

TERROR ON THE TGV?
THE TERRORIST THREAT TO FRANCE'S HIGH-SPEED RAIL NETWORK

DYLAN KISSANE
SCHOOL OF INTERNATIONAL STUDIES
UNIVERSITY OF SOUTH AUSTRALIA

For presentation at the *Contemporary Challenges and Future Trends in International Security* conference
American Graduate School of International Relations and Diplomacy, Paris, France
20-21 June 2007

Please do not cite without permission.

TABLE OF CONTENTS

Table of Contents	2
Introduction	3
Air France versus the TGV: Contrasting Counter-Terrorist Strategies	3
Lyon to Paris by TGV	4
Lyon to Paris by Air France	4
Comparing and contrasting security screening for the Lyon-Paris journey	5
Significant Weak Points in TGV Network Security	5
A – Passenger Screening	6
<i>A1 – Pre-Ticketing Identification of Potential Terrorists</i>	6
<i>A2 – Pre-Boarding Identification of Terrorists</i>	6
B – Baggage Screening	7
<i>B1 – Pre-Boarding Baggage Screening</i>	7
<i>B2 – Passenger/Baggage Matching</i>	8
Summary	8
The Three I’s: Imagination, Implementation and Inconvenience	8
Imagined Risk to the TGV Network	8
Implementation Costs of a Passenger and Baggage Screening	9
Inconvenience to passengers as a result of implementation	10
Summary	11
Conclusion	11
References	12

Introduction

France is famous the world over for its high speed rail system known locally as the *Train à Grande Vitesse* or by its abbreviation, the TGV. The fastest rail transport on the planet, the TGV network moved its billionth passenger in 2003 and transports more than 130 million passengers annually.¹ Providing an alternative to time intensive air transport between relatively isolated airports, the TGV network provides passengers with a city-centre to city-centre transport that is regular, fast, comfortable and environmentally friendly. However, like all modes of transport, the TGV is not safe from terrorism. As events in New York, London and Madrid have shown, mass transit systems make attractive targets for terrorists.² However, unlike French air transport in the post-9/11 world, France's TGV network has taken few steps to secure its network from terrorists. Indeed, so glaring are the holes in TGV security that where an attack on an airliner would require a significant failure of more than one counter-terrorist measure, an attack on a TGV would require nothing more than a terrorist's imagination. Thus, within the context of the post-9/11 security environment, the TGV network represents a clear target for anti-Western terrorist groups with a potential cost in lives eclipsing both London and Madrid combined.

This paper considers this problem in three parts. Firstly a comparison will be made between current security and screening procedures for a flight between the French cities of Lyon and Paris and the same trip undertaken by TGV.³ This section will clearly show that counter-terrorist security measures employed on flights within France is considerably more rigorous and of greater utility in thwarting attempted terrorist activity than the measures (or lack of thereof) enforced on the TGV. Secondly, this paper will consider in greater detail the potential weak points identified in TGV screening and security and the opportunities for terrorist infiltration will be explored. Thirdly, and in relation to the weaknesses outlined previously, three reasons for not implementing a more rigorous and air travel-like counter-terrorism program will be offered in explanation for the lack of security on the TGV network: the imagined risk, the cost of implementation and the expected inconvenience to passengers. Applying examples from within wider Europe and North America, however, each of these will be shown to be inadequate in justifying the ongoing insecurity of the TGV network. Thus, in concluding the paper, it will be argued that the TGV network of France presents an easy target for a terrorist strike and one that should be addressed with urgency by French policy makers.

Air France versus the TGV: Contrasting Counter-Terrorist Strategies

The first part of France's TGV network to be constructed was the TGV Sud-Est linking the capital, Paris, with France's 'second city', Lyon in 1981. For nearly a decade it was the sole TGV route in France and provided passengers with an alternative to either a long drive by car or the temporally shorter but geographically inconvenient flights between Lyon Satolas airport (renamed Lyon Saint-Exupéry in 2000) and Paris-Charles de Gaulle airport. In this paper the Lyon-Paris route will serve as the case study for the comparison of security screening though – in general terms – the security screening procedures described are largely identical in other major French airports and TGV stations.⁴ This section of the paper will be presented in three

¹ This is a significant proportion of the 944 million passengers (2004 figures) that SNCF carries each year. See SNCF. 2007. *TGV Est Européen: Project Players and Stakeholders*. [7 June 2007] <http://tinyurl.com/2t4stm>.

² For background on the New York, London and New York attacks see, respectively, 9/11 Commission. 2004. *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States*. Washington, DC: US Government Printing Office; Greater London Authority. 2006. *Report of the 7 July Review Committee*. Report presented to the Greater London Authority, London, UK, 5th June 2006; Congreso de los Diputados. 2005. *Comisión de Investigación sobre el 11 de marzo de 2004*. [7 June 2007] <http://tinyurl.com/2vearu>.

³ This particular route is selected as an exemplar not only because it was the first TGV route developed in 1981 but also because it is one of the busiest TGV routes.

⁴ The sole exception is the Eurostar high-speed train to London-Waterloo in which baggage is screened and passengers must check in 30 minutes before departure. In this article only the TGV network internal to France is assessed.

parts: firstly, the journey by TGV and the security measures a passenger endures will be identified; secondly, the journey by air will be outlined and the various security and counter-terrorism procedures for air passengers will be identified; thirdly, the measures will be presented in tabular form allowing for the two journeys to be compared and contrasted in relation to the levels of security enjoyed.

Lyon to Paris by TGV

The journey by TGV between Lyon and Paris takes the passenger from either the Lyon-Perrache or Lyon-Part-Dieu station to the Gare de Lyon in Paris in less than two hours.⁵ While passengers are strictly required to have a valid ticket to board the train this is not enforced upon boarding; indeed, it is possible to board the train without a ticket and purchase one at a premium price from one of the on board controllers. The ticket itself requires no identification on behalf of the passenger, save for passengers employing a discount or frequent traveller card or if using a personally printed e-ticket.⁶ Similarly, controls of the tickets on board the train require no identification on behalf of the passenger outside of the cards and reduced fares already mentioned.⁷ Passengers face no practically enforced limits on baggage taken aboard a TGV in terms of weight or composition and there is no baggage screening at all. Further, it is possible for luggage to be placed on board the train without an accompanying passenger despite rules forbidding such a practice. Though all baggage is supposed to be labelled with the owners name and address, this is not enforced and most baggage travels without a tag identifying the owner.

Lyon to Paris by Air France

The journey by air between Lyon and Paris with Air France takes the passenger from Lyon-Saint Exupéry airport (located 20km from the city of Lyon) to Paris-Charles de Gaulle (approximately 25km northeast of Paris). All passengers must have a valid ticket or reservation which must be presented when checking in at the airline desk pre-flight. The name with which the reservation was made must match the name of the departing passenger and the passenger must provide approved photo identification (ID card or passport) to prove this is the case and for a boarding pass to be issued. Baggage is either checked or carried onto the aircraft by the passenger. In the case of the former the baggage must be labelled with the passenger's name and address and will be x-rayed for potentially dangerous material before being placed in the hold of the aircraft.⁸ In the case of the latter, it will be x-rayed as the passenger passes from the check-in area to the boarding gates. At the same time the passenger will pass through a metal detector and will have excessive liquids and potentially dangerous items removed from their hand luggage, if they exist.⁹ No passenger is allowed to pass into the boarding gate area without a valid boarding pass. At this point it is possible that the passenger and their hand luggage will also be swabbed at random for explosives residue. Between the boarding gate and the aircraft itself the passenger must not only present their boarding pass but also their photo identification for a second time and, again, the identification must match the boarding pass presented.¹⁰ Finally, before the aircraft departs there is a final check to ensure that all passengers who checked baggage are aboard the plane and – should a passenger have checked luggage and failed to board – the luggage will be removed from the plane before departure.¹¹

⁵ Journey time from Lyon-Part-Dieu to Paris-Gare de Lyon is between one hour and fifty-five minutes and two hours and one minute.

⁶ Self-printed e-tickets require that the holder to not only identify themselves by name but also provide their date of birth and – upon ticket control aboard the train – provide identification matching both.

⁷ Example cards include Carte Grand Voyageur, Carte 12-25, Carte Senior, Carte Escapades and Carte Enfant.

⁸ Air France. 2007. *Safety Measures*. [7 June 2007] <http://tinyurl.com/you577x>.

⁹ Air France. 2007.

¹⁰ Air France. 2007.

¹¹ It is for this reason that all checked baggage is labeled by either the passenger or by the airline, and that it is bar-coded by the airline before being placed aboard the aircraft. See Air France. 2007.

Presenting the contrast in tabular form, however, allows for the significant differences to be even more clearly identified.

Security Measure	TGV	Air France
Name on passenger's ticket must match government issued identification	NO	YES
Passenger must present photographic identification to travel	NO	YES
Passenger's checked/not personal baggage is x-rayed	NO	YES
Passenger's hand baggage is searched and x-rayed	NO	YES
Passenger passes through metal detector	NO	YES
Passenger is swabbed for explosives residue	NO	YES*
Passenger cannot board transport without second photographic ID check	NO	YES
Transport will not depart with unaccompanied baggage	NO	YES
Passenger must label all luggage with identifying tags/have luggage tagged by staff	NO	YES

As is clear from the table above, in all aspects of screening – pre- and post-boarding, passenger and baggage – are significantly under developed on the TGV network in comparison to the domestic air travel screening. For a terrorist, then, the TGV network is a particularly attractive target as the lack of security coupled with the chance to strike at large numbers of people in major European cities makes both planning and execution relatively simple. In a security environment wherein France's neighbours have seen devastating attacks on trains in recent years, the failure to increase counter-terrorist screening or to even implement screening of passengers or baggage at all on Western Europe's premier high-speed rail network is alarming.¹² Assuming a terrorist group seeking to wreak havoc in France and which has chosen to target mass transit systems in doing so, the TGV network makes a much more appealing target than a September 11th-style aircraft-based attack.¹³ As the following section expounds in more detail, there are at least four critical failures in TGV network security screening which make the terrorist threat to France's high-speed trains clear and very present.

Significant Weak Points in TGV Network Security

There are two areas in which counter-terrorist air security in France is superior to TGV security: passenger screening and baggage screening. Under each of these two it is possible to specify a further two weak points. For the former they are pre-ticketing identification of potential terrorists and pre-boarding identification of potential terrorists; for the latter it is pre-boarding screening and passenger/baggage matching. This section of the paper will consider the potential weak points under these two main headings and concentrate on these four specific areas in drawing attention to the most significant and most easily addressable areas of TGV network security. Each of the four specific areas will be considered within a similar algorithmic approach: firstly, the existing procedure on the TGV will be explained; secondly, the suggested alternate screening measure will be explained; and thirdly, the importance and likely impact of such a screening procedure will be outlined. In concluding this section it will be clear not only what holes exist in the current TGV counter-terrorist screening strategy but also how these can be addressed through specific and tested screening measures.

¹² See Congreso de los Diputados. 2005; Greater London Authority. 2006.

¹³ In recent months French authorities have been increasingly aware of the likelihood of terrorist attacks in the country. See Katrin Bennhold. 2006. 'French counterterror force on high alert.' *International Herald Tribune* (20 December 2006) <http://tinyurl.com/28ej7x>.

A – Passenger Screening

Passenger screening is an important counter-terrorist security procedure as terrorist attacks rely on individuals or teams conducting them to succeed. Successful counter-terrorist screening procedures help to reduce the likelihood of terrorist groups using mass transit networks and, in doing so, reduce the likelihood of an attack on those networks.¹⁴ While the very nature of terrorist groups mean such screening procedures have an inherently less-than-perfect record of identifying terrorists or potential terrorists, successful screening has led to the detention of terrorists attempting to board aircraft and – in doing so – has potentially saved many lives in the process.¹⁵ In relation to a potential TGV passenger, two types of passenger screening can be considered significant weak points open to terrorist infiltration: pre-ticketing identification of potential terrorists and pre-boarding identification of potential terrorists.

A1 – Pre-Ticketing Identification of Potential Terrorists

At the present time there is little attempt made to identify potential terrorists at the point of ticketing. Although all passengers purchase tickets electronically – either from a clerk at the TGV station, at automated vending machines at the TGV station or over the internet – there are no systems in place to ensure that the name given upon purchase is the name of the prospective passenger.¹⁶ Thus, not only is a terrorist using a real name unlikely to be identified on a terrorist watch list but a terrorist using a false name is unlikely to be identified at all. The alternative to this speedy yet potentially dangerous standard operating procedure is to apply a similar regime to that endorsed by the domestic air travel sector. Such a system identifies known terrorists and known terrorist aliases before final ticketing takes place and alerts authorities to the location of known terrorists and – in the case of persons of interest – allows authorities to track their movements within France.¹⁷ In relation to the TGV network, what would be required would be for tickets to be booked under a name no matter the type (*Premis, Standard* or *Dernier Minuté*) or the location from which they are bought.¹⁸ At the least this would allow for SNCF and the authorities to identify potential terrorists before those persons boarded the train – and potentially even before they arrive to travel. At best, this would allow authorities to prevent the travel of known terrorists and persons of interest and detain them in the hope of preventing an attack and deterring future attacks.

A2 – Pre-Boarding Identification of Terrorists

Unlike boarding an aircraft where a passenger requires, first, a ticket and, upon proof of purchase and proof of identity can, secondly, obtain a boarding pass, the TGV network uses a single ticket/boarding pass system. A valid ticket is all that is required for boarding a TGV network train and, in practical terms, this is not even necessary as a ticket can be purchased at a premium from a ticket controller once aboard and moving. As a result, between the purchase of the ticket and the ticket control during the trip there is no time whereby a potential terrorist will have their identity

¹⁴ Robert Poole. 2001. 'Learn From Experience on Airport Security.' *Heritage Foundation Backgrounder* (1493): 1.

¹⁵ See, for example, William Crenshaw. 1988. 'Civil Aviation: Target for Terrorism.' *Annals of the American Academy of Political and Social Science* 498(July): 60-69; Gerald Dillingham. 2001. *Vulnerabilities in, and Alternatives for, Preboard Screening Security Operations*. Testimony before the Committee on Governmental Affairs and its Subcommittee on Oversight and Governmental Management, Restructuring and the District of Columbia, US Senate, 25 September 2001.

¹⁶ It is also possible for a person to purchase multiple tickets for – as an example – friends and family.

¹⁷ Such a scheme is in place in airports across the EU and has been part of France's Vigipirate counter-terrorist program since its inception in 1978.

¹⁸ The different tickets do not separate passengers by anything other than price point. There remain only two classes on the TGV and a *Premis* (special discounted ticket) passenger will be seated amongst *Standard* fare ticket holders (regular priced tickets) and *Dernier Minuté* (last minute) ticket holders.

checked.¹⁹ The alternative would be to enforce a simple ticket check at the point of boarding whereby SNCF will ensure that (a) all passengers have valid tickets, (b) all passengers have tickets issued in their own name and (c) suspicious passengers can be detained for questioning before boarding the train. Such a step would, of course, only be useful in conjunction with the previous step whereby a name is required for the issuing of a ticket in the first place and, while not introducing a second level of paperwork as in the case of air travel, would allow for authorities to ensure that passengers are who they say they are and are not on a terrorist watch list. Further, by forcing all passengers to have a valid ticket to board the train authorities can be sure that no unchecked passengers can enter a departing train or place a device on board the train before departure.

B – Baggage Screening

Baggage screening is an effective method of both apprehending and deterring terrorist attack on an aircraft.²⁰ Modern x-ray scanners can identify potentially explosive devices or components and, in doing so, prevent the transfer and detonation of an explosive device during air transit.²¹ Similarly, a system of baggage screening applied to the TGV network would allow for the often significant number of baggage pieces per carriage to be screened for explosive devices and dangerous items pre-boarding and help to address the threat of a terrorist device being loaded aboard a TGV network train.²² In relation to the TGV network, two potential weak points are identified and solutions offered for addressing these weak points: pre-boarding screening and passenger/baggage matching.

B1 – Pre-Boarding Baggage Screening

At present there is no attempt by security officers to screen any of the baggage placed on a train on France's TGV network. A passenger is not only entitled to carry on multiple pieces of hand baggage but also larger pieces of baggage – including suitcases and cartons – which, on an aircraft, would normally be stowed away from the passenger in the hold.²³ These larger pieces are often loaded aboard by non-travelling persons such as family or, in the case of elderly or less-able passengers, other more-able persons. There is no enforced limit on the baggage a passenger may take aboard; in practice, if the passenger or others can load and unload the baggage then it can travel with them on the TGV.²⁴ The problem, however, is that it is possible and, indeed, likely that baggage can be loaded which has no accompanying passenger or that dangerous baggage can be loaded by travelling passengers for, in both cases, subsequent detonation. One way to address this is to screen the baggage at the point of boarding using techniques borrowed from the air travel industry. Even a random screening of baggage would serve as a deterrent to terrorists while serving to root out explosive devices set to be loaded aboard a TGV network train by a terrorist or terrorist group.²⁵

¹⁹ Note that it is likely that a potential terrorists ticket *will* be checked for validity; however, the identity of the ticket holder will likely *not* be confirmed.

²⁰ See supporting figures and differing screening techniques in Viggo Butler and Robert Poole. 2002. *Rethinking Checked Baggage Screening*. Los Angeles: Reason Foundation, p.4. See also Sheldon Jacobson, Julie Virta, Jon Bowman, John Kobza and John Nestor. 2003. 'Modeling aviation baggage screening security systems: A case study.' *IIE Transactions* 35(3): 259-269.

²¹ For example, the Hamburg Airport uses an x-ray scatter device to detect explosive devices. See H Strecker. 1998. 'Automatic detection of explosives in airline baggage using elastic X-ray scatter.' *MedicaMundi* 42(2): 30-33.

²² As noted previously, such a system already exists on the pan-country Eurostar network.

²³ Limits on baggage carried into the cabin of a domestic or pan-European flight departing from a French airport are strictly enforced.

²⁴ Limits do exist, however, for baggage collected by SNCF staff at a passenger's home and delivered to their destination. There is, however, a charge for this service and most luggage travels with the passenger from point to point.

²⁵ Research suggests that screening for explosive devices and explosives residue is a significant deterrent to terrorist activities in air travel situations. See Sheldon Jacobson and Tamana Karnani. 2005. 'Assessing the impact of deterrence on aviation checked baggage screening strategies.' *International Journal of Risk Assessment and Management* 5(1): 1-15, p.13.

B2 – Passenger/Baggage Matching

As alluded to above, at the moment it is possible for baggage to be loaded aboard a train without the associated passenger boarding the train. Thus, for example, it can be imagined that an explosive device can be loaded aboard a train by a terrorist in Lyon to be exploded either midway to Paris or in Paris itself without it ever being detected, nor the terrorist losing his own life. In conjunction with the measure outlined above, though, this can be addressed through first ensuring that the baggage loaded is associated with a passenger and, secondly, by ensuring that baggage is marked so as to be matched to a specific passenger. A simple mark on a passenger's ticket noting the number of pieces of baggage accompanying the passenger would ensure that a passenger is matched to all pieces of baggage on board the train. An explosive device could no longer be loaded onto a TGV without a passenger accompanying it and – combined with baggage screening as outlined above – should not be able to be loaded aboard at all.²⁶

Summary

In summary, then, the measures suggested for the TGV network – all based on existing air travel industry measures – would include (though not necessarily limited to) the following: tickets to be purchased in the name of a passenger; tickets to note the number of pieces of baggage taken aboard by a passenger; tickets to be checked for matching photo identification before boarding the train; baggage to be screened before being loaded onto the train; and no unaccompanied baggage to be carried on the train. While simple measures, these are also proven effective measures for addressing the threat of terrorism and particularly suicide bombing and bombs placed on board of a train. They are, however, a long way from the reality in France today and there are no moves afoot to address the weak points outlined above in current French public policy. The reasons for this are outlined below and while they are all clear, they are far from compelling when considering the terrorist threat that Western states face in Europe today.

The Three I's: Imagination, Implementation and Inconvenience

If the TGV network faces such a risk of terrorist attack why have not the weak points in the screening and counter-terrorist been addressed by the French government in the same manner that threats to domestic air travel have been? While the specifics are varied and many arguments for retaining the current regime are offered, all of the most significant can be grouped under three headings: the lack of an imagined risk to the TGV network, the cost of implementation of a screening program as described and the assumed increase in inconvenience to passengers which the scheme would necessarily produce. Examined in turn, however, these three broad objections – referred to in this paper as 'the three I's' – fail to convince that the implementation of an extensive counter-terrorist screening program is less positive than negative. Indeed, as this section will demonstrate, the three I's are less reasons for the retention of the current policy than excuses for the rejection of measures that surely offer greater protection to the millions of TGV passengers annually.

Imagined Risk to the TGV Network

The 9/11 Commission famously concluded that, in spite of the many errors attributed to intelligence and governmental operators in the period preceding the September 11th 2001 attacks, it was a lack of imagination as to the gravity of the al-

²⁶ A significant 'live test' of passenger-baggage matching was completed in early 2001. See Arnold Barnett, Robert Shumsky, Mark Hansen, Amedeo Odoni and Geoffrey Gosling. 2001. 'Safe at Home? An Experiment in Domestic Airline Security.' *Operations Research* 49(2): 181-195.

Qaeda threat on the part of the authorities that was responsible for the attacks taking place.²⁷ From political leaders who did not imagine a relatively small terrorist group striking so effectively at the heart of a superpower to responding officials who did not imagine that hijackers would want to do anything like what eventually occurred, the failure to imagine the terrorist threat was at the heart of the failure to respond effectively to what was planned and, later, what was carried out.²⁸ A similar lack of imagination must exist for passengers and operators of France's TGV network; what else, after all, could explain the almost complete lack of attention to the glaring weak points in the network's security procedures?

Yet there are a number of reasons that the TGV network should be considered by authorities to be a clear target for terrorists. Take, firstly, the 1995 bombings and attempted bombings France endured as the Armed Islamic Group (GIA) brought their Algerian terrorism to the cities of France. Though concentrated primarily on metro stations and city-specific public transport, one bomb was placed on a TGV line near Lyon, though it was not successfully detonated by the terrorists. Secondly, the relatively recent terrorist bombings of rail networks in Madrid and London in 2004 and 2005, respectively, indicates that a decade after the GIA attacks in France rail systems and their relative insecurity remain targets of choice for European terrorists. Thirdly, as recently as this year trains in greater Europe have been the target of terrorist bombings. On the 24th of May 2007 terrorists in Turkey detonated a mine in order to derail a train in the south-east of that country.²⁹ If there remains a lack of imagination that the TGV network could be targeted it can only be because authorities refuse to acknowledge their own history of terrorist incidents, that of their near neighbours and European Union partners and that of European Union candidate country, Turkey. One does not demand much creativity at all to imagine the threat of terrorism on the TGV.

Implementation Costs of a Passenger and Baggage Screening

As evidenced in post-9/11 upgrades to counter-terrorist screenings for air travellers, there exists a significant cost to be passed onto, first, operators and, secondly and as a function of the market, to the consumer for the gains in safety afforded by more rigorous security regimes. Consider, for example, the cost of screening a single air passenger in the United States in 2006 (\$1.89/€1.40) and a single bag (\$1.64/€1.22) applied to the French TGV network and its 130 million passenger movements each year would add up to 340 million euros in costs to the security regime of the TGV. Further, and in conjunction with the aforementioned imagined risk to the TGV network, such costs must be viewed from the perspective of an economic rationalist, wherein the imagined threat to the network is weighed against the expense of mitigating that threat.³⁰ As was argued with regards to pre-September 11th air travel security regimes and post-September 11th regimes for non-air travel (including trucks and suburban/city rail), even if a threat exists the cost of mitigating the threat might often be more than if the threat would become an actuality.³¹ Finally, as the price point of a TGV ticket compared to its rival domestic air travel is a significant selling point for SNCF in attracting passengers, the argument that a higher ticket price as a result of the increased screening and counter-terrorist procedures would act as a significant disincentive to passengers, reducing the profitability of the TGV network and placing jobs across France at risk.

Yet it should be clear that the price of screening passengers and baggage is far from high. Assuming that all costs were passed onto the passenger, the average increase in the price of a journey from Lyon to Paris would be less than €2.70. With the price

²⁷ 9/11 Commission. 2004, pp.339-348.

²⁸ 9/11 Commission. 2004, pp.339-348.

²⁹ The Advertiser. 2007. 'Turkey.' *The Advertiser* (26 May 2007): 73.

³⁰ Bruno Frey and Simon Luechinger. 2003. *Measuring Terror*. Working Paper No. 171, Institute for Empirical Research in Economics, University of Zurich, Zurich, Switzerland, pp.10-12.

³¹ Frey and Luechinger. 2003, p.1.

of a standard one-way ticket from Lyon to Paris set at €59.90, this signifies an increase of only 4.5%.³² The likelihood of mitigating the terrorist threat, however, is significantly increased and passengers will travel safe in the knowledge that the chance of a terrorist attack on their train is low. Initial implementation will, as with other transport networks, see significant costs borne by SNCF, French authorities and – likely – the French travelling public. However, such costs are temporary and if the United States air industry can be used as a guide, the costs of operation improve significantly from the first year of implementation (\$2.89) moving in to the second (\$1.89). This suggests that savings will be both available and likely post-implementation and that ongoing costs will, with time, decrease. Lastly, to argue that SNCF's TGV network will be less competitive than its rival air industry is an argument without much strength. Even with an increase in passenger screening costs as outlined the standard Lyon to Paris fare will remain at €62.60 in comparison to the standard Air France fare between those two cities of €271.³³ Bearing in mind, also, the benefits of passengers arriving in the centre of their destination city as opposed to an airport on the periphery of the city and the time won in having baggage close to hand upon arrival means that travelling by TGV will remain an attractive option while also becoming a safer one.

Inconvenience to passengers as a result of implementation

Any new screening regime will involve a certain level of inconvenience for passengers relative to boarding a TGV train. Inconvenience is not necessarily an issue for SNCF or for authorities except from a financial perspective; that is, if passengers begin to choose alternate methods of transportation ticket revenues will fall and the profitability of the TGV network will be negatively effected. The likelihood of inconvenience effecting passengers to some extent is certain. Presently the TGV network enjoys significant advantages over its airline rivals in terms of convenience which the suggested screening procedures would impact upon: passengers would no longer be able to arrive and board the train moments before departure, passengers would endure longer waits should they be taking multiple pieces of baggage aboard the train, family members will be barred from assisting elderly or disabled passengers from boarding and ticket purchasers would be required to book tickets in the name and with the photo identification of other passengers. This may encourage passengers to seek alternate transport – personal vehicle, bus or TER train – to avoid the inconvenience of the TGV network under a counter-terrorist screening regime.

Yet the benefits of a TGV journey as opposed to one of the alternates are not all likely to disappear under a new regime of screening and security. While a TER train might not be subject to security screening, the period of time that the TER takes to complete its journey is considerably longer (in most cases) than its TGV rival.³⁴ Indeed, even a rudimentary screening procedure implemented on a journey such as Lyon to Paris would add minutes to what is a TGV journey time hours ahead of the competing TER service. As there will be no change in the route of a TGV train, the TGV maintains its advantage of city-centre to city-centre travel in comparison to its air travel rival.³⁵ The comfort level on the TGV will not be affected by an increased security regime and passengers will continue to enjoy seating and a travel environment superior to the TER and domestic air travel. While there will certainly be inconvenience – and greater inconvenience would be expected on the introduction of the regime relative to ongoing implementation – it should not be inconvenient to the point where the TGV network will face passengers choosing alternate transportation means and, thus, the revenue losses should remain minimal.

³² Information from Voyages-SNCF.fr.

³³ Information from AirFrance.fr.

³⁴ The Lyon to Paris route by TER takes nearly three times as long as the same route by TGV (5 hours 43 minutes versus 1 hour and 55 minutes).

³⁵ Juliette Jowit discusses such advantages in relation to proposed high-speed rail networks in the United Kingdom. See Juliette Jowit. 2007. *Hi-tech rail promises host of benefits*. [8 June 2007] <http://tinyurl.com/3ykmdn>.

Summary

The three I's are objections to the introduction of a counter-terrorist screening program for passengers and baggage on the TGV network, but they remain objections without strong support. To imagine that there is little risk of terrorists identifying the TGV network as a potential target is naïve in the extreme, particularly when the recent history of terror in France and Europe is considered. Similarly, on top of implementation costs which may be significant, the ongoing cost per passenger of a screening program are relatively low – and drawing on the experiences of US airline screening can be expected to drop with training, productivity and efficiency gains. Finally, though there is sure to be inconvenience to passengers relative to the (non)existing regime of the present day. However, the advantages the TGV enjoys in speed (over the TER, vehicle and bus travel), comfort (over the TER, air travel and road vehicles) and passenger delivery to city-centres (over air travel) should not see the TGV rail network lose passenger revenues to rivals. In short, while there are objections to the introduction of a passenger and baggage screening program, they are not significant enough to outweigh the security benefits that “plugging the holes” in the TGV network's counter-terrorist security procedures would surely provide.

Conclusion

France's TGV network is a world class transportation service offering real advantages over domestic air travel and competing services such as the TER and bus services for travellers. It suffers, however, from a lack of attention to the threat of terrorism, providing several weak-points which might be easily infiltrated by terrorist seeking to strike a Western state in Europe. While it would be difficult if not impossible to protect the thousands of kilometres of TGV rail lines, the passengers and TGV trains themselves can be better protected to address the weak points in the existing counter-terrorist regime. Such weak points become immediately apparent upon comparison with France's domestic air travel industry which – as demonstrated in tabular form in this paper – outstrips the TGV network in terms of security and counter-terrorist regimes. Specifically, the TGV network does not demand that passengers provide any identification when purchasing most tickets, does not demand that passengers are screened against lists of known terrorists, does not screen individual passengers or their baggage before boarding, allows non-ticketed persons to board the train, allows non-travelling persons to enter the train prior to departure and has no method by which an unaccompanied piece of baggage can be prevented from being loaded aboard a TGV train. Such weak points are a clear and present danger to the TGV network and the travellers who use it for inter-city travel in France.

This paper has suggested that an air travel-style screening regime for passengers and baggage would address these weak points. Some changes – such as requiring identification on the purchase of TGV tickets – are easily implemented while others, including the baggage and passenger screening, would be more difficult and involved. As a result, three primary objections to the introduction of a new security regime were provided: a lack of an imagined risk, the cost of implementation and the inconvenience to passengers. Yet these three I's do not stand up to scrutiny and none of them – individually or in total – are convincing counter-arguments to the suggested screening programs offered in this paper. Thus, the choice for French authorities and the SNCF is clear and the opportunity to act is open – and the time for action can be defined in a single word: now. While there must be a line drawn between the economic and social costs of implementing a counter-terrorist regime, the cost of maintaining the TGV network with such glaring holes in their passenger and transport security systems can be catastrophic. Millions of passengers annually rely on the TGV network for their transportation, both business and pleasure, but until the weak points in the network's counter-terrorism systems are addressed every one of these trips is subject to a threat of terrorism that could be significantly abated if only the will to act existed.

References

- 9/11 Commission. 2004. *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States*. Washington, DC: US Government Printing Office.
- Air France. 2007. *Safety Measures*. [7 June 2007] <http://tinyurl.com/yu577x>.
- Barnett, Arnold, Robert Shumsky, Mark Hansen, Amedoo Odoni and Geoffrey Gosling. 2001. 'Safe at Home? An Experiment in Domestic Airline Security.' *Operations Research* 49(2): 181-195.
- Bennhold, Katrin. 2006. 'French counterterror force on high alert.' *International Herald Tribune* (20 December 2006) <http://tinyurl.com/28ej7x>.
- Butler, Viggo and Robert Poole. 2002. *Rethinking Checked Baggage Screening*. Los Angeles: Reason Foundation.
- Congreso de los Diputados. 2005. *Comisión de Investigación sobre el 11 de marzo de 2004*. [7 June 2007] <http://tinyurl.com/2vearu>.
- Crenshaw, William. 1988. 'Civil Aviation: Target for Terrorism.' *Annals of the American Academy of Political and Social Science* 498(July): 60-69.
- Dillingham, Gerald. 2001. *Vulnerabilities in, and Alternatives for, Preboard Screening Security Operations*. Testimony before the Committee on Governmental Affairs and its Subcommittee on Oversight and Governmental Management, Restructuring and the District of Columbia, US Senate, 25 September 2001.
- Frey, Bruno and Simon Luechinger. 2003. *Measuring Terror*. Working Paper No. 171, Institute for Empirical Research in Economics, University of Zurich, Zurich, Switzerland.
- Greater London Authority. 2006. *Report of the 7 July Review Committee*. Report presented to the Greater London Authority, London, UK, 5th June 2006
- Jacobson, Sheldon, Julie Virta, Jon Bowman, John Kobza and John Nestor. 2003. 'Modeling aviation baggage screening security systems: A case study.' *IIE Transactions* 35(3): 259-269.
- Jacobson, Sheldon and Tamana Karnani. 2005. 'Assessing the impact of deterrence on aviation checked baggage screening strategies.' *International Journal of Risk Assessment and Management* 5(1): 1-15.
- Jowit, Juliette. 2007. *Hi-tech rail promises host of benefits*. [8 June 2007] <http://tinyurl.com/3ykmdn>.
- Poole, Robert. 2001. 'Learn From Experience on Airport Security.' *Heritage Foundation Backgrounder* (1493): 1.
- SNCF. 2007. *TGV Est Européen: Project Players and Stakeholders*. [7 June 2007] <http://tinyurl.com/2t4stm>.
- Strecker, H. 1998. 'Automatic detection of explosives in airline baggage using elastic X-ray scatter.' *MedicaMundi* 42(2): 30-33.
- The Advertiser. 2007. 'Turkey.' *The Advertiser* (26 May 2007): 73.