# ECONOMIC CONNECTIONS

# SUBMISSION TO THE AVIATION GREEN PAPER

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This submission responds to three regional aviation-related questions which the Aviation Green Paper poses to readers. In answering the questions and in then elaborating on the answers, the submission draws in particular on research papers regarding Australia's long distance air, coach and passenger train services (Potterton 2022 and forthcoming, see also Box).

What should the Australian Government take into account in designing the terms of reference for the proposed Productivity Commission inquiry into the determinants of domestic airfares on routes to and between regional centres in Australia?

In designing terms of reference for a proposed Productivity Commission inquiry into the determinants of regional airfares, the Australian Government should take into account the following:

1. The importance of distance from the nearest state capital city in framing differing regional market contexts in which airlines set fares

Three distance bands apply. The first band comprises distances of up to 350 kilometres from a state capital, at which air service is only available for a minority of regional centres and at which, for most trips other than day return ones – often business-related and a minority of overall travel – self-drive is a convenient, feasible and largely time-competitive alternative to air travel. The second distance band is between 350 and 1,000 kilometres. At these distances, air service is close to universally available at medium-sized and larger regional centres and self-drive remains convenient for many non-day return trips, if to a diminishing extent as distances increase. The third band, above 1,000 kilometres, entails distances where, given the time and financial, including en route, costs associated with it, self-drive is often infeasible for other than holiday travel and where the level of airfares – higher here in absolute dollar terms than in the other two distance bands – is widely regarded as a barrier to capital city accessibility.

2. The importance of distinguishing high traffic routes to major regional tourism centres from the bulk of capital city-regional centre air routes

With large jet aircraft, high route load factors and low cost carrier airlines in place, routes from capital cities to major tourism centres such as Cairns, Townsville, Ballina and Broome are more similar to intercapital routes, where lower fares are prevalent, than the classic higher fare regional routes that are characterised by smaller aircraft operations, modest load factors and no low cost carrier presence. Routes between capital cities and major regional tourism centres need not be a focus of the inquiry.

3. The importance to airline competition outcomes of other transport modes and differing distances from a capital city

Airline competitive dynamics are influenced by the relationship between air travel and other transport modes, in particular self-drive and also by how distant a regional centre is located from a capital city. Within 350 kilometres of capital cities, with self-drive convenient for most trips, air routes are more likely to have one operator in place, than two. As self-drive convenience lessens progressively between 350 and 1,000 kilometres, air routes are more likely to have two operators than one. Above 1,000 kilometres, where self-drive is often challenging and costly, in time as well as in financial cost, for other than holiday-based travel, all capital city-regional centre air routes have a minimum of two operators.

Where should the Australian Government focus its engagement in regional and remote aviation, including helping achieve Closing the Gap outcomes, noting established state, territory and local government responsibilities and programs?

Recognising: first, the importance of convenient public transport that is faster than self-drive for all mid-sized and larger regional centres in connecting to the nearest capital city and the dominant role of aviation in providing such transport; second, the possible opportunities for expansion of shorter distance regional aviation services through future electrification of aircraft propulsion, as described in the Green

Paper; and, third, the risk of insufficient peak period access for future regional air services at capital city airports to accommodate such expansion, the Australian Government should expand its engagement to include periodic (eg three yearly) strategic reviews of the adequacy of regional air service access arrangements at all of the capital city-based leased federal airports.

## About the submission's sources

This submission has two main research paper data sources.

Potterton 2022 analyses air, coach and passenger train services between the capital cities of six states plus the Northern Territory and regional centres in the jurisdiction located 200 or more kilometres from the capital city. Services between regional centres and a nearer capital city, where applicable – for example, between Mildura in Victoria and Adelaide, South Australia – were also included.

'Regional centres' comprised Australian Bureau of Statistics 'significant urban areas', all of which have a minimum population of 10,000. There are 62 regional significant urban areas (SUAs) in the paper's geographic scope. The federal capital, Canberra, forms the larger part of the Canberra-Queanbeyan SUA. Including routes to any other nearer capital cities where applicable, a total of 71 routes in the various transport modes were analysed. The service data set was compiled in February and March 2022. In addition, 17 local councils, drawn from the 62 SUAs, were interviewed about the adequacy of and improvement priorities for long distance public transport services in their area.

The distance band typology used in this submission was developed through the research. That is: routes up to 350 kilometres from a capital city, where capital city air service is for most regional centres not available, but self-drive is convenient for other than for day return travel; between 350 and 999 kilometres, where air service is available and self-drive remains convenient, albeit to a diminishing extent as distance increases; and 1,000 kilometres and above, at which both self-drive and air travel are costly financially, and in the case of self-drive, inconvenient in terms of time also, for other than holiday-based travel.

The submission's Table 1 is based on Potterton forthcoming. This research paper includes a (December 2022-January 2023) dataset with air, coach and passenger train services on routes radiating from the five major capital cities within a distance of 400 kilometres. The dataset comprises a sample of about two thirds of the regional SUAs in that geographic scope. To provide complete coverage, Table 1 supplements the dataset with service data on those other SUAs within the table's distance range of 100 to 350 kilometres from a capital city. This is a distance range at which regional centres see public transport faster than self-drive as important, but where it is mostly unavailable.

### What opportunities do emerging aviation technologies present for regional and remote Australia?

As the Green Paper notes, emerging aviation decarbonisation technologies (particularly electrification, both conventional takeoff and landing and vertical takeoff and landing), if accompanied by reduction in total aircraft operating costs, could represent an opportunity to expand availability of short distance (200 to 400 kilometre) air services to and from capitals. This would be desirable, given the absence of air transport links to the nearest capital city for a large majority of regional centres with populations of 10,000 or more situated between 100 and 350 kilometres from a capital city. In addition, only two regional centres at these distances have passenger rail service that is faster than self-drive. While self-drive is a convenient option for much personal and family travel, fast – at least faster than self-drive – public transport is critical for the functioning of regional centres and for the growth of regional economies. Local councils interviewed for Potterton (2022) noted the importance of regional air services in enabling capital city-based medical professionals to travel to regional centres, often on a day return basis, in order to

provide specialist hospital-based services. While, in principle, upgraded passenger rail could also perform this transport task, it is not available.<sup>1</sup>

The Green Paper suggests that future expanded regional air services could eventuate through a 'regional hub' service model, ie with larger aircraft operating between capital city airports and regional hubs and Advanced Air Mobility (eg electrical vertical take-off and landing) services connecting to smaller regional centres. An advantage of a regional hub model is that it would minimise additional aircraft movement pressure on capacity constrained capital city airports. However, with smaller regional centres today serviced almost exclusively by point-to-point or multi-stop 'milk run' air services to and from capital cities, rather than by hub-based services, the model lacks recent precedent. As occurs currently, competition from self-drive nearer to capital cities and the route indirectness and passenger transfer time penalty that hub routes entail could render a hub model commercially infeasible. It would therefore be unwise to rely on the emergence of a hub based service pattern to limit additional pressures on capital city airport capacity.

There are many uncertainties regarding the timing, extent and nature of future new technology aviation services. Nevertheless, given the policy goal of achieving net zero carbon emissions by 2050 and the desirability of improved public transport access for regional centres located relatively close to capitals and mostly lacking either air service or passenger train service that is faster than self-drive, it is important that shortage of capital city airport capacity does not become a barrier to expanded regional air services emerging. As recommended above, the Australian Government could undertake periodic strategic reviews of the adequacy of regional air service access arrangements at all of the capital city-based leased federal airports.

#### BACKGROUND

#### Close to capital cities, air service is mostly unavailable, but fast public transport still matters

Just eight of 48 regional centres with populations of 10,000 or more, located between 100 and 350 kilometres from the nearest major capital city, have air services to that city (Table 1). Just two other regional centres (Ballarat and Bendigo in Victoria, as detailed in the table) have passenger train services with average speeds faster than the self-drive option and accordingly also have a fast public transport option available. In contrast, above 350 kilometres only one regional centre<sup>2</sup> is more than 50 kilometres from an airport offering air service to the nearest major capital.

No	Regional centre <sup>1</sup> 100-350km from a state capital city by road	Road distance km	Population 2021	Air service Oct 2023 (√/≭)	Self-drive speed kph <sup>2</sup>	Train speed kph <sup>3</sup>
	BRISBANE					
1	Sunshine Coast	106	355,631	×	66	57
2	Toowoomba	127	143,994	×	76	37
3	Warwick	158	15,759	×	60	
4	Gympie	170	22,695	×	83	59
5	Ballina (NSW)	186	27,782	×	78	
6	Lismore (NSW)	197	28,844	×	72	
7	Kingaroy	210	10,660	×	76	
8	Fraser Coast	255	86,061	✓	75	61
9	Grafton (NSW)	333	19,331	×	73	58
10	Miles <sup>4</sup>	339	1,764	√	83	26
	MEDIAN	191	25,239		76	57

Table 1:	Air service and	l other modes.	regional centres	(10.000+ p	opulation) u	n to 350 km fro	m the nearest s	tate capital city
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<sup>&</sup>lt;sup>1</sup> Intercapital high speed rail would provide this connectivity for all regional centres along the routes between Brisbane, Gold Coast, Newcastle and Sydney and between Sydney, Canberra and Melbourne. Potterton (forthcoming) outlines 'candidate' policy rationales for gaining the community support necessary to sustain public investment in upgraded long distance passenger rail, including but not limited to high speed rail, over an extended future period.

<sup>&</sup>lt;sup>2</sup> Portland, Victoria, located 352 kilometres from Melbourne, is 104 kilometres from Mount Gambier Airport, South Australia, with air service to Melbourne and also to Adelaide (435 kilometres).

No	Regional centre <sup>1</sup> 100-350km from a state capital city by road	Road distance km	Population 2021	Air service Oct 2023 (√/≭)	Self-drive speed kph <sup>2</sup>	Train speed kph <sup>3</sup>
	SYDNEY					
11	Morisset-Cooranbong	113	27,771	×	62	62
12	Bowral-Mittagong	118	41,419	×	84	41
13	Lithgow	141	12,411	×	61	55
14	Nowra-Bomaderry	158	38,939	×	83	53
15	Newcastle-Maitland	161	509,894	√	80	62
16	St Georges Basin-Sanctuary Point	187	20,081	×	67	37
17	Goulburn	197	24,683	×	93	89
18	Bathurst	200	37,490	×	69	57
19	Singleton	200	17,135	×	84	57
20	Nelson Bay	208	28,316	×	78	50
21	Orange	257	42,151	√	69	67
22	Mudgee	264	12,577	√	74	54
23	Batemans Bay	280	17,492	√	73	
24	Canberra (ACT)-Queanbeyan	286	482,250	√	93	78
25	Forster-Tuncurry	305	20,999	×	85	54
26	Taree	313	26,674	×	89	68
	MEDIAN	200	27,223		79	57
	MELBOURNE					
27	Ballarat	116	111,702	×	77	84
28	Moe-Newborough	135	17,263	×	72	65
29	Colac	151	12,696	×	70	70
30	Bendigo	160	102,899	×	84	88
31	Traralgon	165	43,128	×	82	66
32	Shepparton-Mooroopna	192	53,983	×	87	67
33	Sale	217	15,259	×	79	68
34	Echuca-Moama	224	22,478	×	83	72
35	Wangaratta	251	19,877	×	94	88
36	Albury (NSW)-Wodonga	326	97,676	✓	95	83
37	Warrnambool	258	35,754	×	84	75
38	Bairnsdale	281	15,648	×	82	69
39	Horsham	300	16,944	×	89	71
40	Swan Hill	339	11,169	×	89	73
	MEDIAN	192	22,478		82	71
	PERTH					
41	Bunbury	169	79,252	×	89	67
42	Busselton	222	41,906	×	90	
	ADELAIDE					
43	Port Pirie	228	14,297	×	88	
44	Port Augusta	309	14,125	×	91	
	HOBART					
45	Launceston	201	93,332	×	81	
46	Devonport	257	32,611	×	78	
47	Ulverstone	273	15,430	×	79	
48	Burnie-Wynyard	302	28,537	×	80	
	MEDIAN	265	30,574		79	
	TOTAL (ALL)			8		
	MEDIAN	211	28.049		80	

1. Regional centres are Australian Bureau of Statistics significant urban areas, defined as having a minimum 10,000 population.

2. Allows for a 15 minute rest period every two hours, as applicable.

3. Average route operating speed calculated from the median scheduled route service time. Some services include a coach segment.

4. Miles is included as, unusually if not uniquely for its population size, it has air service with the nearest state capital city.

Source: Potterton (forthcoming) and further analysis of operator schedules and Google Maps self-drive distances and travel times.

Close to capital cities, self-drive is a viable option for many non-routine or occasional trip purposes, including visiting friends and relatives, personal business including some health appointments and children's representative sport. However, it is not necessarily convenient for time-pressed and/or business (including personal business) travellers and professionals contributing to essential regional services. In particular, local councils interviewed for Potterton (2022) drew particular attention to the importance of air links – at both these and greater distances – to ensure attendance by capital city-based medical specialists on day return or other short trips.

As Table 2 shows, air fares are higher on a distance-standardised (per kilometre) basis on routes within 350 kilometres of a capital city than at greater distances: \$72 per 100 kilometres, as at February-March 2022, compared with \$46 per 100 kilometres from 350 to 999 kilometres and \$28 per 100 kilometres above 1,000 kilometres. High per kilometre fares at shorter distances reflect the well-recognised economics of airlines, where airport-related costs, including those arising from takeoff and landing, represent a larger share of the total costs of a shorter route than at longer distances. However, as self-drive is convenient for most household travel purposes at these distances, fare levels are of overall secondary concern only.

	200-349 km	350-999 km	1,000+ km	All routes
No. of routes	8	30	9	47
Fare \$ per 100 km (route median)	\$72	\$46	\$28	\$46
Fare \$ (route median)	\$157	\$173	\$362	\$179
No of operators (route average)	1.2	1.7	2.0	1.6

Table 2: Fares and number of operators, by distance band, capital city-regional centre routes, February-March 2022

Source: Potterton 2022 and further analysis of that paper's accompanying dataset.

It was further clear from Potterton (2022) that self-drive remains a relatively convenient option for much leisure and family travel at distances of at least 600 kilometres from a capital – for regional centres such as Rockhampton (644 kilometres from Brisbane) and Esperance (697 kilometres from Perth). At these distances, a relatively small travel time disadvantage compared to air can be offset by greater travel affordability and the associated advantage of, as one interviewee put it, "having something at the other end".

#### Beyond 1,000 kilometres from capital, the level of air fares is a dominant concern

While community concerns about the level of air fares increase with greater distance from a capital city, the research suggests that it is only at distances of beyond 1,000 kilometres from a capital city that it becomes a clearly dominant one.

At these distances, self-drive becomes costly in terms of time – potentially involving more than one day's travel each way – and also in financial terms, with accommodation and related costs en route. While air fares are lower on a distance standardised basis beyond 1,000 kilometres from a capital city, fares are nevertheless at their highest in absolute terms at the longest distances, as Table 2 above shows. In effect at these distances, the choice involves comparing two alternatives that are both costly for households, if differently so.

#### How does distance affect competition on smaller regional air routes?

Long distances on smaller regional air routes, combined with the modest load factors that are obtainable on mostly smaller aircraft – aircraft that are appropriate to the size of the markets but which lack opportunity for economies of traffic density – are key factors contributing to high absolute dollar air fares. As Table 3 (drawn from publicly available BITRE data) shows, average aircraft load factors on routes between capital cities and regional centres that are not also major tourism centres (eg Townsville, Cairns or Broome) are more than ten percentage points lower than on intercapital routes and on routes connecting those capital centres with major regional tourism centres. This reflects the more favourable tradeoffs between maximising passenger loads and maintaining service frequency that are available on these larger routes.

#### Table 3: Domestic passenger load factors, by route type and including number of operators per route, Australia 2021-22

Route type	No. routes	Median route road distance km	Revenue passengers m	Revenue passenger km m	Revenue passenger load factor
Intercapital (2 or more operators)	21	1,666	13.6	16,388.2	68.2%
Capital city-major regional tourism centre (2 or more operators)	21	1,629	9.0	10,774.9	68.3%
Capital city-other regional centre (2 or more operators)	18	633	3.1	2,286.8	58.7%
Capital city-other regional centre other regional centre-other regional centre (mostly 1 operator)	N/A	N/A	4.7	5,437.5	58.3%
TOTAL	N/A	N/A	30.4	34,887.5	66.6%

NOTE: BITRE 2022 reports route details of the top 60 domestic routes, where two or more airlines operate in competition. The capital city-major regional tourism centre grouping includes one route between two major tourism centres (Cairns-Gold Coast). BITRE has confirmed the 'mostly 1 operator' characterisation of routes between capital cities and other regional centres and between other regional centres (personal communication 21 November 2023).

Source: BITRE 2022, Google Maps (road distances) and submission analysis.

Air service competition, defined as the presence of more than one operator on a route, while desirable, is unable to overcome these considerations of airline economics and market size. The fact that regional routes of at least 1,000 kilometres to the state capital (and also to other nearer capitals, where applicable) average two operators per route, as shown in Table 2, compared to fewer than two operators on shorter routes, – where cross-modal 'competitive' pressures visavis self-drive are greater – attests to this reality. That is, given a two operator average, the routes that cover the longest distances and that exhibit the highest absolute dollar fares can hardly be said to be inherently uncompetitive.

#### What options are there to reduce air fares for centres over 1,000 kilometres from capital cities?

There are no easy answers to the challenge of providing affordable air services for smaller regional centres at very long distances from capital cities. Government regulatory settings in Queensland, New South Wales and Western Australia respond to each state's particular geographic circumstances in combining monopoly (single operator) route licensing with service subsidy and fare capping<sup>3</sup>, in circumstances where the alternative may be complete discontinuation of air service. However, Western Australia's recently introduced Regional Airfare Zone Cap scheme, developed in partnership with airlines, with its explicit acknowledgement of the role of distance, offers a new and slightly different model that other jurisdictions could also find relevant.

Under the scheme, the maximum fare for residents of regional centres living beyond 1,000 kilometres from Perth is reduced to \$299 and to \$199 for residents closer to Perth. In illustrative contrast, residents of Mount Isa (1,824 kilometres by road to Brisbane and 904 kilometres to Townsville) have access to Queensland government subsidised multi-stop air services to both Brisbane and Townsville, as well as to commercial, competitive non-stop services between Mount Isa and Brisbane. Despite these various alternatives – and the value that Mount Isa residents may place on choice and frequency – median fares on all services to Brisbane, as at November 2023, exceeded \$400.

#### Nearer capitals, 'milk run' routes, rather than larger centre 'hub' routes, connect to smaller centres

Compared to a decade ago, slightly fewer regional centres within 350 kilometres of their nearest capital city and with populations exceeding 10,000 have air services today to that city and no centre with a population below 10,000 has service. Regional centres losing service include Bathurst and Taree (both New South Wales) and Port Augusta (South Australia). Over a longer timeframe, numerous centres with

<sup>&</sup>lt;sup>3</sup> New South Wales has two single operator regulated routes and no subsidised and/or fare capped routes.

lesser populations at a greater distance from the capital city have also lost service: a 2014 NSW parliamentary inquiry into regional aviation cited 12 routes between NSW regional centres and Sydney that ceased between 2002 and 2014 (NSW Standing Committee on State Development 2014) <sup>4</sup>. Progressively improving road infrastructure conditions, together with a broadly deregulatory government policy stance, are likely principal contributing factors.

Where regional centres with populations below 10,000 that are not also major tourism centres have capital city air service today, they are often connected through 'milk run' type routes involving more than one stop and with the first stop often at a larger regional centre. NSW examples are Sydney-Moruya-Merimbula and Sydney-Parkes-Broken Hill. The Northern Territory has a subsidised 'Centre Run' route, connecting Darwin with Katherine, Tennant Creek and Alice Springs<sup>5</sup>. Queensland and Western Australia each have a number of multi-stop regulated and/or subsidised routes, including routes that connect to major regional centres that, with one exception, are over 1,000 kilometres from the capital city (Townsville and Cairns in Queensland, Geraldton, Broome and Kununurra in Western Australia).

Apart from the more distant four of these five centres<sup>6</sup>, there are no current instances where a 'regional hub' service model can be said to apply. Closer to capital cities, it is likely that the reality of the self-drive alternative to air travel precludes consideration of any hub-based service model, given the additional distance – due to a level of route indirectness – and the transfer time penalty that this model entails.

#### Close to capital cities, do airport regulatory settings affect regional air service availability?

Many factors influence whether or not a regional centre within 350 kilometres of the nearest capital city has air service to it. These include population size, the adequacy of alternative transport modes, particularly passenger rail and self-drive (the latter influenced by road infrastructure quality and congestion conditions) and potentially also airport access considerations, both regional and capital city.

Of five regional centres between 250 and 350 kilometres from Sydney, three have air links (Table 4). In contrast, only one of seven regional centres at this distance range from Melbourne has air service and none of Tasmania's three centres has service to Hobart. Importantly, all seven regional centres in the orbit of Melbourne have passenger rail service, in contrast to Sydney's two out of three and with those two comprising combined train and coach service – often less attractive to passengers – rather than train only. Also average self-drive speeds into and out of Melbourne are faster than corresponding regional centre-Sydney speeds. In Tasmania's case, Hobart's population is much smaller than those of other state capitals, with likely lower trip generating and trip attracting potential in consequence. Northern Tasmanian centres are also well served by air links to Melbourne.

Regional air services at Sydney Airport are unique in the legislated 'ring fence' that applies to peak period slots and which predates airport privatisation. In conjunction with capping of aeronautical service price increases, under Australian Competition and Consumer Commission Declaration, the ring fence has ensured that regional air service access to a major airport located close to the centre of Sydney has not eroded since the airport's privatisation, despite increasing capacity pressure at the airport and the lesser capacity to pay of services operated using small aircraft on routes many of which face stiff road-based competition.

<sup>&</sup>lt;sup>4</sup> Mudgee, one of the 12, has since seen air service restored.

<sup>&</sup>lt;sup>5</sup> Alice Springs' 2021 population was 28,601.

<sup>&</sup>lt;sup>6</sup> Geraldton (419 kilometres by road to Perth) is the starting point of a multi-stop subsidised service to Karratha, Port Hedland and Broome. However, Geraldton fails the 'hub' definition, as all three of the more distant centres have quicker, point-to-point air services to Perth.

Capital city	No. of regional centres 250-350km from capital	With air service	Median regional centre population 2021	Median route self-drive speed kph	Train speed kph (regional centres with train service)
Brisbane	3	2	19,331	75	58 (3/3)
Sydney	5	3	20,999	74	61 <i>(2/3*)</i>
Melbourne	7	1	22,478	83	72 (7/7)
Adelaide	1	0	14,125	91	
Hobart	3	0	28,537		
TOTAL	19	6	20,999	79	

#### Table 4: Regional centres 250 to 350 km from state capitals, air service and other modes, summary indicators

\*Combined train and coach service, rather than train only.

Source: As for Table 1.

With regard to the broader context and in contrast to the Sydney Airport situation, L.E.K. Consulting, in its report for the Aviation White Paper, recorded in a stakeholder consultation appendix that "*Regional operators frequently raised issues regarding airport pricing and accessibility. This issue extends to both regional and capital city airports ... Capital city airports are not incentivised to offer slots to regional airlines, leading to difficulty getting slots and high airport charges.*" In addition, the Productivity Commission (2019), in recommending a review of slot management at other capital city airports, reported comment from Rex Airlines about the absence of a domestic runway (slot) management scheme at Melbourne Airport and slot management rules at Brisbane Airport, each of which the airline considered not fair or equitable for regional aircraft.

A key question for the future, therefore, will be how to ensure that an expansion of short distance regional and general aviation aircraft movements that could result from technological innovation in pursuit of decarbonisation (battery, electric vertical take-off and landing, hydrogen and so on), as outlined in the Green Paper, is not held back by a shortfall in effective airport capacity in the capital cities and by any associated limitations in airport regulatory or management settings. This is especially so given that, as noted above, close to capital cities, there is not a precedent – and possibly not a business case – for airlines to use hub-based services that might, in principle, constrain demand for an increased number of regional aircraft movements at capital city airports.

#### How could electrification-driven growth in regional aviation be handled at capital city airports?

For the electrification opportunity to result in expansion of shorter distance regional air services, the aircraft involved will need to be able to operate at a lower total cost than existing aircraft. It appears by no means certain currently that this will be feasible. The Green Paper refers to such a future possibility for nine to 14 seat aircraft, while Rex has suggested that electric conversion retrofitting, as is currently being trialled, of its 34 seat aircraft fleet could reduce the operating costs of its existing fleet by 40 per cent (Nelson 2023). However, new – in contrast to retrofitted – electric aircraft would entail a capital cost that could offset at least some of the operating cost reduction, as L.E.K. Consulting points out. And an overall expansion of regional air services cannot eventuate without additional aircraft supply.

Nevertheless, with the sector's culture and history of innovation, growing government R&D support, in Australia as overseas and the community goodwill that low emission, low noise aircraft would likely engender, it could be unwise to 'bet against' the emergence of aircraft with a capability to provide cost-competitive public transport services between capital cities and closer regional centres.

As noted above, regional air services typically require peak period capital city airport access. This is because, as Rex Airlines (2019) puts it, "Government, business and medical related travel accounts for more than 80% of Rex's regional passenger demand" and "A further unique aspect of regional travel is that a large percentage of Government, business and medical related travellers undertake day-return travel in either direction". Convenient airport location is also important, given that much day return travel

originates in or is destined for central city areas and that lengthy airport-city and city-airport transfers are likely to deter it. WillPutting these various factors together, it is not entirely clear, with capacity pressures on Sydney and Melbourne airports – albeit with Melbourne planning a new runway – and also with Brisbane and Melbourne airports not required to provide preferential slot or pricing access for regional services, how the existing capital city major airport system might readily accommodate demand for expanded regional air service movements.

In addition, with capital city secondary airports, such as Bankstown, Archerfield and Essendon, well placed for upgrades to accommodate Australian Air Mobility aircraft, as L.E.K. Consulting reports and with general aviation activity, including flying training, emergency service and private flying, likely to be boosted by the lower noise aspect of battery powered aviation, there may be limited opportunity for additional regional public transport flights at these airports also.

It is therefore important, given lengthy airport planning and construction lead times, that any potential capacity shortfalls are recognised as early as possible and options to address the shortfalls, including through new airport locations, are identified. A recommended periodic (three yearly) Australian Government strategic review of regional air service access at capital city leased federal airports could provide this assessment.

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