

NCHRP

REPORT 525

Surface Transportation Security *Volume 1*

Responding to Threats: A Field Personnel Manual

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES



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NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM

NCHRP REPORT 525

Surface Transportation Security

Volume 1

**Responding to Threats:
A Field Personnel Manual**

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION (SAIC)
McLean, VA

SUBJECT AREAS

Planning and Administration • Safety and Human Performance • Public Transit • Rail • Aviation • Freight Transportation • Marine Transportation

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TRANSPORTATION RESEARCH BOARD

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The members of the technical committee selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and, while they have been accepted as appropriate by the technical committee, they are not necessarily those of the Transportation Research Board, the National Research Council, the American Association of State Highway and Transportation Officials, or the Federal Highway Administration, U.S. Department of Transportation.

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FOREWORD

*By S. A. Parker
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This first volume of *NCHRP Report 525: Surface Transportation Security* will be of interest to transportation officials and others responsible for establishing and communicating desired employee practices in observing and reporting security threats. The audience will therefore include chief executive officers; senior executives; operational and technical managers; law enforcement officers; security personnel; and communications, training, and human-resources staff. Personnel with similar responsibilities in transportation or public works will also find this report to be of value.

The objective of *Volume 1: Responding to Threats: A Field Personnel Manual* is to provide a draft template that contains basic security awareness training in a workbook format that can be redesigned as a pamphlet, glove-box brochure, or other user-specific document. This NCHRP manual emphasizes noticing and reporting behavior that may be part of the planning stages of an event, and explains how an increased level of attention on the part of all employees can deter criminal and terrorist plans prior to implementation. *This document is not intended to be implemented verbatim; rather, it is a resource that provides raw materials, leaving it up to each individual state to assimilate all the information available to it and develop its own comprehensive security program based on the circumstances and needs of that state.* Science Applications International Corporation prepared this volume of *NCHRP Report 525* under NCHRP Project 20-59(6).

Emergencies arising from terrorist threats highlight the need for transportation managers to minimize the vulnerability of travelers, employees, and physical assets through incident prevention, preparedness, response, and recovery. Managers are seeking to reduce the chances that transportation vehicles and facilities will be targets or instruments of terrorist attacks and to be prepared to respond to and recover from such possibilities. By being prepared to respond to terrorism, each transportation agency is simultaneously prepared to respond to natural disasters such as hurricanes, floods, and wildfires, as well as human-caused events such as hazardous materials spills and other incidents.

This is the first volume of *NCHRP Report 525: Surface Transportation Security*, a series in which relevant information is assembled into single, concise volumes—each pertaining to a specific security problem and closely related issues. These volumes focus on the concerns that transportation agencies are addressing when developing programs in response to the terrorist attacks of September 11, 2001, and the anthrax attacks that followed. Future volumes of the report will be issued as they are completed.

To develop this volume in a comprehensive manner and to ensure inclusion of significant knowledge, available information was assembled from numerous sources, including a number of state departments of transportation. A topic panel of experts in the subject area was established to guide the researchers in organizing and evaluating the collected data and to review the final document.

This volume was prepared to meet an urgent need for information in this area. It records practices that were acceptable within the limitations of the knowledge available at the time of its preparation. Work in this area is proceeding swiftly, and readers are encouraged to be on the lookout for the most up-to-date information.

Volumes issued under *NCHRP Report 525: Surface Transportation Security* may be found on the TRB website at <http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+20-59>.

###

SAIC DISCLAIMER

The content and structure of this manual are provided in draft form and only as a sample template, for customization by state and local transportation agencies. The manual is not site-, operation-, threat-, vulnerability-, or circumstance-specific. The user agency has the responsibility to make all changes and take all other measures (e.g., site testing, staff training, conduct of exercises, effectiveness verification, and coordination with local security agencies) necessary to ensure that the manual is designed and implemented safely and in accordance with the user's security needs.

As threats, vulnerabilities, or other changes in circumstances occur, the content and structure of this document may no longer be valid and should not be relied upon. Furthermore, no guarantees or assurances are provided or implied that the use of this or any derivative manual will mitigate criminal or terrorist acts.

INSTRUCTIONS

This draft manual provides a draft template to address the concept of security awareness and the recognition and reporting of unusual circumstances to reduce the opportunity for initiation of criminal and terrorist acts. It is disseminated in workbook format to allow the user organization to add contact-, facility-, site-, and operations-specific information and otherwise modify the document to meet user-specific needs. **It is to be completed and customized by and for the end-user organization before field use.** A coordinated review by the user-organization's security office, local security agencies (e.g., police), and others (e.g., union, insurance company) is strongly recommended.

The manual is inspired by the training material, *System Security Awareness for Transportation Employees and Security Incident Management for Transportation Supervisors—Instructor Package*, developed by the National Transit Institute (NTI).¹

These materials and the NTI materials present frameworks of information to be adapted by individual state DOTs based on the circumstances and needs of each state. Neither set of materials is intended to be implemented verbatim. The materials present an overlapping range of information, philosophies, and approaches that must be reconciled by or for the end user prior to implementation.

The final manual, as amended by the user, should be designed for use by—and given only to—personnel who have received training. For training-related information, please contact NTI at: The National Transit Institute, 120 Albany Street, Tower Two Suite 250, New Brunswick, NJ 08901, tel. (732) 932-1700, www.ntionline.com.

¹ The National Transit Institute Workplace Safety and Security Program's "System Security Awareness for Transportation Employees and Security Incident Management for Transportation Supervisors," Instructor Package, Version 1.0, September 12, 2003.

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1

Introduction

Criminals and terrorists cannot succeed easily when vigilant personnel surround their targets. The most effective deterrent is for all personnel, not just security, to be attentive to their surroundings. Experience has repeatedly shown that potential adversaries abandon their plans or choose different targets when they believe their presence has been detected, even when their hostile intent remains a secret.

The greatest tragedy of terrorist/criminal activity is often revealed during the post-event investigations when one or more witnesses are found who say something like, “*I saw a person doing [something unusual] near the scene of the event [beforehand], but I didn’t think anything about it.*” If the “unusual behavior” had been reported to the appropriate security personnel, the incident may have been prevented.

All criminal/terrorist events are preceded by recognizable, unusual behavior days, weeks, and sometimes even months before the event. While terrorists/criminals can shield unusual behavior from security personnel and cameras, *they absolutely cannot keep ordinary people and employees from seeing what they are doing.*

Many people view terrorism and criminal behavior like a huge black cloud on the horizon that cannot be stopped. *Nothing could be further from the truth.* Everyone has an important role to play in stopping these activities. This manual will assist transportation/highway workers at every level in detecting, observing, and reporting unusual activity so security personnel can follow up. Remember, when a potential terrorist/criminal comes to your vicinity to plan an action, he/she will likely be unfamiliar with the area and the normal activities that occur there. You know your own workplace or neighborhood very well. You will easily be able to identify unusual activities.

The risk of being a victim of road rage, workplace violence, domestic violence, or ordinary street crime is far greater than the risk of being a victim of a terrorist attack. Although the term “*terrorist/criminal*” is used throughout this manual, observation skills and reporting techniques will help protect employees from all the risks mentioned above.

The objective of this manual is to help you detect and report unusual behavior you may see while conducting your normal activities. Use this manual as a guide to sharpen your skills in taking greater notice of your surroundings. As your skill level increases, the comfort level of would-be terrorists/criminals will decline sharply. Hopefully, they will decide to go somewhere else.

2

How Terrorists/Criminals Select a Target or a Victim

Terrorists and criminals often consider many factors when selecting a target or victim. Some of their considerations are listed below.

Terrorists Only

- Terrorists select targets that are highly visible; have a high economic, symbolic, or sentimental value; and have a highly disruptive destruction value. For example, the World Trade Center represented America's economic might.
- The method of attack selected is designed to generate shock and widespread public fear, leave a severe psychological impact, and attract a great deal of attention to the terrorist group and its cause.

Terrorists and Criminals

- There should be a high potential for success.
- Security should be lax or easily overcome.
- There is little probability that the intended victim will offer significant or unforeseen resistance.
- There should be multiple opportunities for quick escape after the event. Al Qaeda is an exception to this rule. It prefers suicide attacks to prevent possible capture and interrogation.
- Target may be selected on the basis of race, religion, sexual orientation, or politics.

Criminals Only

- Target may be selected in a more emotional, impulsive manner.
 - Target may be selected because of a real or imagined slight by a spouse or supervisor.
 - In the case of road rage, irrational anger is the prevalent force. The victim may only have to be present when the rage explodes.
-

3

Potential Targets

The key to defeating terrorists/criminals is to recognize and report unusual behavior that occurs near a potential target. The potential targets on or near our nation's highways are virtually limitless. Some of the common places that may attract terrorist/criminal interest are listed below.

- **Bridges.** Multitier overpasses and bridges that traverse heavily used navigable waters. Carefully note vertical supports, suspension cables, and mechanical components on drawbridges.
- **Tunnels.** These can act as containers for fire, hazardous fumes, or chemical/biological weapons and can restrict emergency crew access.
- **Pipeline crossings.** Pipelines often carry flammable or explosive material that may be useful in destroying adjacent roads or bridges.
- **Rest areas.** Be particularly attentive to unusual or out-of-place items.
- **Isolated stretches of rural road.** Especially through heavily forested, isolated areas that can allow planning and attacks on key passing targets with reduced chances of detection.
- **Key routes.** Such as those that receive heavy truck use, high-volume bus routes, VIP routes, military routes, and so on.
- **Cargo in transport.** Particularly cargo that may be subject to hijacking or destruction, such as explosives, weapons, hazardous materials, or high-value cargo, such as electronics, jewelry, name brand fashions, etc.
- **Adjacent areas.** Extra attention should be given to nearby potential targets such as schools, hospitals, malls, major event facilities, chemical facilities, major water facilities, military facilities, power transmission lines, and so on.

Now think about other potential targets you often pass as part of your daily activities . . .

Your local security personnel may provide a more specific list of key potential targets in your territory. For further information on potential targets of particular concern in your area, contact:

Train yourself to recognize unusual behavior and report anything you cannot conclusively identify as harmless.

4

What the Terrorist/Criminal Needs to Know

Terrorists and other criminals need to gather information about their target prior to their attack. Some of the types of information they will be trying to gather are related to the following:

Operational Security

- Number, location, and training of security staff
- Security staff armaments
- Level of overall vigilance by nonsecurity personnel
- Security staff response to alarms/unusual events
- Location, type, and response time of local law enforcement
- Shift changes
- Access controls for employees, contractors, deliveries, mail, parcels

Physical Security

- Nearby security concerns, for example, banks, off-site video surveillance, schools, hospitals
- Location of on-site security cameras
- Lighting
- Location and type of alarms
- Fences, barriers, obstacles, and their weak spots
- Unguarded back or emergency entries
- Any entities having unchallenged/uncontrolled access
- Unguarded/unobserved areas

Logistical and Strategic Advantages

- Times when alertness, response, and/or visibility is degraded
 - Times when the rewards are greatest (e.g., more people or money present)
 - Observation and planning spots
 - Primary and alternate escape routes
 - Primary and alternate attack sites
 - Time required to accomplish event
 - Requirements to control the target/victim
-

5

Where to Look

Section 3 presented a list of potential targets and Section 4 gave examples of the types of information a terrorist/criminal must collect on the target. Much of this information collection requires that the terrorist physically visit the target. Video cameras, binoculars, the Internet, and other technical tools may be useful, but there is no substitute for being “up close and personal” to get the needed data. Attackers are putting their life on the line based on the information they collect. They have to be absolutely certain that their reconnaissance is complete in every detail.

Around every potential target, there is at least one area and possibly more where the would-be-attacker has to physically get the information he/she needs. This area is called an “Area of Concentration” or a “Red Zone.” Red Zones include ideal places for observing the target, such as a restaurant or library window across from a target, a park bench, a bus stop, or a fishing spot. You can identify Red Zones by considering the potential targets in your area and asking yourself “Where would I have to be to collect the information listed in Section 4?”

Red Zones are the areas where you want to focus your observation skills. You need to know the following:

- Who are the people that are almost constantly in the Red Zone?
- Who are the people that periodically pass through the Red Zone?
- What activities normally occur there?
- What unusual activities might periodically occur there?
- How are emergencies or unforeseen events normally handled there?

In short, you need to mentally “own” the Red Zones to the extent that no new folks can enter the Red Zone without it being very obvious to you and your coworkers. By comparing the activities of the new folks against the normal area activity, it will be easy to recognize those who don’t have a valid reason to be there.

Figure 1 shows an example of a department of transportation (DOT) facility and its surrounding Red Zones.

Local Red Zones should be identified and listed by your security personnel. Recognizing the security sensitivity of listing specific Red Zones in a “Field Manual,” employees should contact the appropriate security personnel to learn about their key local red zones.

For information on specific, local Red Zones, contact:



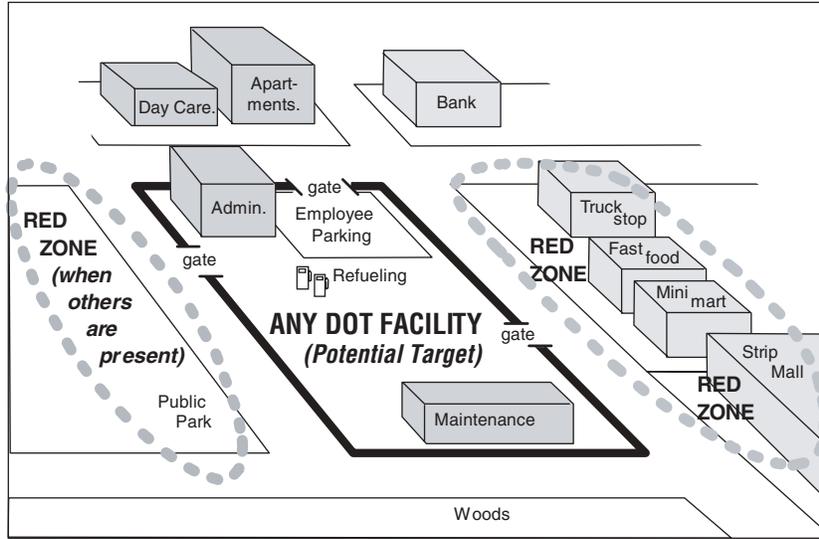


Figure 1. Example Red Zones around a transit facility.

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What to Look For

Users of this manual are not being asked to be James Bond or clairvoyant. You are not to make any assessment about an individual's intentions. You are not security or intelligence personnel. You are to observe and report *unusual behavior*, *unusual objects*, and *unusual circumstances* at or near a potential target so security personnel can direct further attention to the situation.

REMEMBER

Do not ever allow yourself to use racial or any other type of profiling. There is no racial, ethnic, or religious key to potentially hostile activity. If you allow yourself to believe otherwise, you will be totally ineffective.

Unusual Behavior

You are looking for *unusual behaviors* that you cannot readily explain at or near a potential target. The potential terrorist/criminal in a Red Zone knows he or she is doing something wrong. He/she will manifest some of the following behaviors:

Personal Signs/Traits

- Nervousness (excessive smoking, pacing, sweating, etc.)
- Avoidance of eye contact
- Fixation on the target
- Facial concealment with dark glasses, hats, scarves, etc.
- Clothing that doesn't fit the area/weather
- Couples who do not demonstrate any sort of interpersonal relationship
- Shielding activities and masking behavior from onlookers, passing police, security personnel, and video cameras
- Wearing the uniform of delivery, postal, or repair people, but not functioning as such

Unusual Activities—Active

- Ignorance of local customs, laws, or idioms
- Use of binoculars, cameras, night vision devices, GPS
- Making notes or sketches of a potential target
- Pacing off or measuring distances
- Looking for a parking space, but never parking when they could

- Fishermen lacking the proper gear or knowledge—they may return to the same spot even though they catch nothing

Unusual Activities—Passive

- People who apparently have “nothing to do”
- People who remain in place in spite of inclement weather
- Repeated presence in the same location
- Repeated presence at multiple potential targets
- Loitering in areas that locals consider unsafe
- Sitting in vehicles that are apparently broken, but no effort is made to repair them
- Sitting in a parked vehicle for no apparent reason

Unusual Objects

You are looking for *unusual objects* that you cannot readily explain at or near a potential target. The distinction between suspicious objects, which may contain a bomb, and lost-and-found objects, is something that you will learn with practice. Some general guidelines on these are listed below.

Suspicious Objects	Likely Lost & Found Objects
A closed bottle or pipe with attached wires or battery	A wallet or small purse
Briefcase, package, or bag in an unusual place (e.g., <i>behind</i> a vending machine, trash containers, or restroom fixtures)	Briefcase or bag left in or next to a seat in a waiting area, a phone booth, or vending machine
Common objects that may generally have value to people but are left unattended in an uncommon place for forgetting things	Common objects left in spots where people may frequently place things temporarily

Unusual Circumstances

You are looking for *unusual circumstances* that you cannot readily explain at or near a potential target. Examples of these may include the following:

People

- A person placing a common object (e.g., briefcase) in a common place, and then rapidly leaving the area
- A highly agitated person entering a room, looking around, and leaving in a highly agitated state
- **Two or more** people suddenly experiencing unidentified odor, coughing or breathing difficulty, nausea, or blurred vision

Vehicles

- Unusual use of vehicle (e.g., van containing drums of diesel fuel, overloaded vehicle with missing license plates, freshly painted vehicle in a dirty setting)
- Vehicles parked in sensitive places (e.g., bridge column, under overpasses, next to fuel depots, hazmat facilities, etc.)
- Vehicles parked in functionally uncharacteristic places (e.g., rental truck in front of a hospital, gasoline truck at a school, etc.)
- Vehicle(s) left in target area with driver departing in another (get-away) vehicle

More Common Crimes

From the introduction, you will remember that road rage, domestic violence, and workplace violence are far more likely than a terrorist attack. As you become more attentive to your surroundings, you will be more likely to notice signs of these more common crimes, which are included in some definitions of terrorism. Indeed, the violent expressions involved in these more common crimes have terrorist elements. Signs of some of these more common crimes are listed below:

Road Rage

- Speeding
- Severe braking
- Unsafe lane changes, weaving, swerving
- Violent or obscene gestures
- Tailgating
- Angry, hard facial expressions

Workplace Violence

- Sudden outbursts of anger
- Dissatisfaction with job or a supervisor
- Increasing level of anger
- Decline in work quality
- Domestic violence (this can visit the workplace)

REMEMBER

For all crimes, you are looking for anything unusual that correlates to a potential target and cannot be readily explained.

It is better to report something that can later be acceptably explained than to not report something that could have led to the prevention of a crime or attack.

7

How and What to Report

Your security manager will specify what and how to report. Some types of reports may be submitted in writing, others may be phoned in, and still others should be phoned directly to 911.

When making a verbal report, follow the format specified by your security manager. Be careful to provide all the requested information or a “did not observe” comment for information that you do not have. Regardless of whether or not a verbal/telephone report has been given, the details of every observation should be written down as soon as possible, while they are fresh in your mind.

A mnemonic such as “ALT-DD” may be useful in remembering what to look for.

ALT-DD ⇒ Activity
 ⇒ Location
 ⇒ Time
 ⇒ Date
 ⇒ Description

Descriptions are for people and any vehicles associated with them. Reports will always have at least one description of a person including:

- Sex
- Race
- Age
- Height
- Build
- Weight
- Complexion
- Distinguishing features

Vehicle descriptions include the following:

- License number and state
- Color
- Year
- Make/model
- Type
- Number of doors
- Distinguishing features

Be aware that license plates are among the easiest things to change, obscure, or steal. Thus, it is important for vehicle descriptions to include features that are more difficult to change.

A disposable camera is always useful to quickly record a person or vehicle, but it should not be used in lieu of a verbal description. Timeliness, completeness, and accuracy are critical factors in reporting.

Report only what you are certain you saw. Add any guesses or impressions at the bottom of the report as a comment. Clarity can be enhanced with the following:

- Nouns, not pronouns (i.e., avoid “he,” “she,” “they,” “it”)
- Provide details
- Write short sentences
- Include only observations, not assumptions

For example, it is better to write “Person 1 constantly looked toward the front gate. At 3PM, Person 1 left and the empty place was taken by Person 2, who also constantly looked toward the front gate,” rather than “Person 1 constantly watched the front gate. At 3PM, Person 2 replaced him, and did the same thing.” The assumptions, guesses, and intuitive notes, such as the gate was being “watched” and that one person “replaced” another, should be noted in the comment section rather than as an observation description.

Other types of observations you should report consistent with your security manager’s policy include the following:

- Loss/theft of ID’s, uniforms, vehicles, official decals, license plates
- Loss of keys, keycards, or key codes
- Any increase in false alarms on the security system
- Indicators of domestic violence
- Indicators of a pending workplace violence incident
- All observations of road rage

REMEMBER

Observe and report. Do not allow the following excuses to stop your report:

- ***“It is probably nothing.”***
- ***“This is none of my business.”***
- ***“This is stupid!”***
- ***“The security manager already believes I am an imbecile.”***

Will you make some ridiculous, useless reports? Absolutely!! Everyone practicing these skills makes ridiculous reports. After you have done it for a while, you will still make mistakes, but they will be fewer and much more sophisticated.

All reports will be put into a database. The database will, over time, eliminate reports that are not useful. It will identify areas where your security manager may want you to direct more attention. Your reports will create a vigilant atmosphere that will cause potential terrorists/criminals to pick another target. Your reports on incidents potentially involving more common crimes may well save the lives of coworkers as well as your own.

Never ridicule a report made by someone else!

8

When to Intervene

Your security manager or your organizational policy will specify when you should intervene. Generally, you are *NOT* to intervene. Your steps of action should include the following:

- Stay safe
- Do not jeopardize the safety of others
- Stay calm and alert
- Notify appropriate security personnel
- Maintain communication

Imminent loss of life is a reason to sound an alarm, try to move people to safer areas, and shut down building or vehicle HVAC systems if applicable. If you see a bridge about to collapse, you may consider blocking traffic with your vehicle to prevent additional traffic on it.

Do not jeopardize your own safety.

REMEMBER

Your greatest advantage over any terrorist/criminal is your ability to be an “invisible observer.” This puts your adversaries in an unpleasant situation that they cannot defend against because they do not know who you are or that you are reporting their activities.

9

Potential Actions to Further Improve Security

Skill Maintenance

- Knowing what is normal
- Systematic observation
- Personal awareness
- Do not “assume everything is OK”

Benefit from Observers Who Are Already in Place

- Elderly
- Roadside stands
- Delivery personnel
- “Walkers”
- “Sidewalk supervisors”
- Fishermen

Administrative Security Actions

- Wear a Photo ID and have other ID (e.g., drivers license)
- Report loss/theft of ID's, uniforms, vehicles, official decals, license plates
- Have proper vehicle ID
- Remove/deface official markings on surplus vehicles and equipment that is sold
- ID vehicles/equipment with large markings on the roof
- Fuel control — your refueling trucks can be bombs
- Keep explosives safe and secure if they must be stored
- Key controls
- Keypad entrance control
- Keep fence lines clear and clean on both sides
- Walk fence lines regularly and report tampering
- Vary routines in sensitive areas
- Set up emergency radio code words
- Establish and practice alternate communications modes
- Establish and practice emergency action plans
- Share scheduling, emergency planning, etc., with other agencies

Coordinate Observation Reports with Others

- Rail maintenance crews
 - Utility crews
 - Emergency operations
 - Construction crews
 - Law enforcement agencies
-

10

Sample Report

Your security manager should provide you with forms for reporting unusual observations. An example of the type of information that should be in this form is shown below.

UNUSUAL OBSERVATION REPORT		Person			
Reported by:		1	2	3	4
Report date/time:	Sex				
Activity:	Race				
Location:	Height				
Time of observation:	Build				
Date of observation:	Weight				
Descriptions:	Age				
	Complexion				
	Distinguishing features				
		Vehicle			
		1	2	3	4
	Color				
	Year				
Comments:	Make/model				
	Type				
	# of doors				
	License				
	State				
	Distinguishing features				

11

Contact List

Fill in the information in the table below for your organization, and keep this information with you during your daily activities.

BUSINESS HOURS							
<i>Circle Days:</i>	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
<i>Hours:</i>							
<u>Primary Contact</u>							
Name:	_____.						
Telephone:	_____.						
Alt. Telephone:	_____.						
e-mail:	_____.						
<u>Backup Contact</u>							
Name:	_____.						
Telephone:	_____.						
Alt. Telephone:	_____.						
e-mail:	_____.						

ALL OTHER TIMES							
<u>Primary Contact</u>							
Name:	_____.						
Telephone:	_____.						
Alt. Telephone:	_____.						
e-mail:	_____.						
<u>Backup Contact</u>							
Name:	_____.						
Telephone:	_____.						
Alt. Telephone:	_____.						
e-mail:	_____.						

12

A Few Key Reminders

Do not overlook the following:

- Couples, especially those not demonstrating a relationship with each other
- Handicapped persons
- Children
- Homeless persons
- Beggars
- Women
- Folks with babies or strollers
- Repair/service personnel
- Delivery people
- Bicyclers/joggers
- Fishermen
- Drivers with broken down vehicles
- Vehicles with obscured or missing license plates

REMEMBER

NEVER, NEVER, NEVER FOLLOW!!

When you follow, you have lost your role as a passive observer. You now have made yourself a threat to the person you are following. There have been instances where observers have followed their subjects, who turned out to be drug dealers who turned and killed them.

Do not be obvious in making notes or taking pictures! Once again, you have lost your passive role and made yourself a threat. This behavior can be fatal.

Abbreviations used without definitions in TRB publications:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ITE	Institute of Transportation Engineers
NCHRP	National Cooperative Highway Research Program
NCTRP	National Cooperative Transit Research and Development Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
TCRP	Transit Cooperative Research Program
TRB	Transportation Research Board
U.S.DOT	United States Department of Transportation