



ACCESSING OUR AIRPORTS

INTEGRATING CITY TRANSPORT PLANNING
WITH GROWING AIR SERVICES DEMAND



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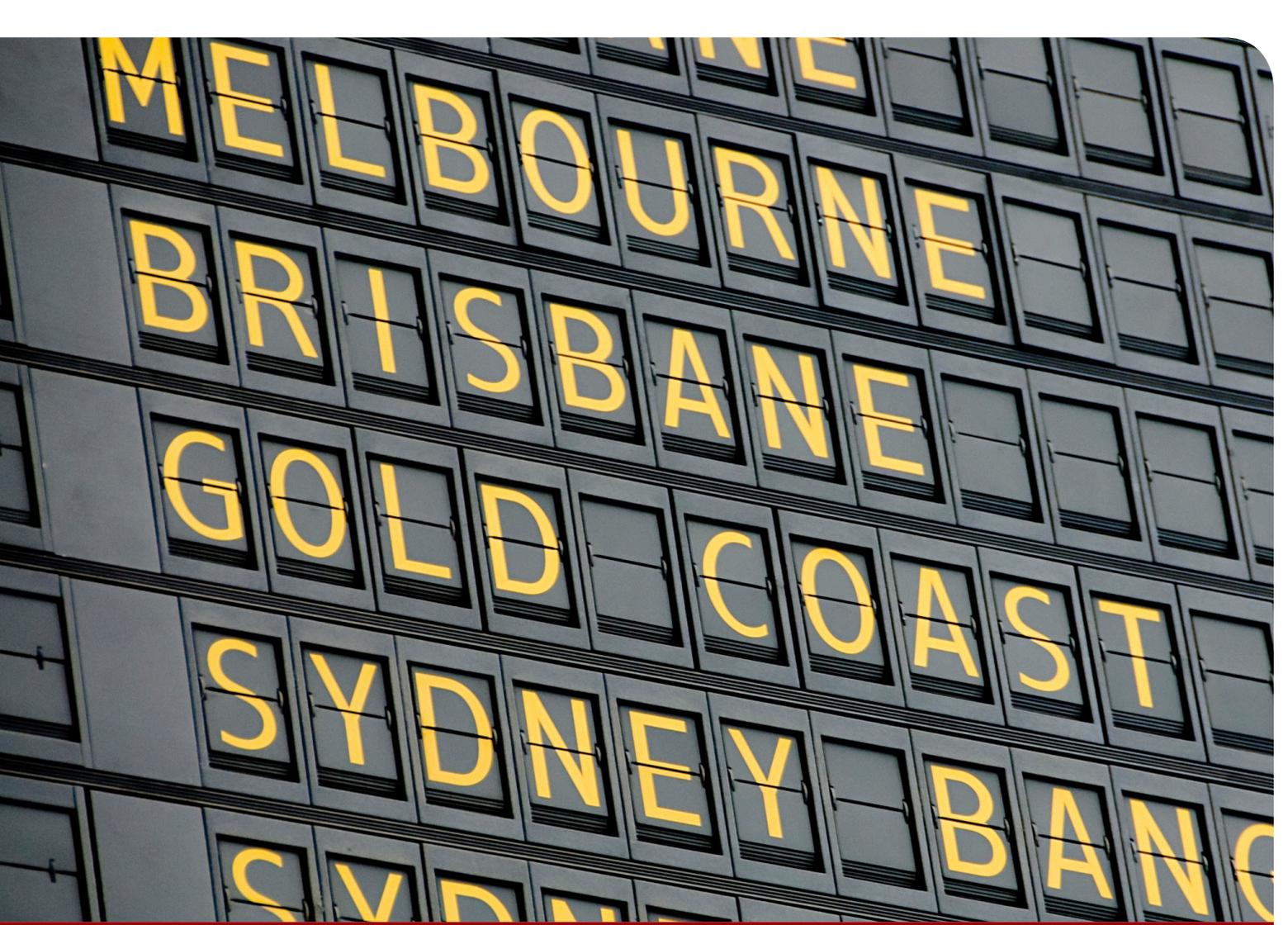
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EXECUTIVE
SUMMARY &
INTRODUCTION

EXECUTIVE SUMMARY

Australia's major airports are essential pieces of economic infrastructure, driving income, investment and employment at a local, state/territory and national level. Not only are airports hubs for domestic and international travellers and freight movements, but the workplace of tens of thousands of direct employees and a myriad of business. The sum total of the economic value of six of Australia's major airports is estimated at almost \$25 billion per annum - almost 2 per cent of Australian GDP¹.

Our airports are not silos. They are vital transport hubs operating in multi-layered local, state, national and international transport networks. Ensuring ease of access to our airports is therefore critical for the end-to-end value chain. Whether for business or leisure, a journey never ends at the airport.

At present, land transport access to our major airports is problematic. Planning and investment in land transport to airports has not kept pace with the rapid growth in airport passenger traffic over the last decade. Between 1999/00 and 2009/10, total airline passenger movements at the top 10 Australian airports grew almost four times faster than the Australian population.

In the past, the (false) perception was often that any state/territory government investment in land transport infrastructure - directly or indirectly related to airports - supported the airports' commercial interests. However, this class of land transport investment by state/territory government should be focused on supporting or facilitating the economic benefits associated with airport activity, as they accrue to the state/territory as a whole.

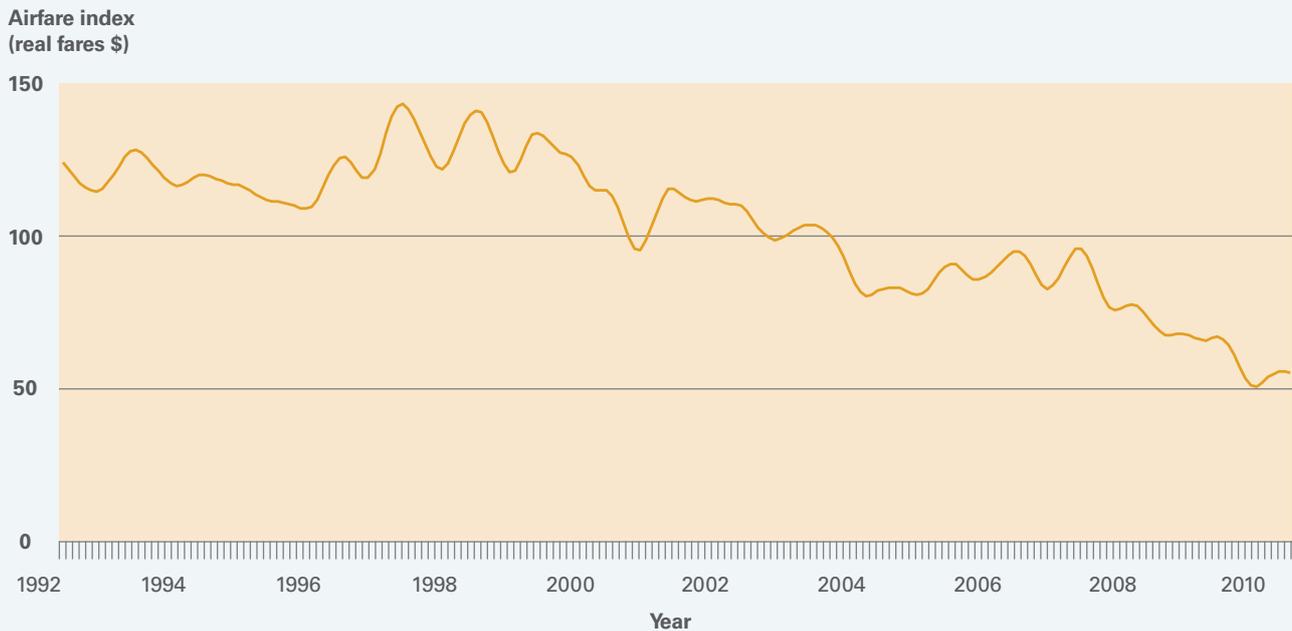
When investment has occurred, it has often fallen short of meeting the needs and requirements of both airline travellers and airport employees. The private vehicle is clearly the dominant mode used to access our airports; unsurprising considering many of our major airports have few transport access options. Transport demand around airports however, is not solely generated by the aviation sector - airports are often located beside key metropolitan arterial roads which carry heavy commuter traffic to the CBD. Urbanisation is also contributing to transport demand on the road networks surrounding airports. These factors have led to severe road congestion in and around airport precincts. In a number of cases, rapid airport traffic growth is exacerbating problems with existing bottlenecks, predominantly driven by these commuter and other non-airport traffic flows in our major cities' traffic networks, such as the M5 in Sydney, Tullamarine Freeway in Melbourne and Kingsford Smith Drive in Brisbane, Sir Donald Bradman Drive in Adelaide and the intersection of Horrie Miller Drive and Tonkin Highway in Perth.

The emergence of low cost carriers (LCCs) over the past decade has increased competition in the airline industry and opened up air travel to a price sensitive market that is similarly price sensitive in relation to land transport. The rapid growth of these low fare passengers is generating strong demand for lower cost ground transport options, exposing serious service and infrastructure gaps at some airports for modes not previously used (such as rail or bus). With discount domestic airfares typically less than \$100 (one way) on major domestic routes, airline passengers are looking for complementary budget land transport options to and from airports. In the period since the entry of Virgin Blue around a decade ago, best discount domestic air fares have halved in real terms as described in Figure 1. While Jetstar and Tiger have taken the lead in recent domestic airfare discounting, Qantas 'Red e-Deal' fares and Virgin Blue's 'Go Fares' and 'Blue Saver' also offer low airfares.

¹ Includes Sydney, Brisbane, Perth, Darwin, Newcastle and Bankstown Airport.

Figure 1

Best discount domestic air fare index
Oct 1992 - Oct 2010 monthly moving average¹⁴



Source: BITRE

A lack of long-term sustained investment in transport services to airports and a lack of integrated planning have been the precursors to the current state of affairs. There is little ownership of responsibility by government and little recognition of the role that transport to our major airports plays in wider city and national transport networks. With airports a federal responsibility and urban transport a state/territory responsibility, critical transport infrastructure to airports has all too often fallen through the cracks. The awareness of the importance of supporting growing and changing demand for land transport to airports, as a key facilitator of national economic growth, has not been adequately embraced by state and territory governments.

Without a comprehensive shift in the way we view airports and prioritise land transport access to them, these problems will only worsen. Official forecasts from the Bureau of Infrastructure, Transport and Regional Economics (BITRE) indicate that passenger movements at the capital city airports are expected to grow from 98.3 million in 2008/09 to 235 million by 2029/30. The forecast compound annual growth rate of 4.2 per cent is almost times the official forecast growth in Australia's population (1.5 per cent per annum) over this period.

This report reviews the land transport access to 12 major airports around Australia. It recognises that the key issues for land transport access to airports vary, with Sydney, Brisbane, Perth, Melbourne and Canberra having major commuter roads contributing traffic. This report identifies short, medium and long-term priority projects for improving land transport to each of the 12 airports following analyses of current access deficiencies and forecast growth in demand.

The release of this report comes shortly after the Parliament passed the *Airports Amendment Bill 2010*, which sets out new

requirements for each airport to develop a comprehensive land transport plan in their next five-year master plans. The report recognises that improved consultation by airports and land transport planning authorities will not in itself guarantee enhancements to land transport systems to airports. Rather, it will be critical that state and territory government land transport agencies recognise the rapid growth in land transport access demand for airports and prioritise resources to addressing the existing problems.

With the federal government re-engaging with state and local governments on the planning and development of cities (i.e. federal government reform program for 'Our Cities – building a productive, sustainable and liveable future'), now is the time to attain greater co-operation and co-ordination in the development of land transport access to Australia's major airports. Through the establishment of Infrastructure Australia and the creation of a new discourse about "projects of national significance", the federal government has created a new framework for assessing the cost and benefits of projects and opportunities for state/ territory governments to tap into new sources of funding.

This report also argues for increased Federal government involvement in the planning of and investment in transport links to airports. While state and territory governments retain the core responsibility to deliver transport outcomes, it argues that selected land transport projects to airports should be a priority for joint funding from the commonwealth under Infrastructure Australia (assessed on a case-by-case basis). Furthermore, airports and access to them should be at the forefront of the Council of Australian Government's (COAG's) major cities planning reform agenda, aligning land use and transport planning.

INTRODUCTION

Land transport considerations are a critical element of the airport value chain

Australia's major airports are a conduit for the significant economic benefits accrued at a state/territory and national economic level associated with passenger and freight movements. Aviation improves productivity of the wider economy by establishing international connectivity, strengthening countries' ability to trade and attracting inward investment. These benefits can only be safeguarded if all elements of the value chain are addressed – including airport land transport considerations.

Land transport provision at 12 airports around Australia was examined, including nine metropolitan (Sydney, Melbourne, Brisbane, Adelaide, Perth, Hobart, Canberra, Darwin and Gold Coast), two regional (Cairns and Newcastle) and one general aviation airport (Bankstown).

The demands on transport infrastructure and services to support airports will continue to grow

Land transport demand to major Australian airports has been underpinned by strong, sustained passenger and freight movement growth. This will continue, not only based on available airport traffic forecasts but by growth in non-aeronautical activities such as office accommodation, and commercial and retail activity. Moreover, key roads around airports were often regional roads acting as major traffic arterials before the airports grew. This was part of the reason airports were located in certain areas and highlights the significant volumes of non-airport traffic that use the road network surrounding the airports.

The changing role of airports and aviation markets are influencing the demand for airport access

Traditionally, groups accessing airports could be disaggregated into three primary segments:

- 1 Air passengers;
- 2 Passenger 'meeters and greeters' and 'see offs'; and
- 3 Airport employees and visitors tied to air passenger and freight activity.

A further segment is emerging unrelated to aeronautical activity, consisting of local residents using airport business or leisure facilities. This category has vastly different transport access needs to passengers and employees travelling to and from the airports.

In addition, the emergence of low cost carriers over the past decade has increased competition in the airline industry and seen growth in air travel by price sensitive travellers who are similarly price sensitive in relation to land transport modes.

The low fare passengers have contributed to a growing market of air travellers for whom a primary driver of airport access mode choice is price.

The private car dominates trips to airports and the need for improved public transport is growing

The private car is the dominant mode used to access all our major airports. On average over six in every ten passengers use a private vehicle to access airports. Perth (82 per cent), Bankstown (80 per cent) and Hobart (71 per cent) have the highest private vehicle share of the airports reviewed.

Airports recognise that appropriate public transport (e.g. frequent and direct services) needs to play a more significant role in meeting land transport demands. Airports continue to work with their respective state/territory governments to achieve this outcome. For example, Sydney Airport has targeted a public transport mode share increase from 15 per cent to 20 per cent by 2024, while Bankstown has a targeted public transport mode share of 10 per cent. The current paradigms of how public transport is defined should also be critically reviewed. In many cases, the provision of public transport options is hindered by dispersed catchments of demand (i.e. demand not being sufficiently concentrated). Public transport options that provide high-quality, regular, smaller size point-to-point bus shuttle services could play a role in increasing access efficiency and lowering the dependence on the private car (as compared with a heavy rail link, for example). The dominance of private car trips to airports further highlights the need for continued investment (and timely investment) in road infrastructure surrounding our airports.

Four key themes were identified through our airport-by-airport review of land transport issues

- 1 The overwhelming reliance on the private car and taxi as a land transport mode has and continues to create issues for our airport; and is further accentuated by a lack of (timely) investment in the surrounding road infrastructure;
- 2 Coordinated land transport planning with local and state/territory governments is vital;
- 3 Public transport services need improvement with recent enhancements experiencing mixed success; and
- 4 The key impediments to increased public transport use reflect a mix of price and service-related issues.



1.0 AIRPORTS IN AUSTRALIA

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1.1 Airports are significant economic drivers

Australia's major airports underpin a significant economic footprint – airports enhance productivity and provide wider economic benefits that accrue at a state/territory and national level. The direct and indirect economic activity generated by six airports examined in this report is estimated to be almost \$25 billion per annum, which represents approximately two per cent of Australian GDP. The estimated contribution of each airport (either direct or direct and indirect) is detailed in Table 1 below.

Table 1
Airports' economic contribution²

Airport	Economic Contribution per Annum (Billions)	Year Reported
Adelaide	\$1.6**	2008
Bankstown	\$1.38*	2010
Brisbane	\$4.6**	2009
Darwin	\$0.33**	2009
Newcastle	\$0.47*	2008
Perth	\$1.4*	2009
Sydney	\$16.5**	2009

Note: *The implied value is direct economic contribution, **The implied value is direct and indirect economic contribution. It is suggested that there should be a standardised approach to estimating economic contribution of major Australian airports.

These economic benefits generated by airports will be eroded without a focused directive from state and territory governments to provide for efficient land transport to and from Australian airports. The NSW Government supported this view as articulated in their Infrastructure Audit Submission to Infrastructure Australia:

"The proposed M4 extension and M5 expansion would provide additional road infrastructure capacity to support Port Botany and Sydney Airport to alleviate congestion on Sydney's key freight arteries. ... If the transport network around the Airport and Port Botany is not improved, congestion will limit the level of economic benefits generated from these two precincts with negative ramifications for the NSW economy and the national economy."³

2 Sydney Airport Master Plan 2009, Brisbane Airport Master Plan 2009, Perth Airport Master Plan 2009, Darwin Preliminary Master Plan 2009, Newcastle Airport economic impact analysis 2008 and Bankstown Airport Preliminary Master Plan 2010.

3 NSW Government, Infrastructure Audit Submission to Infrastructure Australia, 2008

Airports also support a significant number of employees and have ties to an extensive number of local businesses. Some of the wider economic impacts of Sydney, Melbourne and Brisbane airports are described below:

Sydney Airport:

- Supports more than 206,000 jobs (direct and indirect jobs) or about six per cent of Sydney's workforce;
- Has ties to an estimated 650 local businesses involved in activities related to the movement of passengers and freight through the airport⁴.

Melbourne Airport:

- Accommodates more than 150 businesses and employs more than 12,500 people; and
- Facilitates the movement of passengers, which generates an overall economic impact to tourism of \$10.9 billion per annum⁵.

Brisbane Airport:

- Provides more than 16,000 full time equivalent jobs; and
- Including wider flow-on effects, Brisbane Airport supports an estimated \$4.6 billion in output to the Australian economy⁶.

It is therefore imperative that airports are supported by land transport infrastructure and services that both safeguard and support growth in these benefits, in line with growth in both aeronautical and non-aeronautical activity.

1.2 The role of airports in a productive and sustainable future

The Federal Department of Infrastructure and Transport recently released a national urban policy discussion paper titled *Our Cities – building a productive, sustainable and liveable future*. The paper establishes national directives and objectives for Australian cities focused on improving the productivity, sustainability and liveability of our cities. In order to realise the productive capacity of our cities, the federal government aims to invest in quality and efficient infrastructure, including transport. The paper specifically recognised that airports, roads and railways are fundamental for economic growth and that relationships between state/territory and local governments are central to the efficient provision and use of national infrastructure. The paper highlighted that population growth has further emphasised the need for governments to invest in road and rail networks and acknowledged that well planned and managed transport infrastructure – namely airports - are fundamental economic gateways that support national productivity.

4 URS, Sydney Airport Economic Impact, 2009

5 SKM, The Economic Impact of Melbourne Airport, 2008

6 Brisbane Airport 2009 Master Plan, 2009

1.3 Our airport landscape in 20 years

With population growth pressures and expected increases in demand for air travel services, the need for efficient land transport to our airports is apparent. Forecasts suggest growth in air passenger movements through our capital city airports will continue to be strong over the next 20 years. BITRE (2010) estimated passenger movements through eight capital city airports in Australia will increase by 4.2 per cent per annum between 2008/09 and 2029/30.⁷ This suggests that passenger movements will grow from 98.3 million in 2008/09 to 235 million in 2029/30.

Brisbane and Perth Airports are expected to have the highest passenger growth rates of capital city airports over the next 20 years of 4.9 per cent and 4.7 per cent respectively. Sydney and Melbourne will continue to have the highest number of passenger movements, with Sydney Airport throughput to reach almost 73 million and Melbourne Airport passenger movement to reach almost 58 million in 2029/30.

Table 2

Forecast air passenger movements and long-term growth rates

Airport	Passenger movements 2029/30	20 year Growth Rates
Adelaide	14.1 million	3.5%
Brisbane	51.2 million	4.9%
Cairns	8.6 million	4.3%
Canberra	7.3 million	4.2%
Darwin	4.1 million	4.4%
Gold Coast	11.0 million*	5.0%
Hobart	3.9 million	3.5%
Melbourne	57.7 million	4.2%
Newcastle	3.5 million**	6.0%
Perth	24.8 million	4.7%
Sydney	72.9 million	4.0%

Source: BITRE Data. Note: *Provided by Gold Coast Airport, **Provided by Newcastle Airport. All numbers are rounded to 1 decimal place.

There are numerous overseas examples of airports that are currently handling the passenger movements that Australian airports are expected to experience in 20 years. These examples are useful to reflect on land transport currently servicing the airports and the potential future requirements for Australian airports (e.g. Perth Airport may require a heavy rail link in 15-20 years' time). Examples of these include:

- London Heathrow has passenger throughput of 66 million, which is similar to the 72.9 million forecast passenger movements at Sydney Airport in 2029/30;
- Charles de Gaulle Airport in Paris currently caters for an estimated 57.9 million passengers, which is similar to the throughput forecast for Melbourne Airport (57.7 million in 2029/30); and

- An estimated 24.2 million passengers pass through Mexico City International Airport (Benito Juarez International Airport), which is similar to forecast passenger movements at Perth Airport of 24.8 million in 2029/30.

Australian airports and state/territory governments will have to respond to growth in demand for airport travel with quality airport land transport and offer appropriate public transport alternatives which are competitive on price, quality and travel times.

1.4 Changing dynamic of airports

The dynamics of airports around Australia are shifting. It is widely recognised that airports are developing a broad range of commercial activities which need to be seen as fundamental to the health of an airport as a business. As airports become increasingly important trip attractors and generators across multiple economic activities, airports need to be an integral part of an overall transport planning network (i.e. multi-modal centres of activity) with air, port, road and rail access available.

1.5 Transition from government ownership

Between 1997 and 2003, the operations of 22 commonwealth-owned Australian airports were privatised. Long-term airport leases (i.e. 50-years with an option to renew) were made available, subject to majority Australian ownership and limits on airline ownership and cross-airport ownership. Similarly, Cairns Airport was subsequently privatised by the Queensland Government in 2008 under a 99-year lease.

1.6 Policy and governance frameworks

The commonwealth *Airports Act 1996* regulates all planning and development on Commonwealth airports including land transport planning. However, state/territory and local governments are responsible for transport planning for surrounding areas. Cairns Airport is regulated by the *Airport Assets (Restructuring and Disposal) Act 2008*. The existing commonwealth planning framework, as described by the *Airports Act 1996*, details key processes required to be undertaken by commonwealth leased airports including:

- **Master Plans:** creation of a 20-year strategic vision for an airport site including future land uses, types of permitted development and other environmental impacts;
- **Major Development Plans:** gaining approval for specified developments above \$20 million including new terminal capacity, road and rail developments, and developments with significant environmental impact; and
- **Development Applications:** obtaining approval for buildings, activities, construction of works and demolitions with regard to conformity of master plans and major development plans.

⁷ Includes Sydney, Melbourne, Brisbane, Canberra, Hobart, Perth, Adelaide and Darwin.

State, territory and local governments have expressed concerns with the planning framework of the Airports Act 1996. It has been suggested that leased airports around Australia are not sufficiently integrated with the local planning laws of surrounding areas. The commonwealth government National Aviation Policy White Paper released in late 2009 specifically addressed this issue. The White Paper consolidated aviation policy, providing direction for planning, regulation and investment for the aviation industry out to 2020 and beyond⁸.

The strategic focus of the White Paper detailed the commonwealth's commitment to:

- Provide industry the certainty and incentives to plan and invest for the long term;
- Improve planning and integrated development on and around airports;
- Strengthen aviation safety and security;
- Develop a multi-level policy framework - across international, domestic, regional and general aviation - through skills and productivity improvements; and
- Lessen the adverse impacts of aviation activity on the environment and surrounding communities.

To capture recommendations for reform of airport planning process in the Airports Act 1996, The Airports Amendment Bill 2010 was reintroduced to the parliament of Australia following the August 2010 Federal election. The Airports Amendment Bill was passed by the Parliament on 29 November 2010.

The Airports Amendment Act 2010 addresses the disconnect between airport land transport planning, and the extent of involvement from State/Territory and Local Governments through amending the requirements for airport master planning. The Act requires that the master plan include an airport landside land transport system for the first five years. Further detail on the framework for future land transport planning for airports is provided later in this report under Section 2: Airport Land Transport.

Although the previous airport governance framework (i.e. *Airports Act 1996*) did not prescribe land transport planning forums between airports and state/territory governments, some airports have built strong working relationships with state/territory governments. However, without formal or legislated land transport planning requirements (i.e. land transport plans and forums), airport land transport lacked the focus it deserves. Moreover, without delineated responsibilities for planning and funding, land transport plans will risk being overlooked.

By including a much greater analysis of land transport in airport master plans, the Act helps to identify challenges for state/territory government agencies and should deliver a better integration of land and air transport development.

As land transport services are beyond the control of airport operators and the commonwealth government, the preparation of land transport plans in master plans will require airports to rely on information provided by state, territory and local governments detailing their future intentions for changes to connecting landside road networks and/or public transport systems.

1.7 Who is responsible for what?

The responsibility to deliver and fund projects is primarily assessed on geographic boundaries. Airports have a responsibility to fund projects within their airport boundary and state/territory governments (and in some cases Infrastructure Australia or local councils), have a responsibility to fund projects outside the airport boundary.

However, it is important to recognise that while planning and funding responsibilities may be defined by geographic boundaries, actual land transport impacts will manifest themselves across the wider transport network. A failure to react to airport traffic demand in state/territory agency planning has and will continue to have flow-on effects to the wider transport network if this issue is not addressed (i.e. as demonstrated with the M5 in Sydney, Tullamarine Freeway in Melbourne and Kingsford Smith Drive in Brisbane). A failure to invest in arterial roads in the vicinity of airports that are becoming congested through the usual demands from urban growth will also impede airport connectivity.

Airports and government bodies (federal, state/territory and local) all have a role to play in improving current land transport planning relationships. It is evident that forward thinking land transport planning and collaborative dealings with governments will produce better land transport outcomes. This may be achieved through a variety of activities including:

- A clear mandate or demonstrated leadership for land transport planning at a federal government level – recognising the need to protect the economic benefits that accrue to state/territory and the national economy;
- Planning Coordination Forums (PCFs) to encourage improvements in strategic partnerships between airport operators, land use planning and transport planning authorities from state and local governments; and
- Clear delineation of planning responsibilities.

While a collaborative approach to land transport planning between airports and government is essential, Infrastructure Australia⁹ has clearly highlighted the responsibility for land transport infrastructure planning and provision by each tier of government, including:

- **Federal government:**
 - Railways (shared); and
 - National and local roads (shared).
- **State/territory government:**
 - Railways (shared);
 - Urban, rural and local roads (shared); and
 - Public transport.
- **Local government:**
 - Local roads (shared).

The responsibility for providing ground transport infrastructure therefore lies primarily with state/territory governments, although the federal government, through Infrastructure Australia, could play an increasingly active role in terms of planning and funding.

8 Department of Infrastructure, Transport, Regional Development and Local Government, 'A National Aviation Policy Statement – the Aviation White Paper' 2009

9 Infrastructure Australia, A Report to the Council of Australian Governments, December 2008



2.0

AIRPORT LAND TRANSPORT

2.0

AIRPORT LAND TRANSPORT

Airports have a critical role in the ongoing prosperity of the Australian economy. Ensuring efficient and effective provision of land transport to and from Australian airports is fundamental to supporting economic growth, enhancing productivity and employment. The productivity benefits cannot be fully realised if land transport is inadequate and does not cater for the level of demand and the customer type (i.e. passenger, freight movement, employees and other visitors).

2.1 What is available now?

Land transport at 12 airports around Australia was examined as part of this report. The review included metropolitan (Sydney, Brisbane, Melbourne, Adelaide, Perth, Canberra, Darwin, Hobart and Gold Coast), regional (Cairns and Newcastle) and general aviation (Bankstown) airports, as described in Figure 2.

The review involved conducting primary market research through formal interviews with airport representatives and secondary market research through desktop research and analysis. Airport interviews were conducted in July and August 2010. To complement the interviews, desktop research was undertaken to review master plans, land transport surveys and other strategic land transport documentation.

Our analysis was consolidated around four key themes:

- Land transport availability and mode share;
- Land transport pricing;
- The changing access needs of air travellers; and
- Land transport planning.

2.2 Land transport availability and mode share

Figure 3 summarises land transport availability and mode share at each of the airports reviewed. It shows that the private vehicle (i.e. self drive/park or pick-up – drop-off) is the dominant and preferred means of accessing all airports, with around 60 per cent of air passengers using a private vehicle on average to access airports. Perth (82 per cent) and Bankstown (80 per cent) have the highest private vehicle mode share of the airports reviewed. In most cases the self drive and park mode share exceeds the pick-up – drop-off market share. Airports around Australia have and continue to provide strong support for private vehicle transport with all airports reviewed providing significant on-site parking facilities. These parking facilities are typically differentiated on price and service criteria (i.e. premium or standard), according to length of stay as well as providing pick-up and set down areas.

Figure 2
Airports studied



Source: Booz & Company

Private vehicle

Current mode share data confirms that the private car is the dominant mode used to access all our major airports. However, major airports are taking steps to mitigate this. Airports advocate a variety of land transport modes to support passenger and employees accessing the airport. This is exemplified by Sydney and Bankstown, for instance, where targeted increases for public transport mode share have been set in recognition that sustainable airport land transport cannot be met by the same level of reliance on private vehicle movements in the future.

The predominant use of private vehicles to access airports is a function of many factors including the supply of parking facilities available (i.e. capacity both on-site and off-site), the quality and range of car parking facilities offered (i.e. premium versus non-premium) and the price and availability of alternative transport.

Another factor supporting the use of private vehicles accessing the airports is the provision of free kerbside drop-off and pick-up. The drop-off and pick-up facilities are a key asset of any airport and the future management of such assets needs to be considered. In some cases, private vehicles get priority over mass transit (i.e. bus) for kerbside space at

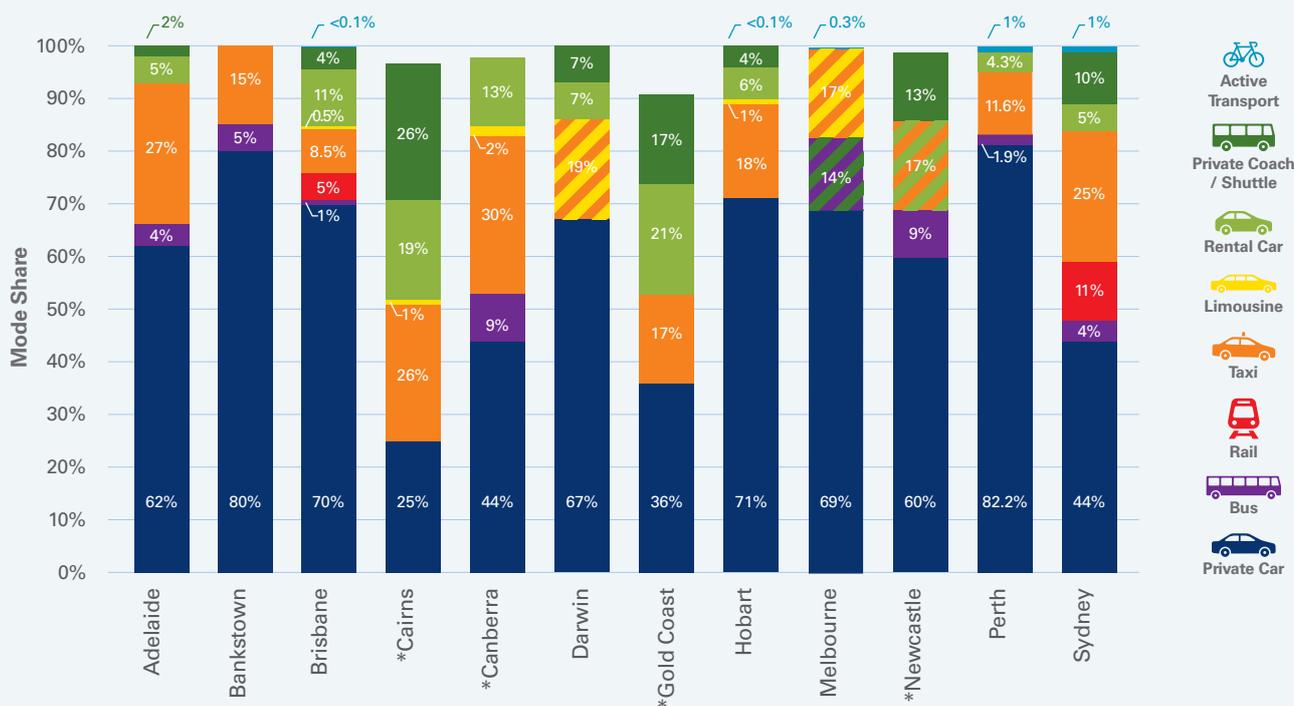
airports. Free drop-off and pick-up facilities at airports further encourages private vehicle access to the airport and provides a disincentive for modal shift to more sustainable modes such as public transport.

Sustaining growth in private vehicle access to airports will require expansion of existing car parking facilities or the development of new on-site car parking. For many airports – including Melbourne, Perth, Canberra, Darwin, Gold Coast and Cairns – there is land available to further develop car parking facilities. However, for Sydney (international and domestic terminal precincts) and Newcastle Airports, land availability to develop new car parking facilities is limited and therefore the only option for expansion will be to develop multi-storey parking.

Sufficient road infrastructure surrounding the airports also needs to be provided to support both commuter (non-airport) and airport (i.e. staff and passenger) vehicle traffic. The road networks surrounding airports have a significant share of CBD commuter traffic (e.g. Sydney M5). Moreover, as demand for air travel grows, the airport contribution of vehicle traffic to the surrounding road network will also increase – however airport traffic might have more potential to shift to public transport if viable options are available.

Figure 3

Land transport availability and mode share



* Mode share does not equal 100 per cent due to rounding. In addition, Gold Coast figures were calculated with reference to a base patronage figure that includes transfer passengers not using ground transport. Notes: 1. Melbourne Airport private car share includes drop-off and pick-up, onsite and offsite parking and rental car shares. 2. Private Car mode for Perth includes drop-off and pick-up, onsite and offsite parking, fast track and valet parking. 3. Newcastle Airport mode share consists only of the Greater Newcastle mode splits. 4. Sydney Airport 'Private Coach / Shuttle Services' share refers to Minibus service. 5. Perth Airport Bus mode share data represents public transport mode share to the domestic terminal only. 6. Taxi mode share for Darwin and Melbourne comprise of taxi and limousine mode share. 7. Taxi mode share for Newcastle includes taxi and rental car mode share. 8. Brisbane Rail mode share is 5 per cent airport wide and 10.5 per cent of mode share at terminals. 9. Melbourne taxi mode share includes taxi and limousine mode share.

Figure 4

Comparison of airport and CBD employee journey to work mode share



Source: Relevant Airport Master Plans, NSW Household Travel Survey 2006, Ministry of Transport CBD Mobility Forum 2009. Notes: 1. The size of the bubbles reflects relative number of workers employed at the airport and CBD; 2. Data only accounts for private vehicle and public transport mode share (i.e. does not add up to 100 per cent).

State and territory governments are responsible for delivering adequate road infrastructure. Negative externalities, such as road congestion, that form from insufficient road infrastructure are fundamental metropolitan issues that can impact on the economic productivity of a state or territory.

The capacity to drive mode choice changes from private car to public transport (for both passenger and employee market segments), clearly rests on the provision of competitively priced public transport services that offer high frequency, reliable and comfortable services to the respective city centres and other key airport trip generators.

Figure 4 shows journey to work mode-share split by private vehicle and public transport for the airport employee market and the CBD employee market at the three largest airports (i.e. Sydney, Melbourne and Brisbane).

It is apparent that airport employees at these three airports are highly reliant on private vehicles to access their workplace. The greater propensity for Sydneysiders to use public transport for the journey to work is reflected in both the CBD and airport employment markets – the latter result being somewhat surprising given the reliance on heavy rail and the absence of regular route bus services to the employee catchment area.

Another key issue is the increase in road traffic congestion caused by ‘meeters and greeters’. When friends and relatives drop-off (or pick-up) an air traveller, this entails a vehicle trip to and from the airport. In contrast, use of airport parking facilities or taxis involves only one vehicle trip. For this reason, reducing reliance on friends and relatives drop-off (or pick-up) can have a larger impact on reducing traffic congestion on major roads to the airport.

There are a number of impediments to increasing public transport mode share – and these vary on an airport-by-airport basis.

How does public transport to our airports compare?

The provision of mass transit to access airports around Australia will become increasingly important as we respond to the challenges of worsening road congestion and its impact on travel time and travel time reliability. The development and success of airport mass transit has been demonstrated around the world (e.g. Heathrow, Hong Kong). However, there is an inherent cultural difference between Australians and the rest of the world in terms of attitude towards public transport usage. Cities across Europe, the United Kingdom and Asia have demonstrated that best practice land transport and achievement of high public transport mode shares is based on an array of key drivers, including:

- **Availability of public transport (i.e. primary driver);**
- **Competitiveness of public transport on service standards including:**
 - Travel time and reliability;
 - Quality (e.g. luggage racks, frequency);
 - Direct access to the city centre; and
 - Branding.

Figure 5 describes the level of service quality and the related high public transport mode shares experienced by airports across the United Kingdom, Europe and Asia. The degree of service quality across dimensions of frequency (i.e. 15 minute headways), luggage provision, direct access to the city centre, travel time advantages and strong branding, highlights why international airports are achieving public transport mode shares of between 38-60 per cent. Reflecting on public transport options available in Sydney, Melbourne and Brisbane, it is obvious that public

Figure 5

Best practice public transport access to airports

SERVICE QUALITIES							
Country/Region	Airport	High Frequency Timetables (≤ 15 min headways)	Extra Luggage Provision	Direct Access to City Centre	Strong Branding	Journey Time Advantages	~PT Mode Share
United Kingdom	Heathrow	●	●	●	●	●	38 per cent
	Gatwick	●	●	●	●	●	36 per cent
	Stansted	●	●	●	●	●	47 per cent
Europe	Oslo	●	●	●	●	●	62 per cent
	Geneva	●	●	●	●	●	45 per cent
Asia	Hong Kong	●	●	●	●	●	60 per cent
	Tokyo	●	●	●	●	●	60 per cent
Australia	Sydney	●	●	●	●	●	11 per cent*
	Melbourne	●	●	●	●	●	14 per cent
	Brisbane	●	●	●	●	●	5 per cent

● Meets Service Quality Level ● Service Quality Level Occasionally Met ● Does not meet Service Level

Source: Booz & Company based on Heathrow Civil Aviation Authority Passenger Survey Report, Note: * mode share refers only to Sydney Airport Link.

transport to major Australian airports performs relatively poorly on frequency, luggage provision, journey time advantages and direct access to the city centre. In addition to planning for the availability of public transport options to access airports, state and territory governments should address the level of service quality provided by these services (e.g. rolling stock quality and amenity).

Bus

The average public transport bus mode share for the reviewed airports is 5.8 per cent. Melbourne, Newcastle and Canberra perform above the group average with mode shares of 14 per cent, 9 per cent and 9 per cent respectively.

Heavy rail

Sydney and Brisbane are the only two airports that offer heavy rail services to and from the airport. In both case, these services have operated for about a decade. The incoming Victorian Government has signalled a higher priority for plans to introduce a heavy rail link to Melbourne Airport. Moreover, a light rail link via Sydney Airport was recently proposed in December 2010 by EcoTransit Sydney as a cheaper alternative to the M5 East tollway expansion.

After both initially struggling to capture market share, Sydney's 'Airport Link' has now achieved a mode share of around 11 per cent while Brisbane's 'Airtrain' has achieved an airport wide (i.e. all movements) mode share of around 5 per cent¹⁰.

Taxis

For the majority of airports reviewed, taxis hold the second highest mode share. Canberra (30 per cent) has the highest taxi

mode share followed by Adelaide (27 per cent) and Cairns (26 per cent). The average taxi mode share exceeds 19 per cent. Half of the airports examined have a taxi mode share equal to or above the group average including Canberra, Adelaide, Cairns, Sydney, Hobart and Darwin.

Rental cars

The Gold Coast Airport has the highest rental car market share (21 per cent) followed by Cairns Airport (19 per cent) and Canberra Airport (13 per cent). Of the reviewed airports, Perth (4 per cent) has the lowest rental car mode share. The average rental car mode share for the airports examined exceeds 10 per cent, while the mode share at the Gold Coast, Cairns, Canberra and Brisbane Airports all exceed the group average. Notably, the rental car mode shares at the Gold Coast Airport (i.e. 21 per cent) and Brisbane Airport (11 per cent) exceed the taxi mode share by 4 per cent and 2.5 per cent respectively.

Active transport

Active transport (i.e. designated cycle or pedestrian paths) to airports is becoming increasingly important as a land transport option. With growing numbers of commuters working at or around airports, airports are becoming increasingly aware of the need to provide quality active transport (e.g. cycle paths with lighting). As expected, mode share for active transport is relatively low and, in most cases, not substantial enough to report. Sydney Airport has the most substantial active transport mode share reported at 1 per cent. Perth (<1 per cent), Melbourne (0.03 per cent), Brisbane (<0.01 per cent) and Hobart (<0.01 per cent) all identify relatively insignificant active transport mode shares.

10 Note: 5 per cent Airtrain mode share is reported for airport wide mode share. Airtrain mode share at the terminals is 10.5 per cent.

2.3 Land transport pricing

Land transport prices vary widely across Australian airports. Land transport pricing is a function of many factors such as availability of alternatives, distance to the CBD and other service-related factors (service frequency, reliability etc). On a dollar per kilometre basis for a journey from the CBD, Sydney has the most expensive land transport for both public transport (\$1.90 per km for heavy rail) and taxi fares (\$6.30 per km). The Gold Coast Airport has the lowest priced public transport with a fare of \$0.30 per kilometre for its route bus service. Darwin Airport has the lowest taxi fares with an average fare to the CBD of \$2.10 per kilometre.

Of the reviewed airports, Sydney and Perth have taxi fares above the group average of \$3.01 per kilometre. The Brisbane Airport taxi fare per kilometre is equal to the group average, while all other airports fall below the average taxi fare per kilometre. Similarly, Sydney, Perth, Adelaide and Cairns have public transport fares which exceed the group average of \$1.10 per kilometre. Canberra has public transport fares equal to the per kilometre group average, whereas all other airports fall below the average.

Public transport services for those airports further from the CBD tend to have a lower fare per kilometre than airports located closest to the CBD. Of those airports positioned far from the CBD, the average public transport fare per kilometre ranges from \$0.70 to \$0.90 (i.e. Melbourne, Newcastle, Gold Coast and Hobart), as compared with those airports closer to the CBD, such as Adelaide, Cairns, Canberra and Sydney which offer public transport fares between \$1.40 to \$1.90 per kilometre.

Figure 6 shows the ratio of the lowest priced land transport option (i.e. public transport or shuttle bus) to the relevant CBD taxi fare for each city. This provides an indication of the extent to which available land transport options meet the price points of distinct market segments. It shows that the Gold Coast clearly has the

most competitively priced alternative to a taxi (i.e. a public route bus to Surfers Paradise at approximately 11 per cent of the cost of a taxi). This reflects that it is not possible to catch a standard route bus at suburban fares from the airport to the CBD in any of the other cities analysed. For the most part, a public transport option or shuttle bus is available at between 30 per cent and 50 per cent of the price of a taxi.

2.4 The changing access needs of travellers to airports

Airport land transport needs are influenced by two key components – customer type (market segmentation) and the relative importance of price and service characteristics offered by available land transport.

Typically, the airport land transport market has been disaggregated into three primary segments:

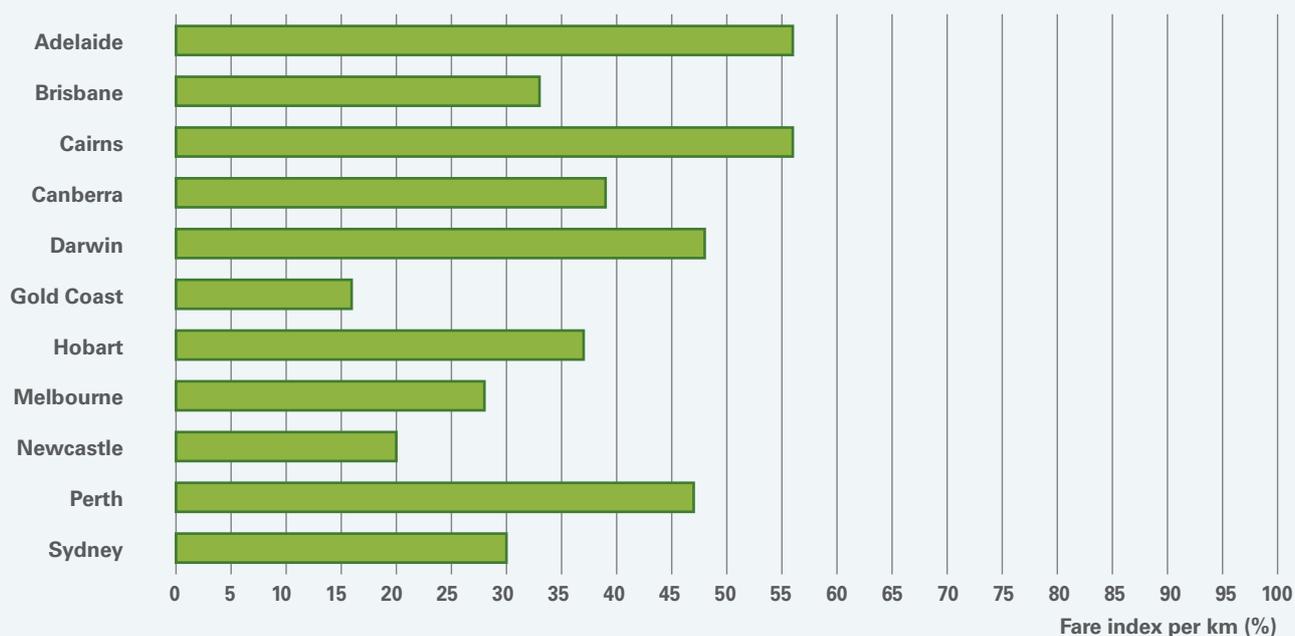
- **Air passengers**
 - Non-business travel (i.e. holiday and leisure and visiting friends and relatives);
 - Business travel
- **Passenger 'meeters and greeters' and 'see-offs'; and**
- **Airport employees.**

These can be further disaggregated to align with the primary drivers of different choices of transport mode, namely trip purpose, luggage, who pays for the trip, and party size. These segments can then be aligned with price and service attributes (availability, price, journey time, reliability and other service related factors). It is the interaction of the market segments with mode choice characteristics that drives land transport mode shares.

Figure 6

Land transport fare index per km

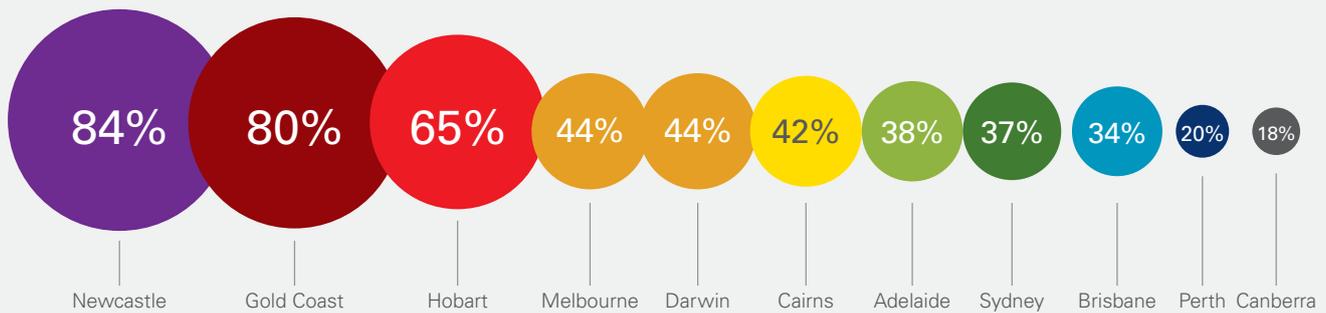
Public transport and shuttle bus fares as a proportion of taxi fares



Source: Booz & Company. Notes: 1. Average taxi fare used as an average fare between peak and off-peak periods; 2. The fare does not account for significant road congestion caused by a road incident.

Figure 7

Estimated domestic low fare passengers as a proportion of total passengers by airport



Source: SRS Analyser November 2009 to November 2010, Note: percentage of low fare domestic passengers are approximated by the number of domestic seats provided by each carrier over total domestic seats provided

Mode choice is also being influenced by the emergence of different aviation markets. The growth in low fare airline passengers has contributed to a market of air travellers for whom the primary land transport requirement is an inexpensive transport option between the airport and places of accommodation. It is expected that most low fare passengers have as their purpose of travel: holiday; visiting friends and relatives; or education rather than business travel.

In practice, estimating the share of low fare passengers on domestic and international airline services is inexact without knowledge of all airline fares sold. Therefore an approximation was made based on domestic seats provided by airline by airport. The estimates in Figure 7 above were derived by adding Tiger and Jetstar seats provided to an allowance for low fare passengers on Qantas, Virgin Blue and Rex, estimated roughly by including half the Virgin Blue seat capacity. While in earlier years Virgin Blue was a low cost carrier as traditionally defined, in more recent years it has moved upmarket as a 'new world carrier' and is increasingly targeting the business market.

Using this method as a broad approximation, the low fare passenger market comprises a significant portion of domestic capacity at the surveyed airports. Newcastle Airport has the highest estimate for low fare passenger share of 84 per cent. The low fare passenger share is estimated at high levels for Gold Coast (80 per cent), Hobart (65 per cent) and Melbourne (44 per cent) airports. This has placed far greater importance on the availability of public transport services between our airports and CBDs compared to historical norms. Notably, the low fare passenger market at Perth Airport is relatively low compared to other airports. This highlights that the focus for Perth Airport will continue to be on addressing the growing congestion levels and investment in road infrastructure; rather than public transport options.

Increasingly, some airports will need to consider the land transport requirements of market segments unrelated to aeronautical activity. Examples of non-aviation, on-airport businesses that generate significant airport access demands include:

- Direct Factory Outlets and shopping centres (e.g. supermarkets, warehouse bottle shops); and
- Hotels and associated meeting or conference facilities.

Other trip generators include:

- Office accommodation; and
- Distribution centres (i.e. postal, freight).

2.5 Land transport planning

As noted in Section 1, land transport planning has only very recently become a formalised requirement of the *Airports Act*. Sydney, Melbourne, Perth, Adelaide and Canberra are the only airports that have prepared a land transport plan¹¹. Sydney Airport published its first Land Transport Plan in 2006, while Melbourne and Adelaide both published their first Land Transport Plan in 2009. A recent development at Perth Airport has seen the state government, using commonwealth funds, develop the soon to be released Perth Airport Transport Master Plan. Brisbane Airport has developed a Land Transport Strategy as background material for the 2009 Master Plan. Hobart Airport is also currently developing a land transport plan in consultation with the state government.

Sydney and Bankstown Airports also have a stated commitment to increasing public transport mode share. Sydney has targeted a public transport mode share increase from 15 per cent (i.e. comprises 11 per cent rail and 4 per cent bus) to 20 per cent by 2024. While Bankstown Airport has not formalised a ground transport plan, the airport does highlight the strategic objective in their master plan to achieve a public transport mode share of 10 per cent. Notably, 'Melbourne 2030' details the Victorian Government's intention to increase public transport share of motorised trips in the region to 20 per cent by 2020, which includes journeys undertaken to and from Melbourne Airport.

In the submissions to the review of the *Airports Amendment Bill 2010* by the Senate Rural and Transport Legislative Committee, the requirement of land transport plans in airport master plans was welcomed with a range of provisos.¹²

Paragraph 71(2)(ga) of the Bill requires master plans to incorporate a ground transport plan for the landside of the airport that details for the first five years of operation:

- A road network plan;
- The facilities for moving people (employees, passengers and other airport users) and freight at the airport;
- The linkages between those facilities, the road network and public transport system at the airport and the road and public transport system outside the airport;

¹¹ Note: Adelaide currently provides for a ground transport plan within the master plan

¹² This section draws upon The Senate Rural and Transport Legislative Committee Report on the *Airports Amendment Bill 2010*, November 2010, pages 17 to 19.

- The arrangements for working with the state or local authorities or other entities responsible for the road network and public transport system;
- The capacity of the ground transport system at the airport to support the operations and other activities of the airport; and
- The likely effect of the proposed developments in the master plan on the ground and traffic flows at, and surrounding, the airport.¹³

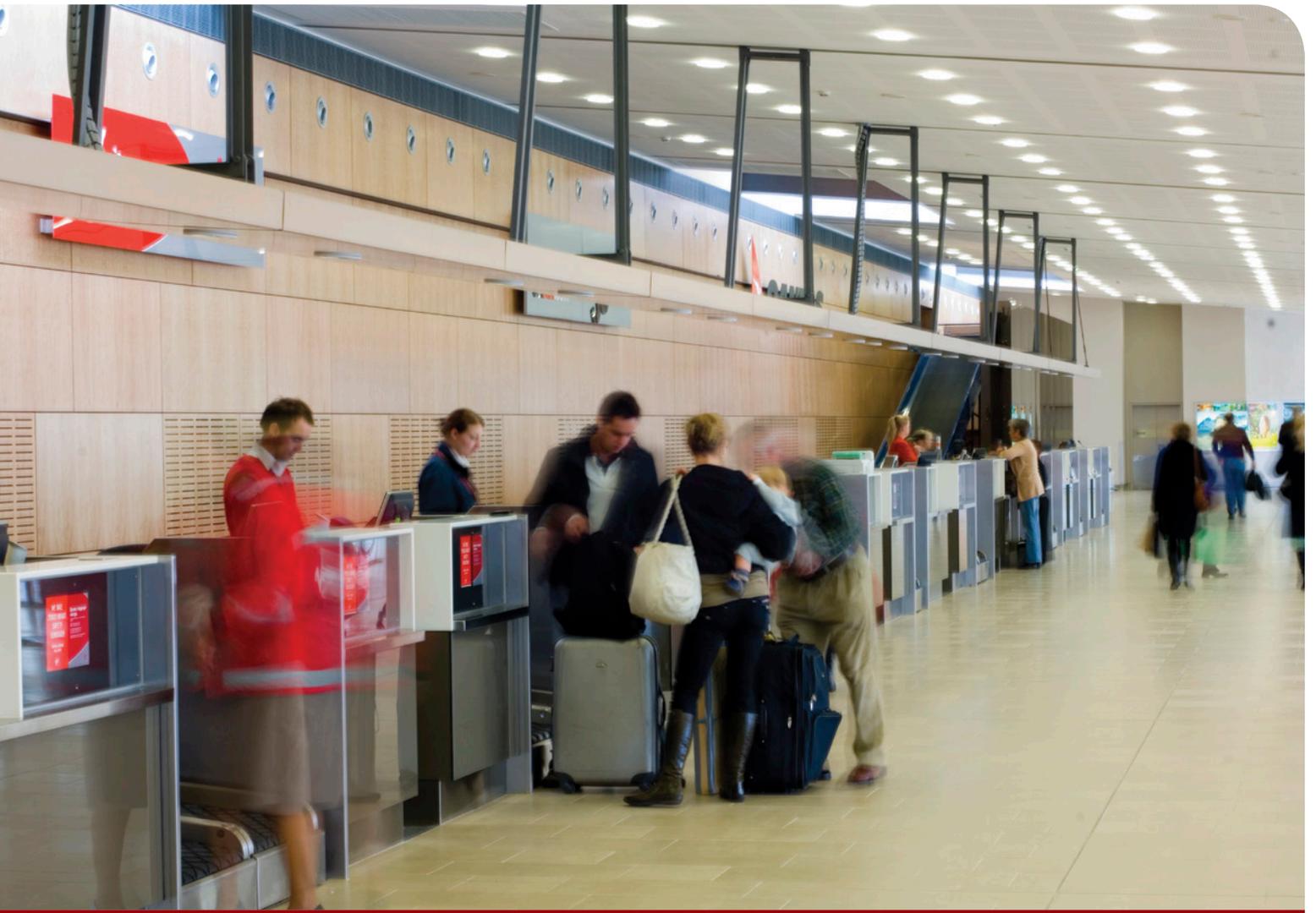
While the legislation is largely supported there is division between state and local governments and airports over the challenges in making the new provisions work in practice. Major concerns include:

- The plans should not be static and provide for ongoing consultation and input (from a representative of local governments);
- The five year time frame is too short (from a state government planning agency);
- Developments should look at the metropolitan and regional implications;
- There is a lack of clarity with regard to the new requirements (from the airports); and
- The potential for state or territory governments to be unwilling to provide the necessary landside infrastructure and services, or the plans for the provision of such infrastructure and services, over the five year period specified in the *Airports Act 1996* which would have the potential to derail the master planning process.

It is important to note that accountability for landside transport infrastructure servicing airports is the responsibility of state and local governments. While airports may make decisions on developments to on-site facilities there is no guarantee that major land transport access projects referred to in a master plan will not be deferred or cancelled.

In practice, the new legislative requirement for land transport plans in airport master plans provides strong opportunities for increased consultation and better planning of land transport access to airports. However, making these provisions effective in reducing problems of land transport access to airports will take much greater consultation between airports and all three levels of government as well as greater recognition of, and priority to, these issues by state and territory governments particularly.

¹³ *Airports Amendment Bill 2010*, Schedule 1 – Amendment of the *Airports Act 1996*.



3.0 CURRENT ACCESS ISSUES

3.0

CURRENT ACCESS ISSUES

3.1 Overview

The 12 airports examined in this study each face a different set of land transport issues. These issues are a reflection of existing land transport infrastructure, the level of land transport demand and geographical proximity between airports and their respective CBD's.

The consistent issues identified across the surveyed airports include:

- Traffic congestion on key access and egress roads;
- Congestion in pick-up and drop-off areas ('kiss and fly' facilities);
- Limited low-cost land transport options (e.g. conventional public transport services offering standard metropolitan fares);
- Taxi availability and wait times;
- Lack of formal consultation with state/territory governments;
- Funding support for road access links outside the airport boundary;
- Wayfinding and directional ground signage (directions signage to car parking, terminals etc.);
- Illegal parking on key access roads ('lurkers'); and
- Poor quality and lack of interconnectivity of active transport pathways (e.g. terminal access).

The secondary issues associated with land transport and experienced by most of the airports are:

- Ambiguous or lack of airport signage; and
- Illegal parking on key access roads.

Of the remaining issues, only a small group of airports experienced onsite car park capacity constraints. Given the relatively low market share attributed to active transport, only a few airports highlighted active transport as an issue.

Individual airport transport requirements

Over the next 20 years, passenger movements and employees are forecast to grow significantly across Australian airports. As a result, airports will face increasing capacity requirements for land transport infrastructure. The pressure on capacity will require significant planning and investment to cater for these infrastructure challenges. While airports ensure the adequate provision of on-airport infrastructure, connecting infrastructures from state and local authorities has been poorly coordinated and funded.

An overview of market size and growth, land transport challenges and a key list of land transport project priorities are described in detail below for each airport. The priorities for land transport projects are prioritised on a short (i.e. require immediate action to meet current constraints), medium (i.e. required to meet expected 2020 land transport demand) and long term (i.e. required to meet expected 2030 land transport demand) basis.

Reviews of the analysis of individual airports are set out in the following pages alphabetically.

Adelaide Airport

Located 6km from the CBD, Adelaide Airport is Australia's fifth largest airport based on passenger movements. In 2008/09, passenger throughput at Adelaide Airport exceeded 6.8 million passengers. Passenger movements are expected to increase by 3.5 per cent over the next 20 years to 14.1 million passengers in 2029/30¹⁴. In 2008, Adelaide Airport supported 8,037 (direct) employees with 5,267 located onsite and 2,770 offsite. Direct employment at Adelaide Airport is forecast to grow to 15,936 jobs in 2029 comprising 10,444 onsite and 5,492 offsite jobs.

Table 3
Adelaide Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	6.8 million	14.1 million	3. %
Employee Population	8,037	15,936	3.3%

Passenger Movements Source: BITRE, Employee Population Source: Adelaide Master Plan

The majority of land transport to Adelaide Airport is by private vehicle. Parked private vehicles have a 42 per cent mode share and private vehicle drop-off and pick-up make up an estimated 20 per cent mode share. Taxis are estimated to exceed the private vehicle drop-off and pick-up usage, with up to 27 per cent of trips undertaken via taxi. Mode share for bus is approximately 6 per cent and comprises a 4 per cent mode share for public transport buses and 2 per cent for shuttle buses.

Table 4
Adelaide Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	20%
Private Car – Parked Car	42%
Public Transport – Bus	4%
Taxi	27%
Rental car	5%
Shuttle Bus	2%

Note: Mode Share reported at 2010

The current reliance on private vehicles and taxis to access Adelaide Airport dictates its focus on improvements to the surrounding road network, while also investigating the potential for alternative transport modes.

The strategic focus of Adelaide Airport is on achieving, internally, an efficient access network and parking facilities for all transport modes. Externally, the focus is on improving access for existing modes of transport and provision of public and active transport alternatives. Short, medium and long term land transport priorities for Adelaide Airport are discussed in detail in Table 5.

14 BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.

Table 5

Land transport priorities for Adelaide Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	SA Government to increase provision of taxi licensing to better manage availability of taxi services at Adelaide Airport.	Due to limited growth, taxi supply has not kept pace with growth in air passenger demand (i.e. given significant increases in air passenger demand post-privatisation).
Medium Term (projects expected to meet 2020 demand)	SA Government to upgrade Sir Donald Bradman Drive as the states international and interstate gateway by adjustment of the signallised timing and grade separation with South Road, to improve traffic flow between the Airport and CBD.	The Airport to CBD road has seven signallised intersections before crossing West Terrace into the CBD.
	Adelaide Airport to construct efficient vehicle parking facilities offering a range of products and accommodating the full range of vehicles which are likely to access the airport.	Future traffic volumes accessing the airport will require adequate provision of parking facilities.
	SA Government to address the safety and security issues of the current single entry and exit point of Adelaide Airport.	There are road safety issues at the single access point to Adelaide Airport.
Long Term (projects expected to meet 2030 demand)	SA Government to extend light rail link to Adelaide Airport.	There is a need for a low cost land transport option to access the airport – particularly driven by low fare passengers. Adelaide Airport and West Torrens Council support light rail transit – however the State Government has not supported progress on light rail transit.
	The SA Government in conjunction with Adelaide Airport provide bike and pedestrian paths along some road frontages to the airport.	Encourage alternatives to road based transport (particularly for the employee market) through the provision of safe and accessible paths.

Other issues for Adelaide Airport include:

- Adelaide Airport has funded off-airport works – slip lane and traffic signals on access roads; and
- There have been issues with unions regarding the preservation of a vehicle allowance for staff (i.e. establishment of public transport services within 1 km of the place of employment would remove entitlement to this allowance).

Bankstown Airport

Bankstown Airport is a general aviation airport with a business park located 27 km from Sydney CBD. Bankstown Airport generates more than 6,000 jobs for the Bankstown and Greater Western Sydney economies. On a daily basis 2,479 employees access Bankstown Airport. Over the next 20 years, it is expected that Bankstown Airport will create an additional 10,500 direct and indirect jobs.

According to the Bankstown Master Plan, passenger movements could reach up to 288,000 in the next 5-10 years. However, it is unlikely that commercial flight operations will commence within the next two years.

Land transport to and from Bankstown Airport is dominated by private car use. Of those journeys undertaken by private car, 60 per cent park at the airport and 20 per cent are drop-off or pick-up. Bankstown Airport acknowledges the need to improve land transport alternatives to private vehicles and has a stated objective to improve public transport mode share to the airport from 5 per cent to 10 per cent. Increasing public transport mode share to 10 per cent is expected to be market driven by demand for and supply of bus services within the area.

Table 6
Bankstown Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	20%
Private Car – Parked	60%
Public Transport – Bus	5%
Taxi	15%

Note: Mode Share reported at 2009

The strategic objectives of Bankstown airport are currently focused on upgrading the internal road network to handle aviation and non-aviation growth and also to provide alternative forms of transport such as bus, cycleway and pedestrian facilities (subject to demand) and consolidate these forms of transport where they are already available. More detailed short and medium term project priorities for land transport are detailed in Table 7.

Table 7
Land transport priorities for Bankstown Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years) Medium Term (projects expected to meet 2020 demand)	NSW Government to improve 'wayfinding' signage to the airport on arterial and secondary roads to the airport including the M5. It is expected that signage will cost an estimated \$150,000.	The lack of current 'wayfinding' signage results in navigational difficulties for individuals and businesses trying to access the airport.
	Bankstown Airport in conjunction with the RTA to address the congestion on Henry Lawson Drive with grade separation and additional lanes.	Significant congestion experienced on Henry Lawson Drive as it is a key access road to the airport.
	Bankstown Airport in conjunction with the NSW government should plan to consolidate public transport closer to the major employment locations and required access points at Bankstown Airport.	Poor provision of public transport services to cater for the airport employee market. Although it needs to be acknowledged that the demand for public transport is relatively limited, the airport is currently poorly serviced by public transport with the closest heavy rail station (i.e. East Hills) an estimated 2.5km from the airport terminals and public bus services not servicing the Airport Terminal.
	As throughput increases, Bankstown Airport will be required to upgrade the internal feeder roads to cater for aviation and non-aviation growth around Bankstown Airport, and consider how it can direct the traffic generated by the various activities through the arterial roads to the west (Henry Lawson Drive) and south (Milperra Road).	Growth in airport based employment and commencement of passenger flights over the next 10 years, will place additional pressure on the capacity of the existing internal road network.
	The implementation of improvements to increase bus priority at the Milperra Road / Henry Lawson Drive intersection will be required by the state government.	Traffic demands associated with airport growth within the next 10 years will require improvements to bus priority to maintain travel time reliability.

Brisbane Airport

Brisbane is the third largest airport in Australia in terms of passenger movements and is located 15km from the Brisbane CBD. In 2008/09, 18.8 million passengers passed through the airport, or an average of 52,000 per day. Throughput is expected to increase annually by 4.9 per cent over the next 20 years to 51.2 million passengers in 2029/30, or an average of 140,000 per day¹⁵. Brisbane Airport currently employs more than 16,000 full time equivalents. With ongoing expansion of the airport, employees accessing the airport are forecast to increase to more than 50,000 full time equivalent workers by 2029.

Table 8

Brisbane Airport passenger movements

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	18.8 million	51.2 million	4.9%
Employee Population	16,000	50,000	5.6%

Passenger Movements Source: BITRE, Employee Population Source: Brisbane Airport

Strong growth in passenger movements and employees working onsite at Brisbane Airport will place further pressure on the surrounding road network. Land transport to and from Brisbane Airport is dominated by private car travel (i.e. drop-off and pick-up, parked car and rental car) with mode share exceeding 80 per cent of journeys. Of the remaining trips to and from Brisbane Airport, taxis (8.5 per cent) and the Airtrain (5 per cent¹⁶) are frequently used. Brisbane Airport has projected a mode share increase in 2029 for public transport – Airtrain from 5 per cent to 8.8 per cent and bus from 1.0 per cent to 4.0 per cent. This would imply that the mode share for private vehicle declines by 11.7 per cent to 71.3 per cent in 2029.

Table 9

Brisbane Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up (includes parked car)	70%
Public Transport – Airtrain	5%*
Public Transport – Bus	1.0%
Taxi	8.5%
Limo	0.5%
Rental Cars	11%
Private Coaches and Shuttles	4%
Active Transport (i.e. walking and cycling)	<0.01%

Note: Mode Share reported at 2008, *Airtrain mode share reported for airport wide movements. Estimated mode share at the terminals is 10.5 per cent

Given the expected growth in passengers and employee daily travel to Brisbane Airport, very rapid growth in public transport carriage to the airport will be required if the mode share target is to be met. Ignoring meeter and greeter travel, the number of passengers and employees on a peak day is expected to increase from around 80,000 currently to perhaps 210,000 in 2029/30. This implies that to meet the airport's targets, public transport carriage would need to increase from around 4,800 on a current peak day to around 27,000 on a peak day in 2029/30.

Brisbane Airport sees its strategic focus for land transport to offer passengers alternative modes to get to the airport.

Key short, medium and long term land transport priorities to address this strategic focus are provided in Table 10.

¹⁵ BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.

¹⁶ Note: Airtrain mode share of 5 per cent is reported by Brisbane Airport Corporation.

Table 10

Land transport planning priorities for Brisbane Airport

Time rane	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	Brisbane Airport is constructing new roads to improve capacity for the drop-off and pick-up areas for private cars, taxis and land transport operators at the Domestic Terminal.	Congestion in the drop-off and pick-up area directly outside the Qantas terminal despite spare capacity towards the end of the pick-up and drop-off road outside the Virgin terminal.
	Brisbane Airport is addressing current parking demands with the construction of a new 5,200 bay multi level carpark at the domestic terminal which compliments the existing multi level parking facility bringing the total parking bays to approximately 9,000 within the precinct	Availability of parking facilities; - "Parklong": consistently close to capacity; and - "Parkshort": close to capacity on Tuesdays and Wednesdays.
	Brisbane Airport is currently planning the roll out of public transport and cycle networks to improve access to all parts of airport.	To provide alternatives to road based land transport to the airport.
Medium Term (projects expected to meet 2020 demand)	Brisbane City Council to improve capacity of external access roads in particular of Kingsford Smith Drive.	Significant congestion experienced on the key access road - Kingsford Smith Drive, particularly during peak periods.
	Translink Transit Authority in conjunction with Brisbane Transport to discuss improving the provision of public transport services through increasing bus services to the airport from areas not serviced by Airtrain, and extension of bus services to Terminals.	There are two (2) public buses servicing the airport site include the 308 and 303/304 (i.e. connects to rail at Eagle Junction Station). Route 308 does not service the airport terminals but services the Brisbane 1 Village. However, Brisbane Airport currently operate a shuttle service between the terminals and the Airport Village.
	Airport to continue the roll out of its cycle network which provide connections across the airport.	To provide alternatives to road based land transport to the airport.
Long Term (projects expected to meet 2030 demand)	State government to create additional capacity on Gateway Arterial (i.e. Nudgee to Bruce Highway) as a key access road to Brisbane Airport.	The Nudgee Interchange needs to extend to Deagon to mitigate traffic risk and congestion.
	Queensland Government to develop a third heavy rail station to service the Airport Brisbane 1 Village on the Airport Line (i.e. where the feasibility study is imminent).	Demand for ancillary services at the airport site could be facilitated by development of an additional rail station.

Other key challenges for land transport at Brisbane Airport include:

- Airtrain patronage declining since completion of the new access roads (i.e. Moreton Drive); and
- Securing free capacity for additional public transport measures which will increase a mode shift to public transport (e.g. discuss with Airtrain and QR the ability to secure additional rolling stock for rail services and discuss with Translink additional buses to service new and extended routes across airport).

Cairns Airport

Cairns Airport is located relatively close to the CBD (7 km) and had passenger throughput of approximately 3.7 million passengers in 2008/09. Passenger movements are expected to grow at 4.2 per cent to 8.6 million passengers in 2029/30.

Table 11

Cairns Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	3.7 million	8.6 million	4.3%
Employee Population	N/A	N/A	N/A

Passenger Movements Source: BITRE

Land transport at Cairns Airport is spread across private car, shuttle bus and taxi services. Private vehicles, including drop-off and pick-up (15 per cent), onsite parking (9 per cent) and offsite parking (1 per cent), account for 25 per cent of land transport mode share. Both shuttle bus (i.e. hotel transfers, shuttle and tour buses) and taxis each account for 26 per cent mode share. With one of the largest rental car markets across Australia, Cairns Airport has a rental car mode share of 19 per cent.

Table 12

Cairns Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	15%
Private Car – Parked Car	9%
Private Car – Parked off site	1%
Shuttle Bus (includes tour bus and hotel transfers)	26%
Taxi	26%
Rental Cars	19%
Limo	1%

Note: Mode Share reported for Domestic passengers only as at October 2009

The strategic focus of Cairns Airport is to plan road and public transport access to the airport with the state government and to develop and consolidate efficient and cost effective transport for passengers. Directing efforts to land transport planning with local and state governments that identify the required road infrastructure improvements will contribute to addressing congestion at Cairns Airport. Short and long term land transport priorities for Cairns Airport are provided in more detail in Table 13.

Table 13

Land transport priorities for Cairns Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	Cairns Airport in conjunction with the state government to plan for additional access points to the Airport (i.e. as opposed to the single access road currently used).	The single access road to the airport is congested at peak times and any road incidents become a major issue in accessing the airport.
	Cairns Airport to develop a covered car park for premium users (short and long stay). Planning for the car park is in concept design phase.	Cairns Airport currently has no undercover parking facilities and demand exists for the facilities.
Long Term (projects expected to meet 2030 demand)	Cairns Airport to work in conjunction with the state government to plan for the provision of public transport services (i.e. bus).	One of the key issues for Cairns Airport is that public transport is limited. The majority of passengers use tour buses, taxis and rental cars to get to and from the airport.

Canberra Airport

Located approximately 8km from the CBD, Canberra Airport recorded more than 3.1 million passenger movements in 2008/09. Passenger movements are forecast to grow annually by 3.5 per cent over the next 20 years with passenger movements expected to exceed 7.3 million in 2029/30¹⁷. Canberra Airport has a total workforce on site of approximately 9,000 employees. By 2029/30, it is expected that up to 25,000 employees will be directly employed at Canberra Airport¹⁸.

Table 14
Canberra Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	3.1 million	7.3 million	4.2%
Employee Population	9,000	25,000	5.0%

Passenger Movements Source: BITRE, Employee Population Source: Canberra Airport Master Plan, Movements rounded to 1 decimal place

Land transport at Canberra Airport is dominated by private car use (i.e. drop-off and pick-up, parked car) with mode share estimated at 44 per cent. The rental car market at Canberra Airport is a popular alternative to taxis for non-residents of the Canberra region, with mode share estimated at 13 per cent.

Table 15
Canberra Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up and Parked Car	44%
Public Transport – Bus	9%
Taxi	30%
Rental Car	13%
Limo	2%

Note: Mode Share reported at January 2009 to June 2010

The major access roads to and from Canberra Airport have recently been duplicated to cater for more than 20 years' growth in airport and regional commuter traffic. These works included a grade separated intersection between the terminal access road and the regional road.

The key strategic objective identified by Canberra Airport is to develop the airport to be a multi-modal transport hub for passenger and freight connections. Continued improvement of road infrastructure addressing congestion on the regional commuter roads around Canberra Airport, and land transport planning for increased public transport will assist Canberra Airport's strategic objectives. To address this, short, medium and long term land transport priorities are highlighted in more detail in Table 16.

¹⁷ BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.

¹⁸ Canberra Airport, Master Plan: The Economic Impact of Canberra Airport, 2009.

Table 16

Land transport priorities for Canberra Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	ACT Government to assess the provision of taxi licensing in Canberra (currently being assessed).	A profound shortage of taxis exists in Canberra, which also affects land transport to the airport. Taxi shortages are particularly acute during Federal Parliament sitting days.
	Federal and ACT Governments to construct Majura Parkway linking the Monaro and Federal highways.	Urban growth in Gungahlin and the broader region, as well as growth in heavy interstate freight vehicles has increased traffic capacity requirements.
	Canberra Airport working on a cross regional/ national bus/ air interchange centre (i.e. where transfer between regional bus operators and air can be made). This is expected to be operational in 2013.	Develop Canberra Airport to be a multi-modal transport hub for passenger and freight connections.
	ACT Government currently planning for road infrastructure development of additional lanes for Parkes Way (West of Civic) to meet current demand (i.e. project was presented in last year's territory budget and is expected to be built in 2011).	Traffic volumes on Parkes Way (West of Civic) currently exceed capacity.
	Federal government constructing priority lanes on the East West Link at Russell Hill.	Significant congestion on East West Link at Russell Hill.
Medium Term (projects expected to meet 2020 demand)	ACT Government to address industrial issues to enable ACTION buses to serve the Terminal Precinct.	ACTION buses do not currently serve the terminal.
	ACT Government to construct additional lanes on Parkes Way Between Civic and Russell Hill.	The expected population increase of over 175,000 people in the region will generate significant traffic demand for Parkes Way.
Long Term (projects expected to meet 2030 demand)	ACT and Federal Governments to plan development of light rail network connecting central Canberra with the Airport and Queanbeyan.	Development of a light rail network to provide additional public transport options to access the airport, as well as provide alternatives to road based transport to the residents in Queanbeyan.
	Federal, ACT, NSW and Victorian Governments to plan the design, alignment and timing of the Very High Speed Train (VHST) system linking Canberra Airport with Sydney and later with Melbourne (longer term). An alignment has been reserved for the high speed train within the ACT.	The VHST will contribute to Canberra Airport's role in accommodating some of Sydney's air transport needs in addition to creating opportunities for Canberra Airport to service the region more broadly. The VHST will provide for inter-modal connections with domestic, regional and international flights as well as a regional surface transportation network.

Darwin Airport

Darwin Airport is located approximately 13 km from the CBD. Approximately 1.7 million passengers passed through Darwin Airport during 2008/09. The 20 year forecast growth rate for Darwin Airport is 4.4 per cent per annum, consistent with 4.1 million passengers in 2029/30¹⁹. Aviation and non-aviation employees working at Darwin Airport are estimated at 1,614, with a daily average of 1,153 employees accessing the airport each day. Employment at Darwin Airport is expected to grow to 3,600 in 2030.

Table 17
Darwin Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	1.7 million	4.1 million	4.4%
Employee Population	1,614	3,600	3.9%

Passenger Movements Source: BITRE, Employee Population Source: Darwin Airport

Land transport to Darwin Airport is dominated by private car use with almost 70 per cent of journeys undertaken by private vehicle. Taxis and limousines are also a popular form of transport with mode share of 19 per cent. Rental car and shuttle buses are offered at Darwin Airport, however these modes only account for 14 per cent of all journeys to Darwin Airport.

Table 18
Darwin Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up and Parked Car	67%
Taxi and Limo	19%
Rental Car	7%
Shuttle Bus	7%

Note: Mode Share reported at June 2008

Due to the reliance on road transport for airport access, the strategic focus for Darwin Airport is the internal road network. Based on this, the short, medium and long term land transport priorities are detailed in Table 19.

Table 19
Land transport priorities for Darwin Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	State government to work on NT taxi issues during early morning periods.	Taxi availability during the 12am to 2 am peak period is often an issue. This issue extends to the entire Northern Territory taxi industry.
	State government and Darwin Airport to work with local public transport providers to monitor the effectiveness of the existing limited airport employee oriented bus service (i.e. to a central point at Darwin Airport) and whether there is a platform for development of a greater frequency service.	Recently (late 2010), a limited airport employee oriented bus service was introduced. While there is limited current material demand for public bus services to service passengers, public transport options should continue to be improved for the employees market.
Medium Term (projects expected to meet 2020 demand)	Darwin Airport to develop multi-level parking facilities as well as parking for the general aviation precinct.	General Aviation car parking is an issue. Parking offered as a part of general aviation operator leases are overcrowded and vehicles spill out into public areas.
Long Term (projects expected to meet 2030 demand)	NT Government to plan for the provision of comprehensive public transport services to Darwin Airport.	By FY29/30, there will be material demand to warrant planning for comprehensive public transport services.

19 BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.

Gold Coast Airport

The Gold Coast Airport is located approximately 20 km from central Surfers Paradise (i.e. Cavill Ave). In 2009/10, Gold Coast Airport had an estimated 4.2 million passenger movements. From 2002/03 to 2009/10, the compound average annual growth rate at the Gold Coast Airport was 12.9 per cent. This comprised 11.6 per cent annual growth for the domestic market and 23.4 per cent for the international market. It is expected that Gold Coast Airport will grow at 5 per cent per annum over 20 years to 11 million passenger movements in 2029/30.

An estimated 587 full time equivalents were employed at the Gold Coast Airport as at June 2005. Growing at an annual rate of 22 per cent, by June 2010 a total of 1,719 individuals were employed within the aviation precinct of the Gold Coast Airport (i.e. equivalent to 1,319 full time equivalents).

Table 20

Gold Coast Airport passenger movements and employee population

	2009/10	2029/30	Forecast Annual Growth Rate
Passenger Movements	5.2 million	11.0 million	4.9%
Employee Population	1,319	NA	NA

Passenger Movements and Employee Population Source: Gold Coast Airport Passenger Statistics and Economic Impact Studies

Journeys to Gold Coast Airport are conducted primarily by private car. Mode share for private car (including parked at airport site and drop-off and pick-up) accounts for an estimated 36 per cent of all journeys to the airport. Mode share for the remaining land transport, taxi, rental car and shuttle bus/ coach options are relatively similar. Rental cars account for 21 per cent of journeys to the airport, while taxi and shuttle bus/ coach both have a mode share of 17 per cent. Private vehicles are the predominant form of land transport to the Gold Coast Airport and the land transport issues of most concern for the airport include road congestion, parking and the master planning process.

Table 21

Gold Coast land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up and Parked Car	36%
Taxi	17%
Rental Car	21%
Shuttle Bus/ Coach	17%

Note: Figures do not add to 100% as Gold Coast figures were calculated with reference to a base patronage figure that includes transfer passengers not using ground transport. Mode share reported at October 2009.

The strategic focus of the Gold Coast Airport is on providing an efficient, diverse and responsive land transport network, by improving access to the airport, improving car parking, and undertaking formal consultation with the state government during the master planning process. A detailed list of short, medium and long term land transport planning priorities is discussed in detail in Table 22.

Table 22

Land transport priorities for Gold Coast Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	Queensland Department of Transport and Main Roads (DTMR) in conjunction with Gold Coast Airport to plan an additional entry/exit point at the Bilinga Interchange which will divert traffic from the Tugun Bypass. The funding agreement is currently being negotiated.	Congested Airport entry point. An additional entry/exit point is needed at Bilinga Interchange, which will take traffic from the Tugun Bypass.
Medium Term (projects expected to meet 2020 demand)	DTMR, Gold Coast City Council and Gold Coast Airport to plan for light rail construction to extend to the Gold Coast Airport.	The Gold Coast bid for the 2018 Commonwealth Games would require mass transit planning for national and international visitors to the region.
Long Term (projects expected to meet 2030 demand)	DTMR in conjunction with Gold Coast Airport to upgrade a second entrance to the airport through an at-grade signalised intersection at the intersection of the Gold Coast Highway and the Tweed Bypass.	The current entrance can no longer cater for traffic volumes with an acceptable level of service.
	Gold Coast Airport to develop a multi-modal transit centre to include bus and rail connections, ground transportation facilities, information regarding hotel and tourist accommodation.	Development of a multi-modal transit centre at the airport terminal to connect the airport to the existing transport network and to provide local support to the tourist market.
	Gold Coast Airport is making a provision for a heavy rail in their master planning process. This will require early planning by the State government and Gold Coast Airport.	Forecast long term passenger movements at Gold Coast Airport will require planning for mass transit land transport options.

Other issues for Gold Coast Airport include:

- Landside roads and the car park area require road improvements; and
- There is no formal consultation with the Queensland Government regarding land transport issues, recognising that some issues affect the NSW Government.

Hobart Airport

Hobart Airport is located 17 km from the CBD. In 2008/09, passenger movements through Hobart Airport were around 1.9 million. Domestic passenger movements are expected to increase by 3.5 per cent over the next 20 years to 3.9 million passenger movements²⁰. Hobart Airport currently has more than 3,000 employees accessing the airport site on a daily basis. Employment generated by Hobart Airport, both direct and indirect, is expected to reach 5,700 jobs by 2029.

Table 23

Hobart Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	1.85 million	3.9 million	3.5%
Employee Population	3,000	5,700	3.1%

Passenger Movements Source: BITRE, Employee Population Source: Hobart Airport

Almost 90 per cent of land transport to Hobart Airport is conducted via private car (71 per cent) or taxi (18 per cent). Land transport via rental cars (6 per cent) and shuttle buses (4 per cent) accounts for only 10 per cent of total land transport.

Table 24

Hobart Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	71%
Taxi	18%
Limo	1%
Rental Car	6%
Shuttle Bus	4%
Active Transport (i.e. walking and cycling)	<0.01%

Note: Mode Share reported at 2008

Land transport to Hobart Airport relies on private vehicle transport due to the lack of available public transport. As a result, Hobart Airport is currently focused on issues associated with road-based transport.

The strategic focus of Hobart Airport is to align land use planning (i.e. transport corridors) and related development strategies (i.e. business and industry development) through undertaking a staged development approach and to utilise public transport to manage growth and terminal accessibility. The short, medium and long term land transport priorities for Hobart Airport are discussed in detail in Table 25.

Table 25

Land transport priorities for Hobart Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	State government, in consultation with the federal government, to consider upgrading the Tasman Highway and access roundabout.	Heavy peak congestion experienced during the morning (city bound traffic) and afternoon (airport bound traffic) peaks at the major airport entry roundabout off the Tasman Highway.
	The state government to provide directional signage to Hobart Airport (i.e. on non-airport leased land).	Lack of signage to Hobart Airport results in navigational difficulties for individuals and businesses accessing the airport.
Medium Term (projects expected to meet 2020 demand)	State government to plan for the provision of public transport options (i.e. bus services) particularly to cater for non-aeronautical related trips (e.g. Direct Factory Outlet).	Inadequate public transport options to and from the airport, particularly with further non-aeronautical development (i.e. Direct Factory Outlet).
	Hobart Airport will need to address the required loop road traffic volumes with upgrades to the internal road network.	Forecast traffic throughput at Hobart Airport in the long run will warrant upgrade of the internal road network
Long Term (projects expected to meet 2030 demand)	Hobart Airport to consider construction of additional lanes for Holyman Avenue.	Future expected throughput at the airport will warrant upgrade of key access roads.

Other issues for Hobart Airport include:

- Congested drop-off zones (private and public).

Melbourne Airport

Melbourne Airport is located 22 km from Melbourne CBD and is Australia's second largest airport in terms of passenger movements. In 2008/09, more than 24.5 million passenger movements were recorded at Melbourne Airport - an average of nearly 70,000 per day. Passenger movements are expected to grow annually by 4.2 per cent over the next 20 years, with passenger throughput expected to exceed 57.7 million in 2029/30, or an average of 160,000 per day²¹.

An estimated 12,500 employees work onsite at Melbourne Airport. By 2015, airport growth is forecast to create an additional 1,178 jobs across Victoria.

Table 26

Melbourne Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	24.5 million	57.7 million	4.2%
Employee Population	12,500	N/A	N/A

Passenger Movements Source: BITRE, Employee Population Source: Melbourne Airport.

The primary land transport mode used to access Melbourne Airport by passengers, meeters and greeters, and employees is private car (i.e. pick-up and drop-off, parked car and rental car) with a mode share estimated at 61 per cent. Notably, a significant portion of private car drivers park off the airport site with an estimated mode share of 8 per cent of total journeys. Taxis and limousines cater for a similar proportion of trips to and from the airport as Skybus, with 17 per cent and 14 per cent mode shares respectively. Melbourne Airport has no stated future mode share goals.

Table 27

Melbourne Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up, Parked Car and Rental Car	61%
Parked off airport site	8%
Public Transport – Bus and Shuttle/Coach	14%
Taxi and Limo	17%
Active Transport (i.e. walking and cycling)	0.3%

Note: Mode Share reported at 2008

Land transport to Melbourne Airport relies almost exclusively on road based transport (i.e. private vehicle and road-based public transport). Since 2001, significant improvements have been made to Skybus services which operate between the airport and the CBD. This included the first of two road upgrades in 2003 (widening of the Tullamarine Freeway) which improved Skybus reliability.

In response, Skybus experienced a significant uplift in patronage, with demand increasing by 50 per cent in the first two years after the road improvements. Skybus is however continuing to face congestion pressures on the road network, and particularly the main route via the Tullamarine Freeway which is near or at capacity during peak periods. It is therefore a key concern for Melbourne Airport to see the widening of the Tullamarine Freeway prioritised.

The strategic objectives for Melbourne Airport will be to ensure that land transport infrastructure development is consistent on and off airport, therefore ensuring the accommodation of growth. In addition, Melbourne Airport will continue to improve accessibility for all modes of transport for passengers and staff. More specifically, the airport aims to support and attract further usage of public transport. A detailed list of land transport priorities (i.e. short, medium and long term) are discussed in Table 28.

21 BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.

Table 28

Land transport priorities for Melbourne Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	State government to revise public transport options available for commuters from Melbourne’s western and northern satellite suburbs including Met Bus services 478 and 479.	Commuting ‘route buses’ (MetBus services) in the local area have restricted operational hours and limited services. Timetables also do not align with the key shift times and weekend working at the airport.
	State government to address provision of bus services for the following cases: <ul style="list-style-type: none"> - The north eastern, inner eastern and inner western suburbs of Melbourne, generally along the Metropolitan Ring Road/ Eltham corridor; - Sunday afternoon generally across Melbourne; - Shepparton services on weekends; and - Country Victoria beyond the major regional cities of Geelong, Ballarat, Bendigo, Seymour and Warragul. 	Limitations on the hours of operation, frequency and route (i.e. destination) services provided by public bus services to Melbourne Airport.
Medium Term (projects expected to meet 2020 demand)	The government to consider widening the Tullamarine Freeway for designated bus lanes. This would improve reliability and efficiency of both the Skybus and taxi services.	With all transport modes to the airport being road based, key capacity issues for the road network, particularly the Tullamarine Freeway have arisen. The Tullamarine Freeway experiences significant congestion during peak periods. Moreover, the current Skybus service to the CBD (i.e. Southern Cross Station) takes about 20 minutes in off-peak periods, however congestion on the Tullamarine Freeway has resulted in peak travel times of up to 40 minutes.
	The state government is again considering a heavy rail land transport option – which was last considered around 10 years ago. The government has reserved the East Albion corridor for possible use for a heavy rail line, should it become viable. Recently, the Victorian Department of Transport (DoT) undertook a major review of the airport’s transport requirements during the next 20 years. The review indicated that traffic volumes will exceed capacity over the next 10 years highlighting the emerging need for a rail link ²² .	The incoming Victorian Government has committed \$6.5 million in its first term to plan the new rail link with a preferred option of a centrally-located terminal at Melbourne Airport.

Newcastle Airport

Newcastle Airport is located approximately 24 km from the CBD. In 2009/10, Newcastle Airport handled an estimated 1.1 million passenger movements. Forecast passenger throughput at Newcastle Airport is dependent on a variety of factors, including the potential development of a second Sydney Airport. Base forecasts indicate that passenger movements will grow by 6 per cent annually, reaching 3.5 million in 2029/30.

Newcastle Airport supports more than 2,100 jobs in the wider Newcastle area. Of these jobs, more than 1,200 staff access Newcastle Airport each day. With the proposed major Aerospace Park (adjacent to airport land), it is expected that employment volumes accessing the airport will increase significantly. By 2029/30, it is estimated that Newcastle Airport will directly employ more than 5,000 workers and the Aerospace Park will also employ another 5,000 workers.

Significant residential growth is also expected in the region around Newcastle Airport, which will generate future employment zones well serviced by the airport. The lack of a supporting transport strategy for the planned growth is evident and the provision of appropriate infrastructure is critical to sustaining economic benefits generated by the airport.

Table 29

Newcastle Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	1.1 million	3.5 million	6%
Employee Population	2,100	10,000	7.7%

Passenger Movements and Employee Population Source: Newcastle Airport

The majority of journeys to Newcastle Airport are by private car, with drop-off and pick-up accounting for 34 per cent mode share and parked car for 26 per cent mode share. Taxis and rental cars account for up to 17 per cent of land transport journeys to Newcastle Airport, while public transport buses that connect with Newcastle railway station account for 9 per cent of mode share. Newcastle Airport has indicated a public transport (i.e. bus) target mode share target of 15 per cent.

Table 30

Newcastle Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	34%
Private Car – Parked car	26%
Public Transport – Bus	9%
Taxi and Rental Car	17%
Shuttle Bus	13%

Note: Mode Share reported at 2008, mode share reported for the Greater Newcastle Region

Insufficient ground transport links to Newcastle Airport remain an issue for the region, affecting its the ability to attract low cost international airlines. While significant increases in economic benefits have been seen from the introduction of international low cost carriers (LCCs) (e.g. AirAsia X's service to Kuala Lumpur from Gold Coast Airport and Melbourne Airport), issues with bilateral agreements have restricted international LCC services at Newcastle Airport. LCCs identified the lack of ground transport linking Newcastle and Sydney (i.e. no realistic rail option) as an investment constraint. The strategic focus of Newcastle Airport is therefore on improving private vehicle transport to the airport, providing greater modal choice and providing transport links to Sydney. Given this strategic objective, a list of land transport priorities for the short, medium and long term is detailed in Table 31.

Table 31

Land transport priorities for Newcastle Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	Airport to promote 'first 15 minutes free' for car parking.	Reduce congestion experienced in drop-off and pick-up areas.
	The state government to put in place a bus service connecting to the nearest train station (i.e. Broadmeadow railway station), which is about 28 km from the airport.	There are no public transport services linking the nearest heavy rail station to the airport.
	State government to assess the provision of taxi licensing in the Newcastle Region and widen area that Newcastle taxis can pick-up and drop-off passengers (i.e. to include Nelson Bay).	Taxi availability and lengthy waiting times an issue for Newcastle Airport, particularly for Jetstar flights arriving between 9-10pm and when events are on (e.g. Newcastle Knights are playing). Moreover, passengers travelling to Nelson Bay by taxi get charged twice (normal fare plus return "dead run"), as taxis are not allowed to pick up customers from Nelson Bay area. Taxi drivers have sometimes refused to take passengers to the Royal Australian Air Force (RAAF) base, as it is a short fare of about \$10.
	Proposal to change the current road structure in the Airport Precinct to a segregated model is currently being considered by the Council.	Reduce congestion experienced in drop-off and pick-up areas by segmenting vehicle types (i.e. taxi and private vehicle).
	M2/F3 Link in Northern Sydney with an appropriate interchange from the F3 extension to Raymond Terrace to link the Airport via Tomago Road.	Significant congestion is experienced on key access roads from Newcastle Airport to Northern Sydney (i.e. Pennant Hills Road). The RTA has undertaken studies into the preferred corridor which was announced on 6 May 2004.
Medium Term (projects expected to meet 2020 demand)	The state government and RTA in conjunction with Newcastle Airport to develop the internal road network for Williamstown Aerospace Centre (within which Newcastle Airport is located).	The proposed major development of the Aerospace Park (adjacent to Airport land), which is expected to become a major employment zone for defence associated industry and may include a hotel. This will impact on traffic volumes and the wider land transport planning for the area.
Long Term (projects expected to meet 2030 demand)	Heavy Rail Corridor between Newcastle Airport and Sydney CBD, along the Tomago/Williamstown employment zone.	The introduction of international LCCs to Newcastle Airport is expected to generate significant economic benefits to the NSW economy. To accrue these benefits, a ground transport link between Newcastle Airport and Sydney is required to attract LCCs to the Airport.
	The state government and RTA to address road capacity constraints expected on Nelson Bay Road, Richardson Road, Medowie Road and Tomago Road.	Key access roads to Newcastle Airport to reach capacity. In particular Nelson Bay Road is expected to exceed capacity by 2025. Upgrade assessments will also be required for Richardson Road, Medowie Road and Tomago Road).
	Newcastle Airport to develop a multi-storey (i.e. 3 floors) car park to meet public and commercial parking requirements (i.e. up to 900 additional spaces).	Car parking was an issue for Newcastle Airport with demand outstripping capacity. The parking issue can be attributed to the high number of people travelling for business and leaving their car at the airport for a number of days. This issue is currently being addressed, however planning for future growth should also be considered.
	Possible need for the widening of Williamstown Drive.	The proposed development of the employment zone south of the Airport is expected to increase traffic volumes on Williamstown Drive.
	Newcastle Airport to upgrade some of the internal road networks.	Long term traffic demands will place additional pressure on the capacity of the existing internal road network.

Other issues for Newcastle Airport include:

- Insufficient demand for public transport to support the introduction of direct airport services. This was exemplified by the introduction of the Newcastle Airport Shuttle, which was discontinued after a four month trial due to low patronage. Operated by Port Stephens Coaches, the service was aligned to major jet movements and had a mandate to pick up only at strategic points that allowed almost a park and ride, or drop off and ride facility; and
- Newcastle Airport was forced to pay for the installation of traffic lights at the end of Airport Drive, requested by the RTA and located outside of the airport's boundary.

Perth Airport

Perth Airport is located 10 km from the CBD. With a total of 9.4 million passengers passing through the airport in 2008/09, Perth Airport is the fourth busiest airport in terms of passenger throughput in Australia. Perth Airport is expected to experience growth of 4.7 per cent per annum over the next 20 years, with passenger movements reaching 24.8 million in 2029/30²³. An estimated 8,500 workers are employed at Perth Airport. Forecast direct and indirect employment contribution of Perth Airport is expected to reach almost 37,000 jobs in 2029 compared to the current (i.e. 2008) direct and indirect employment contribution of 18,700 jobs.

Table 32

Perth Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	9.4 million	24.8 million	4.7%
Employee Population	8,500	37,000	7.3%

Passenger Movements Source: BITRE, Employee Population Source: Brisbane Master Plan. Note employee numbers are both direct and indirect employment contribution

Given that Perth Airport has a low share of low cost airline passengers, together with issues with taxi availability and serves a dispersed local population, the private car is clearly the preferred mode used to access the airport. Perth Airport has a private car mode share of more than 80 per cent. Approximately 46 per cent of travellers are drop-off and pick-up via private car and 35 per cent of private car trips are parked onsite at the airport. Perth Airport also has a high proportion of trip undertaken via taxi, with mode share estimated at 11.6 per cent. Notably, less than 2 per cent of journeys to Perth Airport are undertaken via public transport (Transperth Bus). Perth Airport has stated an objective to increase public transport (i.e. bus) mode share to 10 per cent.

Table 33

Perth Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	45.5%
Private Car – Parked Car	35.4%
Private Car – Off-site Parking	1.3%
Public Transport – Bus	1.9%
Taxi	11.6%
Rental Car	4.3%
Active Transport (i.e. walking and cycling)	<1%

Note: Private Car – Parked Car includes mode share for fast track (0.4 per cent) and valet (0.7 per cent) parking, Mode Share reported for domestic passenger market only as at 2010

The strategic focus of Perth Airport is to improve access arrangements to the airport generated by growing road congestion unrelated to the airport and to focus investment on the base arterial road network in the vicinity of the airport. Notably, the issues for Perth Airport include:

- Congestion on arterial roads in the vicinity of the airport particularly during traditional morning and evening city peak hours, largely generated by non-airport related traffic, significantly impacts accessing the airport during these times; and
- Inadequate public transport options, reflecting the absence of concentrated demand for such services (i.e. the demand to get to and from the airport is very much dispersed, which limits the viability of public transport services).

Reflecting on the current status of project commitments to solve congestion issues around Perth Airport, the 'Gateway WA' project is a \$700 million road upgrade project in the vicinity of Perth Airport which has the backing of the WA and federal governments. It was recently announced by the federal government that additional funding of \$400 million would be allocated to this national infrastructure priority and would be delivered in the period from 2014 to 2017.

To address land transport issues at Perth Airport, other key short, medium and long term priorities have been identified in consultation with Perth Airport in Table 34.

23 BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.

Table 34

Land transport priorities for Perth Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	State government to address the network planning of public transport services (i.e. bus) and connections to the existing public transport network.	Poor provision of public transport services (i.e. bus) and connections to the existing transport network. In particular the single bus route runs between the domestic airport terminal and Perth CBD which provides a frequent but lengthy journey (i.e. 40 mins) on an indirect route.
	State government to provide public bus service to the international terminal – current provision is constrained by intermittent nature of flights and by lengthy entrance roads from the external road network (i.e. access arrangement inhibits the provision of public buses to the airport except terminating services).	Passengers and employees at the international terminal are not provided with a public transport alternative. International Terminal peak periods fall outside peak public transport operating hours.
	State government to address the limited supply of taxis during peak periods – on Friday and Saturday nights especially.	Limited supply of taxi during peak periods with lengthy waiting times of approximately 20 minutes.
	The state government in conjunction with Perth Airport to address the congested traffic conditions at the single access road to the General Aviation Precinct.	Single access road to airport experiences significant congestion.
	The state government to integrate express bus route planning with the Great Eastern Highway widening project to ensure adequate bus priority and carriageway space is allocated.	Ensure travel time reliability for express bus route planning.
	Main Roads WA to assist Westralia Airports Corporation to design and construct a left in slip lane front Tonkin Highway and a right turn entry to Tonkin Highway with a new signalised intersection. The design is now underway and construction is expected to commence in early 2011 with completion by the end of the year.	Limited road capacity exists on key access road, particularly during the morning and afternoon peaks.
Medium Term (projects expected to meet 2020 demand)	Perth Airport to construct additional long term car parking facilities.	Domestic and international terminal parking precincts are at 85-90 per cent capacity.
Long Term (projects expected to meet 2030 demand)	State government planning in progress for the upgrading of the Leach Highway, Tonkin Highway and airport link road to a full freeway to freeway interchange as the primary access into the planned Perth Airport consolidated terminals via SugarBird Lady Road.	The redevelopment of the current domestic terminal precinct (i.e. consolidated terminals) will require road upgrades at the primary airport access point.
	Proposal by the State to upgrade the Horrie Miller Drive, Tonkin Highway and Kewdale Road intersection to a grade separated diamond interchange.	Roads that service the freight and logistics businesses on airport site and in the surrounding Kewdale industrial area require upgrades to better service the traffic demands.
	State government planning for a grade separated interchange at the intersection of Boud Avenue and Tonkin Highway.	The redevelopment of the current domestic terminal precinct (i.e. Terminal WA and the consolidated terminals) will increase traffic volumes at the intersection of Boud Avenue and Tonkin Highway and will require road capacity improvements.
	State government to widen Tonkin Highway to six lanes (3 each way) between the Great Eastern Highway Bypass and Roe Highway to cater for current traffic volumes and increased demand in the area including traffic to and from the airport.	There is limited road capacity for the morning and afternoon (evening) peak, due to congestion on the regional road network. The State government has been planning for upgrades to the roads and have allocated \$100 million to the Tonkin (main highway) upgrade.
	State government to upgrade the Roe Highway and Tonkin Highway to a full freeway interchange to cater for increasing demand by freight, airport and general traffic.	

Sydney Airport

Australia's busiest airport in terms of passenger movements is Sydney Airport. Located 8km from the CBD, Sydney Airport had more than 32 million passenger movements in 2008/09, or an average of 90,000 per day. Passenger throughput is expected to increase by 4 per cent each year for the next 20 years, with passenger movements expected to reach 72.9 million in 2029/30, equivalent to an average of 200,000 per day.²⁴ It is also estimated that 16,000 employees work within the airport site, with a daily employment population of up to 12,000 accessing the airport each day.²⁵ In addition to employees and passengers, an estimated 30,000 'meeters and greeters' travel to and from the airport each day. On a peak day for travel, around 150,000 people currently access Sydney Airport and this is set to more than double by 2029/30 to over 300,000.

Table 35
Sydney Airport passenger movements and employee population

	2008/09	2029/30	Forecast Annual Growth Rate
Passenger Movements	32.2 million	72.9 million	4%
Employee Population	16,000	32,000*	3%*

Passenger Movements Source: BITRE, Employee Population Source: Ground Travel Plan
*Sydney Airport estimate

The private car is the preferred mode to access Sydney Airport. As described in Table 36, approximately 15 per cent of trips are undertaken by private vehicle drop-off and pick-up, and 29 per cent of journeys to Sydney Airport use private car and parking at the airport. There is also strong demand for taxi services at Sydney Airport with mode share estimated at 25 per cent of total journeys. Public transport mode share is comprised of 11 per cent for Airport Link heavy rail services and 4 per cent for public bus services.

Table 36
Sydney Airport land transport mode share

Mode	Mode Share
Private Car - Drop-Off and Pick-Up	15%
Private Car – Parked Car (includes valet)	29%
Public Transport – Bus	4%
Public Transport – Rail	11%
Taxi	25%
Rental Car	5%
Shuttle Bus	10%
Active Transport (i.e. walking and cycling)	1%

Note: Mode Share reported at 2009

For purposes of comparison, the Ministry of Transport estimates that there are more than 425,000 journeys to the Sydney CBD each weekday, with more than 65 per cent employees who work in the CBD and the other 35 per cent of people visiting to shop, for meetings, education or entertainment. Assuming that around 20 per cent²⁶ of CBD visitation is by private vehicle/taxi, and approximately 70 per cent of airport visitation by private vehicle/taxi, then private vehicle/taxi/rental car traffic created by the airport is around half that created by the CBD. It should however be noted that airports do not create the demand for land transport, rather demand for air travel (i.e. people wanting to fly creates demand) translates into demand for ground transport services to and from airports.

The publication of the Airport Ground Travel Plan (AGTP) in 2006 demonstrated Sydney Airport Corporation Limited's (SACL) commitment to exploring innovative ways to improve land transport options. SACL has stated it is committed to increasing the public transport mode share from 15 per cent to 20 per cent by 2024. Given that approximately seven in every 10 public transport trips are made by rail, it is reasonable to expect that rail will need to be successfully positioned to capture the majority of this targeted uplift.

The major land transport issue for Sydney Airport is the significant congestion experienced on key access roads and the surrounding road network. As a consequence, road access to Port Botany has also been significantly affected. There is a major risk that land transport constraints (i.e. heavily congested roads around the airport due to increasing urban activity from residential and commercial developments along airport/CBD corridor) may inhibit continued growth in aviation activity at Sydney Airport which, ultimately, will have a negative flow-on effect to the NSW and Australian economies. For example, the increasing number of port container truck movements to and from Port Botany will further reduce the serviceability of the current road network especially around the domestic terminal.

The NSW Government is primarily responsible for both the planning and funding of the surrounding road network. However, Airport Drive/Qantas Drive, which forms the northern boundary of the airport, is located on airport land. This is maintained by SACL and forms an important element of the southern Sydney arterial road network, being used largely by non-airport vehicles.

The strategic objectives at Sydney Airport are to promote alternatives to car use for employees conducting work trips, facilitate goods delivery to and from the airport, and to promote alternatives to the car for visitors and passengers travelling to and from the airport. A list of land transport priorities are discussed in detail in Table 37, which further expands on the strategic objectives and land transport requirements for Sydney Airport.

24 BITRE, 2010, Airport Movements through Capital City Airports to 2029-30.
25 Sydney Airport, 2009, Ground Travel Plan

26 Ministry of Transport, TDC Household Travel Survey 2006

Table 37

Land transport priorities for Sydney Airport

Time Frame	Project Priority	Rationale
Short Term (projects to address existing capacity deficiencies and priorities within 3 years)	M5 East Expansion – shortlisted as a nationally significant transport infrastructure issue by Infrastructure Australia. <i>(Short to medium term priority recognising long construction periods)</i>	M5 corridor is congested and worsening. The NSW Government's Cashback scheme refunds tolls (i.e. \$35 per week) for travel on the M5. The scheme provides an ongoing incentive to use the private car and not seriously consider the public transport alternatives.
	State government to work on the M4 extension to support needs of Port Botany and the Airport. <i>(Short to medium term priority recognising long construction periods)</i>	M4 experiences significant congestion and limits access to Port Botany. The toll was lifted from the M4 in 2010.
	NSW Government to implement fare reform of the Airport Link, resulting in more affordable fares for public transport to and from the airport (and in particular many employees travelling from Mascot and Green Square).	The premium pricing of Sydney Airport Link from the four Airport Link Stations (i.e. Station Access Fee or SAF) is added to the standard CityRail fare. The SAF provides a strong disincentive for passengers and employees to use the Airport Link stations. While the purpose of the SAF is to underpin the recovery of Airport Link station capital and operating costs in accordance with a long-term concession agreement between the NSW Government and the private sector, the premium fares discourage Airport Link patronage. Estimates highlighted that if the SAF was removed from Airport Link fares, rail patronage would increase by 1.1 million in 2010/11. This would increase to 3.7 million extra journeys by 2029.
	NSW Government to realign and augment existing bus services to complement travel profile of employees and passengers, in particular bus links using the NSW Government's existing strategic bus corridors: <ul style="list-style-type: none"> - Through Sydenham Station to the airport; - From Miranda in the Sutherland Shire to the airport precinct; - From Hurstville and Rockdale to the airport precinct; and - Realignment to recognise the major shift periods at the airport with earlier starts and late finishing. 	The contractual arrangements between Airport Link and the NSW Government detail that any competitive public transport alternative is restricted from operating on routes supported by the rail link. This has resulted in limited bus routes servicing Sydney Airport to the CBD and surrounding areas (i.e. Port Botany) including: <ul style="list-style-type: none"> - The only State Transit Authority bus serving the airport is the route 400, a limited stop service between Burwood and Bondi Junction; and - Recent Metrobus announcements did not include reform for core bus routes to the airport. The fact that the Metrobus network does not include either Sydney Airport or Port Botany would appear to be an obvious and significant omission.
	RTA to designate high vehicle occupancy lanes (e.g. T3 transit lanes or dedicated bus only lanes) on key approach routes to the airport.	With significant congestion experienced on key approach routes, high vehicle occupancy lanes would encourage car pooling and as a result, reduce traffic volumes.
	Sydney Airport to explore car pooling option among airport employees.	With private car the dominate mode share for airport employees, employee vehicles contribute significantly to congestion on key access roads to the airport.
	NSW Government and the RTA to plan for a link between the M5 and M4.	The augmented M5 East shifted significant additional traffic volumes onto Airport Drive/Qantas Drive contributing to current congested conditions.

Time Frame	Project Priority	Rationale
Medium Term (projects expected to meet 2020 demand)	NSW Government to acquire Sydney Airport Link.	Based on the buy-back concession detailed in the Restated Stations Agreement 2005, the NSW Government could buy-back the airport link at a point where revenues from generated trips on Airport Link (as a result of removing the Station Access Fee and reducing the M5 cashback payout) exceed the Airport Link concession.* The major advantage of this proposal for the NSW and Australian Governments is its potential to reduce the current chronic congestion on the M5 East and M5. Compared to the cost of reducing congestion by increasing the capacity of these roads the cost of acquiring Sydney Airport Link is relatively small.
	Facilitate an increase in rail patronage in conjunction with rail service providers through: <ul style="list-style-type: none"> - Supporting the provision of increased rail service frequencies and extended hours of operation; - Improving accessibility between the airport terminal arrival halls and the underground rail stations; - Improving accessibility and amenity of the central station to airport line interchange; - Supporting rail services by linking to an interchange shuttle bus service from Sydenham Station; - Supporting introduction of dedicated rolling stock to the airport line to make travelling by train more passenger friendly with luggage facilities; and - Integrate remote check-in facilities to improve passenger amenity. 	Encourage modal shift from road based transport modes to heavy rail. This will reduce congestion on key access roads to the airport.
	The NSW Government's Bike Plan has identified as a 'Priority metropolitan link' a bike route from the north of the airport to Maroubra (Action 2.1). State funding is (yet) to be allocated.	Encourage alternatives to road based transport, particularly for the employee market.
	Sydney Airport to link the Northern and South Eastern sectors of the Airport to the Port Botany Bay cycling trail and also provide adequate staff access to shower facilities, lockers and secure cycle parking on airport site.	Encourage alternatives to road based transport, particularly for the employee market.

Note: * Restated Stations Agreement (2005) New Southern Railway, New Southern Railway Settlement Deed

Other key issues for Sydney Airport include road congestion on the following key access roads:

- General Holmes Drive experienced a substantial increase in traffic volumes following the completion of the M5 East;
- Other major access roads (such as O'Riordan Street and Marsh Street) are becoming increasingly congested; and
- Internal road network issues including Keith Smith Avenue (also known as the T2-T3 horseshoe or Terminal Court due to external capacity changes).



4.0 RESPONSIBILITIES FOR NEXT STEPS

4.0

RESPONSIBILITIES FOR NEXT STEPS

Airports have a significant economic footprint – enhancing productivity and providing wider economic benefits. With annual passenger growth at airports around Australia over the next 20 years forecast to increase by 4.2 per cent per annum²⁷, demand for aviation travel will outstrip the forecast annual population growth rate for Australia of 1.3 per cent²⁸. This growth in aviation demand will need to be supported by land transport planning to protect the future economic contribution of airports. The mandate for enhanced planning and government investment in land transport access to airports is apparent in both the current problematic situation and in forecasts of future, rapid, airport land transport demand.

4.1 What are the issues?

The focus of state/territory governments on planning for land transport access to airports is currently inadequate. In the absence of formal or legislated state/territory government planning requirements, the risk is that this will continue.

The federal government endorsement of the requirement for land transport plans in airport master plans is useful for driving a greater state/territory government focus on this issue. However, this will also require improved consultative processes by airports with state/territory governments and greater understanding by these governments of how airport traffic demand impacts on city traffic demand and the need for enhancements to key road infrastructure.

Given the costs of major road network improvements, this report also calls for much greater focus by state/territory governments on improving public transport access to airports.

Barriers to improving the optimal mix of public transport in land transport to airports include:

- Continued provision of public transport services that are not price competitive with competing modes;
- Public transport services that do not address the needs of the customers (i.e. route availability, luggage provision, frequency and operating hours); and
- No clear strategic direction to improve public transport mode share (i.e. targeted mode share). For example, by promoting private car use through continued subsidisation of staff parking or other schemes (e.g. M5 cashback in Sydney).

4.2 Responsibility?

The responsibility to deliver and fund land transport projects is primarily a function of geographic boundaries. Airports have a responsibility to fund projects within their boundaries and state/territory governments, and in some cases Infrastructure Australia or local councils, have a responsibility to fund projects outside the airport boundary.

In the past the false perception was often that any state/territory government investment in land transport infrastructure (either directly or indirectly related to airports) supported the commercial interests of airports. However, the interests of the state/territory governments in land transport infrastructure should be focused on supporting or facilitating the economic benefits that accrue to the state/territory as a whole. It seems incongruous that state/territory governments work with airports to fund the attraction of airlines on the one hand, while simultaneously overlooking land transport access improvements to those same airports on the other.

With the federal government re-engaging with state and local governments on the planning and development of cities, there is no better time to obtain greater co-operation and co-ordination in the development of land transport access to Australia's major airports. Through the establishment of Infrastructure Australia and the creation of a new discourse about "projects of national significance", the federal government has created a new framework for assessing the costs and benefits of projects and new opportunities for state/territory governments to tap into new sources of funding.

The first round of federal investment in the 2009/10 Budget saw more than \$8.5 billion provided for urban transport infrastructure, though it is worth noting that there was no allocation of funding for land transport infrastructure to airports. As agreed by the Council of Australian Governments (COAG) in December 2009, the next round of funding will be contingent on city strategic plans developed by state governments and submitted by 1 January 2012 that integrate land use planning and infrastructure development.

It is pivotal that states and territories use this opportunity to address some of the fundamental land transport infrastructure gaps to airports. The development of city strategic plans should incorporate long-term visions for the future of our airports, including a clear articulation of the role they have in citywide systems and long-term goals for meeting their future land transport access needs. Our airports are key national infrastructure assets and deserve projects that both improve access to our airports and provide citywide economic and social benefits.

27 BITRE, 2010

28 ABS, 2010

The private sector also has a potential role in the funding of transport infrastructure projects. Public Private Partnerships (PPP) offer government a funding, development and operational mechanism for land transport infrastructure projects through partnering with private enterprise. The private sector has been involved in funding land transport infrastructure such as Brisbane (Airtrain), and continues to be involved in significant passenger transport projects, such as Stage 1 of the Gold Coast Light Rail.

4.3 How should we move forward?

The next steps for land transport planning involve a shift to a far more collaborative approach by airports and the three levels of government. Key steps include:

1. Planning Coordination Forums (PCFs) to encourage improvements in strategic partnerships between airport operators, land use planning and transport planning authorities from state and local governments;
2. Airports to develop formal land transport plans with stated public transport mode share targets; and
3. Transport and land planning authorities to be consulted on and provide relevant information to inform the preparation of land transport plans and the relevant sections of airport master plans.

Observed success in airport land transport has been highlighted across four key dimensions:

- A clear mandate or demonstrated leadership for land transport planning from both airports and state/territory governments;
 - Recognising the need to protect the economic benefits accruing to state/territory economies associated with airport activity;
- Land transport that is tailored to meet the needs of all key airport user segments;
- Land transport planning that takes a collaborative approach, engaging state/territory and local governments; and
- Planning for and provision of sustainable land transport modes (i.e. public transport and active transport).

While there can be common approaches in the planning process for land transport infrastructure, there no 'one size fits all' transport solution for all airports. The customer needs at each airport should be contextualized in the planning process, particularly to cater for peak operating hours (i.e. shift – working employees and peak arrivals/departure periods) and ancillary services (i.e. DFOs and business precincts), which are becoming an increasingly important element of the overall strategic direction of land transport planning. Fundamentally, a holistic approach to land transport is required to provide the time delivery of road infrastructure and concurrent development of infrastructure to allow (in most cases) public transport to play a greater role in airport access.

Specific examples of best practice land transport planning and the provision of land transport have been identified. Best practice processes and policies include:

- Regular land transport planning forums with state/territory and local governments including:
 - A clear delineation of responsibilities between airports, state/territory, local and federal governments for planning and funding requirements;
- Production of formal land transport plans with targeted public transport mode shares;
- Provision and promotion of free short-term parking for up to 15 minutes to reduce congestion in drop-off and pick-up areas;
- Low cost land transport options to support the increasing market share of price sensitive passengers;
- Delivery of road infrastructure in a timely manner;
- Public transport to play a greater role in supporting land transport and state/territory governments should lead public transport projects;
- A need to attract airport employees to public transport services (i.e. reducing incentives of road-based travel such as the Sydney M5 Cashback and increasing public transport service levels); and
- Provision of active transport facilities (i.e. designated cycle/pedestrian pathways and cycle centre facilities).

5.0

REFERENCES

1. ACT Taxi Industry Review (Canberra Airport), 2010, 1
2. Adelaide Airport Land transport Plan, 2009, 2
3. Adelaide Airport Master Plan, 2009, 1
4. Adelaide Airport, To & From, <http://www.adelaideairport.com.au/air-travel/to-and-from>, (accessed 10th August 2010)
5. Airports Amendment Bill 2010, Schedule 1 – Amendment of the Airports Act 1996
6. Australian Bureau of Statistics, Australian Social Trends 2008 – Public Transport use for Work and Study, [http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/4028BBADB558AFFCCA25748E0012AEEF/\\$File/41020_2008_23.pdf](http://www.ausstats.abs.gov.au/Ausstats/subscriber.nsf/0/4028BBADB558AFFCCA25748E0012AEEF/$File/41020_2008_23.pdf), (accessed 3rd September, 2010)
7. Australian Government Productivity Commission, Economic Regulation of Airport Services Public Inquiry - Terms of Reference, <http://www.pc.gov.au/projects/inquiry/airport-regulation/terms-of-reference> (accessed 17th December, 2010)
8. Bankstown Airport Preliminary Draft Master Plan 2010 Quick Reference Guide, Issues Management, Part C, 2009, 1
9. Bankstown Airport Submission to The National Aviation Policy Statement Issue Paper, June 2008, http://www.infrastructure.gov.au/aviation/nap/files/Bankstown_Airport_Ltd.pdf, accessed 15 November 2010
10. Bankstown Airport, <http://www.bankstownairport.com.au/Home/Home.aspx>, (accessed 6th August, 2010)
11. BITRE, Aircraft Movements Through Capital City Airports to 2029-30, <http://www.bitre.gov.au/Info.aspx?ResourceId=755&NodeId=49> (access 25th August 2010)
12. BITRE, Australian Domestic Airline Activity – time series, <http://www.bitre.gov.au/info.aspx?ResourceId=225&NodeId=101> (accessed 25th August 2010)
13. BITRE, Australian International Airline Activity – time series, <http://www.bitre.gov.au/Info.aspx?NodeId=103> (accessed 25th August 2010)
14. BITRE, Domestic Air Fare Indexes, <http://www.bitre.gov.au/info.aspx?NodeId=100&ResourceId=221>, (accessed 17th December 2010)
15. Booz & Company, Impact of Fare Reform on The Sydney Airport Rail Link, 2010
16. Brisbane Airport 2009 Master Plan, Aviation Growth Forecasts, 2009, 4
17. Brisbane Airport 2009 Master Plan, Surface Transport and Accessibility, 2009, 2
18. Brisbane Airport, To & From Airport, <http://bne.com.au/to-from-airport>, (accessed 26th July, 2010)
19. Cairns Airport. Parking & Transport, <http://www.cairnsairport.com.au/parking> (accessed 11th August, 2010)
20. Cairns City Council, Parking in Cairns, http://www.cairns.qld.gov.au/include/IA/index_pages/lawsRegPermits/parking.html, (accessed 1st September, 2010)
21. Canberra Airport 2009 Master Plan, 2009, 1
22. Canberra Airport, Transport Options, http://www.canberraairport.com.au/air_toAndFrom/rate_cal.cfm, (accessed 6th August, 2010)
23. City of West Torrens Vision 2025 Strategic Directions Report, 2008, 1
24. Colliers International, Parking Rates – Global CBD Parking Rate Survey, 2009
25. Darwin City Council, Car Parks and Parking Zones, <http://www.darwin.nt.gov.au/live/parking-traffic-and-transport/car-parks-and-parking-zones>, (accessed 1st September, 2010)
26. Darwin International Airport Master Plan Preliminary Draft, 2010, 1
27. Darwin International Airport, To & From Airport, <http://www.darwinairport.com.au>, (accessed 11th August 2010)
28. Department of Infrastructure and Transport, National Urban Policy – Discussion Paper: Our Cities – the challenge of change, <http://www.infrastructure.gov.au/infrastructure/mcu/urbanpolicy/index.aspx> (accessed 17th December, 2010)
29. Department of Infrastructure Transport, Regional Development and Local Government, A National Aviation Policy Statement – the Aviation White Paper, 2009,1
30. Department of Infrastructure Transport, Regional Development and Local Government, Research Report 117 – Aviation, 2009, 1
31. Department of Lands and Planning, Central Darwin Car Parking Generation and Utilisation Study, 2010
32. Des Nicholls, The Impact of Deregulation on the Northern Territory Commercial Passenger Vehicle Industry, 2003
33. Gold Coast Airport Master Plan 2006, 2006, 1
34. Gold Coast Airport, <http://www.goldcoastairport.com.au>, (accessed 10th August 2010)
35. Gold Coast City Council, City Parking, http://www.goldcoast.qld.gov.au/t_standard.aspx?pid=321, (accessed 1st September, 2010)
36. Heathrow: Civil Aviation Authority Passenger Survey Report 2008.

37. Hobart Airport Master Plan - Preliminary Draft Master Plan, 2009, 1
38. Hobart International Airport, <http://www.hobartairpt.com.au>, (accessed 30th July, 2010)
39. Infrastructure Australia, A Report to the Council of Australian Governments, http://www.infrastructureaustralia.gov.au/files/A_Report_to_the_Council_of_Australian_Governments.pdf, (accessed 17th December 2010)
40. Master Plan Bankstown Airport 2005, Issues Management, Part C, 2005, 1
41. Melbourne Airport Ground Transport Plan, 2009, 1
42. Melbourne Airport Master Plan 2008, 2008, 1
43. Melbourne Airport, To & From Airport, <http://www.melbourneairport.com.au/To-From-the-Airport/Overview.html>, (accessed 29th July, 2010)
44. Ministry of Transport, CBD Mobility Forum Background Fact Pack, 31st October 2008.
45. Newcastle Airport, <http://www.newcastleairport.com.au/page345/Home.aspx#>, (accessed 12th August, 2010)
46. Newcastle Airport, Annual Report 2008/09, 2009, 1
47. Newcastle Airport, Master Plan 2007, 2007, 1
48. New South Wales Government, Sydney Metropolitan Strategy, December 2010, <http://www.metrostrategy.nsw.gov.au/> (accessed 17th December, 2010) http://www.dpc.nsw.gov.au/publications/news/stories/infrastructure_australia_submission, (accessed 17th December 2010)
49. New South Wales Government, Infrastructure Audit Submission to Infrastructure Australia June 2008,
50. Perth Airport Transport Master Plan, 2010, 1
51. Perth Airport, Master Plan 2009, 2009, 1
52. Perth Airport, Terminal WA. Major Development Plan, Access and Traffic Management, 2010, 1
53. Perth Airport, To & From the Airport, <http://www.perthairport.com/default.aspx?MenuID=4>, (accessed July, 2010)
54. RTA, M2 to F3 Corridor, <http://buildingsydneyhighways.com.au/m2-f3-corridor> (accessed 16th December, 2010)
55. Secure Parking, Gold Coast Circle on Cavill Parking Rates, <http://www.secureparking.com.au/displaycarpark.aspx?carparkid=134>, (accessed, 6th September, 2010)
56. SKM, The Economic Impact of Melbourne Airport, 2008, <http://www.melbourneairport.com.au/Media/docs/EISFinalPublicVersion-9c4633db-9982-4cb7-8ced-f43cd315630f-0.pdf>, (25th August 2010)
57. State Transit Authority, MetroBus Network Map, http://www.sydneybuses.info/uploads/File/pdfs/metrobus/Metrobus_map_20100720.pdf (accessed 8 September 2010)
58. Statement of Proposals Cairns Airport, 2010, 1
59. Sydney Airport 2006 Airport Ground Transport Plan, 2006, 1
60. Sydney Airport Master Plan, 2009, 1
61. Sydney Airport, Metropolitan Strategy Review, April 2010
62. Sydney Airport, Sydney Airport Economic Impact, 2009, 1
63. Sydney Airport, To & From the Airport, <http://www.sydneyairport.com.au/SACL/To-and-From-the-Airport.html>, (accessed 9th August, 2010)
64. The Age, A decade on, it's time to put airport link back on track, <http://www.theage.com.au/opinion/editorial/a-decade-on-its-time-to-put-airport-link-back-on-track-20100228-pb3f.html>, (accessed 2nd September, 2010)
65. The Age, Airport link 'unlikely', <http://www.theage.com.au/national/airport-link-unlikely-20091201-k3vm.html>, (accessed 2nd September, 2010)
66. The Age, Don't get taken for a ride: airport rail link not needed, <http://www.theage.com.au/opinion/society-and-culture/dont-get-taken-for-a-ride-airport-rail-link-not-needed-20100701-zqib.html>, (accessed 2nd September, 2010)
67. The Parliament of the Commonwealth of Australia, Airports Amendment Bill 2010, 2010, 1
68. The Senate Rural and Transport Legislative Committee Report on the Airports Amendment Bill 2010, November 2010, pages 17 to 19.
69. The Senate Rural and Transport Legislative Committee Report on the Airports Amendment Bill 2010, November 2010, page 38
70. URS, 2009, Sydney Airport Economic Impact <http://www.sydneyairport.com.au/SACL/Economic-Impacts-Report.html>, (accessed 17th December 2010)
71. Wilsons Parking, Newcastle Parking Rates, <http://www.wilsonparking.com.au/go/regions/newcastle>, (accessed 6th September, 2010)



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