



Reducing Agency-Controlled Distractions While Operating a Vehicle on Agency Time

Abstract: There are many agency-controlled devices, conditions and activities that might distract from safely operating a vehicle. This *Recommended Practice* guides agencies in mitigating or minimizing these agency-controlled distractions for drivers while they operate vehicles on company business.

Keywords: alertness, awareness, distraction, electronics, phones, texting

Summary: Driver inattention is the leading factor in most crashes and near-crashes, according to a landmark research report released by the National Highway Traffic Safety Administration (NHTSA) and the Virginia Tech Transportation Institute (VTTI). Nearly 80 percent of crashes and 65 percent of near-crashes involved some form of driver inattention within three seconds before the event. Primary causes of driver inattention are distracting activities, such as cell phone use and drowsiness. Reducing operator distractions and improving safety is a shared responsibility of both the transit agency and the operator.

Scope and purpose: Recognizing distracted driving as a serious public safety issue and as a civil liability, the APTA Standards Bus Safety Working Group was convened to study and recommend mitigations agencies should consider to reduce transit operator distractions. This *Recommended Practice* provides transit agencies with a guideline to develop standard operating procedures, policies, training programs and improvement in technologies regarding agency-controlled operator distractions. In addition, it examines the nature and scope of the problem associated with distracted driving; examines current data, practices, standards, attitudes, technologies and related issues in public transit regarding distracted driving; and identifies specific strategies that might be helpful for consideration by transit agencies. Federal or state laws that are more restrictive than this *Recommended Practice* supersede this document and must be followed. Transit systems are free to develop more restrictive rules than are provided for in this *Recommended Practice*. A separate *Recommended Practice* has been developed with recommendations for reducing operator distractions that are under management's control.

Agency Controlled Distractions

- Develop policies, procedures and training programs to mitigate distractions
- Keep dispatch communications to a minimum
- Create and enforce disciplinary steps or actions in accordance with agency's policies and procedures
- Create an operator's work station to minimize distractions

This Recommended Practice represents a common viewpoint of those parties concerned with its provisions, namely, transit operating/planning agencies, manufacturers, consultants, engineers and general interest groups. The application of any standards, practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a rail transit system's operations. In those cases, the government regulations take precedence over this standard. APTA recognizes that for certain applications, the standards or practices, as implemented by individual transit agencies, may be either more or less restrictive than those given in this document.



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1. Agency-controlled distractions

There are many types of agency-controlled devices, conditions and activities that might distract the driver or operator from safely operating a vehicle. This *Recommended Practice* addresses common distractions and makes recommendations for dealing with the distractions.

The following sections contain some common agency-controlled distractions that may impact a driver's or operator's attention.

1.1 Devices

- communications equipment (agency authorized)
- route map or route descriptions
- vehicle equipment
- workstations
- farebox
- Onboard vehicle displays of schedule adherence

1.2 Conditions

- schedule adherence/recovery time
- fatigue (shift work, etc.)
- fitness for duty
- driver confidence
- workstation ergonomics
- mechanical failures

1.3 Activities

- communication protocols between agency and operator
- enforcement of rules
- suspicious people/packages
- counseling employees
- customer emergencies
- customer inquires
- restroom breaks
- check rides
- interactions with passengers
- personal emergencies

2. Implementation

Addressing the agency-controlled distractions listed above requires a multi-faceted approach. The development of policies, procedures, training programs and use of technologies may be used to mitigate agency-controlled distractions. For example, it will be necessary to establish a procedure by which an operator can be contacted in the event of a personal emergency.

3. Policies

Agencies should develop policies and procedures that are designed to reduce agency-controlled distractions. As part of the policy development process, a safety assessment should be performed to determine individual agency-controlled distractions. Once agency-controlled distractions are identified, the agency should develop plans to eliminate or mitigate those distractions using the following hierarchy of controls:

- Eliminate the distraction.
- Reduce or mitigate the distraction through engineering controls.
- Train and instruct employees on agency policies and procedures to minimize distractions while operating a vehicle.

In addition to identifying distractions, the agency's policy should also address training requirements and how the policy is to be enforced.

3.1 Example

All dispatcher communications should be kept to a minimum and should be business-related, with each agency defining those terms. Any call to a vehicle should begin with an inquiry, such as, "Is it safe for you to talk?" The recipient of such a call should respond "yes" or "no." If the answer is "no," then the recipient should defer the call until he or she has arrived at a safe location.

4. Training

Agencies should provide initial and periodic training (new hire, recertification, refresher and retraining) to all drivers and operators on distractions and develop policies and procedures that reduce or eliminate distractions. Agencies committed to providing this training will benefit from improved safety performance and reduced operational costs.

Training on distractions must follow the established agency policy guidelines and include instructions on all items identified during the safety assessment. (Refer to the distractions listed in Section 1, Agency-controlled distractions.)

Accident investigation training for supervisors should incorporate the recognition of operator's distractions as a contributing factor to the incident. See Annex C for examples.

5. Technology

The design and function of the operator's work station should minimize distractions due to visibility (including fare box, blind spots, glare and mirror placement), controls, instrumentation and seat design and location.

6. Enforcement

Agency policies and procedures should include enforcement and disciplinary steps or actions in accordance with applicable agency standards. Enforcement tools may include the use of on-board observation, video and audio, event recorder, field personnel, customer reports, service audits, etc.

7. Analysis of data

It is important to collect, measure, and analyze data to determine the effectiveness of the agency's policy, training and enforcement program.

Annex A

Excerpt from *Traffic Safety Facts Research Note* on driver cell phone use

Driver hand-held cell phone use decreased to 5 percent in 2006 compared to 6 percent in 2005. This downturn in handheld cell phone use is the first since the National Highway Traffic Safety Administration began estimating driver cell phone use in 2000 through its National Occupant Protection Use Survey (NOPUS). The 2006 NOPUS also found that the incidence of drivers speaking with observable headsets on remained unchanged, while the incidence of observable hand-held device manipulation while driving increased to 0.4 percent in 2006 from 0.2 percent in the previous year.

However, the lack of up-to-date data to extrapolate NOPUS observed data to total cell phone use precludes an accurate estimation of overall driver cell phone use. In the past, we had projected the total hands-free use and total cell phone use among all drivers based on 2003 cell phone use data from other sources. This research note will not make such a projection for the year of 2006 with the outdated data but we will do it in the future as updated data become available.

The 2006 hand-held phone use rate translates into 745,000 vehicles on the road at any given daylight moment being driven by someone talking on a hand-held phone. The decline in use occurred in a number of driver categories, including female drivers, drivers in the Midwest, drivers age 25 to 69, drivers of passenger cars, drivers in both urban and suburban areas, drivers on weekdays, and drivers driving alone.

The NOPUS is conducted annually by NHTSA's National Center for Statistics and Analysis. It provides the only probability-based observed data on driver cell phone use in the United States.

Annex B

NHTSA press release on driver inattention, April 20, 2006

Driver inattention is the leading factor in most crashes and near-crashes, according to a landmark research report released today by the National Highway Traffic Safety Administration (NHTSA) and the Virginia Tech Transportation Institute (VTTI).

Nearly 80 percent of crashes and 65 percent of near-crashes involved some form of driver inattention within three seconds before the event. Primary causes of driver inattention are distracting activities, such as cell phone use, and drowsiness.

“This important research illustrates the potentially dire consequences that can occur while driving distracted or drowsy. It’s crucial that drivers always be alert when on the road,” said Jacqueline Glassman, acting administrator of NHTSA. Her remarks were made during a news conference today at VTTI in Blacksburg, VA.

The 100-Car Naturalistic Driving Study tracked the behavior of the drivers of 100 vehicles equipped with video and sensor devices for more than one year. During that time, the vehicles were driven nearly 2,000,000 miles, yielding 42,300 hours of data. The 241 drivers of the vehicles were involved in 82 crashes, 761 near crashes, and 8,295 critical incidents.

“The huge database developed through this breakthrough study is enormously valuable in helping us to understand—and prevent—motor vehicle crashes,” said Dr. Tom Dingus, director of VTTI.

In addition, a follow-on analysis to the 100-Car Study has also been released. Focused on the types of driver inattention and their associated risk, key findings include:

- Drowsiness is a significant problem that increases a driver’s risk of a crash or near-crash by at least a factor of four. But drowsy driving may be significantly under-reported in police crash investigations.
- The most common distraction for drivers is the use of cell phones. However, the number of crashes and near-crashes attributable to dialing is nearly identical to the number associated with talking or listening. Dialing is more dangerous but occurs less often than talking or listening.
- Reaching for a moving object increased the risk of a crash or near-crash by 9 times; looking at an external object by 3.7 times; reading by 3 times; applying makeup by 3 times; dialing a hand-held device (typically a cell phone) by almost 3 times; and talking or listening on a hand-held device by 1.3 times.
- Drivers who engage frequently in distracting activities are more likely to be involved in an inattention-related crash or near-crash. However, drivers are often unable to predict when it is safe to look away from the road to multi-task because the situation can change abruptly leaving the driver no time to react even when looking away from the forward roadway for only a brief time.

The 100-Car Study and its follow-on analysis were co-sponsored by NHTSA, the Virginia Transportation Research Council (the research division of the Virginia Department of Transportation) and Virginia Tech.

The background and results of both studies are available on NHTSA’s website under Research and Development at <http://www-nrd.nhtsa.dot.gov/departments/nrd-13/newDriverDistraction.html>.

Annex C

Accident investigation for supervisors

The purpose of assembling the investigation is to provide guidance and recommendations on assembling the collision investigation report. Also consider the following benefits:

- **Reduced liability:** Who or what caused the collision? (It's usually a combination of circumstances rather than a single cause. Human error is almost always due to a chain of events or errors.) Having a complete and thorough accident investigation greatly assists the agency's claims department in assessing and defending liability.
- **Improved safety:** How can this type of accident be reduced or eliminated?

The chain of events is the time of first perception to final rest, in the following order:

- Point of possible perception (the first possible point)
- Point of perception (when it took place, 3/4 second)
- Operator response (3/4 second)
- Equipment response (condition of)
- Initial engagement (first contact)
- Maximum engagement (most damage)
- Disengagement (vehicles separate)
- Final rest (may be different if vehicle was moved after impact)

There are two kinds of evidence to be collected (see **Figure 1**):

- **Transient:** marks, debris and fluids. This is evidence that is temporary and prone to disappear, be moved or be disturbed. It should be recorded by photo or sketch as soon as possible.
- **Fixed:** damage to structures and vehicles. This is evidence that is likely to be around for a while, such as vehicle, tree or building damage. The investigator should take photos of vehicle damage before vehicles are moved, as they can become further damaged during the recovery process.

FIGURE 1
Types of Evidence



Transient evidence



Fixed evidence

Debris as evidence:

- underbody
- vehicle parts
- vehicle fluids

There are five different forms of fluid debris:

- **Splashdown:** A fluid container is ruptured and fluid splashes onto the road surface (such as radiator fluid). A vehicle splashdown is not always a good indicator of the exact point of impact.
- **Dribble:** Fluid is left in a “trail” from the point of impact to the vehicle’s final rest.
- **Puddling:** Fluid forms in a puddle after leaking from the vehicle, generally under and around the vehicle.
- **Runoff:** Fluid leaks from vehicle and runs down a grade.
- **Soak-in:** Fluid leaks from vehicle and soaks into a porous surface such as soil or gravel.

What is good documentation?

- Use behavioral language describing the situation (what you saw, heard and could measure).
- Record factual details (date, time, location, bus number, etc.).
- Timeliness (preferably make notes at the time of the observation)
- Notes of contacts are vital for both inappropriate behavior and for the purpose of recognizing operators.

Interview techniques

The following people should be interviewed, when applicable:

- operators
- passengers and eyewitnesses
- local police
- emergency crews
- any person involved/witnessed at the scene
- residents or businesses near the scene
- technical specialists
- walk-ins

Interview arrangements

- At the scene, identify yourself and state your purpose.
- Make contact as soon as possible at the scene.
- Use a positive approach.
- Select a good location.
- Avoid group interviews.
- Seek a neutral location for hostile witnesses.
- Always display courtesy and patience.
- Take notes when possible.

Aids to effective interviews

- Always display courtesy and patience; anger causes brain shutdown.
- No profanity.
- Take notes when possible.

Factors that affect witness reporting

- Perception vs. what really happened:
 - emotion
 - exaggeration

- intelligence
- quantitative or blanket statements
- Transposition:
 - sequence of events out of order
- Post accident loss of memory:
 - frightening or traumatic
 - subconscious response
- Credibility assessment:
 - general demeanor
 - prejudicial statements
 - tendency toward drama
 - easily swayed
 - subconscious response
- Environment:
 - vision obstructions or impairments
 - noise
 - weather conditions
- Physiological factors:
 - hearing or vision
 - drugs or alcohol
 - subconscious response
- Health:
 - fatigue
 - stress
 - illness
 - subconscious response
- Psychological factors:
 - judgment
 - revenge or retaliation
 - rationalization
 - incrimination
 - subconscious response
- Personalities:
 - witness
 - yourself

It takes practice, patience and empathy to be an effective interviewer.

References

American Public Transportation Association, *Recommended Practice*, “Reducing Driver-Controlled Distractions while Operating a Vehicle on Agency Time,” APTA BTS-BS-RP-005-09, 2009.

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National Highway Traffic Safety Administration press release, “NHTSA, Virginia Tech Transportation Institute Release Findings of Breakthrough Research on Real-World Driver Behavior, Distraction and Crash Factors,” April 2006.

Definitions

agency-controlled distractions: Any device, condition or activity within the agency’s control which diverts attention away from safely operating a vehicle.

dispatcher: An employee, usually supervisory level, who communicates with employees in vehicles carrying out business related functions for the agency through the use of a two way radio or digital messaging system.

driver: A person operating a non-revenue vehicle in the performance of their scope of work for the agency. This includes contractors.

electronic device: Any device that has an on/off switch.

mobile data terminal (MDT): A device installed in a vehicle to provide data pertinent to the operation of the system.

nonrevenue vehicle: Any vehicle used in carrying out agency business that is not used in revenue service.

operator: Any individual operating a revenue vehicle.

personal data assistant (PDA): A handheld electronic communication device.

revenue vehicle: Any bus, railcar, van or other vehicle used by the agency or agency contractors to provide transportation to agency customers.

personal electronic device: Any non-agency authorized or distributed electronic device.

safety assessments: A structured and systematic methodology, aimed at enhancing workplace safety, including protection of life, health, the environment and property.

Abbreviations and acronyms

APTA American Public Transportation Association

DOT Department of Transportation

VTTI Virginia Tech Traffic Institute

NHTSA National Highway Traffic Safety Administration

PDA personal data assistant