

## CHAPTER 1

# SUMMARY AND CONCLUSIONS

### 1.1 INTRODUCTION

In response to the increasing frequency and severity of terrorist acts around the world and against U.S. targets and as a direct consequence of the terrorist acts committed on September 11, 2001 (9/11), significant concerns exist about the potential threat of terrorism against trucking and commercial bus systems. These concerns include the use of transportation assets (particularly vehicles and cargo) as instruments for committing terrorist acts. To assist in addressing these concerns, this synthesis study was conducted to review and summarize the terrorist-related security status of the commercial trucking and bus industries. The purpose of this synthesis study is to determine how these industries were affected by the events of 9/11, what security improvements have been accomplished, and what improvements are underway. The scope identified for this study includes eight topic areas. These are the following:

1. Identification of the key threats to the commercial trucking and bus industries;
2. Identification of risk management techniques available to assess potential security threats;
3. Identification of employee/driver hiring procedures, including employee identification/verification techniques, that can enhance security and that have been shown to be effective;
4. Identification of current security procedures at commercial truck and bus training schools and potential threats, including student identification/verification procedures;
5. Identification of security procedures and how technology can or is being used to address security issues;
6. Identification of issues or problems associated with the implementation and/or use of specific security measures;
7. A summary of security research and development related to the commercial trucking and bus industries and what other research would be beneficial; and
8. Information on what has been done in other countries to enhance the security of commercial truck and bus safety, particularly in countries that have had to deal with significant terrorist activity.

This synthesis study is based on a survey of commercial trucking and bus companies. The survey was developed specif-

ically to address the eight issue areas listed above. Some supplemental information is provided from interviews with government and industry representatives and available literature. The survey consisted of written questionnaires that were typically answered in telephone and personal interviews with high-level representatives of the commercial trucking and bus companies. The survey population contained a disproportionately greater number of large companies and companies that have more extensive security programs than companies in the industry as a whole. Forty-one of the 91 companies contacted for interviews provided responses. The survey response statistics are summarized in Table 1-1. Additional limited-scope interviews were conducted with training schools, two federal agencies, and two embassies. The major value-added component of this study is the information obtained through the industry survey, which provides a valuable glimpse into the opinions of surveyed trucking and bus industry members.

### 1.2 COMMERCIAL TRUCKING INDUSTRY FINDINGS

The vision of the terrorist threat within the trucking industry is not uniform. However, there is a general concern: the use of stolen trucks and cargo to carry out a terrorist act. Other perceived threats include the transport of illicit cargo and the use of criminal means (e.g., vandalism) to support terrorist groups. Some commercial trucking companies, as distinct from rental and lease companies, see no terrorist threat at all. This observation is not unexpected considering that the truck industry assets useful in the commission of a terrorist act are readily available through legitimate means and at low cost (i.e., trucks can be easily leased, rented, borrowed, and/or bought on credit). Indeed, the most noted terrorist acts conducted in the United States with trucks involved leased trucks with legally obtained cargo (i.e., the 1993 World Trade Center bombing in New York City and the 1995 bombing of the Murrah Federal Building in Oklahoma City).

Although there is little uniformity in the perception of the specific threat, the level of general concern is high as revealed by the security measures implemented after 9/11. These measures include broad-based and significant changes in policies and practices including issuance of employee identification (ID), measures to guard property, improvement of communications with cell phones and two-way radio, provision of

**TABLE 1-1 Number of questionnaires distributed/returned by category**

| Company Type                  | Number of Companies Contacted | Number of Respondents | Percentage of Respondents |
|-------------------------------|-------------------------------|-----------------------|---------------------------|
| Trucking Companies            | 52                            | 20                    | 38%                       |
| Truck Driver Training Schools | 5                             | 3                     | 60%                       |
| Tour/Charter Bus Companies    | 20                            | 9                     | 45%                       |
| Motorcoach/Bus Companies      | 9                             | 7                     | 78%                       |
| Embassies                     | 5                             | 2                     | 40%                       |
| TOTAL                         | 91                            | 41                    | 45%                       |

Source: SAIC, McLean, VA, December 2002.

focused training, and significant changes in hiring practices (e.g., more thorough background checks). “Low-cost/no-cost” procedural measures such as route changes to avoid higher risk areas, parking in more visible areas, vehicle inspections and confirmation of cargo seal integrity after stops, obtaining driver information prior to pick-ups and ID confirmation on arrival, and provision of cargo contents on only a need-to-know basis were mentioned by some companies. However, survey responses indicate that these measures may not be currently used to their fullest extent. The greatest security enhancement will probably be achieved when approached on both procedural and technological levels.

Many companies indicated plans for implementation of further security improvements. Unlike the procedural measures already implemented, planned measures are largely technology-based devices to track, alert, communicate, and observe. Many, and possibly adequate, technology measures/options exist to meet most needs, with one key problem—cost. While cost is the most commonly listed problem, there was also frequent statement of the need for establishment of a uniform federal operator (driver) identification system. The industry research needs identified by the survey respondents are largely addressed in ongoing government and industry programs.

The curriculum of driving schools is not a factor in most of the surveyed trucking company security strategies because few of these companies use drivers directly from training schools. Those that do use drivers directly from training schools rely on in-house training to make the drivers conform to company-specific practices. Because the survey population is biased toward larger companies, it is possible that reliance on training schools and their curricula may be of greater importance for smaller companies. Schools that were contacted expressed awareness of the terrorist threat to their industry, but they have generally made only minor changes in curriculum or admissions. Survey responses also suggest that the U.S. trucking industry does not follow anti-terrorist activities in other countries, thus international security strategies appear to have little effect on an operator’s security policy.

Uncertain risks of a threat in conjunction with the questionable effectiveness of anti-theft security measures, tight operating margins, and competition make it difficult for trucking companies to justify the internalization (i.e., pay-

ment for security measures) of potential external (noncompany) losses such as the destruction of a building, tunnel, or pipeline. Despite these issues, the trucking industry may benefit from the following measures, some of which already exist or are under development:

- Widely disseminate a list of trucking industry, threat-specific, low-cost/no-cost security measures and a guide for their application. Lists containing low-cost/no-cost security measures have been compiled in response to recommendations by the American Trucking Associations (ATA), the American Society of Safety Engineers (ASSE), and the Federal Bureau of Investigation (FBI). Conduct follow-up surveys/analysis to determine awareness, adoption, effectiveness, and relevance of these measures.
- Conduct a quantitative review of potential terrorist threats, risk, and consequences along with mitigation options by industry segments to determine who is exposed, how much they are exposed, and what to do about it. This is an essential first step in helping the industry assess its risks via a relatively uniform process.
- Develop and disperse a self-assessment tool for organizations to assess their risk and to evaluate specific mitigating options. The assessment strategies employed by the surveyed trucking companies were quite diverse, generally simple, and sometimes nonexistent. The trucking industry would likely benefit from a more specific and uniform approach.
- Develop a technology evaluation clearinghouse to gauge the effectiveness of technology-based security measures. Some survey respondents expressed a feeling of being overwhelmed by the many technological options, making it difficult to confidently choose a technology. ATA has proposed technology evaluations as part of its Anti-terrorism Action Plan (ATAP); these need to be coordinated with ongoing FMCSA/U.S. DOT technology evaluations and the results made readily available to facilitate the best use of the trucking industry’s financial resources.
- Provide incentives to use more anti-theft measures. Most, if not all, trucking industry anti-terrorist security measures are dual-purpose (anti-theft) and are justified by their dual use.

- Develop centralized cargo-theft reporting and explore the appropriateness of mandated reporting of theft to better assist future assessments of cargo-theft risks. A primary difficulty to overcome may be that thefts are underreported to reduce increases in insurance costs.
- Facilitate more rapid implementation of the ATA's Highway Watch Program (HWP) and the Trucking Information Sharing and Analysis Center (TrucksISAC), a liaison to the FBI and Department of Homeland Security (DHS). The HWP provides a call center for truckers to report observations that may affect safety and security, but it is currently active in only about half of the states. HWP communication should be two-way to keep truckers informed of evolving warnings and recommended actions, including DHS color-coded security level warnings.
- Track and test security effectiveness and help the industry deal with threat/alert fatigue. Because terrorist acts are expected to be infrequent events, fatigue, complacency, and apathy are likely to set in. The industry should explore ways to address these and other symptoms of security erosion.
- Implement a federal driver's license or federal ID and establish an information clearinghouse and uniform minimum standards for background checks and hiring (all of these are common comments from trucking industry survey respondents). The U.S. DOT/Transportation Security Administration (TSA) Transportation Worker Identification Card (TWIC) program has the potential to address these issues, but it is still in its development phase.

### 1.3 COMMERCIAL BUS INDUSTRY FINDINGS

For a terrorist, the U.S. commercial bus system is a low-risk, high-visibility, high-impact target, which provides an opportunity to kill a large number of people, destroy property, and cause extensive economic and psychological damage. In the aftermath of an attack, the loss of trust in the security of the bus system could cause lasting major transportation and economic disruptions over a wide geographic area. Although this threat and vulnerability has been known for many years, the U.S. commercial bus system has not experienced a terrorist act and, as a result, did not adopt any significant measures to mitigate such an attack prior to 9/11. The events of 9/11, however, led many commercial bus operators to face these security issues and to begin evaluations of what to do and how to do it.

Industry survey responses reveal that an explosion on a bus, in the form of a suicide bomber or through the placement of an explosive device in the luggage, is the main (perceived) threat. Additional risks, not listed by the respondents, include acts that are known to have occurred on buses outside of the United States (e.g., car bombs, shootings, and mines), risks at bus stops and stations, and risks of on-board fuel

(i.e., 150 gallons of diesel or compressed natural gas at 3600 psi). A formal risk-exposure assessment could put these risks in relative perspective.

The commercial bus industry and the security community understand that the need for quick public access and egress to buses renders many effective countermeasures costly and impractical (e.g., metal and explosive detection and body and bag searches). Even with strict and controlled access and egress, buses travel on public roads where they are exposed to external attacks (e.g., car bombs and hijackings). Despite these difficulties, a large number of security measures were put in place after 9/11, predominantly by the motorcoach industry. The motorcoach industry reports the installation of cell phones, emergency phones, surveillance cameras, and security guards, as well as the provision of focused training and upgraded hiring procedures. The tour/charter bus industry appears to have been less aggressive in implementing revised security measures.

From a cost and operational perspective, it would be impractical to outright impossible to make the bus system beyond the reach of a determined and well-executed terrorist scheme. However, there are many simple, low-cost and no-cost measures (e.g., route changes, locking baggage doors that are not within employee view, choice of parking areas, and walk-around inspections at all stops) as well as more costly, but still affordable security strategies (e.g., two-way communication, awareness training, transparent driver dividers, panic buttons, and passenger compartment night lights), which can make the commercial bus system a less vulnerable and less attractive target and one that is better able to react to and mitigate the effects of a terrorist event. Many proactive bus operators have decided to find their cost/benefit equilibrium and have implemented their own set of security measures. Others are waiting for the federal government to pass regulations and present security guidelines.

The commercial bus industry may benefit from the following measures, some of which already exist or are under development, but none of which are common among the companies surveyed:

- Widely disseminate a list of bus industry, threat-specific, low-cost/no-cost security measures and a guide for their application. Lists containing low-cost/no-cost security measures have been compiled in response to recommendations by the ATA, ASSE, and the FBI. Conduct follow-up surveys/analysis to determine industry awareness and adoption of these measures, as well as their effectiveness and relevance.
- Provide awareness training with special emphasis on how to spot and respond to suspicious activities (reading warning signs has been one of the most effective measures used in Israel). The American Bus Association (ABA) is currently considering joining the ATA HWP. If this occurs, HWP awareness training could include relevant warning signs.

- Conduct a quantitative and separate review of the motor-coach and tour/charter industries' potential terrorist threats, risks, and consequences along with mitigation options. This is an essential first step in helping the industry assess its risks via a relatively uniform process.
- Develop and disperse self-assessment tools or uniform procedures for assessing threats and evaluating specific mitigating options within the bus industry. The assessment strategies employed by the surveyed bus companies were either simple or nonexistent. The industry would likely benefit from a more uniform, bus-specific approach.
- Develop uniform minimum standards for background checks and hiring practices and establish a clearinghouse

for obtaining background information. The U.S. DOT/TSA TWIC program has the potential to address these issues, but it is still in its development phase.

- Industry establishment of an alert notification system. If ABA joins ATA's HWP, there will be a call center for driver reporting of observations that may affect safety and security. This communication should be two-way to keep drivers informed of evolving warnings and recommended actions, including DHS color-coded security level warnings.
  - Like the trucking industry, the bus industry should track or test security effectiveness and find measures for dealing with threat/alert fatigue.
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