Passive Devices for Barrier Safety

Barrier systems are installed with various safety devices to help prevent the barrier from closing on vehicles and/or pedestrians. These systems vary based on location, barrier type, vehicular type, traffic pattern, security levels, theory of operation, and security personnel. Safety devices can be active devices (will cause some action by the barrier) or passive devices (will not cause action by the barrier). Passive device’s function is to alert those around the barriers of the current status, impending actions, and information as to when movement can be safely made.

**NOTE:** Barrier systems are NOT designed to handle pedestrian traffic. Pedestrians should be routed through the proper pedestrian gates or walk areas and not through the vehicle barrier areas.

In general, the following types of passive safety devices are used:

- Audible Devices
- Signal Lights
- Warning Lights
- Barrier Lights
- Traffic Arms
- Warning Signs
- Reflective Tape
- Paint Scheme

For active safety devices, please see the corresponding brief, *Active Devices for Barrier Safety*.

### Audible Devices

Audible devices are similar to backup alarms on forklifts and tractor trailer trucks. They can be setup to activate while the barrier is moving, as well as, prior to barrier movement for additional safety. They provide an audible warning to all around, informing them of barrier movement.

### Signal Lights

Traffic lights are often employed to signal the barrier is activated or about to activate. Solid red traffic lights are used to notify vehicles to stop prior to a secured barrier system. Flashing amber traffic lights are used to notify vehicles to proceed with caution while approaching, passing through, and departing a barrier system area.
Some barrier systems are configured with Emergency Fast Operation (EFO). In those cases a time delay may be required prior to barrier activation, giving a red traffic light time to illuminate prior to barrier movement in order to stop traffic.

Warning Lights

Flashing warning lamps are often employed to signal the barrier is activated or about to activate. Flashing amber lamps are used to notify vehicles to proceed with caution while approaching, passing through, or departing a barrier system area. Flashing amber “Wig-Wag” lamps (shown) are usually located well in advance of the barrier system, and are used as an initial warning that the barrier is activated (or activation is possible).

Barrier Lights

LED signal lamps can also be mounted to, or may already be integrated into, the barriers themselves. This provides an added level of safety and notification for vehicles that the barrier is in the secure position. These lights are especially valuable at night.

Traffic Arms

Traffic arms can be deployed prior to reaching a barrier system to assist in stopping vehicular traffic prior to barrier operation. Depending on the level of protection required, traffic arms allow the security personnel to control traffic by using the traffic arms rather than the full barrier system. Traffic arms should be in the fully closed position prior to barrier activation.

Warning Signs

Warning signs can be used to notify vehicles approaching a barrier system. They can be used in conjunction with signal lamps for extra safety. These signs merely indicate the presence of a barrier system, and possible action that the approaching vehicle should take.

Reflective Tape

Though most barrier paint finishes can be customized at the owner’s discretion, reflective tape can be added to provide an added visibility safety feature for approaching vehicles, especially at night.

Paint Scheme

Though most barrier paint finishes can be customized at the owner’s discretion, a basic slanted striping scheme is common on many barriers. Safety yellow or white can make the barrier more visually noticeable as a vehicle approaches from the secure or unsecure side of the barrier.
Passive devices may be required by certain standards including various military, Manual on Uniform Traffic Control Devices (MUTCD), Department of Transportation (DOT) and American Association of State Highway and Transportation Officials (ASHTO) standards. Please read and follow all standards to determine which combination of the above identified devices must be installed.

In summary, every security barrier configuration is different depending on the type of barrier, traffic patterns, theory of operation, and security level. Each application must be analyzed for the most effective safety device(s) to be installed. Safety devices must also be maintained and tested on a regular basis to ensure proper operation. It is good practice to maintain and test safety devices as part of the regular maintenance and testing of your barrier system. A traffic pattern theory of operation should be developed and fully understood before the barrier system and its safety devices are installed.