



# Submission on the *Emerging Aviation Technologies: National Aviation Policy Issues Paper*

## Introduction

This is a submission by Western Australia's Department of Transport, which represents Western Australia on the Commonwealth-State-Territory Drones Working Group.

This submission reflects the collective views of eleven State Government agencies and the Western Australian Local Government Association that serve on the WA Government Drones Reference Group. (See appendix for the list of agencies). It does not purport to formally represent the views of the Western Australian Government.

Consideration has been given by all agencies serving on the WA Government Drones Reference Group to the proposed approach to policy development outlined in the *Emerging Aviation Technologies: National Aviation Policy Issues Paper*. All agencies support, in principle, the proposed approach to policy development articulated in the paper.

The core principles enunciated that will underpin a National Emerging Aviation Technologies Policy are supported.

It is noted that the proposed approach to policy development is a starting point for ongoing discussion and collaboration between government, industry and the broader community to develop a comprehensive national policy framework for the management of drones aimed at allowing Australia to benefit from the opportunities provided by emerging aviation technology while managing the risks and impacts associated with their use.

Western Australia looks forward to collaborating with the Commonwealth, States and Territories and industry on specific issues in the development of a National Emerging Aviation Technologies Policy Statement, and enduring framework for the management of drones. It is important to determine the respective responsibilities of parties, identify legislative gaps and enforcement requirements, and that relevant matters are identified and considered in the development of an Unmanned Traffic Management System.

It is critical that interface issues between the Commonwealth, States and Territories and industry are addressed and well managed.

A detailed response to each of the ten key policy areas is outlined below.

## 1. Airspace integration

The proposal for Airspace integration is that:

*The Australian Government, in partnership with industry, will develop an Unmanned Traffic Management (UTM) system that would support a combination of centralised government services and industry-provided services that will facilitate fair and competitive access to airspace and mitigate a wide range of risks and impacts.*

### WA Drones Reference Group position and reasons

**We support** the development of a system of traffic management for unmanned and autonomous aircraft by the Australian Government in partnership with industry.

WA views aviation airspace integration as a Commonwealth responsibility, recognising the expertise held by the Commonwealth in air traffic management and control of airspace.

It makes sense for the Commonwealth to take the lead in this endeavour. There should not be multiple regulators in place for air traffic management and were that to be the case it would make things difficult for industry, blur lines of responsibility and accountability and possibly compromise safety.

### Additional comments and considerations

Clarification is required as to the anticipated role for State and Territory law enforcement in supporting Commonwealth execution of enforcement powers contained in the UTM.

Mechanisms of information sharing within the UTM require consideration. Reciprocal sharing of information between State/Territory law enforcement and the Commonwealth is necessary. Protection of sensitive information will also be required, particularly where public/private partnerships exist.

In the event of emergency situations, it would be beneficial that the UTM provides a mechanism for fast approval and access of drones to effected areas, together with a capacity to alert emergency services to banned aircraft activities.

If the intention is that the UTM will provide approval for flight paths, then noise issues will need to be considered and addressed during the design of the system. Liaison with and input from relevant state and local government bodies is recommended so that the process of mapping flight paths is informed by relevant local context.

Airservices Australia and Civil Aviation Safety Authority (CASA) will need to be appropriately funded for the development of UTM for the integration of airspace management for manned, unmanned and autonomous aircrafts.

## 2. Safety

The proposal for safety is that:

*The CASA will maintain its commitment to the primacy of safety, while taking a responsive, modern and evidence-based approach to safety regulation and the certification of new aviation technology that provides scope for innovation and flexibility, having regard to the inherent risks of the operating environment, other airspace users and the travelling public.*

## WA Drones Reference Group position and reasons

**We support** the proposal and consider that it is appropriate for CASA to maintain responsibility for safety and overseeing safety regulation. However, it is imperative that CASA is adequately resourced to adequately deliver these functions.

WA agencies note that CASA is the aviation safety regulator and carries out its functions in accordance with the *Civil Aviation Act 1988*, which includes the requirement to regard the safety of air navigation as the most important consideration. WA agencies concur that safety is the paramount consideration.

It is appropriate that CASA remain responsible for overseeing safety regulation and certification of new drone technology. This might include:

- regulation of systems, training, pilots and equipment;
- regulation of certificated aircraft, including regulatory oversight of maintenance; and
- regulation and administration of airspace.

## Additional comments and considerations

Consultation is required where a role in maintaining safety is anticipated for State/Territory law enforcement agencies.

While CASA has an enforcement and compliance function for drones, it is acknowledged an adequate level of resources need to be allocated to this area to ensure future enforcement of drone regulation.

Changes in operational licensing and drone licensing requirements that result in an increase in licensing related costs have the potential to impact the supply of drones and licensed pilots. Regional areas are likely to be most affected by the limited availability of licensed pilots. Consideration need to be given to this when considering any changes to licensing requirements.

Integration of the UTM with the communication systems of State/Territory based fixed craft requires consideration, particularly where the internal communication systems used by State/Territory emergency services is concerned.

WA would not support a scenario where WA government emergency response agencies' internal communication networks were regulated by the Commonwealth under drones legislation or critical infrastructure legislation.

## 3. Security

The proposal for security is that:

*The Australian Government will lead the development of a proportionate and evidence-based approach to managing security risks associated with drones and eVTOL (electric vertical take-off and landing) vehicles that is adaptable to changing circumstances and technologies while ensuring a secure operating environment.*

## WA Drones Reference Group position and reasons.

**We support** the proposal and consider that the Australian Government should lead the development of a proportionate and evidence-based approach to managing security risks associated with malicious use of drones.

It is recognised that a drone security framework should take a broad approach to managing the physical, cyber and socioeconomic risks associated with drones and include a range of policy and operational measures to deter and mitigate the security risks associated with drones.

Legislation and policies enabling the use of counter-drone capability for authorities is one of the most important aspect of this approach to respond or manage potential threat posed by drones.

### Additional comments and considerations

In terms of counter-drone legislation and policies:

- Priority needs to be given to the drafting of this legislation as the technology exists to enable the execution of counter-drone operations, however legislation authorising these operations requires drafting and introduction by Commonwealth and State Parliaments and Territorial Authorities.
- WA notes that Commonwealth legislation is being developed to authorise the use of counter-drones technology. WA suggests that tiered legislation be drafted that sets out a range of powers of enforcement over drone use that may be applied to a situation. The tiers would allow various government, commercial or other authorised entities to take certain activity, subject to the tier that they occupy. For example, tier 1 may provide authority to declare a drone no-fly exclusion zone while tier 3 may enable local law enforcement to take control of a drone and land it at a controlled area.
- Tier 3 authority should be restricted to law enforcement agencies only as it will also require indemnities against allegations of theft as well as indemnities from CASA and Australian Communication and Media Authority regulations.
- Where legislation related to security is developed, consideration should be given to the drafting of national model legislation governing drone security that could then be adopted by each jurisdiction and adapted to suit the environment and needs of that jurisdiction.
- The use of drones within the vicinity of prisons is a security risk that requires consideration. Further development of counter-drone detection technology that may be used by law enforcement or authorised justice/prison personnel should be considered. Legal use of counter-drone technology in this situation may involve the legal declaration of exclusion zones around prisons.

Consultation will be required on security requirements related to police powers, training, counter drone measures and other proposed law enforcement powers and anticipated responses to malicious or unauthorised drone use.

Further investigative and enforcement requirements will need to be considered in relation to software encryption, data and image access (for evidentiary or investigative purposes) and counter drone measures relevant to law enforcement.

It should be noted that current counter-drone technology can only detect 70%-80% of drones which can cause problems for law enforcement agencies.

Unauthorised use of drones is a serious risk to bush fire aerial operations. Law enforcement agencies can currently “detect and monitor” unauthorised drones but do not have the legal authority or protections to compel a drone to land. This may need to be considered as part of the development of security measures around drone use.

Consultation with the Commonwealth (Department of Home Affairs and Department of Infrastructure, Transport, Regional Development and Communications) will need to occur, to understand and clarify how the use of drones by WA Government agencies in, for example, a bushfire would be regulated between the State and the Commonwealth.

## 4. Noise

The proposal for noise is that:

*The Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) will develop and manage a national regulatory approach to noise management that encourages quieter operations consistent with local community considerations.*

### WA Drones Reference Group position and reasons

**We support** the proposal and the development of a national approach to noise management of drones.

It is recognised that the current approach to noise regulation emitted by aircrafts is not suitable for noise emitted from drones. Perceived impacts of noise can be highly subjective, and the noise impact can vary depending the environmental factors and the time and conditions in which the drones operate.

The consideration of a long-term approach to the development of a drone and eVTOL Operations Noise Policy Framework is important and a precondition for the successful implementation of noise considerations into the decision-making process of the UTM.

### Additional comments and considerations

There are significant variations in drone technologies and in use of drones in addition to divergent and inconsistent legislative frameworks in States and Territories vis a vis the Commonwealth.

The Environmental Protection (Noise) Regulations 1997 (WA) currently regulates noise emitted from “model aircraft”. Amendment to the regulations may be required to ensure consistency with the noise sources captured in the definition of “model aircraft” in the Civil Aviation Safety Regulations 1998 (Cth).

The proposal to set baseline noise levels requires further consideration of the following factors:

- Flight paths will impact upon noise levels, for example, noise levels will decrease the further the drone’s distance from the ground. The perceived noise impact will be less if the flight path occurs above road and rail corridors.
- Drone numbers will also impact noise levels and in this situation, it may be prudent to undertake modelling to determine the noise levels of varying numbers of drones. This will require good understanding of the acoustical output of drones and potentially require adjustments to existing modelling software and procedures.
- Characteristics of noise differ between drones and other transportation modes, and while drones may emit less noise measured in decibels than other forms of transport, the tonality of drones can be an irritant to the public.
- While the public is wary that drones will present an additional noise source in the environment, drone advocates suggest that drone noise will replace other sources. It is not known to what extent either viewpoint is valid, and analysis of potential drone take up in the near future is required.
- It appears that a limit to noise level is proposed in the submission, the noise parameters around setting this limit need to be clarified. For example, consideration needs to be given to both the maximum level ( $L_{max}$ ) of single drone flight in addition to the overall noise energy generated by a large number of drones over a longer period (the  $L_{eq}$  approach). It is likely that the parameters and metrics will change as the usage of drones develop.

Clarification is required around the level of State/Commonwealth engagement in setting appropriate noise level criteria. It is unclear whether the criteria will be set at a Commonwealth level (following consultation with the states and other bodies) and evaluated for a particular project by the State, or whether the criteria will be developed for a particular project by the State under Commonwealth guidance.

Local governments have been receiving an increasing number of noise and amenity related complaints relating to drone use however local governments do not have the regulatory tools available to address these concerns. Australian Government assistance is sought to undertake research and obtain National agreement on standards and conventions for drone noise. Development of a process for certifying drones at the point of import or manufacture would also be useful. Management of intrusive noise and privacy could be assisted through effective enforcement laws and drone pilot training, and WA agencies suggest that the Australian Government consider these areas as part of their wider policy work on drones

## 5. Environment

The proposal for environment is that:

*The Australian Government will lead the development of a consistent, balanced and proportionate approach to manage the impacts on wildlife and the environment, including the enjoyment of nature areas and cultural sites.*

### WA Drones Reference Group position and reasons

**We support** the proposal and the development of a consistent approach that will clarify the roles and responsibilities between Commonwealth/State Government in the application of existing environmental legislation to drones and eVTOL operations.

It is noted that States and Territories have responsibility for most environmental matters and legislation including, for example, the management of national parks and the protection of wildlife. It is considered that when the UTM is developed it will need to be cognisant of environmental legislation in place.

### Additional comments and considerations

WA state and local governments have developed various regulations and guidelines to manage drone operation over national parks and environmentally sensitive areas. These should be considered when developing a national framework. They include:

- Information for the use of drones over national parks and other conservation reserves managed under the *Conservation and Land Management Act 1984 (WA)*.
- Biodiversity Conservation Regulations 2018 that provides separation distances between prescribed fauna and aerial devices.
- Rottnest Island Regulations 1988 that manage use of aircraft on the island.
- A small number of Local Governments have implemented Local Laws to manage the use of public areas for recreational drone use.

In developing policy to manage the use of drones over conservation and recreation areas, consideration should be given to the need to minimise drone noise, impacts on privacy and activities that diminish the enjoyment and amenity of these areas.

Jurisdictional boundaries of airspace over water also need to be considered in developing a national management approach.



The *Aboriginal Heritage Act 1972* and the *Aboriginal Heritage Regulations 1974* have legislative provisions in place that protects or limits access to sacred, ritual or ceremonial sites. The regulations specifically require approval from the Minister for Aboriginal Affairs or Registrar for taking photography or making recording for the purpose of commercial reproduction or publication (this includes all sites not just sacred sites). The use of drones for photography and recording over a sacred site can also impact on privacy over the release of photographs and recordings to third parties.

Sensitivity related to Aboriginal heritage and sacred sites need to be taken into consideration when designing the UTM.

## 6. Privacy

The proposal for privacy is that:

*The Australian Government will lead the development of a nationally consistent approach for managing privacy concerns that balances the impacts on privacy with the needs of drone and eVTOL operations.*

### WA Drones Reference Group position and reasons

**We support** a nationally consistent approach to regulating privacy concerns impacted by drones and eVTOL operations.

This would be particularly beneficial for WA because currently that there are no comprehensive State based privacy laws. The current legal position regarding drone use and privacy in WA is not clear cut.

### Additional comments and considerations

While there is no specific privacy legislation in WA care needs to be taken by drone operators to ensure they are not acting in breach of the *Surveillance Devices Act WA 1998*. For example, section 6 of the *Surveillance Devices Act 1998* prescribes that it is an offence to use an optical surveillance device to record visually or observe a private activity to which that person is not a party. This may capture drones that carry recording equipment or video transmission equipment.

It should be noted that the *Surveillance Devices Act* does not apply to the use of devices on Crown land and public spaces where there can be no “reasonable expectation of privacy”, as differentiated from the use of drones in the vicinity of private property.

In considering privacy concerns, it may be prudent to develop and run an education campaign that provides a clear message around lawful drone use and what actions may constitute a breach of the *Surveillance Devices Act* or any other relevant privacy rules or regulations.

The development of a centralised UTM will also provide the ability to enable a technology solution to identify and report drones that are potentially infringing privacy.

## 7 Electric Vertical Take-off and Landing Vehicles

The proposal for electrical vertical take-off and landing vehicles is that:

*The Australian Government will work with all relevant stakeholders to develop measures for safe, efficient, considerate and reliable eVTOL operations in a competitive market that supports safe, efficient and equitable access for all airspace users.*

## WA Drones Reference Group position and reasons

**We support** this proposed approach and notes that equitable access for airspace users should be one of the foundational principles in the design of a drones management system.

### Additional comments and considerations

Safe and considerate eVTOL operations are a precondition for public support of electric vertical take-off and landing vehicles. Noise generated by drones can be managed by well-defined flight paths and landing sites (“vertiport”). Noise implications should therefore be considered as part of planning decisions for eVTOL flight paths and landing sites.

There may be issues at the local government level with regards to places where vertical take-off and landing vehicles operate. This may need to be considered in future planning policies for local government and planning agencies.

## 8. Infrastructure

The proposal for infrastructure is that:

*The Australian Government will lead the development of a coordinated and informed approach to infrastructure planning, investment, requirements and approvals.*

## WA Drones Reference Group position and reasons

**We support** a coordinated and informed approach.

### Additional comments and considerations

WA notes that State planning policies and approval processes will need to be considered when designing infrastructure and deciding on the location of vertiports and other infrastructure.

Fundamental to prediction and control of noise would be knowledge of flight paths; fixed corridors or random point to point flights will also need to be considered when designing and mapping infrastructure locations.

## 9. Technology Trials

The proposal for technology trial is that:

*The Australian Government will develop an approach that fosters partnerships between government and industry to promote shared outcomes and learning with the goal to support the commencement of future commercial operations.*

## WA Drones Reference Group position and reasons

**We support** this approach and note that trials are an important tool for working through issues and ensuring public acceptability of commercial use of drones particularly where this is related to the use of drones for the delivery of goods.

### Additional comments and considerations

The application of drones in Western Australia has mainly been in the fields of mining, construction, infrastructure inspections, natural resource management, agriculture, law enforcement and emergency response.



Currently, drones are not used in Western Australia for the purposes of delivering goods or for transporting people.

The Australian technology trials appear to be directed towards drones as a vector for transportation of commercial goods.

WA agencies support development of future commercial operations and partnerships with industry but note that in developing such partnerships and commercial operations careful consideration needs to be given to flight path development, noise, safety and security matters as has been raised in this submission.

The current Australian trials will provide insight and information into how flight pathways are developed and any associated noise issues.

The European Union has developed regulations for Unmanned Aircraft Systems including classes of Unmanned Aircraft with maximum sound power levels (SWLs) and SWL testing procedures. While this may limit overall “noisiness” of vehicles and help in classification, it might not provide enough information to enable prediction of noise levels at receivers.

## 10. Central Coordination

The proposal for central coordination is that:

*The Department of Infrastructure, Transport, Regional Development and Communications will coordinate an ongoing whole-of-government policy approach to manage future challenges associated with emerging aviation technologies to ensure a consistent and coordinated approach to regulation across issues and jurisdictions.*

### WA Drones Reference Group position and reasons

**We support** this approach.

The Commonwealth, given its traditional role and responsibility for aviation matters, is best placed and indeed the only jurisdiction in Australia capable of providing central coordination of drones’ policy and engendering a consistent approach to regulation across issues and jurisdictions.

### Additional comments and considerations

WA agencies support DITRDC taking on the coordination role for ongoing whole-of-government drone policy and looks forward to collaborating with DITRDC to assist in development of policies and regulation.

## WA DRONES REFERENCE GROUP- LIST OF AGENCIES

- Department of Biodiversity, Conservation and Attractions
- Department of Fire and Emergency Services
- Department of Justice
- Department of Planning, Lands and Heritage
- Department of Primary Industries and Regional Development
- Department of Transport (Convenor of the Reference group)
- Department of Water and Environmental Regulation
- Main Roads WA
- Office of State Security and Emergency Coordination (Department of the Premier and Cabinet)
- South Metropolitan Health Service
- WA Police
- Western Australian Local Government Association