



12-POINT SAFETY ANALYSIS

for GUARDIAN
Traffic Control Systems

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ESSENTIAL “DO’S AND DON’TS” OF TRAFFIC CONTROL SYSTEM INSTALLATION

- *While traffic control systems effectively protect your assets, control access and manage traffic, there can also be potential risks and liability associated with their use. For this reason, it is extremely important that adequate safety measures are taken in the installation and the use of these devices. How a system gets installed will ultimately affect how safe it will be. Since safety is our top priority, we have compiled the following 12-Point Safety Analysis to help you avoid situations and oversights that could result in an unsafe system and create possible liability issues.*

1. **DO clearly warn pedestrians and drivers about the potential danger**

- It is *crucial* that the area be clearly marked with at least a lighted or reflective warning sign. This is strongly recommended and required by law in many areas. Illumination of the teeth, especially in areas of adjacent pedestrian traffic, is highly encouraged. As added protection in high pedestrian traffic areas, a fence could be installed to separate main pedestrian traffic from normal vehicular traffic. Additional signage and pavement markings may also be used to increase awareness of the potential for danger and to reduce property owner's liability.

2. DO install in an area that has high visibility

- It is extremely important that traffic controllers are installed in an area that is highly visible in order to ensure the safety of drivers. They should never be installed in “blind” spots, directly around corners, halfway down a one-way road, or other places where drivers cannot be amply forewarned of the potential for danger.

3. DO install in such a way that traffic flows over teeth at a strict 90° angle

- Traffic controllers *must* be installed in such a manner that traffic flows over the teeth at a strict 90° angle, perpendicular to the teeth. Complete vehicle alignment and perpendicular passage over the controller *must* be assured *for both the front and rear tires*.
- **Failure to follow this guideline may result in extreme wear and tear on the units and in the puncturing of tires of correct-direction traffic.**

4. **DON'T** install on a curve

- The problem with installing traffic controllers on a curve is that there usually is not enough room allowed before and after the units for all vehicles to cross *straight* over them. In other words, there must be enough straight roadway available before the units, to allow vehicles that have just completed a turn to straighten out, so that they will approach the units exactly perpendicular to the teeth. In addition, there must be enough room after the units, for all tires of all vehicles to have completely cleared the traffic controllers prior to beginning any turns. A good rule of thumb is to allow for 15 to 20 feet in either direction of the traffic controller between any turns that vehicles may be required to take.
- **Failure to follow this guideline may result in extreme wear and tear on the units and in the puncturing of tires of correct-direction traffic.**

5. **DON'T** install on uneven or non-level surfaces

- *Surface mount* traffic controllers must be installed on a level, even surface with no welts, bumps, or dips beneath them. They must be installed flush with the road surface which must also be level. They must not be installed on an uphill or downhill slope.
- ***Failure to install surface mount traffic controllers on an appropriate level surface, may result in extreme wear and tear on the units and in the puncturing of the tires of correct-direction traffic.***
- *In-ground* traffic controllers must be installed with a level drainage bed, as per manufacturer's instructions. When installed properly, the top plate of an in-ground traffic controller will be level with the road surface. This is crucial to maintaining an optimum tooth angle. In-ground traffic controllers must be level from end to end *and* from front to back. A handy technique to keep the controller unit level with the surface during installation is to bolt two flat steel bars, approximately 24 inches long, perpendicular to the unit, to the top plate at either end, creating hold bars. This creates temporary handles and flaps that will keep the controller unit level with the existing pavement while the cement cures.
- **Failure to install in-ground traffic controllers levelly, may result in any or all of the following: tires of vehicles traveling in the *wrong* direction, not being punctured; tires of vehicles traveling in the correct direction, being punctured; and extreme wear and tear on the units.**

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6. DO leave adequate drainage channels below In-Ground units

- It is important to allow adequate drainage below in-ground traffic controllers so that water will not accumulate beneath the unit in normal weather conditions. The placement area should be excavated 24-36 inches deep, depending on the annual rainfall of the area of installation, which should be determined by the installer. Use cement web blocks as a base, placed on top of the crushed rock, to position the top plate of the traffic controller at a level flush with the pavement surface, to allow for proper drainage.

7. DON'T install on inappropriate road surfaces such as brick, dirt, or gravel

- Traffic controllers should only be installed on level concrete or asphalt roadways. Brick, dirt, gravel, or other road surfaces are not appropriate installation surfaces – neither are non-level or extremely worn asphalt or concrete. If installing on asphalt, a combination of bolts and epoxy is recommended when installing surface mount controllers. If traffic controllers are needed in an area that has an inappropriate road surface, a level concrete pad should be laid at the point of installation, stretching at least 10' on every side of the traffic controller. This will help prevent debris from getting inside the units and will make it easier to keep them clean.

8. **DON'T** install in an area that has a lot of dirt, debris, and gravel

- If the area surrounding the installation has a lot of dirt, debris, and gravel, installers are strongly encouraged to lay a concrete pad at the point of installation and the immediately surrounding area, in order to cut down on the amount of these materials getting into the traffic controllers.
- **Dirt, debris, gravel, and rock inside the units, as well as improper maintenance, are the main causes of excessive spring breakage.**

9. **DON'T** forget to properly maintain the units

- In order to keep a traffic controller functioning properly, it is essential to be familiar with an to follow through with the maintenance requirements of the units. Proper maintenance consists of periodic inspection and removal of any leaves or material that may have become lodged inside the controller. Neglecting to regularly clean dirt and debris from inside traffic controllers, is the number one cause of excessive spring breakage and traffic controller malfunction. How often this needs to be done will depend on your geographic area and the conditions at your installation site. Dirt and debris can be hosed or blown out, or can be swept out by removing the top plate, which will allow free access to the interior of the units.

10. DO make sure the traffic controller you choose is *appropriate* for the application

- Facilities such as hospitals and emergency rooms, where people are likely agitated and distracted, may not be an appropriate place to install traffic controllers. In addition, traffic controllers should only be used in a parking situation, or other areas where traffic can be slowed to a maximum of 5 miles per hour prior to crossing the units. They are not intended for use on busy roadways where traffic is proceeding at full speed.
- **Accidents and extreme wear and tear on the units are possible if traffic is not slowed to an appropriate speed prior to crossing the units.**

11. DO add speed bumps before traffic controllers when additional speed control is required and/or desired

- If the situation in which the traffic controller is used does not automatically slow traffic down to a maximum of 5 miles per hour prior to crossing the unit, then it will be necessary to install a speed bump, prior to the unit, to reduce the speed of the approaching traffic. A speed bump may also be installed in any situation where additional speed control is *desired*, which would also serve to prolong the life of the units.
- **Accidents and extreme wear and tear on the units are possible if traffic is not slowed to an appropriate speed prior to crossing the units.**

12. DO consult manufacturer for optimal placement of units, based on varying road widths

- The best system and layout for your site will depend on the width of the traffic lane that the units will be installed on. Please call us with your site specifications, so that we can recommend a system and layout that will be appropriate for your lane width. Problems can result from improper spacing of traffic controllers across a traffic lane.

With proper installation and maintenance of Guardian Traffic Control Systems, you will enjoy many years of cost-effective and reliable directional and access control

- Our instructions are designed and written to provide the end user with the best performance possible from our products. Failure to follow the installation instructions can and will affect the effectiveness, performance, and safety level of your traffic controller.