CENS INSIGHT

A Review of Global Open Source Intelligence

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Mitigating the Challenge of Land Transportation Security: A Risk-Based Strategic Approach

In recent times, land transportation systems—in particular, commuter trains—have proven to be seductive targets for terrorists. From the 2004 Moscow metro attacks, the 2004 Madrid train bombings, the 2005 London attacks and the 2006 Mumbai train bombings, it is evident that land transportation networks are increasingly seen by terrorists as viable and vulnerable targets.

What are the reasons behind this disturbing phenomenon? For one, most land transportation systems are much less secure compared to airports and so-called "hard targets". Terrorists could easily board a city train or a bus without the need to clear any custom gantries or security screenings. They could also, without drawing much attention, easily merge into a constantly mobile and changing commuter crowd. Very simply, this means that terrorists targeting train or bus networks could remain inconspicuous and avoid suspicion until an attack is carried out.

Second, the success of land transportation networks depends on factors such as public accessibility, efficiency and mass convenience. The sheer volume of human traffic and the "open" operational environment (with its vast number of entry/exit points) mean that measures such as security checks for every commuter are virtually impractical to implement—even if one wants to.

And finally, most land transportation networks are connected to nodes based in strategic city locations and commercial areas, thereby providing additional target "incentive" for terrorists to strike.

Despite these inherently exacerbating conditions, steps could still be taken to enhance the safety of commuters and at the same time, facilitate a quick operational recovery and the restoration of services should an attack occur. Essentially, this requires a fundamental appreciation of the right strategic approach to adopt—one that is predicated on a risk assessment platform.

A Risk-Based Strategic Approach

Fundamentally, a risk-based approach involves the calculation and weighing of the probability of a threat materializing, and the capability of a given system to withstand, mitigate and recover from an attack. Risk is therefore the function of both the probability of a potential threat materializing as well as the level of system vulnerability.

Probability refers to the likelihood of a threat materializing. Given that there will be a laundry list of threats that may have the *potential* to cause harm to the system, what is far more critical are those threats that are more *likely* to cause harm. The key here is likelihood rather than potential. The likelihood of a nuclear-based attack at a train station, for instance—while *possible*—might not be as *probable* as a conventional bomb attack. So instead of diverting disproportionate amount of resources to focus on a possible but distant threat, a risk-based approach would look to emphasize on those areas that are more likely to impact the land transportation system.

Vulnerability, on the other hand, refers to how exposed a system is to an attack. The land transportation system is far more open than the aviation sector, and as such, is in theory more susceptible to terrorist attacks. That said, it is also impractical to implement security measures for land transportation that are as stringent as that of the aviation sector. It is questionable if public commuters will be willing or mentally prepared to travel a substantial period of time ahead of schedule daily, just to pass through stages of security checks to reach to their destinations on time. Of course, it will be ideal that land transport providers can adopt the same level of security screenings and checks applied at the airports. However, how realistic would that be? An overly "choking" approach defeats the whole notion of having a public mass transportation system at all.

A risk-based strategy is therefore vital in striking a balance between security requirements and commuters' needs. Very simply, it means that efforts are not merely concentrated on threat prevention alone but also on how resources could be effectively and creatively deployed to defend key sections of the land transportation network without compromising on the accessibility, speed and convenience that a viable public transportation system is expected to provide.

Land Transportation Security: A Different "Ball-Game"

To conclude, the bottom line is that the public land transportation system is predicated on the need to provide fast, reliable and cheap travel solutions to the masses. Indeed, its infrastructural and operational features are developed so as to facilitate the movement of large crowds at any one time. The correct strategic approach should therefore be one that is based on a risk assessment model which ascertains the appropriate level of security measures to adopt instead of gratuitously stretching the system to an untenable functioning level.