

CHAPTER 4

COMMERCIAL BUS INDUSTRY

4.1 INTRODUCTION

During the past 5 to 10 years, it has become widely accepted that buses in the United States are potential targets and instruments for terrorist acts. For a terrorist, the U.S. commercial bus system is a low-risk, high-visibility, high-impact target, which provides an opportunity to kill many 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 would alone account for major transportation and economic disruptions over a wide geographic area, with long-lasting effects. Although this threat 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 attacks prior to 9/11.

As targets and potential instruments of terrorist attack, there is little distinction made between urban transit buses and commercial buses; they both carry passengers from point to point in similar vehicles. A terrorist act on either would create similar consequences. Nonetheless, there are some notable differences between transit buses and commercial buses. These differences include type of ownership (i.e., government versus private entities), amount of luggage, number of stops, and so forth. Differences between transit buses and commercial buses affect how security measures are implemented, who implements them, and who pays for them. For these reasons, this synthesis project only addresses anti-terrorist security issues associated with the commercial bus industry.

In this study, the commercial bus industry is defined as including bus service organizations that provide public or private transportation between cities. There are hundreds of commercial bus companies within the United States, which together move 200 million more people per year than the United States airline industry.²¹ There are approximately 40,000 commercial buses operating in the United States, and 95 percent of commercial bus companies have fewer than 25 buses, suggesting an industry composed of many relatively small companies. For the purpose of this synthesis study, the commercial bus industry is divided into two categories: motorcoach operators and tour/charter operators. Motorcoach organizations provide scheduled service between

cities and are often composed of a large conglomerate of multiple operators. Tour/charter bus organizations are privately operated companies that provide charters for private parties, tours, and sightseeing, with or without affiliations with other tour/charter companies. Much of the tour/charter industry has uniquely booked and dynamic schedules.

Comparison of the commercial trucking and bus industries' anti-terrorism activities, based on responses to this survey and on statements from the ATA and the ABA, suggests the commercial bus industry has not addressed security and related terrorism as much as the commercial trucking industry. This is largely due to several pre-9/11 factors that promoted trucking industry security measures that also mitigate terrorist threats. These pre-9/11 factors included government regulation of hazardous materials transport, significant industry losses because of cargo theft, and the availability of federal funds for ATA's initiation of the HWP in 1998. An expanded HWP is the centerpiece of the ATA ATAP that was released in 2002, and it includes driver awareness training in the more than 20 states that are currently part of the program. In contrast, the ABA ATAP, released in 2002, states that the organization is completing the development of training/awareness materials, but is lacking government funds to begin an industry-wide training effort. Further, the ABA plan introduces its exploration of the possibility of joining the ATA HWP and calls for the government enactment of a "Good Samaritan" law to insulate persons providing information about possible terrorist threats from criminal or civil liability (because of allegations of slander and defamation of character) when they act in good faith. Although the ATA has called for similar legislation, this issue may be a greater concern for bus drivers because they generally have contact with many more people than truck drivers.

In contrast to the controlled access and shipping manifests used in the commercial trucking industry, the commercial bus industry is dependent on quick public access to and egress from buses and the ability to carry luggage without shipping lists. Further, the expense and time associated with methods of luggage examination (e.g., metal and explosive detection and body and bag searches) often preclude this as a practical option. Even when strict control of access and egress is possible, buses travel on public roads where they are exposed to

21. "Motorcoach Industry Facts," American Bus Association. www.buses.org/industry.

external attacks (e.g., car bombs and hijackings). From a cost and operational perspective, it is 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, as well as more costly but still affordable security strategies, that can make the commercial bus system a less vulnerable and less attractive target and one that is better able to mitigate the effects of a terrorist event.

Determination of security measures that optimally balance costs and security benefits has been an industry and government goal since the events of 9/11. Many proactive bus operators have decided to find their cost/benefit equilibrium and implement their own set of security measures. Others are waiting for the federal government to pass regulations and present security guidelines. This synthesis study identifies the commercial bus industry's perceptions of the need for security measures and presents information on measures implemented prior to and in the year following 9/11. All survey responses have been gathered prior to dispersal of any federal bus security funds.

In August 2002, \$15 million in federal grants was appropriated to the TSA for commercial bus security. The funds are expected to be dispersed in the form of security grants to operators to assist in the development of security programs and training. As of early April 2003, TSA regulations for dispersal of these funds have not been finalized. Legislation for additional bus security funds was unanimously passed in the U.S. House of Representatives in November 2002 as part of H.R. 3429, "The Max Cleland Over-the-Road Bus Security and Safety Act." As of this writing, this bill has been placed on the Senate legislative calendar (S. 1739) but has not yet reached the floor. If passed, this legislation will authorize \$99 million to fund a bus security grant program to be established by U.S. DOT through FMCSA (the regulatory agency responsible for over-the-road bus safety) and will call for an assessment of over-the-road bus security issues to be delivered to the Congress in 6 months. It is expected that the report would assist in further examination of bus security needs for consideration in the Transportation Equity Act for the 21st Century (TEA-21) reauthorization process. Thus, currently, there is no means of distribution for federal security funding for private bus operators. When available, the grants will be used for improving security through various means, including the following:

- Constructing or modifying garages, facilities, or buses to ensure safety;
- Protecting or isolating the bus driver;
- Upgrading, purchasing, or installing ticketing systems;
- Training employees in recognizing terrorist threats and evacuation procedures;
- Establishing and implementing passenger screening procedures and baggage inspection;
- Expanding the hiring of security officers;
- Installing cameras and video surveillance equipment;
- Creating employee identification and background check programs; and
- Establishing emergency communications systems linked to police and emergency personnel.

4.2 ANALYSES

Survey responses were received from seven motorcoach operators and nine tour/charter bus operators. These companies were generally larger than average companies. The issues addressed by the 16 survey questions are grouped into the 8 issue areas listed in the scope of this report (Section 2.3). Analysis of each issue area begins with a restatement of the issue and a statement on the relevant survey question(s). The tabulated answers are presented in detailed summary tables that provide the reader with an opportunity to delve into the specific responses of the respondents and to formulate independent observations and analyses.

Commonly, each question received one response. However, in many cases a respondent provided multiple answers to the same question. Because of the varied number of responses per question, the tabulated responses for each question do not equal the number of respondents to the survey.

4.2.1 Identification of the Key Threats to the Commercial Bus Industry

The commercial bus industry perception of key terrorist threats to its industry was evaluated based on survey responses to the question: *What do you perceive to be the key national security (terrorism-related security) threats to your bus operations, and why?* These responses are summarized in Tables 4-1a and 4-1b.

TABLE 4-1a Perceived threats to motorcoach operations

Perceived Threats to Bus Operations	Number of Respondents	Percent of Total
Don't have resources for security at all locations.	2	29%
Possibility of an explosive placed into luggage or other hidden location.	4	57%
Possibility of an individual on board with an explosive device strapped on.	3	43%
Disruption of business—threat of operations impact.	4	57%
Loss of life or injury to persons.	1	14%
Vehicles used as weapons or to transport weapons or groups of people (terrorists).	1	14%

TABLE 4-1b Perceived threats to tour/charter operations

Perceived Threats to Bus Operations	Number of Respondents	Percent of Total
None, do not perceive any threats.	8	88%
Driver knows riders—no threats perceived.	2	22%
Possibility of an explosive placed on one of our buses.	4	44%
Possibility of an individual on board with an explosive device strapped on.	2	22%

Based on the review of the responses summarized in Table 4-1a (motorcoach operators) and in Table 4-1b (tour/charter operators), the main perception of threat to the commercial bus industry is that an explosive device would be detonated on a bus. Two specific paths for the delivery of the explosives are noted—the device would be strapped on a person (suicide bomber), or the device would be placed on the bus (e.g., in the luggage). In addition, the transportation of terrorists is listed as a concern. Additional potential threats that were not listed by the survey respondents include the use of explosives and guns at bus stops, attacks from outside the bus (e.g., a car bomb or mines), and use of the bus as a terrorist weapon.

A noted difference between the two bus industry groups is that none of the motorcoach respondents stated or implied that there is no threat of terrorism, whereas more than half of the responses from the tour/charter groups stated that they do not see a threat. This difference is partially attributed

to the claim that tour/charter passengers are often repeat customers and known to their drivers. The unpredictable starting, stopping, and destination points, as well as variations in schedules, may also reduce the risks of terrorism in the tour/charter bus industry.

4.2.2 Identification of Risk Management Techniques Available to Assess Potential Security Threats

Risk management techniques used by the industry were assessed by survey responses to the following two questions: (1) *What process do you use to determine your risk exposure?* (2) *What risk management techniques (probabilistic risk assessment tools, vulnerability assessments, cost/benefit models, etc.) are available to you to assess potential security threats?* Responses to these questions are provided in Tables 4-2a and 4-2b and Tables 4-3a and 4-3b.

TABLE 4-2a Process used to determine motorcoach risk exposure

Process Used to Determine Risk Exposure	Number of Respondents	Percent of Total
None.	1	14%
Manage risk based on past experience.	3	43%
Base risks on accidents/workman's comp/ training programs.	1	14%
Train drivers to assess risk re: passengers, situation, and who sits where.	1	14%
Decline unruly, argumentative, and intoxicated individuals.	2	29%
Monthly review of all accidents: preventable & non-preventable; retrain individuals with computerized test to achieve 100% safety awareness/preparation level.	1	14%
Manage risk based on terminal location, number of passengers, number of financial transactions per day, access points.	2	29%

TABLE 4-2b Process used to determine tour/charter bus risk exposure

Process Used to Determine Risk Exposure	Number of Respondents	Percent of Total
None.	4	44%
We review employee records; hire qualified drivers; do random drug screen tests/physicals.	1	11%
Increase awareness.	1	11%
Use large mirrors to check on passengers.	1	11%
Check drivers' backgrounds; call former employer; driving history/motor vehicle records (MVRs).	1	11%

TABLE 4-3a Risk management techniques used for motorcoach threats

Available Risk Management Techniques	Number of Respondents	Percent of Total
We model everything to cost.	2	29%
Receive security analysis from insurance company re: each location.	1	14%
ABA and Safety Council are looking into the risks.	1	14%
Receive help from special local investigation team.	1	14%
No financial resources established for assessment tools.	1	14%
Public Utility Commission (PUC) study.	1	14%

TABLE 4-3b Risk management techniques used for tour/charter bus

Available Risk Management Techniques	Number of Respondents	Percent of Total
None—surprised by the lack of information in our industry following 9/11.	5	56%
No need for/no access to risk assessment tools.	2	22%
No need for/no access to vulnerability assessment tools.	2	22%
No need for/no access to cost/benefit models.	1	11%
We receive information from California Bus Association.	1	11%
We receive information from American Bus Association.	1	11%
We receive information from United Motorcoach Association.	1	11%
Our insurance company sends us security information in letters and reports for our general awareness.	1	11%
I don't know; use common sense.	3	33%
More driver awareness during pre/post bus trips.	4	44%
Receive help from special local investigation team.	1	11%
No financial resources established for assessment tools.	1	11%
Public Utility Commission (PUC) study.	1	11%

Responses to the question on how risk exposure is determined indicate that the references to “process” and “risk exposure” were predominantly interpreted to relate to general risk, including work safety. The answers do not reveal an interpretation that relates to the determination of risks associated with terrorism. Further, there is no reference to any formal process for measuring risk exposure. There are references to measures for identifying risky activities (based on past experience, driver assessments) and for avoiding risky situations (refusal of service) and to processes to reduce risk (hiring practices). The motorcoach respondents more commonly applied some process to assess risk exposure than the tour/charter industry. These processes included analysis of past experience and accident reports, assessment of risk associated with a terminal’s location, and financial transactions.

With respect to risk management techniques, respondents referred to cost models, insurance company analyses of each location, and assistance from local investigation teams. It was also stated by some that the ABA and the Safety Council are assessing risks, and others said that they have no financial resources for assessment tools. Similar risk management strategies were indicated in survey responses from the tour/charter industry. However, a significant proportion of tour/charter respondents indicated surprise as to the lack of information made available on threats. Interestingly, a roughly equal proportion indicated that such information/assessments are not necessary. This divergence

in views was not seen in responses from motorcoach operators and coincides with the two groups’ perception of threat as seen in their responses to the question on perceived risks.

The commercial bus industry survey respondents do not include references to government agencies in their threat management strategies. In contrast, government organizations at all levels (federal, state, and local) are listed by the respondents as organizations relied on for the development of national security measures (Section 4.2.7).

4.2.3 Identification of Employee/Driver Hiring Procedures, Including Employee Identification/Verification Techniques, That Can Enhance Security and That Have Been Shown to Be Effective

Employee hiring and identification/verification procedures were assessed through survey answers to the following questions: *Have you revised your employee/driver hiring procedures and employee identification and verification techniques? (a) What are they now? (b) How will these be effective? (c) What other steps would help?* Responses to these questions are summarized in Tables 4-4a and 4-4b.

Depending on the bus operator and the bus operator’s clients, respondents describe their hiring practices to include Department of Justice fingerprinting requirements, U.S. DOT drug check requirements, and FMCSA safety regulations.

TABLE 4-4a Revised motorcoach employee/driver hiring procedures and identification techniques

Revised Hiring Practices/Verification Techniques	Number of Respondents	Percent of Total
No changes made.	2	29%
Yes, changes made.	3	43%
Yes, provide in-house training re: terrorist-response tactics/procedures to stop bus/call authorities.	4	57%
Considering adding a shield to further protect/separate drivers from passengers.	2	29%
Require fingerprinting in compliance with Department of Justice requirements.	1	14%
Increase use of 2-way communications on buses.	1	14%
Installed video cameras inside/outside terminal to verify drivers.	1	14%
What are they now?		
Employees have nametags/photo ID badges.	3	43%
Drivers must "sign out" a bus before taking it.	2	29%
Complete compliance with U.S.DOT regulations: previous employer check; motor vehicle record (MVR) checks; background checks (beyond minimum standards).	5	71%
Adhere to FMCSA safety regulation.	1	14%
Yes, more random drug testing; check on former employers/background checks.	1	14%
Use employee photo IDs/badges/clearance for certain areas.	3	43%
Installed video cameras inside/outside terminal to verify drivers.	1	14%
How will these be effective?		
Should be effective as they are.	3	43%
Hopefully we can ensure lengthy employment at U.S. companies.	1	14%
Need federal regulations for consistency.	1	14%
What other steps would help?		
In favor of establishing a federal CDLIS (Commercial Driver License Information System) so no matter where a driver goes, his/her CDL is traceable.	1	14%
Need better screening services and ability to pull an MVR from all states.	3	43%

Others specifically state that the current set of requirements is sufficient and should be effective. Revised hiring procedures listed by the respondents include the addition of terrorist-response training, visual (camera) driver verification, photo IDs, more thorough employee checks, and drug testing (Tables 4-4a and 4-4b). No apparent differences regarding hiring practices were seen between the two industry groups. In its ATAP, the ABA suggests the establishment of minimum hiring standards with criminal background checks on new employees and photo IDs for all employees.

One of the survey respondents listed as an industry need the development of a national commercial driver information system that can track the records of drivers across state boundaries. This may be achieved by the planned U.S. DOT/TSA TWIC. As described in the previous chapter, the goal of the TWIC credentialing program is to provide a uniform, nationwide standard for secure identification of workers across all transportation modes. The TWIC will likely use SmartCard technology, including biometrics. At this stage

of TWIC development, technology and common credentials for all TWIC workers are being assessed by the TSA.²² The ABA suggested in its ATAP that the TSA use the bus industry as a trial industry for the TWIC program because the relatively small size of this industry would make it easier to work with. This strategy would also ensure early bus industry participation in TWIC, which may be particularly desirable because up to this time there has been little federal assistance available for bus industry security.

4.2.4 Identification of Current Security Procedures at Commercial Bus Training Schools and Potential Threats, Including Student Identification/Verification Procedures

Information on security procedures and potential threats at training schools was gathered from interviews with training schools and from the following question presented to bus company survey respondents: *Do you use training schools? If yes,*

22. Further information on TWIC status can be obtained from www.tsa.gov/public/display?content=364.

TABLE 4-4b Revised tour/charter bus employee/driver hiring procedures and identification techniques

Revised Hiring Practices/Verification Techniques	Number of Respondents	Percent of Total
No changes made.	5	56%
Yes, changes made.	3	33%
Yes, purchased photo ID machine to make employee photo IDs.	2	22%
Yes, provide in-house training re: terrorist-response tactics/procedures to stop bus/call authorities.	2	22%
What are they now?		
Check and verify previous employment history for full- and part-time candidates.	2	22%
Check and verify previous employment history for full-time candidates only.	4	44%
Require a drug screen per U.S.DOT requirements.	5	56%
Verify candidates are School Pupil Activity Bus (SPAB)-certified in CA.	1	11%
Require fingerprinting in compliance with Department of Justice requirements.	1	11%
All new hires checked by DAC or similar verification services.	3	33%
Perform criminal background checks.	1	11%
Perform motor vehicle record (MVR)/driving history checks.	2	22%
Use employee photo IDs/badges/clearance for certain areas.	1	11%
How will these be effective?		
Effective as it is—no change.	4	44%
Our policy is to use only SPAB-certified drivers.	1	11%
Hopefully we can ensure lengthy employment at U.S. companies.	1	11%
Enforces accountability and monitoring of drivers and passengers.	1	11%
Need federal regulations for consistency.	1	11%
What other steps would help?		
Establish a federal database through which companies can share employee information such as background/criminal/safety/and drug test data.	1	11%
Initiate and use IDs that are more difficult to duplicate.	1	11%
Including a criminal background check would be good.	1	11%
Have drivers sign a form so we can do a background check freely.	1	11%

what security procedures are employed at commercial training schools for your industry (e.g., student identification/verification procedures), and do you consider these to be effective? Bus company responses to this question are presented in Tables 4-5a and 4-5b.

As indicated by the survey responses, much of the bus industry does not rely on driver training schools; it hires experienced drivers or trains its own. As noted in the trucking industry portion of this survey, because the survey population is biased toward larger companies, it is possible that

recent graduates from driver training schools may be more commonly employed by smaller companies.

As with the trucking industry, driver training schools are generally designed to meet the needs of employers. Because of the wide variety of hiring practices within the bus industry, training school student admissions are unlikely to meet the more stringent industry hiring practices. The establishment of uniform minimum hiring standards for the bus industry would likely set the threshold for student admissions. Furthermore, none of the driving schools contacted had anti-terrorism or

TABLE 4-5a Motorcoach use of training schools and level of effectiveness

Use and Effectiveness of Training Schools	Number of Respondents	Percent of Total
No.	1	14%
No, we only hire drivers with experience and a current commercial driver's license (CDL).	2	29%
No, we provide in-house training (supplemented by contracting out materials).	3	43%
Yes, we rely on local transit agencies.	1	14%

TABLE 4-5b Tour/charter buses use of training schools and level of effectiveness

Use and Effectiveness of Training Schools	Number of Respondents	Percent of Total
No.	1	11%
No, we only hire drivers with experience and a current commercial driver's license (CDL).	2	22%
No, we provide in-house training.	4	44%
No, the bus industry has a lack of training schools.	1	11%

awareness training as part of their curricula. If the ABA becomes part of the ATA HWP, awareness training would be available to all drivers in the growing number of participating states.

4.2.5 Identification of Security Procedures and How Technology Can or Is Being Used to Address Security Issues

Survey questions were designed to gather information on bus company security procedures in three time frames: pre-9/11, current (post-9/11), and the near future. Pre-9/11 security procedures at bus companies were addressed by the following question: *What national security measures were in place prior to 9/11 to address what threat? If None: Why?* Responses to this question are presented in Tables 4-6a and 4-6b.

Current (post-9/11) commercial bus company security procedures were addressed by the following three survey questions: (1) *What national security measures did your organization take following 9/11 regarding: employees, customers,*

public, procedures, other? If None: Why? (2) *What national security measures were instituted by your clients after 9/11, and how do these measures impact security and your operations?* (3) *Can you summarize what other members of your industry are doing?* Responses to these questions are presented in Tables 4-7a and 4-7b, 4-8a and 4-8b, and 4-9a and 4-9b.

Near-future changes in commercial bus company security procedures were assessed by survey responses to the question: *What additional national (anti-terrorism) security measures are planned for this year and over the next several years? If None: Why?* Responses to these questions are presented in Tables 4-10a and 4-10b.

The use of specific security technology in the commercial bus industry was assessed by survey responses to the following question: *What technologies are you employing to address security issues? If None, Why?* Responses to this question are presented in Tables 4-11a and 4-11b.

Based on the survey responses summarized in Tables 4-6a and 4-6b, much of the commercial bus industry had no anti-terrorism security measures in place prior to 9/11. The few relevant measures listed as in place were instituted to protect

TABLE 4-6a Pre-9/11 motorcoach security measures

Security Measures in Place Prior to 9/11	Number of Respondents	Percent of Total
None.	6	86%
Always had security guards in terminals for safety/security.	1	14%
Used a driver training course to promote safe driving; taught conflict resolution techniques re: operational issues; customer interaction; emergency procedures.	1	14%
Performed criminal history and driving history checks to protect the company from having a convicted criminal or individual with bad driving habits.	1	14%

TABLE 4-6b Pre-9/11 tour/charter bus security measures

Security Measures in Place Prior to 9/11	Number of Respondents	Percent of Total
None.	6	67%
Video cameras inside/outside terminals/on buses for theft management.	1	11%
Employ policemen to ride bus for driver/passenger safety.	1	11%
Not aware of any—new hire.	1	11%
If None: Why?		
No apparent threats were perceived prior to 9/11.	5	56%
Too costly for small companies to acquire and implement technologies.	1	11%
We have procedures only for accident—to notify emergency transit and company officials.	1	11%
We have safety meetings each month.	2	22%

TABLE 4-7a Post-9/11 motorcoach security measures

Security Measures Implemented After 9/11	Number of Respondents	Percent of Total
Drivers issued preprogrammed cell phones for 911 and company emergency operations centers' numbers.	2	29%
Surveillance cameras (existing/new digital, state-of-the-art) located in terminals.	1	14%
Added additional security guards.	2	29%
Began "wandering" passengers randomly at certain terminals.	1	14%
Drivers immediately notified with tangible procedures to increase awareness of surroundings, operations, general public, and passengers.	4	57%
Developed and implemented a training video course on managing aggressive behavior (terrorist).	3	43%
Presented material to deal with robbery and hijacking.	1	14%
Provided drivers with interactive computer-based training course to manage aggressive behavior (terrorist).	1	14%
Follow U.S. DOT checklist and included seven additional security items.	2	29%
Issued IDs for all employees.	3	43%
Restricted front seat usage.	1	14%
Hands-free wireless phone in each bus.	1	14%
ID required for all live haul passengers.	1	14%

TABLE 4-7b Post-9/11 tour/charter bus security measures

Security Measures Implemented After 9/11	Number of Respondents	Percent of Total
None.	3	33%
Drivers instructed to report all luggage, baggage, packages left on the bus to the office/terminal.	2	22%
Drivers instructed to park in well-lit areas when leaving bus unattended during breaks.	1	11%
Drivers instructed to check buses before entering to ensure no tampering has occurred.	2	22%
We follow safety regulations set by federal agencies.	1	11%
Parking permits required.	1	11%
Drivers must pass checkpoints in our area.	1	11%
Drivers instructed to report anything suspicious (people or items) around the bus.	2	22%
We screened employees through a service.	2	22%
Customers show ID.	1	11%
Employees wear picture IDs/show credentials when picking up passengers.	1	11%
Drivers hauling children are required to be fingerprinted per state law.	1	11%
We operate with repeat customers; no threat perceived.	1	11%
We're a small company.	1	11%

TABLE 4-8a Post-9/11 security measures instituted by motorcoach clients

Security Measures Instituted by Clients After 9/11	Number of Respondents	Percent of Total
None.	3	43%
Military installations have prohibited our buses (intercity/scheduled) for pickup and delivery.	1	14%

TABLE 4-8b Post-9/11 security measures instituted by tour/charter bus clients

Security Measures Instituted by Clients After 9/11	Number of Respondents	Percent of Total
None.	2	22%
Military installations required company paperwork/identification materials/commercial driver's license (CDL)/photo ID/employee signatures for pickup and delivery.	2	22%
Clients required company paperwork, insurance information, CDL/photo ID for pickup and delivery.	3	33%
Clients required bomb-sniffing dogs when buses went to military/shipyard facilities.	2	22%
Clients search coaches.	1	11%

TABLE 4-9a What other bus industry members are doing (motorcoach response)

What Other Bus Industry Members Are Doing	Number of Respondents	Percent of Total
Don't know.	1	14%
Most are watching what we do.	1	14%
Same thing as others are doing.	2	29%
Some are doing nothing; others are doing something, but it doesn't really protect the passengers.	2	29%

TABLE 4-9b What other bus industry members are doing (tour/charter responses)

What Other Bus Industry Members Are Doing	Number of Respondents	Percent of Total
Don't know; not aware of what other members of our industry are doing.	4	44%
Understand they are doing pretty much the same as we are.	2	22%
We tend to get more inquiries regarding former employees when they apply at another company.	1	11%
Aware of some using the NRoute video system.	1	11%

TABLE 4-10a Planned motorcoach security measures

Additional Security Measures Planned	Number of Respondents	Percent of Total
Either considering or upgrading on-board communications or GPS technology.	2	29%
Either considering or upgrading integrated GPS or telephone communications or linking to Internet for tracking buses.	4	57%
Considering adding new high-grade digital cameras.	2	29%
Will promote a massive training blitz.	1	14%
Will include new "panic button" to assist in immediate location of vehicle and immediate notification to nearest 911 service to the vehicle.	1	14%
Improve on-board lighting.	2	29%

TABLE 4-10b Planned tour/charter bus security measures

Additional Security Measures Planned	Number of Respondents	Percent of Total
None.	2	22%
Heightened awareness of who is on or around bus property.	4	44%
Report all suspicious packages or persons to the office/terminal.	1	11%
Dispatchers instructed to evaluate each situation and report to proper authorities as needed.	1	11%
Make proper background checks on prospective employees.	1	11%
Handling baggage according to state or federal requirements.	1	11%
Additional training for drivers via video; aggression management.	1	11%
Considering on-board cameras/GPS equipment; waiting to see what government grants.	1	11%
If None: Why?		
We ensure buses are secured on property overnight or when unattended.	1	11%
Prior to 9/11, our industry was too lax—didn't perceive any threats.	1	11%
Too costly for small companies to acquire and implement technologies.	1	11%
We put out annual security memo regarding potential threats.	1	11%

TABLE 4-11a Motorcoach security technologies

Technologies Employed to Address Security Issues	Number of Respondents	Percent of Total
Company-provided cell phones.	4	58%
Security wands.	2	29%
Company-provided telephones linked to local 911 operations.	3	43%
Video cameras.	2	29%
Satellite technologies on board buses.	2	29%
Drivers use self-provided cell phones.	1	14%
We use closed circuit video cameras inside and outside the terminals.	1	14%

TABLE 4-11b Tour/charter bus security technologies

Technologies Employed to Address Security Issues	Number of Respondents	Percent of Total
None.	1	11%
We follow recommendations made in reports sent from organizations/insurance company.	1	11%
Too small a company to acquire and implement technologies.	2	22%
We use 2-way radio communications.	1	11%
We use wireless communications.	6	67%
We use company-provided cell phones.	2	22%
Drivers use self-provided cell phones.	1	11%
We use 24-hour security patrol at bus terminal/garage locations.	1	11%
Use closed circuit video cameras inside and outside the terminals.	1	11%
Check passengers' IDs via credit cards.	1	11%
If None: Why?	2	22%
Business slowdown/labor intensive permitting for our buses.	1	11%

passengers, drivers, and property from common crimes. These include placing cameras, employing police officers, and checking employees' employment and criminal history (all single respondent reports). Many of the tour/charter industry respondents indicated that their reason for not having pre-9/11 security measures was the lack of a threat, and, as previously indicated, many of the tour/charter industry respondents still do not perceive a significant threat to their industry from terrorism.

Although most of the survey respondents in both commercial bus industry groups had no anti-terrorism measures in place prior to 9/11, the same respondents reported a relatively large number of measures in place after 9/11. The motorcoach industry reported a mix of the following four types of measures:

- **Addition of Technology**—cell phones, “emergency only” programmed phones, and surveillance cameras.
- **Additional Personnel**—more security guards.
- **Focused Training**—video on managing aggressive behavior and robberies and hijacking, as well as a computer-based course on aggressive behavior.
- **Procedures**—notification of suspicious items/activities, issuance of ID cards, and adherence to U.S. DOT checklist (presumably with respect to bus maintenance/inspections).

Some of the tour/charter industry respondents continued to report that no measures were implemented. The remainder of

the tour/charter respondents reported only procedural measures such as instructing drivers to report suspicious activities and unclaimed items, employee screening, issuance of ID cards, and bus inspections. Several of the respondents in both bus industry groups referred to low-cost/no-cost measures such as securing baggage bay doors when not attended, walk-around driver inspections after stops, avoidance of high-risk (i.e., low-visibility) parking areas, and en route driver check-in times/procedures. More costly security measures not listed as currently used by the bus companies include dividers to protect the driver's back, night-lights in the passenger compartment, external trouble-alert lights along the full length of the coach, luggage inspection (random or otherwise), tracking technology (e.g., GPS), and panic buttons.

Responses to the question on what others in the industry are doing with respect to security provided little added insight into security-related activities of the commercial bus industry (Tables 4-9a and 4-9b). A tour/charter respondent mentioned a company using the “NRoute video” system, which allows off-site video monitoring and recording of all activities on a bus. One motorcoach respondent commented that none of the bus security measures they were aware of improves passenger protection.

With regard to the security requirements placed on bus operators by their clients (Tables 4-8a and 4-8b), the respondents report strict requirements placed on them at military installations. Military installations required company paperwork and identification materials including a current CDL

with photo and employee signatures for pick-up and delivery. Other clients also added requirements for company paperwork, insurance information, presentation of a CDL with photo ID for pick-up and delivery, and coach searches. Some buses going to military or shipyard facilities were required to be searched with bomb-sniffing dogs.

Commercial bus industry respondents reported a variety of security measures that are either planned or under consideration (Tables 4-10a and 4-10b). Planned security measures reported by the motorcoach respondents are primarily technology- and hardware-based security measures such as improved communications and GPS, phone/GPS/Internet-linked communications, digital cameras, panic buttons, and on-board lighting. Training is also mentioned. In contrast, only one of the tour/charter industry respondents listed consideration of installing security technology (i.e., on-board cameras and GPS); however, this was said to depend on the receipt of a government grant. Many of the tour/charter industry respondents reported procedural changes, with the most common change being a heightened awareness of who is on or around the bus. Other listed measures are similar to those listed as implemented after 9/11. These included training, more thorough background checks in new hires, reporting of suspicious packages or persons, and dispatcher evaluation of reports and conveyance to proper authorities. Some respondents plan no new security measures, listing high costs as a factor. Others claim that existing measures are sufficient.

In response to the question regarding technologies employed to address security issues, the motorcoach respondents indicated use of the following technologies: company-provided cell phones linked to 911, driver-supplied cell phones, security wands (hand-held metal detectors), video cameras, satellite systems (e.g., GPS), and three-way radios. One company

provides cell phones with direct connections (i.e., two-way radios) that will soon be available with GPS for monitoring vehicle location. Another company provides products such as panic buttons for emergency notification in addition to vehicle location with options for operating status. One of the tour/charter respondents reports the use of credit cards to verify passenger identity.

Commercially available security technologies that were not mentioned by any of the commercial bus industry respondents but that may be applicable to this industry include access-limiting technologies (e.g., operated by code, card, or biometrics), remote or on-board vehicle disabling, off-course alerts in conjunction with continuous vehicle tracking, metal detectors, and gamma-ray/X-ray luggage screeners.

4.2.6 Identification of Issues or Problems Associated with the Implementation and/or Use of Specific Security Measures

Industry problems or issues associated with implementation of security measures were assessed based on responses to the question: *What problems or issues did you experience with the implementation and/or use of specific national security measures or technologies?* Responses to this question are presented in Tables 4-12a and 4-12b.

In general, when a company selects and adopts a security measure and technology, ease of adoption and implementation become one of the selection criteria. Two of the problems or issues with implementation of security technologies listed by the survey respondents include employee reluctance to change or add security procedures and technologies and (perhaps related) perceptions that there is not a significant terrorist threat to the commercial bus industry (as discussed in Sec-

TABLE 4-12a Motorcoach problems with implementing technologies

Problems/Issues with Implementing Technologies	Number of Respondents	Percent of Total
None.	2	29%
Difficulty in finding vendor to support on-board communications.	1	14%
Not enough surveillance at terminals, bus storage, parking areas, garages, etc.	2	29%
Employees reluctant to change to new security measures/technologies.	1	14%
Wide area of operation and use of other companies' terminals.	1	14%

TABLE 4-12b Tour/charter bus problems with implementing technologies

Problems/Issues with Implementing Technologies	Number of Respondents	Percent of Total
None.	6	67%
We did not acquire or implement any technologies.	1	11%
We did not experience any problems.	1	11%
Drivers didn't believe that the risk of terrorists is present in our country.	1	11%
Might consider NRoute video communications; need to consider cost.	1	11%

tion 4.2.1). Particularly among the tour/charter industry respondents, no problems were listed for technology implementation. This may be due to a perception that no new technologies are needed, which may be inferred from the lack of planned technology changes reported. Several motorcoach respondents commented that facility or terminal security limitations also affect (and present a problem) for bus security. Particular issues include sufficient surveillance of terminals, parking areas, and garages and surveillance differences among terminals. Although it is not mentioned in response to the question on problems with technology implementation, the cost of additional security technology is likely to be an important consideration for this industry dominated by small companies.

4.2.7 A Summary of Security Research and Development Related to the Commercial Bus Industry and What Other Research Would Be Beneficial

Three survey questions addressed the industry perception of what research is being done that may be relevant to the commercial bus industry. These questions were: (1) *What*

research is being done that would assist you in meeting your national security needs? (2) What assistance, research, development, training, technology, and other activities or services would help you in achieving the desired and necessary level of security? Who should provide these needs? (3) What organizations do you and your industry rely on for the development of national (anti-terrorism) security measures (procedures, technology, training, etc.)? Tables 4-13a and 4-13b, 4-14a and 4-14b, and 4-15a and 4-15b present responses to these questions.

Motorcoach industry responses to the question on relevant current security research identified government, security, and bus industry organizations. The organizations included the U.S. DOT/Volpe Center; FMCSA; FBI; Bureau of Alcohol, Tobacco, and Firearms (ATF); ABA; and the Atlantic Bus Operators Association. The information provided by the respondents does not identify specific research that would “assist” their industry, but strongly implies that the industry depends on associations and government-sponsored activities to fill its research needs. A substantial proportion of the responses from the tour/charter bus industry respondents indicated no knowledge of ongoing research; others mentioned a general awareness of research reports and ABA memos

TABLE 4-13a Motorcoach security research in progress

Research in Progress to Assist in Meeting Security Needs	Number of Respondents	Percent of Total
Volpe Center research.	2	29%
FMCSA research.	1	14%
ABA research.	4	57%
United Motorcoach research.	3	43%
Work closely with the FBI; the Bureau of Alcohol, Tobacco, and Firearms (ATF); and local police in developing a safety-training program.	1	14%
Other: Atlantic Bus Operators Association.	1	14%

TABLE 4-13b Tour/charter bus security research in progress

Research in Progress to Assist in Meeting Security Needs	Number of Respondents	Percent of Total
Don't know; not aware of any research being done.	5	56%
Generally aware of research/publications, but have no experience in acquiring information.	2	22%
ABA does research; sends out memos re: results.	2	22%

TABLE 4-14a Desired motorcoach security research

Research Activities Desired to Enhance Level of Security	Number of Respondents	Percent of Total
None.	3	43%
We need more wandng resources.	2	29%
We need more surveillance equipment.	1	14%
Enhance our ticketing systems to help track individuals that the government agencies are looking for.	1	14%
Need to finalize on-board communications and network.	1	14%
Need money from the Feds—a fair share for the bus industry.	1	14%
Who should provide these needs?		
National security counselors; local and federal government should supply information to us.	5	71%

TABLE 4-14b Desired tour/charter bus security research

Research Activities Desired to Enhance Level of Security	Number of Respondents	Percent of Total
None.	3	33%
We rely on local transit authority.	1	11%
Who should provide these needs?		
U.S. Customs needs to beef up the borders.	1	11%
Immigration and Naturalization Service (INS) needs to identify who is coming across the border and keep track of them.	1	11%
Military should protect borders and provide national security.	1	11%

addressing research activities. The limited awareness of research activities in the tour/charter bus industry coincides with its lower-tech and procedure-based security measures and lower perception of threat.

With respect to desired research activities, several respondents in both the motorcoach and the tour/charter bus industry indicated that there is no need for additional research activities to help them achieve their desired level of security. Other respondents from the motorcoach industry listed the need to obtain resources such as wands and surveillance equipment and suggested linking ticketing systems with government lists of suspected individuals. The need for operator funds rather than research was also mentioned. With respect to who should provide the needed research, motorcoach respondents consistently called for government provision of research needs. Tour/Charter bus industry respondents did not identify research needs, further supporting the obser-

vation that the tour/charter bus industry has a low perception of threat.

Many of the technological options commonly promoted by vendors (e.g., identification and access-limiting technologies, remote or on-board vehicle disabling, vehicle tracking, covert communications, metal detectors, and gamma-ray/X-ray luggage screeners) were not listed as areas for desired research by either of the commercial bus industry subgroups. The absence of these items coincides with the industry's general perception of a low terrorist risk and the usefulness of commonly promoted measures.

Responses to the question of what organizations the industry relies on for anti-terrorist measures listed industry associations; government organizations; and various other sources (insurance and consulting organizations, the local police, bus/truck inspection stations throughout the continent, and other bus companies).

TABLE 4-15a Organizations used for developing motorcoach security measures

Organizations Relied Upon for Developing National Security Measures	Number of Respondents	Percent of Total
American Bus Association (ABA).	3	43%
FMCSA.	2	29%
United Motorcoach Association.	1	14%
Commercial Vehicle Safety Alliance (CVSA).	1	14%
All local city, state, and bus/truck inspections countrywide and from Canada and Mexico.	1	14%
FBI, Bureau of Alcohol, Tobacco, Firearms (ATF), and local police and motorcoach companies in Ireland.	1	14%
Consulting organization.	1	14%

TABLE 4-15b Organizations used for developing tour/charter bus security measures

Organizations Relied Upon for Developing National Security Measures	Number of Respondents	Percent of Total
None.	3	33%
California Bus Association.	1	11%
American Bus Association.	1	11%
United Motorcoach Association.	4	44%
State government.	5	56%
Federal government.	6	67%
Insurance company.	1	11%

4.2.8 Information on What Has Been Done in Other Countries to Enhance the Security of Commercial Bus Safety, Particularly in Countries That Have Had to Deal with Significant Terrorist Activity

Industry knowledge of security procedures in other countries was assessed from survey responses to the question: *Can you comment on what has been done in other countries to enhance the security of commercial bus safety?* Responses to this question are presented in Tables 4-16a and 4-16b.

Most of the commercial bus industry respondents were not aware of security measures in other countries. A few

respondents mentioned being aware of bus-related terrorist attacks in other countries. One motorcoach respondent described measures such as driver isolation and increased security at terminals.

As discussed in the trucking industry chapter (Section 3.2.8), embassy officials were generally not willing or able to discuss bus-related anti-terrorism measures. Based on news media reports, it appears as though Israel may have relatively highly developed strategies for mitigating terrorist threats. These strategies include security personnel on buses and at bus stops, armored buses, route changes, and perhaps most importantly, driver awareness and action with respect to suspicious behavior.

TABLE 4-16a Motorcoach security measures used in other countries

Security Measures Used in Other Countries	Number of Respondents	Percent of Total
No; don't know.	1	14%
Yes, aware of other countries' problems.	2	29%
Increased security at terminals; driver enclosures.	1	14%

TABLE 4-16b Tour/charter bus security measures used in other countries

Security Measures Used in Other Countries	Number of Respondents	Percent of Total
No, don't know.	6	67%
No, not aware of what has been done in other countries.	2	22%
