

## MEMORANDUM

TO: TSMO All and IDO All

FROM: Dallas Hammit

DATE: January 11, 2018

RE: Desk Aid – Highway Maintenance Traffic Safety Guidelines

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Safety is the top priority for all work completed by the Arizona Department of Transportation (ADOT). This priority extends to the planning, resourcing and execution of traffic safety in all highway maintenance work including: roadway, landscape, signing and striping and signals and lighting. The guidelines herein apply to all highway maintenance work performed by ADOT, contractors and permit holders to the limits of the clear zone/recovery area. These guidelines do not apply to work performed by the Adopt-A-Highway Program.

Pre-activity planning for safe highway maintenance work is essential. Planning shall consider all ways to optimize traffic safety, including, but not limited to: working outside the clear zone/recovery area when possible; reducing speed limits; using available attenuators; using other vehicles to protect the work site when attenuators are not available; postponing less-critical work until attenuators are available; conducting lane work during non-peak traffic hours; closing ramps/lanes rather than crossing active ramps/lanes; positioning vehicles and personnel close to work sites to avoid crossing active ramps/lanes; using law enforcement assistance; etc.

### Attenuators

As available, attenuators shall be used at all ADOT highway maintenance work sites, except as discussed below under Exceptions. Use the chart in this policy to determine the priority of attenuator use and consider postponing lower-priority work until attenuators are available. Priorities are categorized from 1 (highest) to 4 (lowest). Available attenuators shall be assigned to work site(s) in order of priority.

The availability of attenuators is based upon several factors: presence of an attenuator at the Unit or one at a nearby Unit that can be borrowed; the mechanical operability of the attenuator and its truck; the presence of a properly trained and licensed driver. Units shall closely coordinate driver training and licensing and schedule repairs/services with Equipment Services for the purpose of maximizing attenuator availability.

When attenuators are not available, another vehicle shall be positioned at all ADOT highway maintenance work sites for the purpose of blocking errant traffic from entering the work site and to provide close physical protection to workers, except as discussed in paragraph E. These vehicles shall be positioned and wheels turned so as to not pose a roll-ahead hazard to the work site. Warning/flashing lights and if equipped, vehicle mounted arrow boards, shall be activated during this period of use. With the exception of trailers, non-vehicle equipment such as loaders, mowers, sweepers and bucket trucks with the bucket deployed, shall not be used to provide close protection from errant traffic.

Assessment of attenuator needs shall continue to be performed through the Maintenance Team's Critical Equipment Needs process. As well, assessment of driver/equipment operator needs shall continue to be performed by districts. Based upon these assessments, recommendations for procurement and hiring actions shall be processed through the State Engineer's Office. The goal is to establish and maintain a level of equipment and staffing that supports attenuator protection for all maintenance operations on multi-lane highways.

### **Exceptions**

- Use of attenuators is not required for work on two-lane highways with lane closures and flagging/pilot operations. Such work sites shall have another vehicle positioned, as previously discussed, to provide close protection from errant traffic.
- Attenuators should not be used when such use would partially obstruct the travel lane. Attenuators should be used for a full lane closure or full shoulder closure. Determination of attenuator use shall be determined on a site-specific basis.
- Use of available attenuators is encouraged, but not required for work performed by one-person work crews conducting mobile work on shoulders. Examples of this type of work include, but are not limited to: feature inventory, litter pickup, inspecting, mowing, surveying, weed spraying, etc.

### **References**

*Manual on Uniform Traffic Control Devices* published by the Federal Highway Administration (FHWA)  
*Roadside Design Guide* published by the American Association of State Highway and Transportation Officials (AASHTO)

*Field Guide for the Use and Placement of Shadow Vehicles in Work Zones* published by the American Traffic Safety Services Association (ATSSA), supported by FHWA

## ***Attenuator Use Priorities***

**Notes:**

Source: AASHTO *Roadside Design Guide*

Work Protected:

Personnel = Working on the ground, exposed to traffic

Equipment = Occupied equipment (Mowers, Brooms, Bucket Trucks, etc.)

Priorities: 1 = Highest, 4 = Lowest

<u>Road Type</u>	<u>Mobility/Lane Closure</u>	<u>Work Protected</u>	<u>Work Location</u>	<u>ATTENUATOR PRIORITY</u>
Freeway	Mobile/No Closure	Personnel	Lane	<b>1</b>
Freeway	Mobile/No Closure	Personnel	Shoulder	<b>2</b>
Freeway	Mobile/No Closure	Equipment	Lane	<b>1</b>
Freeway	Mobile/No Closure	Equipment	Shoulder	<b>2</b>
Freeway	Stationary/Closure	Personnel	Lane	<b>2</b>
Freeway	Stationary/Closure	Personnel	Shoulder	<b>3</b>
Freeway	Stationary/Closure	Equipment	Lane	<b>2</b>
Freeway	Stationary/Closure	Equipment	Shoulder	<b>3</b>
Non-Freeway	Mobile/No Closure	Personnel	Lane	<b>2</b>
Non-Freeway	Mobile/No Closure	Personnel	Shoulder	<b>3</b>
Non-Freeway	Mobile/No Closure	Equipment	Lane	<b>2</b>
Non-Freeway	Mobile/No Closure	Equipment	Shoulder	<b>3</b>
Non-Freeway	Stationary/Closure	Personnel	Lane	<b>3</b>
Non-Freeway	Stationary/Closure	Personnel	Shoulder	<b>4</b>
Non-Freeway	Stationary/Closure	Equipment	Lane	<b>3</b>
Non-Freeway	Stationary/Closure	Equipment	Shoulder	<b>4</b>