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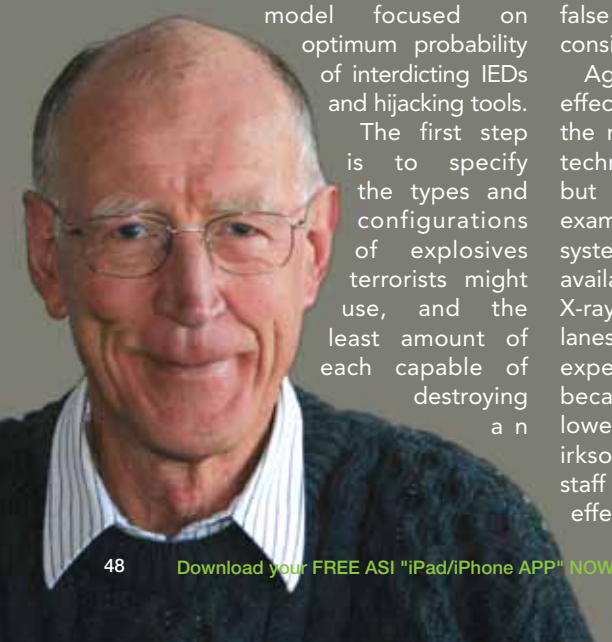
A Personal View

expressed by Cathal L. Flynn

During a recent US-UK roundtrip, there was ample time to observe pre-board screening. In both countries, checkpoint screening personnel were professional in demeanour, diligent, and often helpful to passengers. Substantial investment in screening equipment was evident, particularly so in the American airports, where new body scanners are in use. Still, it was clear that despite good intentions, current screening is not sufficiently effective to keep improvised explosive devices (IEDs) from being taken into the cabins of airliners.

It is difficult to detect the small mass of explosives that can destroy an airliner in flight. The difficulty is aggravated by the wide variety of available explosive types and configurations, the size and dense packing of cabin luggage, terrorists' ability to conceal some IED components in or under their clothing and others in their luggage, and even the possibility of a single IED's components being distributed among several passenger-terrorists. The objective difficulties have no doubt contributed to the dismal results of pre-board screening, as terrorists have time and again, from the 1980s through December 2009, taken their IEDs and components through checkpoints – and also through secondary searches at boarding gates -- into airliner cabins.

But the difficulties are not insurmountable. Israel's security service has shown that. Other nations need to adopt a different pre-board screening model focused on optimum probability of interdicting IEDs and hijacking tools.



The first step is to specify the types and configurations of explosives terrorists might use, and the least amount of each capable of destroying an airliner in flight. Having defined the targets of detection, the next step is one of national security policy: to decide the required level of effectiveness in checkpoint screening. Officials making that policy decision will know that high effectiveness could be much more expensive than mediocrity, but in many nations only highly effective screening will be considered adequate against current threats.

> "…specify the types and configurations of explosives terrorists might use, and the least amount of each capable of destroying an airliner in flight…"

If national policy requires highly effective checkpoints, it is a practical certainty that no single technology or process will be sufficiently effective in screening either passengers or luggage. Instead, passenger and luggage screening will each require at least two complementary, independent detectors, each compensating for blind spots in the other's detection range. It follows that a single detector's alarm requires an intensive, detailed search of that passenger or bag, to determine without doubt that an IED component is not present. That procedure contrasts with usual checkpoint (and hold baggage screening) practices, which permit clearance of one detector's alarm by a second detector's negative indication; this reduces net false positives, but at the price of a considerable drop in net effectiveness.

Again assuming a policy of high effectiveness, it goes without saying that the most effective available detection technologies should be employed, but today they often are not. For example, CT X-ray explosives detection systems designed for checkpoints are available, but less effective dual view X-ray equipment is instead used in all lanes, presumably because it is less expensive. This is understandable, because the increased investment, lower passenger throughput, more irksome intrusiveness, and greater staff competence needed for highly effective screening is unaffordable in a one-size-fits-all screening regime. But high effectiveness screening is not needed for all passengers, provided that an adequate passenger pre-screening system can be implemented. That should be possible.

Pre-screening would place a passenger in one of three risk categories: Known Traveller, normal risk, and elevated risk. Known Travellers would be drawn voluntarily from elite (high miles flown) frequent flyers of many years standing, undergo a stringent trustworthiness check, and thereafter use designated checkpoint lanes in which they would be screened quickly. The efficiency of Known Traveller screening is needed to balance the high cost and low throughput of screening elevated risk passengers in high security lanes. Normal risk passengers would be screened in a similar manner to that used on most passengers today.

It is essential that any terrorist intending to attack an airliner be categorised as elevated risk and screened accordingly. Pre-screening must be reliable. Three systems, augmented by random selection, could independently assess the passenger; categorisation as elevated risk by any one system would be decisive. In the United States, the three systems could be Secure Flight (matching passengers against watch lists), a revived CAPPS (risk estimation based on PNR data), and behaviour observation.

We can improve screening effectiveness only by using our best technologies and procedures on a category of elevated risk passengers. The increased cost and complexity here can be offset with an efficient Known Traveller programme. ■

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