

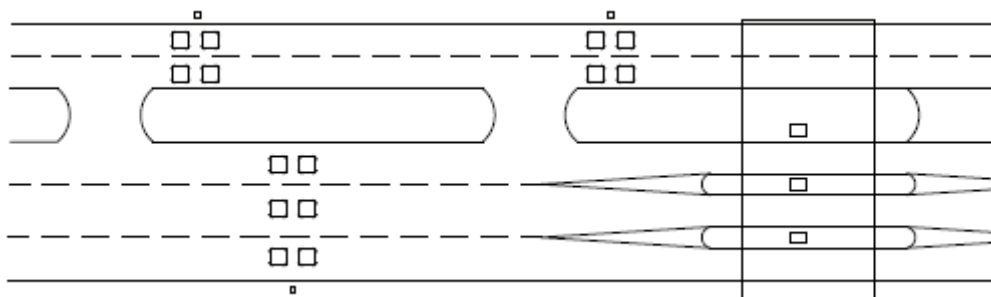
## Wrong Way and Over Speed

Wrong Way systems are installed to detect vehicles approaching an ID check area in the exit lanes. While entrance lanes are controlled by security personnel, the exit lanes are usually not. Raised curbing can delineate a vehicle to stay in the entrance lane, unless given the opportunity to switch lanes at a turnaround or denial lane. Once the approaching vehicle is in the exit lanes, it could be a threat to the facility or a safety threat to oncoming traffic.

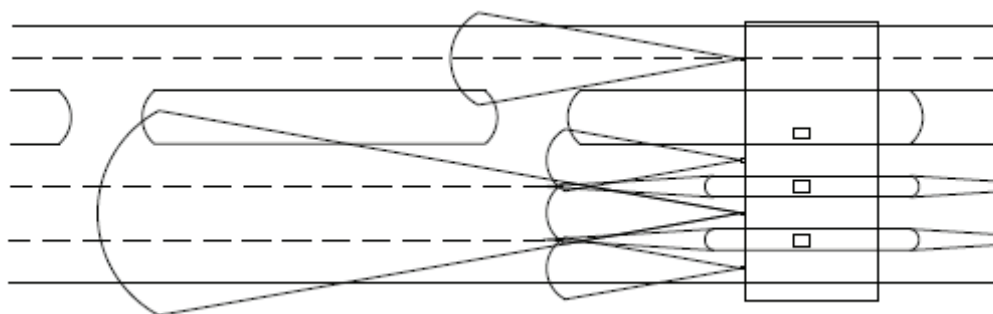
Over Speed systems are installed to detect vehicles approaching an ID check area at a high rate of speed. This could be a terrorist threat to a facility or a safety threat to the security personnel and the vehicles that may be stopped ahead.

Wrong Way and Over Speed systems can be installed using the following methods:

- Point to Point – These systems typically use vehicle detection loops located in the pavement. A vehicle will pass over the first loop and then the second loop. In the case of a Wrong Way system, the processor verifies the loops are activated in the correct order. In the case of an Over Speed system, the processor verifies the loops are activated outside of a timed calculation based on the posted speed limit. Simplicity of programming is an advantage to this system, while installation and cost are disadvantages. As shown below, two vehicle detection loops must be cut in each lane where the system is needed, and low voltage and power are usually required at processor location beside the loops.



- Radar – These systems use Doppler radar sensors located at the ID check area. The sensors will determine the direction of the vehicle, as well as the speed. The processor then interprets these signals and compares the information to pre-determined parameters. Simplicity of installation is an advantage to this system, while programming, cost, and radar restrictions are disadvantages. As shown below, all radar sensors can usually be mounted on the ID canopy, and one sensor will cover multiple lanes.



A hybrid system may also be used based on restrictions, i.e. road curvature, approach distance, other traffic located on either side of the entrance and exit lanes, facility requirements. For example, a point to point may be used for a Wrong Way system, and radar may be used for an Over Speed system.

Once a system has detected an approaching vehicle in the exit lane or at a high rate of speed, an alarm is triggered to notify personnel of the existing threat. Alarm notifications take the form of an audio buzzer, a flashing video monitor inside a guard booth, an external scrolling sign, or an illuminated sign. These alarms prompt the next appropriate guard action(s). Overspeed and wrong way detection systems should be carefully integrated with an overall traffic pattern theory of operation for each facility.

**Applicable Standards** (at a minimum):

- UFGS 34 71 13.19 Active Vehicle Barriers
- UFGS 34 41 26.00 10 Access Control Point Control System



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