



Our ref: PS119439-COM-001 - WSP letter response on Drones Commonwealth Policy Paper

Your ref: WSP Response to the National Aviation Policy Issues Paper on Emerging Aviation Technologies

30 October 2020

Director, Airspace and Emerging Technologies
Department of Infrastructure, Transport, Regional Development and Communications
GPO Box 594, Canberra ACT 2601

Dear Sir/Madam

WSP response to the National Aviation Policy Issues Paper on Emerging Aviation Technologies

Enclosed please find WSP commentary on the National Aviation Policy Issues Paper on Emerging Aviation Technologies. Our input is informed by WSP's project experience in providing strategic, business case / investment advice, engineering and advisory services related to use of drone technology in the transport of people and goods, and for the management of the transport network.

WSP strongly supports the intent to develop clear policy guidance and regulatory structure to support the realisation of the significant value that can be achieved through emerging aviation technologies, while appropriately mitigating impacts.

Yours sincerely

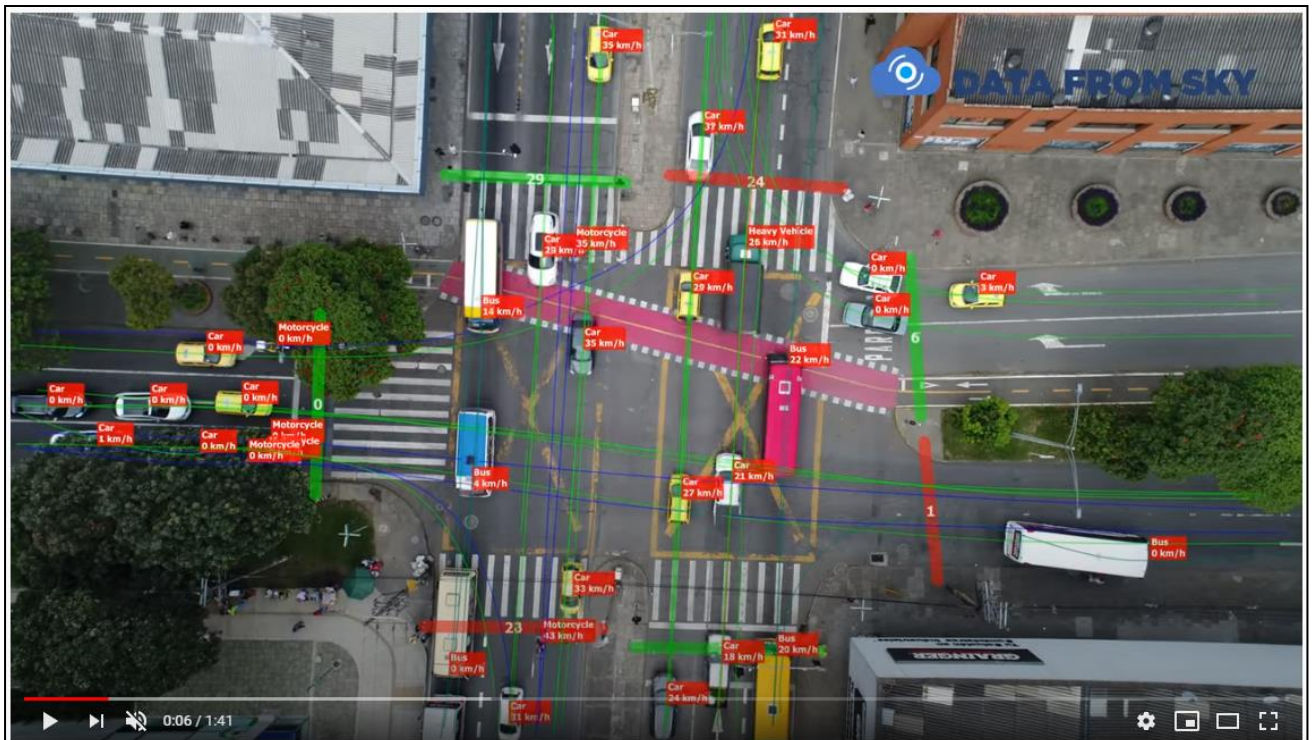
Vijay Gupte
Senior Principal - Advisory

Level 27, 680 George Street
Sydney NSW 2000
GPO Box 5394
Sydney NSW 2001

Tel: +61 2 9272 5100
Fax: +61 2 9272 5101
www.wsp.com



Traffic survey insights using drones



Source: Screenshot from YouTube video (<https://www.youtube.com/watch?v=XwzbFzqhFIY>)

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1 WSP RESPONSE

1.1 BACKGROUND

In response to the release of the Commonwealth Policy Paper on drones, WSP has provided a response of the key issues that we believe should be considered in establishing the policy and further refinement.

1.2 KEY COMMONWEALTH QUESTIONS

The Australian Government have asked for written submissions in relation to several questions. WSP's response to these questions is set out below.

- Do you agree with the proposed core principles for the National Emerging Aviation Technologies policy?

WSP agrees with the core principles but believes that 'data security and privacy' should be added as a key core principle. It is also suggested that the principle related to 'a fair, competitive and efficient approach' should also relate to landside as well as airspace access.

- Will the proposed approach to policy development adequately allow for the future direction, operations and investments of your business/organisation?

WSP is a consultancy business and as such does not operate drones on a regular basis except for site surveys and investigations, for which we currently use specialist drones sub-contractors. WSP advises clients on Drones and eVTOL technology and its impacts. The proposed approach to policy development will provide greater certainty in the field of emerging aviation technologies, which will be of benefit to our clients and the industry in general.

- Are there any other approaches that could benefit the sector?

WSP believes Australia is a country built on innovation and expertise in rapidly changing and emerging technologies. A flexible approach towards facilitating and encouraging investment, commercial models and supporting industry growth would be suitable. There may be scope for Government to consider and provide Research and Development (R&D) tax and depreciation and software amortisation incentives and concessions for appropriate Universities and companies to be able to develop a range of hardware and software and services for emerging aviation technologies. Government may be able to work with private sector and Universities to set up 'incubator' projects for drones technologies and applications. Government grants and funding may assist some of the technologies to be harnessed as some of these may not be commercially viable in short-term. Private sector firms and venture capital / private equity may be willing to invest or co-invest with Government support that may reduce upfront development costs.

- What level of service and regulation do you expect from the Government?

WSP believes all spheres of government have a role to play in the regulation of the application of drones and eVTOL technologies, and there is a need for clear guidance and the appropriate allocation of responsibilities to facilitate the rapidly emerging opportunities. This sector is changing very rapidly with multiple new technologies emerging, new stakeholders and commercial models. The Commonwealth Government is best placed to outline the regulatory framework, compliance and monitoring mechanisms to ensure uniformity and interoperability between states. We suggest that a light-touch approach to regulation would be useful with regular reviews and updates due to rapid technology changes.

- What are your expectations of the Government's role and responsibilities in the management of drones and eVTOL vehicles?

WSP expects Government role to be primarily as

- a regulator and in setting up policy and planning to protect the public interest
 - a facilitator of innovation and development by the private sector
 - a pioneer and innovator in the use of drone technology in the delivery of government services
 - a source of funding for services that deliver public benefit but are not commercially viable (e.g. in transport, water, health, disaster management, environmental protection, etc)
- What are the key opportunities that these new technologies could deliver for Australia?

Much of Australia is characterised by sparse populations and large distances, resulting in a large section of the population living outside urban centres suffering from transport disadvantage, with a high cost of service delivery of basic necessities such as health service and education, and affordable access to food and retail services. Drone technology has particular benefit for Australia in facilitating cost-effective delivery of services to these communities. This not only improves the equity of access to services for these communities but can also reduce the cost of living.

- *Government agencies can provide services more cost-effectively in the future e.g. with Beyond Visual Line of Sight (BVLOS) technologies, long-distance traffic surveillance and monitoring is possible that may have been historically done on ground by road transport agencies or by using aircraft. This is due to rapid advancements in flying distance, battery time, remote launch / landing and processing power. In future, integration with 5G technologies, vehicle-vehicle communications and improved video analytics will enable a wider range of functions and use cases.*

- What are the most significant barriers to realising these opportunities?

See WSP response in table below

- What issues or actions should the government prioritise to facilitate the growth of emerging aviation technologies?

The government should prioritise having clearly defined regulations to provide certainty and facilitate growth in the industry. Where appropriate, government investment in innovative service delivery using drone technology can assist in facilitating growth. WSP note that the industry and technology is rapidly evolving and the regulatory space will require flexibility to allow for change. It would be beneficial for government to outline a roadmap of future timelines of regulatory changes so that stakeholders can plan and adapt to change as it occurs. Ongoing reviews of international best practice and consultation with stakeholders should be completed to assist in this process.

- To what extent should Australia's approach be harmonised with approaches taken in other countries?

Australia's approach should be harmonised with international standards and protocols, but this should not constrain the ability to innovate and lead development, where appropriate. WSP suggests that the Commonwealth may wish to consider undertaking a global study of Drones Technologies, legislation and regulatory framework. This work was done by WSP as part of an ongoing project for Transport for NSW but restricted to incident management, emergency response and special events. WSP believes that United States is one of the leading innovators in this field. WSP has expertise in the WSP United States and Europe teams that could assist if required.

- Are there other issues that the Australian Government should consider?

See WSP response in table below

1.3 WSP RESPONSE

SECTION	CONTENT	COMMENT
Definition of Drones	Clarity on the definition of Drones with potential multiple technologies, functions and uses.	The definition of a 'drone' indicates that the term relates to Remotely Piloted Aircraft Systems (RPAS). This could potentially include a very broad range. The definition of what a 'drone' is and the various types, sizes, functions / uses and impacts would assist.
Stakeholders and Regulations	Clarity on stakeholders and regulatory issues	<p>Historically, drones have been regulated by DITRDC (policy setting and system governance), Civil Aviation Safety Authority (CASA) doing regulatory setting, oversight and enforcement and AirServices Australia (ASA) providing flight information management with only a moderate number of Government and private sector organisations and hobbyists using these.</p> <p>As the industry grows rapidly with multiple technologies types of drones, the stakeholders will increase not just at Commonwealth, State and Local Council level but also at the regulatory level and with industry-specific applications requiring approvals from specific Government agencies at Commonwealth and State level e.g. Transport or Water or Agriculture or Maritime or Fisheries. This industry does not 'sit' within the realm of any one agency/department/level of government and to inform / consult / advise stakeholders would be challenging.</p>
	Different applications / uses and safety / regulatory issues	<p>Each industry will have different applications and use cases which have specific safety / regulatory issues, e.g. Government transport agencies have different requirements in traffic surveillance and monitoring, incident management and emergency response and special events as compared to life saving drones, or drones used for surveys, agriculture or by real estate agents. The regulations may not be consistent across use cases and users (public vs. private) and will need to be clearly defined. There may also be issues when private companies are contracted in to fulfil services for government.</p> <p>WSP believes drones have a major advantage over land-based technologies like Bluetooth beacons or road-side sensors or Closed Circuit Television (CCTV) in terms of ability to provide multi-dimensional, 360 degree views. There are major benefits in being able to access bush fire zones or remote or inaccessible incidents e.g. a truck or vehicle falling into a narrow valley or culvert or providing visuals for rescuing a person in a national park or in the mountains. There is a need in these situations for protocols to be developed between the relevant transport authority, Police, State Emergency Services, Fire Brigade and other agencies.</p>
Infrastructure	The ownership of drones and eVTOL	There is a need for discussion on the role of government and industry in relation to the ownership and access structures of landside

SECTION	CONTENT	COMMENT
	infrastructure could influence market entry and competition	infrastructure for drones and eVTOL to minimise the risks of models that limit market entry and competition.
Infrastructure	The role of Local Government in regulating drones	The White Paper primarily focusses on the role of Federal and State Government with minimal reference to the role of Local Government. The regulation of the ground-based aspect of delivery drones (drone ‘nests’ and service hubs) has potential to be at a scale that is inappropriate to regulate at a federal or state level (as with airports and heliports). There is a need for more clarity as to the role of local government in regulating infrastructure for drones.
	Rapidly evolving commercial models and regulatory oversight	In the United States, commercial models for Pay As You Go (PAYU) and Pay As You Go (PAYG) are rapidly evolving and new players across the entire value chain emerging e.g. Research & Development, manufacturing, servicing, retail, delivery and by various functions / uses. This creates complex issues of regulatory oversight.
Noise Policy Framework	Noise Policy Framework and common agreement at Commonwealth, State and Local Council level	<p>The paper mentions that a Noise Policy Framework that will be developed for application at a Federal level but will assist in State level decisions. While this is beneficial to unify noise regulation in its preliminary stages, the policy framework should provide clear distinctions between ground based operations vs ‘in-flight’ assessments so that State and Local authorities can regulate a fixed, ground-based site in a more traditional sense and not get caught in loopholes of operator responsibility (e.g. the drones leave their host site boundary and no longer under traditional State/Local level control, therefore becoming a federal issue). A fixed premises should have separate set of regulations for clear distinction of responsibility (e.g. NSW Noise Policy for Industry).</p> <p>The approach to interim noise regulations being ground based is appropriate, as it does not limit any specific operator aircraft from operating with aircraft that produce higher source noise emissions than their competition. The operator could adjust flights, altitude and routing to achieve ground-based noise limits if the aircraft has higher source noise emissions.</p>
	Planning Approvals	<p>It is promising to see the paper discuss the use of UTM service delivery as a means of adopting inputs for noise assessment (flight routing, volume, etc). These inputs can be directly imported into acoustic modelling software for further assessment. This will be key for operators to do the following:</p> <ul style="list-style-type: none"> — Submit planning applications for ground based, fixed site operations (host delivery warehouse, etc) that are following State based EPA noise policies (e.g. SEPP N-1 for Victoria or NSW Noise Policy for Industry).

SECTION	CONTENT	COMMENT
		— Submit for noise certificates for the federally based regulations (AirServices/DOI) using an approved procedure adopting ICAO Annex 16 methodologies.
Technology trials	Investigate the potential for drones to support improved delivery of health services.	Drones have the potential to enhance the delivery of health services through rapid, cost effective delivery of life-saving medicines and equipment directly to where it is needed. This has potential to greatly benefit remote locations. Hospitals already have helipads and it would seem logical that this industry is one of those ‘sandbox’ areas for innovation and social benefit.
Are there other issues that the Australian Government should consider?		
Data Privacy	Data Privacy	Drones can collect significant amounts of data and there are a large number of drones in operation. Apart from large organisations that comply with Privacy legislation (Privacy Act 1988) and Australian Privacy Principles Act, it is unclear whether users comply or follow privacy guidelines.
National Security	National Security	<p>A recent article by Sydney Morning Herald shows that 70% of drones are manufactured by Chinese company (DJI). There are issues of whether drones can be used for surveillance and security and privacy https://www.smh.com.au/world/asia/chinese-drones-swarming-australian-skies-raises-security-concerns-20200907-p55t38.html</p> <p><i>One company, China’s Da-Jiang Innovations, more commonly known as DJI, controls 70 per cent of the world’s supply of drones.</i></p> <p><i>Tibor Fekete, a former Australian Army veteran, now head of the drones business unit with Xtek, a Canberra based technology defence materiel company, says Australia’s skies to be swarmed by DJI’s technology.</i></p> <p><i>“If you start including the \$50 drones, right up to the \$5000 DJI drones then we are talking about a possibility of millions of drones in the country and most of them are coming out of China,” he says.</i></p> <p><i>According to the Civil Aviation Authority, there are almost 33,000 commercial drone operators and license holders. But the regulator has no data on recreational drone numbers. It cites estimates of several hundred thousand to a million.</i></p> <p><i>Allan Liska, a Senior Security Architect at Recorded Future, a global security intelligence provider, says there is no visibility of what happens to the data stored by DJI.</i></p> <p><i>“What they will tell you is, they keep it secure on their servers which happen to be in China. But as we’ve seen with other Chinese companies, just because they say that, it’s not always the case. So, if the Chinese government asks for it, they have to give over the data and DJI does not have to tell you they’ve done so.”</i></p>



SECTION	CONTENT	COMMENT
Regulatory resources and process for flight approvals	CASA resources and process for flight approvals	WSP understands from various industry sources that CASA faces resources and skills constraints in a rapidly changing and growing industry and some of CASA's skills base is in aviation safety. There are challenges due to drones evolving from lightweight drones (sub-2 kg drones) through to mid-range and heavier categories. Further, WSP understands that flight approvals can be a lengthy process except for well-established drone operators. There may be scope to streamline this process.

2 WSP AUSTRALIA EXAMPLES OF AWARDS AND RECENT WORK IN DRONES AREA

WSP Team was a Finalist in the Australian Institute of Traffic Planning and Management (AITPM) 2020 Excellence award for Conceptual Modelling of Drones.





WSP Team prepared the Drones Options and Technology Integration Report for Transport for NSW and the Strategic Business Case

TRANSPORT FOR NSW

DRONES AND VIRTUAL VMS STRATEGIC BUSINESS CASE

DRONES OPTIONS AND TECHNOLOGY INTEGRATION REPORT

JULY 2020

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