

Choosing the Best High-Visibility Apparel in a Variety of Roadway Scenarios

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of the
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This brochure was developed by the American Traffic Safety Services Association's (ATSSA) "Safety and Public Awareness Committee." The brochure is intended to assist users in making the best choice when choosing high visibility safety garments for a variety of working situations.

High visibility safety garments are classified as follows:

Class 1 Garments

- For workers in occupations that permit full and undivided attention to approaching traffic
- When work backgrounds are not complex
- When workers on foot are separated from traffic
- When vehicles are moving at speeds not exceeding 25 m.p.h.

Class 2 Garments

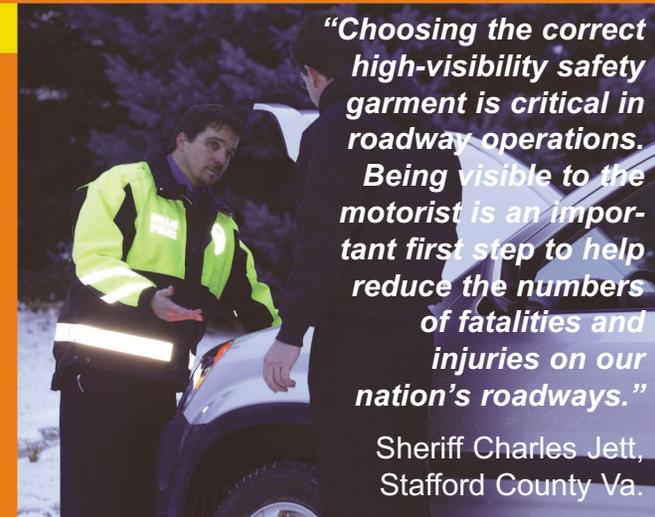
- For workers who require greater visibility under inclement weather conditions
- When work backgrounds are complex
- When tasks divert attention from approaching vehicle traffic

Class 3 Garments

- For workers on foot and vehicle operators whose high task loads place them in danger
- When the wearer must be conspicuous through the full range of body motions at a minimum of 1,280 feet
- When the wearer must be identified as a person

Defining "Short-Term" Utility Operations

Roadway work zones are a part of the American landscape. You cannot travel our nation's roadways without encountering one - or several. Roadway work zones are marked with orange signs, and usually contain safety devices such as barrels, cones, roadway workers and their equipment.



"Choosing the correct high-visibility safety garment is critical in roadway operations. Being visible to the motorist is an important first step to help reduce the numbers of fatalities and injuries on our nation's roadways."

Sheriff Charles Jett,
Stafford County Va.

In addition to these work zones, thousands of 'short term' work zones are present across America as well. These include cable television installers, phone company employees, public works employees, manhole operations, law enforcement, emergency responders (such as fire, ambulance) and towing companies.

Each year, nearly 1,100 lives are lost in work zones.¹ Selecting the right safety garment for the job could help lower this number.

The following scenarios recommend the correct safety garment to wear, based on the International Safety Equipment Association's "American National Standard for High-Visibility Safety Apparel 107 (See note 1)." It is the intention of these scenarios and guidelines to serve as a rudimentary assessment tool only. Certain specific conditions such as atmospheric, sight/stop distances, training, regulations, proximity, and so forth, must all be taken into consideration in any final hazard/safety assessment. Vehicle speed should not be considered in isolation to these variables. Extreme conditions might exist which require performance levels in excess of Class 3 safety garments.

¹ Fatality Analysis Reporting System (FARS) Web-Based Encyclopedia.



Scenario A

For occupational activities which permit full and undivided attention to approaching traffic; provide ample separation of the pedestrian worker from conflicting vehicle traffic; permit optimum conspicuity (visibility) in backgrounds that are not complex; and where vehicles and moving equipment speeds are below 25 miles-per-hour.

Examples of Those Who Might Work in Scenario A

- Workers directing vehicle operators to parking or service locations
- Workers retrieving shopping carts in parking areas
- Those exposed to warehouse hazards
- "Right-of-Way" or sidewalk maintenance workers
- Delivery vehicle personnel
- Workers protected by physical barrier separation
- Student crossing patrols in school zones
- Law enforcement/ fire/ EMS personnel

Suggested Class of Garment for Scenario A

Class 1 Typical

Class 2 Under certain conditions - or if exposed to high traffic congestion - such as event parking

Scenario B

For occupational activities where risk levels exceed those in Scenario A, such as when greater visibility is desired during inclement weather conditions; complex backgrounds are present; employees are performing tasks which divert attention from approaching vehicle traffic; vehicle or moving equipment speeds exceed those in Scenario A; or when work activities take place in closer proximity to vehicle traffic.

Note 1: The American National Standards Institute (ANSI) recently approved a revised edition of the standard (ANSI/ISEA 107-2004). This standard provides a uniform, authoritative guide for the design, performance specifications, and use of high-visibility and reflective apparel, including vests, jackets, bib/jumpsuit coveralls, trousers and harnesses. Garments that meet this standard can be worn 24 hours a day to provide users with a high level of conspicuity through the use of combined fluorescent and retroreflective materials. Visit safetyequipment.org to order the document.



Examples of Those Who Might Work in Scenario B

- Roadway construction workers
- Utility workers
- Survey crews
- Railway workers
- School crossing guards
- High-volume parking and/or toll gate personnel
- Airport baggage handlers and ground crews
- Emergency responders in flagging operations
- Members of law enforcement
- Accident site investigators
- Flagging crews (*See note 2*)

Suggested Class of Garment for Scenario B

Class 1 For workers protected by physical barrier separation

Class 2 Typical

Class 3 Based upon certain conditions such as inclement weather, high-risk exposure - such as traffic control device setup in a work zone

Scenario C

For occupational activities where risk levels exceed those in Scenario B, such as where workers are exposed to significantly higher vehicle speeds and/or reduced sight-distances; the worker and vehicle operator have high task loads clearly placing the worker in danger; or the wearer must be conspicuous through the full range of body motions at a minimum of 390 meters (1,280 feet), and must be identifiable as a person.



Examples of Those Who Might Work in Scenario C

- Roadway construction personnel
- Utility workers
- Survey crews
- Emergency responders in flagging operations
- Flaggers in night operations/ high congestion

Suggested Class of Garment for Scenario C

Class 2 or **Class 3** Typical, based upon certain conditions such as inclement weather, in areas of high congestion, the complexity of the roadway task, roadway features, road closures, complex lane shifts, complex work zones, or other hazardous factors

Note 2: Regarding "Flaggers," from Chapter 6 of the 2003 Federal Highway Administration Manual on Uniform Traffic Control Devices, "For daytime and nighttime activity, flaggers shall wear safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" and labeled as meeting the ANSI 107 standard performance for Class 2 risk exposure. The apparel background (outer) material shall be either fluorescent orange-red or fluorescent yellow-green as defined in the standard. The retroreflective material color shall be either orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 300 m (1,000 ft.). The retroreflective safety apparel shall be designed to clearly identify the wearer as a person."

