At an aerodrome without scheduled air transport operations, a driver induction program may be provided by an aerodrome operator where a formal airside driver training program is not practical. The induction training topics[12] should include at least:

a. terminology used to describe the movement area

b. purpose and location of all airside areas

c. hazardous or prohibited areas on the airside

d. significance of aerodrome visual aids and signs.

3.6.2 Two forms of driver induction training may be considered:

a. a full induction program where drivers are permitted to routinely operate on the apron and select portions of the manoeuvring area

b. a specific induction program in cases where drivers are visitors or require short-term access to selected portions of the movement area.

3.6.3 The content of an induction program may vary depending on the nature of aircraft operations at the aerodrome, the nature of airside operational activities the drivers may perform at an aerodrome and the type of vehicles to be used. Some variations may also occur between situations where the aerodrome operator provides the induction training or where the training is provided by third parties engaged or authorised by the aerodrome operator.

3.6.4 Prerequisites that an aerodrome operator may require prior to a driver being eligible for induction may include:

a. State or Territory driver licence currency.

b. State or Territory driver licence endorsement for vehicle type.

c. Minimum age requirements for those using self-propelled ground servicing equipment (also known as plant) where the aerodrome operator has elected to not require State or Territory driver licences to use such equipment.

d. Where applicable, security clearances and identification requirements.

[12] Refer to Section 14.01 of Part 139 MOS

e. A minimum training or education suite the person should undertake as part of the induction. This may include:

   i. A document package of information the driver must read and acknowledge (the information covered in a document package could range from a single page to a booklet, depending on the range of risk the aerodrome operator is intending to manage through the induction program).

   ii. A formal or semi-formal face-to-face induction program where drivers are provided information and can demonstrate knowledge and understanding of airside driving requirements specific to the range of activities the aerodrome operator permits the driver to perform at the aerodrome.

   iii. An online package where the driver can access information provided by the aerodrome operator on generic and specific requirements, knowledge and understanding of airside rules the aerodrome operator has determined the driver should be able to demonstrate.

3.6.5 The induction program may be delivered as a stand-alone program to an existing employee or combined with other induction or recurrent training required by the aerodrome operator, such as occupational (workplace) health and safety, security and any other matter deemed necessary by the aerodrome operator.

3.6.6 Information on those drivers successfully inducted by the aerodrome operator or authorised third parties should be recorded by the aerodrome operator through their normal document retention process, within suitable consideration of the *Privacy Act 1988*.

3.6.7 The aerodrome operator should ensure that processes are in place to maintain the accuracy and currency of all information used for driver induction training, including information provided by delegated authorities. Appendix B includes airside driver records to be maintained by aerodrome operators.

3.7 Monitoring driving standards

3.7.1 Operators of larger and busier aerodromes meeting the criteria outlined in Section 2.9 of this AC must actively monitor compliance with airside driving requirements[13].

3.7.2 The operators of other aerodromes with light, medium or heavy traffic density[14] that do not meet the requirements of Chapter 14.02 of the Part 139 MOS may also develop driver monitoring standards commensurate with the level of risk identified through the aerodrome's SMS or RMP.

3.7.3 Aerodrome operators may consider various methods to monitor the speed of vehicles on the aerodrome. Speed monitoring devices, traffic speed control strategies and third-party traffic management oversight are options available to ascertain whether vehicles are appropriately operated when on an apron, or the manoeuvring area.

Note: Monitoring mechanisms may include the use of vehicle-mounted surveillance or telematics systems, where installed.

3.7.4 The aerodrome operator, and organisations authorised to use vehicles or equipment in the movement area, are responsible for monitoring vehicle serviceability including periodic vehicle inspections.

[13] Refer to Chapter 14.02 of the Part 139 MOS

[14] Refer to Chapter 3.01 of the Part 139 MOS

3.7.5 Vehicle inspection criteria are determined by the aerodrome operator and published for awareness among stakeholders as well as referenced in the aerodrome manual to ensure compliance.

3.7.6 Aerodrome operators should determine suitable procedures to ensure the identification and management of non-compliances with airside driving and vehicle requirements, up to and including the revoking of airside permits for vehicles or drivers.

3.7.7 Where regular non-compliance by airside drivers is identified, the aerodrome operator should also review the driver induction program to ensure it remains fit for purpose.

3.8 Interface with ground handling services

3.8.1 Where ground handling services operate airside vehicles, aerodrome operators should ensure:

a. alignment between airside driver permits and any ground handling authorisations

b. coordination of apron safety rules and right-of-way priorities

c. defined interfaces between the aerodrome operator's airside vehicle control system and the ground handling safety management arrangements.

3.9 Emerging vehicle technologies

3.9.1 Electric vehicles (EV) and advanced driver assistance systems (ADAS) do not introduce fundamentally new airside hazards, but they change how existing risks manifest and are controlled under airside vehicle control.

3.9.2 Ground-based navigation equipment, including instrument landing systems, distance measuring equipment and other radio infrastructure can transmit across keyless entry systems due to overlapping or adjacent frequencies. Vehicle smart key systems can be vulnerable to airport radio environments. Operators should check vehicle operator manuals to determine whether their vehicle may be vulnerable to airport radio environments

Note: Emerging vehicle technologies do not fundamentally increase aerodrome risk—but they demand clearer articulation of existing airside vehicle control principles to prevent complacency and misuse.

3.9.3 Risk characteristics relevant to the use of electric vehicles may include:

- Acoustic signature:
  - EVs are quieter at low speeds. This may result in reduced auditory cues for personnel around aircraft.
- Mass and torque:
  - EV vehicles may have a higher vehicle mass and rapid acceleration. This may result in greater collision energy if struck and unexpected surge if mishandled.
- Energy source:
  - EV vehicles have high-voltage and potentially volatile batteries. Different emergency response and isolation requirements may be required.
- Charging infrastructure:
  - EV vehicles normally require fixed electrical installations. Such installations may be physical obstacles and ignition-source considerations.

3.9.4 EV emergency response procedures should be integrated with ARFFS and aerodrome emergency plans, including isolation distances, cooling durations, and towing/immobilisation

considerations. Aerodrome operators should ensure that EVs are considered in their hazard and risk identification processes.

3.9.5 Where aerodrome operators determine EVs may represent a risk to their operations, guidance should be provided to airside users and authority holders to ensure vehicles are suitable for their intended operation.

3.9.6 ADAS and airside vehicle control

3.9.6.1 ADAS has the potential to directly affect driver behaviour and decision-making, which is central to airside safety.

3.9.6.2 The primary ADAS hazard airside is not system failure, but driver over-trust or misunderstanding of system limits.

3.9.6.3 Airside environments have poor lane definition, involve complex non-standard movements (pushback, marshalling), and include reflective surfaces and moving aircraft.

3.9.6.4 Most ADAS systems are not trained or validated for these environments.

3.9.6.5 Risks specific to vehicles equipped with ADAS may include:

- False confidence because the driver assumes ADAS will always detect aircraft or personnel.
- Unexpected intervention because of automatic braking or steering corrections during precision manoeuvres.
- Reduced vigilance as the driver attention shifts from environment to internal displays.
- Inconsistent performance if sensors misinterpret ground markings, cones, lights.

3.9.6.6 ADAS may introduce human-factors hazards if not explicitly managed. These risks are behavioural and procedural, not due to vehicle technology.

3.9.6.7 The following key control principles must remain explicit:

- The driver is always responsible. Vehicle automation does not transfer accountability.
- Aircraft behaviour is not predictable by vehicle systems.
- Airside rules override vehicle features. Convenience features yield to safety rules.
- Technology may assist—but never replace—procedures.

3.9.7 Non-routine aerodrome activities

3.9.7.1 Non-routine aerodrome activities may require additional controls specific to hazards and risks those activities may introduce. Non-routine activities may include low visibility operations, aerodrome emergency plan activations or aerodrome works.

3.9.7.2 Further information regarding airside vehicle control during non-routine activities, where they may occur at an aerodrome, is in AC 139.C-18 - Aerodrome emergency planning, AC 139.C-15 - Safe planning and conduct of aerodrome works, and Multi-Part AC 139-05, AC 171-05 and AC 172-03 - All-weather operations at aerodromes.

4 Reporting accidents and incidents

4.1 Incidents or accidents leading to property damage or injuries may occasionally occur within an airside environment. These should be reported to the aerodrome operator. An aerodrome operator should investigate such occurrences, consistent with the aerodrome's SMS or RMP, to identify root causes and implement mitigation measures.

4.2 At aerodromes with 50,000 or more air transport passenger movements or with 100,000 or more aircraft movements, the aerodrome operator must have a SMS[15]. AC 139-26 - Safety management systems for aerodromes provides further information.

4.3 At aerodromes with 25,000 or more air transport passenger movements or with 20,000 or more aircraft movements, the aerodrome operator must have a RMP, which is used to ensure that aviation safety risks associated with the aerodrome's activities are reduced to a level that is as low as reasonably practicable[16]. AC 139.C-27 - Risk management plans for aerodromes provides further information.

4.4 CASA also recommends the implementation of an SMS, or RMP at smaller aerodromes, that are not directly required by regulation to have such programs, in a manner commensurate with their scope of operations, to help ensure risks related to airside vehicle control are identified, mitigated, and suitably controlled.

4.5 Where an aerodrome operator has established an SMS or RMP, the reporting of incidents or accidents, other than those reportable to the Australian Transport Safety Bureau (ATSB) following *Transport Safety Investigation Regulations 2021*, should be in accordance with the aerodrome operator's SMS or RMP.

4.6 If a reportable incident involves an aircraft, it must also be reported to the ATSB in accordance with the *Transport Safety Investigation Act 2003* and *Transport Safety Investigation Regulations 2021*. The aerodrome operator should define procedures to report airside occurrences such as incidents and accidents. The procedure may include staff members or staff positions responsible to receive reports, information to be included in reports, notice to ATC where available, and when reports should be formally submitted through the ATSB's occurrence notification system at https://www.atsb.gov.au/mandatory/asair-form.

[15] Refer to Chapter 25 of the Part 139 MOS

[16] Refer Chapter 26 of the Part 139 MOS

Appendix A
Framework for an Airside Vehicle Driver training program

Where required, an airside vehicle driver training program framework should be derived by the aerodrome operator through a training needs analysis. Training may be provided by an aerodrome operator or authorised third party. The training framework should be commensurate with local conditions, operational requirements, and the individual driver's driving scope.

Generally, the training framework is agreed upon between the organisation engaged to train personnel, and the ground vehicle operator, within the requirements specified by the aerodrome operator. The aerodrome operator should also provide induction materials and provide information on the level to which airside drivers should be able to demonstrate competence.

The following table offers the topics that can be included in the airside driving framework. ICAO Doc 9981 Part II Appendix 1 to Chapter 9 offers more comprehensive information on these topics.

Table 8: Framework for an Airside Vehicle Driver training program

Airside roads and aprons — Airside Driving Permits (ADP)	Manoeuvring area — ADP (Both including and excluding Runways) Includes topics from 'Airside Roads and Aprons – ADP' (Column 1)	Manoeuvring area — ADP (Both including and excluding Runways) Radiotelephony
• Airside Driving Permit – Overview • National/State-level licencing requirements • Aerodrome regulations and requirements • Aerodrome geography • Personal responsibilities • Vehicle safety standards • Airside traffic rules • Hazards and safety-related issues • ATC/aerodrome operator roles • Security procedures • Emergency procedures • Penalties for non-compliance • Practical training (including visual familiarisation)	• Air Traffic Services. • Aerodrome geography (with more emphasis on knowledge of the meaning of signs, markings and lighting used in manoeuvring areas. • Nav-Aid equipment, protection zones (ILS-protected areas where applicable), and description of runway strips, cleared and graded areas and taxiway strips). • Hazards and safety-related issues relating to manoeuvring area driving. • Emergency procedures. • Aircraft familiarization. • Practical training.	• Hierarchy of message priority. • Phonetic alphabet (standard pronunciation and using standard phraseologies as per AIP). • Aircraft, ATS and vehicle call signs. • Read-back of clearances and safety-related information. • Readability scale. • Vehicle breakdown procedure. • Radio failure procedure. • Transmitting techniques. • Portable radios. • Certification requirements radio use requirements (Part 61 or Part 64).

Aerodrome operators may perform competency checks, or request competency checks, of airside drivers based on the training framework and the scope of operations requested for the individual driver.

Appendix B
Airside Vehicle Driver record keeping

Note: As personal information is included in Airside Driver Permit Records, requirements of the Privacy Act 1988 and other organisation requirements should be always adhered to.

B.1 Record keeping

A suitable means should be provided for the secure storage of information relating to Airside Driver Permits. The recorded information should include:

a. identification number
b. name
c. date of birth
d. employer or organisation
e. name of training organisation
f. name of trainer
g. date of completion of training
h. date of validation
i. assessment results
j. date of revalidation
k. infringement notices
l. type of permit held
m. driving history (accidents/incidents)
n. State or Territory licence checks
o. any required medical evidence
p. copies of self-declarations of fitness or approved declarations by an occupational health practitioner.

The information described above may be kept in any suitable format and should be readily available for audit purposes.

Appendix C
Radio communication device considerations

C.1 Devices

Radio communication devices included in this list of considerations include:

- VHF Transceivers
- VHF Transmitter
- VHF Receiver.

> **Note:** The user of aeronautical radio communication devices should be appropriately certified under Part 64 of the CASR. This excludes those authorised to transit on published aeronautical radio frequencies under regulation 91.625 of the CASR.

Fixed mounted radios are those that are wired into the vehicle electrical systems, and do not source their primary source of power from their own battery. Fixed mounted radios typically offer greater range and advanced functionality.

Handheld radios are portable devices that can be held in hand or carried in a pocket or bag. Handheld radio transceivers generally receive and transmit for a limited range, but they provide flexibility for use in multiple vehicles or outside of the vehicle altogether. However, the cradles and other devices fitted to vehicles to provide power and external antenna input for handheld radios may not provide the same range and performance as fixed mounted radios.

C.2 Power source

Fixed-mounted radio transceivers are powered by the vehicle 's electrical system. They are connected to the vehicle 's power supply and do not require their own batteries. Handheld transceivers, on the other hand, are powered by built-in batteries that need to be periodically charged or replaced.

C.3 Antenna

Fixed-mounted transceivers have dedicated, externally mounted antennas that are permanently attached to the vehicle. These antennas are optimized for the specific frequencies used in aviation communication. Handheld transceivers have built-in antennas that are typically smaller and less powerful than those used in fixed-mounted units. The range and performance of handheld transceivers may be more limited compared to fixed-mounted units due to the size and design of the antenna.

C.4 Functionality and controls

Fixed-mounted transceivers often have more advanced functionality (such as automatic squelch control) and controls, larger displays, and more extensive communication capabilities. They may include features such as frequency management, digital communication protocols, and automatic squelch control. Handheld transceivers, while offering essential communication functions, usually have simpler controls and a more compact design.

C.5 Regulatory compliance

Both fixed-mounted and handheld transceivers need to comply with the regulatory requirements of the Australian Communications and Media Authority (ACMA) for aeronautical communication. However, fixed-mounted transceivers are typically subject to more stringent certification and installation standards guidelines. Handheld transceivers may have less onerous certification requirements due to their portable nature.

Appendix D
Airside driver induction considerations

An airside driver induction program is a training program designed to educate drivers who operate vehicles within the movement area of an airport. The induction program aims to ensure that drivers understand the specific terminology, areas, hazards, and visual aids relevant to their operations.

The following outline includes the key components typically included in an airside driver induction program:

- Terminology used to describe the movement area:
  - Runway:
    - A designated surface on which aircraft take off or land.
  - Taxiway:
    - A designated surface used by aircraft for taxiing between the runway and terminal areas.
  - Apron:
    - The area where aircraft are parked, loaded, or unloaded.
  - Runway Holding Position:
    - A designated location where aircraft wait before entering a runway or taxiway.
  - Aircraft parking position / Stand:
    - A parking position for aircraft on the apron, often equipped with ground services.
- Purpose and location of all airside areas:
  - Runway:
    - The primary area for aircraft take-off and landing.
  - Taxiway:
    - Used by aircraft to travel between the runway and terminal areas.
  - Apron/Ramp:
    - The area where aircraft are parked, refuelled, boarded, or unloaded.
  - Hangar:
    - A building where aircraft are stored, maintained, or repaired.
- Hazardous or prohibited areas on the airside:
  - Hotspots:
    - Where hotspots exist, provide information about locations on the airfield with a higher risk of runway incursions or collision.
  - Safety Zones:
    - Where safety zones exist, provide information about designated areas around aircraft where specific safety protocols must be followed.
  - Prohibited Areas:
    - Where prohibited areas exist, provide information about off-limits to unauthorised personnel due to safety or security concerns, such as maintenance areas or restricted zones.

- Significance of aerodrome visual aids and signs:
  - Runway Markings:
    - Painted lines, numbers, and symbols on the runway surface that guide pilots during take-off and landing.
  - Taxiway Markings:
    - Similar to runway markings, these help pilots navigate the taxiways.
  - Signage:
    - Where signage has been provided, information about signs placed throughout the airfield that provide direction, information, and warnings to pilots, vehicle operators, and pedestrians.
  - Aerodrome Lighting:
    - Where lighting is provided, information about illuminated lights on runways, taxiways, and aprons that enhance visibility during night operations and adverse weather conditions.

The airside driver induction program should ensure that drivers are sufficiently familiar with these elements to maintain safe and efficient operations within the movement area of the airport.

Aerodrome operators should determine the period over which a driver's training remains sufficiently effective to manage their risks and require refresher training as necessary. An aerodrome operator may elect to authorise third parties such as aerodrome-based operators of ground handling or maintenance organisations to deliver airside driver induction and training programs, however training records should be kept by, or be accessible, to the aerodrome operator for all airside drivers.

Appendix E
AC cross reference matrix

The AC cross reference matrix intends to provide readers with detail on the system function, the Part 139 MOS reference and the role the system function has in this AC. The matrix identifies which AC the reader should refer to, and the output or the evidence expected out of cross referencing.

The purpose of the cross refence matrix is to reduce content in this AC and provide advice on other guidance material that contains the same or similar information.

Table 9: Advisory circular cross reference matrix

System function	MOS reference	Role of AC 139.C-14	Supporting CASA guidance	Output / Evidence
Policy & Documentation	MOS Ch 11 (Manual)	Defines subject-specific procedures	AC 139.C-01	Aerodrome Manual
Operational Procedures	MOS Ch 11	Provides operational guidance for specific subject	AC 139.C-01	Documented procedures
Hazard Identification	MOS Ch 12 / 17 / relevant hazard sections	Identifies hazards within AC 139.C-14 scope	AC 139.C-03	Inspection records
Routine Monitoring	MOS Ch 12 (Serviceability inspections)	Defines monitoring activities relevant to AC 139.C-14 topic	AC 139.C-03	Inspection logs
Data Collection & Recording	MOS Ch 12 / reporting sections	Defines operational data needed for the topic	AC 139.C-04	Operational logs
Risk Assessment	MOS 17 / 25 / 26	Identifies risks related to the subject area	AC 139.C-27 AC 139.C-26	Risk register
Implementation of Controls	MOS operational provisions	Describes mitigation or control actions	AC 139.C-03 AC 139.C-27	Action records
Corrective Actions	MOS Ch 12	Identifies corrective actions for deficiencies	AC 139.C-03	Defect / action tracking
Reporting (Routine)	MOS reporting requirements	Defines standard reporting requirements	AC 139.C-04	Reports / AIP updates
Reporting (Immediate hazards)	MOS reporting / NOTAM	Defines hazard communication triggers	AC 139.C-04	NOTAM / ATC logs
Training & Competency	MOS Ch 13 / training sections	Defines training needs for subject area	AC 139.C-01 AC 139.C-03	Training records

System function	MOS reference	Role of AC 139.C-14	Supporting CASA guidance	Output / Evidence
Operational Competency Verification	MOS Ch 13	Ensures personnel capability	AC 139.C-03	Competency assessments
SMS Integration	MOS Ch 25 (SMS)	Embeds subject risks into SMS	AC 139.C-26	SMS hazard logs
Performance Monitoring	MOS (implicit)	Defines effectiveness indicators	AC 139.C-26	KPI / performance data
Audit / Assurance	MOS Ch 12 / SMS assurance	Verifies effectiveness of controls	AC 139.C-03 AC 139.C-26	Audit reports
Review & Continuous Improvement	MOS review provisions	Defines review triggers	AC 139.C-03 AC 139.C-26	Review reports
Aerodrome works	MOS Ch 15 (SMS)	Defines specific provisions during works	AC 139.C-15	Specific hazards
Equipment requirements	MOS Ch 14	Defines the requirements for radio use	Multi-Part AC 64.B-01, AC 139-14 & AC 172-04	Documented procedures
Operating in LVO	MOS Ch 14	Defines restrictions and requirements during low visibility operations	Multi-Part AC 139-05, AC 171-05 and AC 172-03	Aerodrome Manual / Training records / Competency assessments