

Extract from “*Aviation policy options to support regional development in the NT*”
 Report by Access Economics Pty Ltd for
 Department of Business & Employment and Tourism NT
 November 2008

AIRPORT SECURITY PRICING ANALYSIS

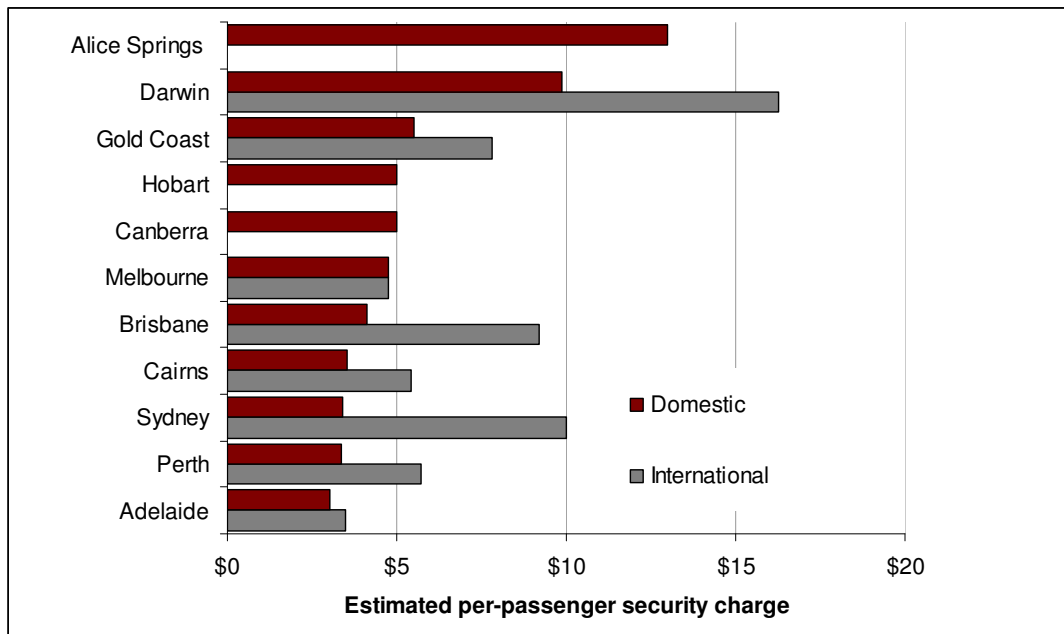
Airport security is an issue of unequivocal importance to the aviation industry, and, increasingly to the nation as a whole. However the manner in which airport security is currently administered places a significant impost on low-volume regional airports, diminishing their ability to attract and retain air services and thereby undermining the economic endeavours of the regions these airports service.

Security standards at Australia’s airports are mandated by the Federal Government, with airports required to meet legislated standards and bear the associated costs. That is, it is a location-specific pricing regime. Airports recover these costs through a per-passenger charge levied on airlines, which carriers in turn pass on to passengers – to varying degrees – through airfares.

Impact of the current arrangements

Current airport security regulations impose a uniform level of security across all security-designated airports. High fixed costs in the provision of airport security mean that passenger volumes generate significant economies of scale, placing high-volume airports at a unit-cost advantage over low-volume airports. This in turn necessitates a relatively higher, and hence less competitive cost-recovery charge. As Figure 1, below shows, nowhere are these impacts more acute than at Darwin and Alice Springs.

FIGURE 1: AIRPORT SECURITY CHARGES AT AUSTRALIA’S CTFR AIRPORTS[^]



[^]CTFR: Counter-terrorist first response is the highest level of security designation
 Differences in accounting methods limit the reliability with which security charges can be compared across airports

Airport security charges are one of a bundle of costs that airlines take into account when planning their route decisions. As airline margins – particularly those of low cost carriers (LCCs) – have tightened, such costs have come under increasing scrutiny and hence assumed greater significance in airlines’ decision making. Relatively high airport security charges at Darwin and Alice Springs therefore diminish the ability of the Northern Territory to compete for domestic and international air services, reducing the opportunities for tourism and business activity, and hence for regional development in the Territory.

Pricing considerations

The pricing principles currently applied to airport security are essentially ‘user pays’. Airlines, as the proximate users of these services, bear the full cost of their provision at each airport. However there are reasons why this may be neither efficient, nor optimal. While many security risks in aviation are airport-specific, security at individual airports is part of overall network security and hence some portion of these costs could reasonably be allocated across the network broadly. Moreover, airport security is increasingly becoming national security and in recognition of this ‘public good’ element, Government should reasonably be assuming some share of these costs. When regional development considerations are taken into account, the case for Government offsetting uncompetitively-high security charges at regional airports is heightened.

Broad policy options

Broadly, there are two policy options which the Federal Government could adopt to reduce the burden of security costs on the Territory’s two main airports. First, in recognition of the network externalities inherent in aviation, it could implement some form of network pricing model. Second, a more direct approach could be taken whereby the costs at low-volume airports generally, or Alice Springs and Darwin specifically, are partially or entirely funded and/or delivered by the Federal Government.

1. NETWORK PRICING MODELS

Network pricing models operate by sharing the costs of security equally across the relevant network. While there a number of ways in which such a model might conceivably be applied, in general terms, security costs across the network are pooled and recovered through a uniform passenger charge. The model results in high cost (low volume) airports being cross-subsidised by low cost (high volume) airports, with the extent of the cross-subsidy in practice depending on the scope of the model.

- ❑ **Full network pricing model:** all airports in the relevant networks included in the scheme (e.g. all Counter-Terrorist First Response (CTFR) airports).
- ❑ **Regional airport network pricing:** network pricing applied only to those airports that satisfy certain criteria (e.g. international airports with passenger throughput below a certain threshold).

For a network pricing model to be most effective in reducing the cost burden on regional airports, (i.e. for the cross subsidy to be greatest), it should be applied to the entire CTFR network. As the indicative estimates below show, the impact of a full network pricing model (i.e. applied across all 11 CTFR airports) for the costs of domestic airport security is a uniform security charge of around \$4.21. Such a model would therefore reduce the per-passenger security charge at Alice Springs to around one-third of its current level.

An alternative approach which has been put forward is a model of network pricing among just regional airports. The ability of such a model to alleviate high security costs is, in principle, diminished as the base available over which to spread total costs is considerably lower than in a full-network model. However as the table below shows, due in large part to the inclusion of Adelaide – where the current per-passenger security charge is the nation's lowest – a network pricing model that excludes the major gateways achieves a per-passenger security charge of \$4.90 - only marginally higher than a full network model.

NETWORK PRICING MODELS: DOMESTIC AIRPORT SECURITY COSTS*

Airport	Domestic PM ('000) 2007-08	Est. current security charge	Indicative security charge - full network pricing	% change	Indicative security charge - partial network pricing	% change
Sydney	20,053	\$3.40	\$4.21	24%	\$3.40	0%
Melbourne	18,579	\$4.75	\$4.21	-11%	\$4.75	0%
Brisbane	13,360	\$4.12	\$4.21	2%	\$4.12	0%
Perth	5,975	\$3.36	\$4.21	25%	\$3.36	0%
Adelaide	5,633	\$3.02	\$4.21	39%	\$4.90	62%
Gold Coast	4,062	\$5.50	\$4.21	-23%	\$4.90	-11%
Cairns	2,772	\$3.55	\$4.21	19%	\$4.90	38%
Canberra	2,261	\$5.00	\$4.21	-16%	\$4.90	-2%
Hobart	1,757	\$5.00	\$4.21	-16%	\$4.90	-2%
Darwin	1,285	\$9.87	\$4.21	-57%	\$4.90	-50%
Alice Springs	627	\$13.00	\$4.21	-68%	\$4.90	-62%

*Note that such comparisons are indicative only as differences in accounting methodologies across airports, limit the extent to which security charges are a true reflection of the full security cost.

The conclusion drawn from the analysis of domestic security charges are broadly reinforced when similar international scenarios are considered. A full network pricing model generates a uniform charge of approximately \$8 per passenger, roughly halving the current charge at Darwin. Limiting the breadth of the model to regional airports alone actually *reduces* the resulting security charge (to around \$6.40 per passenger). By taking Sydney Airport out of the equation – which has over 10 million passengers and the second highest security charge – while placing greater weight on Adelaide, and to a lesser extent Cairns, a regional airport model thus generates a reduced charge.

NETWORK PRICING MODELS: INTERNATIONAL AIRPORT SECURITY COSTS*

Airport	Int'l PM ('000) 2007-08	Estimated current security charge	Indicative security charge - full network pricing	% change	Indicative security charge - partial network pricing	% change
Sydney	10,641	\$10.00	\$8.12	-19%	\$10.00	0%
Melbourne	4,673	\$4.75	\$8.12	71%	\$4.75	0%
Brisbane	3,986	\$9.22	\$8.12	-12%	\$9.22	0%
Perth	2,490	\$5.73	\$8.12	42%	\$5.73	0%
Adelaide	473	\$3.49	\$8.12	133%	\$6.42	84%
Gold Coast	259	\$7.80	\$8.12	4%	\$6.42	-18%
Cairns	668	\$5.40	\$8.12	50%	\$6.42	19%
Darwin	173	\$16.27	\$8.12	-50%	\$6.42	-61%

*Note that such comparisons are indicative only as differences in accounting methodologies across airports, limit the extent to which security charges are a true reflection of the full security cost.

2. AIRPORT-GOVERNMENT COST SHARING MODELS

Current airport security funding arrangements place certain regional airports at a competitive disadvantage, distorting, at the margin, resource allocation within the industry. It is a distortion generated by Federal Government regulation, therefore direct Federal Government involvement to offset its adverse impacts – particularly insofar as they compromise regional development – should be considered a reasonable policy response.

Airport-Government cost-sharing arrangements provide a more targeted policy response to network pricing, allowing Government to intervene where the adverse impacts of existing arrangements are most acute. Such an approach can minimise the risk of policy failure, and in particular, the risk of significantly distorting allocative efficiency. Conceivably, a Government cost-sharing model could be applied to airports that satisfy certain criteria (such as those below a certain passenger threshold), or to airports where the consequences of the current arrangements are greatest – chief among these being Alice Springs and Darwin.

There are several models that such cost-sharing arrangements could take.

FULL FUNDING

In recognition of the public good element inherent in airport security, but moreover, of the barriers that airport security costs pose to regional development in many regions, the Federal Government could opt to fully fund the provision of airport security. This may be applied either to the entire industry, or to all airports that satisfy certain criteria (i.e. a definition of regional). Each raises issues: the former in relation to the magnitude of the fiscal costs, the latter in relation to where the line is drawn for eligibility. While full Government funding would be the most effective strategy for eliminating the cost burden from regional airports, it would also be the most costly. In addition, if applied selectively, the model would distort price signals (in an inverse fashion to what occurs at present), in itself, potentially creating inefficiencies.

ONGOING SUBSIDY

An ongoing subsidy, administered in an open and transparent fashion, would provide Government with a flexible tool for alleviating the impacts of the security standards they mandate, and for encouraging regional development. Economic efficiency suggests that Government's contribution to the cost of airport security should reflect the proportion of the benefits that accrue as a public good – i.e. to society broadly. While such a quantum could certainly be estimated, it would be a complex task. Moreover, in light of the pursuit of regional development, the magnitude of the ongoing subsidy should reflect the level to which security charges need to be reduced in order to enable effective competition. Several such models may be considered:

- ❑ Replicating a network pricing model at selected airports through a direct subsidy.
- ❑ Equalising costs among competing airports (for example subsidising international security costs at Darwin to equate per-passenger charges with Cairns).

GOVERNMENT FUNDING OF CAPEX

A model which has been raised by industry and policymakers alike is one whereby the airport remains responsible for meeting the operating costs associated with airport security, while the Government meets capital costs (such as infrastructure and equipment). So for example, with the introduction of checked baggage screening, the Government would provide the scanner and associated equipment, but the airport would bear the costs of manning and operating it.

While such a model allows for a clear demarcation of cost responsibilities between the Government and the industry, it is unclear whether it would adequately reduce security costs at Alice Springs and Darwin to achieve the policy objective. Future capital requirements, and hence the degree of cost sharing, are largely unknown (dependent on future security standards), and in addition, at Darwin in particular, operating costs in fact account for the majority of total security costs due to, among other things, the airport's 24-hour operation. Hence, as an example, while the capital expenditure associated with checked baggage screening was some \$6.97 million, over the longer term, the annual operating costs of \$800,000 are likely to be more onerous.

Assessing the policy options

While a network pricing approach to airport security would create a level playing field, eliminating the competitive disadvantage that the current arrangements impose on certain regional airports (Alice Springs and Darwin in particular), there are reasons to suggest that this may not be the optimal solution. Despite the presence of network externalities, a network pricing model is unlikely to be optimal from an efficiency perspective. Price signals send important messages to market participants and are instrumental in the achievement of allocative efficiency. By diminishing these price signals, a network pricing model is likely to distort resource allocation across the network. These impacts are reduced, but remain, under model applicable to regional airports only. Targeted policy measures which more directly deal with the issue at regional airports may be a more effective option.

Federal Government cost-sharing would be due recognition of the aviation industry's role in Australia's national security agenda, but moreover, of the adverse impacts that

the existing framework has on regional airports' ability to compete for air services, and hence on the economic development prospects of the regions they service. While a variety of models might be considered, an ongoing subsidy that recognises the sustained impacts of mandated security requirements would appear most appropriate. The advantages and disadvantages of each of the options considered above are summarised in the table below.

ADVANTAGES & DISADVANTAGES OF ALTERNATIVE AIRPORT SECURITY COST MODELS

Model	Advantages	Disadvantages
Full network pricing	Generates a level playing field for security charges, eliminating the competitive disadvantage that the current arrangements impose on certain regional airports.	Undermines allocative efficiency by distorting price signals, and therefore distorting the allocation of resources across the industry.
Regional airport network pricing	As above, but relative to full network pricing, the extent of the distortion created is reduced (i.e. prices at major gateways remain cost-reflective).	In principle, by excluding high-volume airports, the effectiveness of the model is reduced, however, not necessarily the case in Australia at present.
Full Federal Govt funding	Entirely alleviates cost pressure from the airports included.	Most expensive option and inefficiencies potentially significant, particularly if applied selectively.
Ongoing Fed. Govt Subsidy	Flexible, but transparent tool for targeting funding at the source of the problem.	Significant cost to Government if applied broadly (though considerably less if applied selectively).
Federal Govt CAPEX subsidy	Clear and transparent form of Federal Government assistance.	Fails to alleviate ongoing costs – a major source of cost pressure for many low-volume airports.

Modelling the benefits

General-equilibrium modelling suggests reforms to airport security funding whereby the Federal Government assumed part or all of the cost in the NT would generate significant economic benefits to the region. Government initiatives which reduce the airport security cost burden placed on airlines, and in turn (partially) on passengers, generate additional tourism and business activity for the region. Given the Territory's reliance on cost-sensitive LCCs and price-sensitive leisure travellers, initiatives which offset airport security charges at Darwin and Alice Springs generate particularly large benefits.

Three key scenarios have been modelled:

1. Full Government funding of airport security at Alice Springs and Darwin.
2. An ongoing Government subsidy toward airport security costs.
3. Government funding of airport security CAPEX.

The table below presents a summary of the key macroeconomic findings from the general-equilibrium modelling, showing the net present value (NPV) of the economic impacts of the three policy scenarios, over the five years from 2009 to 2013.

SUMMARY OF MACROECONOMIC RESULTS FOR THE NT

Scenario	Real household consumption (NPV)	Real output (NPV)
Scenario 1	\$33.1 m	\$110.3 m
Scenario 2	\$24.0 m	\$81.3 m
Scenario 3	\$12.8 m	\$45.3 m

The magnitude of the impacts reflects the size of the economic shock, hence Scenario 1, whereby airport security at Alice Springs and Darwin is fully funded by the Federal Government, produces the greatest economic gains, generating \$110.3 million in real output (real GSP) and \$33.1 million in real household consumption (a proxy for economic welfare). Both Scenario 2 and Scenario 3 produce non-negligible gains to the NT economy.

Conclusion

The analysis and modelling undertaken indicates that the cost of meeting mandated airport security requirements in the NT acts as an impediment to the region's economic development, and that alleviating this burden would generate significant benefits for the regional economy.

Access Economics

November 2008

Disclaimer

While every effort has been made to ensure the accuracy of this document, the uncertain nature of economic data, forecasting and analysis means that Access Economics Pty Limited is unable to make any warranties in relation to the information contained herein. Access Economics Pty Limited, its employees and agents disclaim liability for any loss or damage which may arise as a consequence of any person relying on the information contained in this document.