

## **MASS TRANSIT PUBLIC SAFETY TRASH – DISEASE, BOMBS OR ANOTHER CHOICE?**

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For centuries humankind has learned the painful lessons of failing to manage the safe disposal of trash. Whether we call it garbage or rubbish, the mass of unwanted indiscriminate waste of today's consumer society presents us all with a need to be industrious and vigilant to prevent the spread of disease arising from the littering of our streets. Urban population growth, the trend in eating on the go, and simple but contagious functions such as nose blowing into subsequently discarded tissues, are piling on the pressures. Instead of allowing vermin and insects to feed and breed in the festering residues of discarded food, wrappers and nameless other waste, in the developed world we maintain street cleaning and trash receptacle services. Protecting our air and water resources from contamination, preventing the spread of disease and reducing the risk of fatalities from epidemics; all of these goals demand significant and consistent investment in time and money.

So it seems extraordinary and very disturbing to learn that some municipalities and mass transit organizations have attempted to cut costs or to address security issues by removing trash receptacles from rail and bus stations.

In November of 1987 thirty people died and twenty were seriously injured in a fire at London's Kings Cross underground rail station. The fire was caused by accumulated trash and grease beneath wooden escalators being ignited, probably by a discarded match. Smoking had been banned on the London Underground in February 1985 due to another fire, but smokers often lit up on their way out of the underground system. The fire started under the escalator, spread above it, then flashed over and filled the ticket hall with flames and smoke.

There are innumerable other examples of serious hazards created through inattention to street garbage disposal and inadequate distribution of receptacles.

### **Disease at the speed of a train?**

It is commonly recognized that air travel has defeated the best efforts directed at preventing the spread of communicable diseases, the Asian originated SARS epidemic being one worrying experience that comes to mind. Similarly, in the congested halls, walkways and platforms of railroad and bus stations, and especially in the metro underground systems; unmanaged trash disposal may lead all too quickly to the spread of disease. Rats living in the wastewater and sewage tunnels and in the less accessible hollows of the underground rail systems, collect and feed off litter, then transmit disease by droppings and urine. The resultant pedestrian traffic drag and air pollution helps to carry the disease on the trains to more distant parts, perhaps throughout the entire rail network and then beyond.

### **Trash receptacles – the real security threat – looking to history**

Just as extraordinary and disturbing is the cheap procurement policy in some quarters. In February 2004 the Portland Tribune reported on the trash-can purchase

plans of TriMet, the light-rail management organization. TriMet had reportedly asked the Public Art Advisory Committee to help design a receptacle.

The Tribune report was focused on the fact that the City of Portland Office of Transportation had installed hundreds of similar receptacles for \$238 each, compared with TriMet's planned purchase of cans at \$915 each. None of these address the risk of terrorist bombs being placed inside the cans. Nowhere in the article is there any discussion about security, aside from theft and vandalism problems. It may be the case that light rail represents a different risk profile from underground systems, but in any rail network deploying hundreds of trash cans, there will be locations where counter-terrorism measures should be uppermost in the minds of the buyers.

Few Americans will need reminding of the New York World Trade Center [WTC] bombing of February 1993, which as we now know, heralded the era of more serious and dramatic terrorist attacks on the United States. Well, on March 20th 1993 there was another terror attack on another WTC – Warrington Town Centre Cheshire in the north west of England. On a busy Saturday afternoon at the Golden Square shopping mall, three-year-old Jonathan Ball died instantly that day from a IRA bomb placed inside trash receptacles – referred to in England as a litter-bin. Five days later, Tim Parry aged twelve died from his injuries received on that day. Fifty-four others were injured, four of them seriously. Police said that the bombs placed in separate cast iron litter bins created the effect of 'large hand grenades'.

The United Kingdom's physical proximity to and transportation connections with continental Europe have permitted its enemies to gain rapid access to interior targets. From 1969 to the present day Northern Ireland has experienced thousands of terrorist attacks upon the population. Between December of 1980 and February of 1996, just a little over fifteen years, the UK mainland suffered 185 terror attacks, mostly bombings. Records of these events do not include in all instances the specific location of the improvised explosive device [IED] used, but we do know that twenty-one of these bomb attacks targeted rail stations. Generally these were underground stations.

September 11, 2001 told the American nation, if it did not already know, that the homeland is now within reach of the terrorist. Since that time there has been a continual debate about homeland vulnerabilities, much of it focused on mass transit. Terrorists love mass transit targets; and they are very inclined to use trash receptacles as a means of attack on innocent people. There is very good cause to believe that we are about to share this experience with the rest of the world. A selection of incidents known to involve trash receptacle bombings gives some hint of what we might be in for:

- December 1994 Istanbul-Tuzla rail station, Turkey. Five students killed, 27 others injured
- August 1998 Tel Aviv, Israel. Nineteen people injured when a trash receptacle bomb exploded near the city's main synagogue
- July 1999 Turkey one person was killed and thirty injured by a bomb left in a trash receptacle in a picnic park
- October 2001 Lahij, Yemen. Bomb in a trash receptacle near the central police station – the third in the space of one week
- October 2001 Aden. Two bombs exploded in trash receptacles
- May 2003 Karachi, Pakistan. Small bombs exploded at eighteen Shell gas stations. Small devices packed into boxes had been placed inside the receptacles

- April 2003 Dowra, Lebanon. TNT placed inside trash receptacle of a McDonald's restaurant men's room. Ten injured, considerable damage.
- July 2003 Taungoo, Burma. Bomb in trash receptacle defused forty minutes before scheduled explosion – one of three discovered simultaneously
- September 2003, Persian Gulf. Eleven US Marines injured when a bomb detonated in a trash receptacle, piercing the bulkhead and tearing a hole through the berthing compartment on the amphibious assault ship USS Saipan
- October 2003 Llandudno, North Wales. Nail bomb explosion in a burning public trash receptacle. Fourteen year old arrested
- July 2004 Herat, Afghanistan. Five people killed and thirty one injured by a trash receptacle bomb
- August 2004 Olbia, Sardinia, Italy. Bomb defused after being found in trash receptacle a few kilometers from Italian Prime Minister's vacation villa
- December 2004 suburbs of Madrid, Spain. Five bombs exploded in trash receptacles at gas stations.
- December 2004 Bologna, Italy. Two bombs exploded in trash receptacles near the home of the EU commission President, Romano Prodi. A third device was defused.
- February 2005 Kirkuk, Iraq. Two Idaho soldiers survived an explosion when their Humvee came within 25 yards of a concrete shelter for a trash receptacle where the bomb was hidden
- April 2005 Makhachkala, Russia. Bomb in a metal trash receptacle was detonated as a government staff bus was passing, killing one person
- April 2005 Bangkok, Thailand. Remote control [cell phone] 6.6 pound bomb defused

The ease of placement of bombs inside trash receptacles and the reduced risk of detection continues to make the method attractive to terrorists. The contemporary picture is that such devices are now mostly detonated by remote control, using electronic means including cell phones and garage door openers.

The use of trash receptacle bombs seems to suggest a particular combination of tactics. The average casualty rate when compared with vehicle bombs is much lower; but that gives cold comfort to the victims and their families. Suicide bomb volunteers may appear to be prolific in the Middle East, but that would be a very limiting terrorist operations strategy in the US.

The perceived disadvantage of charge size actually brings the advantage of easier concealment and delivery. The potential numbers of trash receptacle explosive devices that can be deployed to a variety of locations is considerable, as demonstrated in some of the above incidents – eighteen bombs in one case quoted. Moreover the key strategy, of instilling fear and thereby harming the economy of the target through a severe drop in passenger numbers, can be a very cost effective use of resources by the terrorist.

The removal or significant reduction of trash collection systems is not an option for the reasons discussed above – whenever a municipality or commercial organization has tried to do this, the garbage turns up regardless, imposing more work, more cost and the risk of disease. But the choice of location is going to be key, as will be the blast mitigation capabilities of trash receptacles. We just don't know how long we have before a trash receptacle bomb detonates, kills and maims a number of people in a crowded American metro system; and equally how long before the first lawsuits determine the future security policy of our rail and bus station security.

