Cost imposts of security upgrades

Submission by Ian McAuley to the 2005 Joint Committee of Public Accounts and Audit Inquiry into developments in aviation security.

Summary

(This submission is particularly addressed to Terms of Reference e, relating to costs.)

In airport security political impression management seems to have taken over from rational cost-benefit considerations. There are high costs in over-spending on security, not all of which are explicit, and paradoxically excessive resources directed to aviation security may unnecessarily put people at risk of serious injury or death.

The structure of costs

The most obvious costs are those which are directly traceable – salaries of additional law-enforcement, patrolling and screening staff, modifications to airplanes, fencing, loss of payload (e.g. from fitting heavyweight security doors to aircraft).

While these may be manifest in higher ticket prices, there are other costs borne by passengers, mainly in terms of extra waiting time when security requirements result in passengers having to spend more time at airports. Each extra five minutes costs passengers, on average $1.50.[1] Across 40 million domestic passengers that equates to around $60 million a year for every extra five minutes of waiting time. Specifically, across 20 million international passengers required to take an hour longer checking in the annual cost is $360 million.

One aspect of extra waiting time relates to more use of checked baggage. One relatively harmless sharp object requires people to check baggage, requiring an extra wait at the destination.

Another cost is the inconvenience of screening. Perhaps "inconvenience" is too mild a term – the process can be humiliating. For example, people wearing belts are often required to remove them and walk through the screens while hitching up their pants. It may provide a source of merriment for the security staff – whose relationship skills are on a par to those of detention center staff – but it is yet another cost to the travelling public.

In addition to these costs, because of the price rise (the sum of ticket price, extra waiting time and other inconveniences), there will be some reduction in air travel, the amount depending on the elasticity of demand for air travel. Diagrammatically that reduction is from Q0 to Q1.

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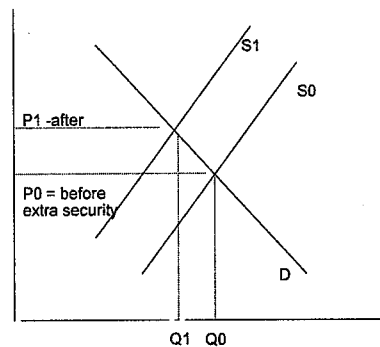
[1]   In 1992 the Australian Bureau of Statistics, using an opportunity cost method, placed an net hourly cost of $10.87 as an estimate of people's cost of time. (ABS 5240.0) Indexing this upwards by average weekly earnings growth to 2005 gives an hourly figure of $18.00, or 30 cents a minute.

Some of these potential passengers will not travel at all. In economists' terms this is a "deadweight" loss – an opportunity lost to airlines and passengers alike. For domestic travel, particularly on east coast routes, many will choose to drive or to travel by coach. Because driving has a higher injury and death rate per kilometer than flying, the result of such a modal transfer is a higher cost in terms of deaths and injuries. In trying to make air travel as safe as possible there are lives lost and injuries elsewhere in the transport system.

This is clearly relevant for car travel, which bears low terrorist risk but high accident risk. It is also relevant for coach travel, which, while having low accident risk, is left very much exposed to terrorist risk. There is no baggage screening on coaches, and there is only scant supervision of baggage loading. Baggage is carried under the center of the passenger compartment and next to the main longitudinal chassis spars, where a bomb can do tremendous damage. As experience in Israel and Nepal shows, buses are vulnerable.

Terrorism operates on the basis of surprise and of choice of easy, unguarded targets. In a country with reasonably strong border control, such as Australia, every potential terrorist is a valuable resource, not to be wasted on a futile attempt to take over a commercial airplane. By contrast, coaches are particularly attractive because the risk of detection is low and it is not necessary to sacrifice a person to death or arrest in order to carry out a raid.

I note that the terms of reference for this inquiry relate only to aviation. Presumably that's a political decision, consistent with the present government's political desire to sustain a high level of tension among the travelling public. Such tension can be sustained by making airport security visible and by imposing requirements on passengers to remind them of the risk of terrorism. (The perception that the Howard Government is tough on terrorism was a decisive factor in its re-election in 2004.) It would be remiss of the Committee to ignore the system-wide effects of excess resources being devoted to aviation security.

Alternative approaches

Organization theorists who work with "high reliability organizations", such as Professor Todd La Porte who advises the US Navy on carrier operations, stress the need for simplicity in system design. Paradoxically, layers of complexity designed with the intention of making systems more reliable or safe can have the opposite effect. In general, that's because these additional sub-systems add more interactive complexity and require the employment of more people capable of making errors, and more people likely to slip through background security checks. Airports should be designed to minimize the number of people needing to be security cleared.

Australia's international airports, particularly Sydney, have become massive tax and excise free shopping malls, requiring many staff to be cleared and to be transiting to and from secure areas. It was irresponsible of the Commonwealth to allow this, and it would be relevant for this Committee to examine the commercial and political relationship between the present Commonwealth Government and the owners and senior managers of Sydney Airport. A practical start in the interests of security would be to close down all but the most essential shops past the customs and immigration barriers and to make that area as sparse as possible.

(There would be a side benefit to public revenue if tax and excise free shopping were abolished.)

Another avenue of investigation to be pursued is the effect of increased check-in times. The earlier baggage is checked in the longer is the time baggage handlers and others have an opportunity to tamper with it. Maybe a faster process, using Just in Time methods, would serve the interests of both passenger convenience and security.

Further, a relaxation on restrictions on some commonly-used sharp objects would allow many more people to travel without checked baggage. That would reduce the need for baggage-handling staff, and would reduce the opportunity for tampering. There is already opportunity for people to take lethal weapons onto airplanes – weapons which are much more lethal than nail scissors for example. Some were mentioned in the June 2004 Report on aviation security. I know of two other very lethal weapons which can be taken on board with impunity. It would be irresponsible to describe them in a public document, but I would be willing to describe them to a staff member serving the Committee.

This inconsistency in treatment of objects contributes to public cynicism about aviation security; it conveys the impression that the present government is more interested in high visibility measures in order to maintain public anxiety, rather than practical measures to ensure reasonable safety for the travelling public. Safety is too important to be subordinated to political impression management, or to the commercial interests of airport owners.