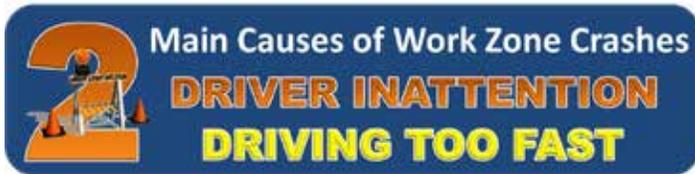




# Regaining Respect for the taper

WZ and TIM crashes an avoidable tragedy



In an era of ever increasing forms of distraction, how do we regain the driver respect for the taper?

Every State Department of Road Transportations aim is to provide safe, reliable journeys for well informed drivers, whilst ensuring the safety of all personnel working on the public highway. With distracted drivers on the increase, the goal is never more tested than by the changes that occur to a drivers routine journey when Work Zones (WZ) and Traffic Incident Management (TIM) events take place.

The cones at the beginning of a work zone, referred to as the taper, double up as the first line of defense for construction worker and emergency responder, and the main guidance tool for the approaching driver. Currently tapers are frequently struck by vehicles that are driving too fast, have failed to see them or have not exited the closed lane in sufficient time resulting in accidents, delays, congestion and fatalities to both the driver, passengers and roadside personnel.

Significant regional investment in improved planning, better IT, more effective scene communications and wider training of personnel are having a major impact on making WZ and TIM events smarter, more importantly we should not loose sight of the simple low cost, high payback tools that advances in technology and research have made, allowing the potential for a consistent and reasoned nationwide strategy to attain the most important buy in of all.... you guessed it....the driver!

Continual delineation of work zone tapers with wireless sequential LED taper guides is one such innovation that policy makers should look at more closely. Selected as a 2011 Focus technology by AASHTO TIG as "A technology worthy of nationwide consideration" it also already features in the guidance of the 2009 edition of the FHWA MUTCD as a tool to attain better driver recognition of the merging taper.

*6F83 08 A series of sequential flashing warning lights may be placed on chanelizing devices that form a merging taper in order to increase driver detection and recognition of the merging taper.*

## Synchro - Proven Benefits

- Better Driver Recognition
- Reduced Approach Speeds
- Engenders Drivers Support
- Low Cost v High Payback



As an industry first for 2016 Unipart Dorman introduced ConeLITE Synchro™, the first cone mountable MASH and ITE approved wireless sequential LED lamp, allowing all of the benefits of the SynchroGUIDE™ work zone system to be transferred to the defacto cone tapers invariably used in TIM and other short term temporary traffic control events.

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## The Research

### 1995 University of Minnesota - Lighted Guidance Devices Study by Vercruyssen, Williams and Wade.

Simulated work zone testing of the hypothesis that sequential flashing lights producing the illusion of apparant motion would cause the motorist to spontaneously and unconsciously adjust their speed to synchronize with the speed of the lights.

### 1999 Texas Transportation Institute - Work Zone Lane Closure Warning Light System Study by Finley, Ullman and Dudeck.

7% and 12% reduction in the number of passenger vehicles and trucks, respectively in the closed lane 1000ft upstream of the lane closure. Resulted in FHWA 2009 MUTCD Clause 6F.83.08A being published.

### 2005 TRL UK - Safe Temporary Traffic Operations Initiative - Sequential Flashing Cone Lamps

Compared traffic behaviour on an approach to work zones with static flashing lamps and sequential lamps. Noted a significant lane discipline improvement when sequential lamps were deployed. Starting at 1500 ft and increasing to 50% less vehicles in the closed off lane at 500 ft. UK adopted sequential taper guide deployment on high speed work zone tapers as a national standard in 2006.

### 2011 University of Missouri - Smart Work Zone deployment initiative (SWZDI) Cost Benefit Analysis of Sequential Warning Lights in Night-Time Work Zone Tapers by Sun, Edara, Hou, Robertson and Smith.

Sequential lights had a net positive effect in reducing approach speeds, improving lane discipline and reducing late taper merges. MODOT adopted as nighttime work zone standard in 2013.



**SychroGUIDE™**



SychroGUIDE™ the leading WZ wireless LED taper guide solution has been mandated on UK high speed work zones since 2007 and several State DOTs and Agencies are now adopting as a system wide standard.

Deploying SychroGUIDE or ConeLITE Sychro sequential LED taper guides in your Work Zone or Traffic Incident Management event is a highly visible safety action with proven safety benefits and results that can be delivered fast.

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