



STATEMENT OF POLICY

by the International Road Federation

“Mandating Safer Work Zones Globally”

April 9, 2018

The International Road Federation calls for coordinated efforts to foster a safety culture on road construction sites, currently responsible for hundreds of thousands of injuries and thousands of deaths worldwide. The IRF encourages road authorities to develop and update national guidelines that incorporate best practices and set a “level playing field” for the private sector. Contractors must similarly be held accountable for training their crews on safety best practices. For work zones of a certain scale, an independent road safety audit is strongly encouraged to ensure safety standards are met and maintained.

Background

Work zones on any road can be dangerous both for motorists who have to drive through less than ideal road conditions in work zones, as well as for workers who build, repair, and maintain the roads, bridges, and highways. This also is true for pedestrians, bicyclists, motorcyclists and all other road users who must maneuver through work zones, especially in city central districts.

It is difficult to obtain international injury and fatality statistics and this could be an indicator that this issue is not being properly addressed. In 2015, the US Federal Highway Administration (FHWA) reported 25,485 of work zone crashes involved at least one injured party of which 642 resulted in at least one fatality. These figures suggest that, taken at global level, **hundreds of thousands of injuries and thousands of fatalities occur every year in work zones.**

Work zones represent a very serious safety concern for the road community, particularly across the developing world where an abundance of road rehabilitation projects have not been accompanied by commensurate investments to foster a safety culture on road construction

sites. Too often road owners or the road authority will rely on the general (or prime) contractor to set up a “safe” work zone. However, the general contractor may lack access to best practices and/or state of the art technologies available to make work zones safer.

In an effort to tackle the unacceptable rate of work-site injuries occurring on roads funded through loans and grants, the World Bank has developed an “environmental and social framework” detailing new safeguard mechanisms applicable to all road projects in 2019. A requirement introduced in this new framework states that the World Bank will “take appropriate safety measures to avoid the occurrence of incidents and injuries to members of the public associated with the operation of construction project equipment on public roads”.

A safe work zone may cost more money than an unsafe work zone. Texas DOT estimates that work zones costs can be approximately 10% of project costs. This percentage number can vary widely depending on the project. However it is a good starting point estimate and it allows the road owner to better grasp the cost for and the importance of a proper work zone to the safety, mobility and timely completion of the project. When one considers that the estimated social cost of a fatality on a road is seventy times that nation’s gross national product per capita, preventing one fatality in a work zone can easily justify the minimal cost of many safety measures in that work zone as compared to the total cost of the project.

Adopting national guidelines

A typical work zone will have five separate elements; the Advance Warning Area, the Transition Area, the Buffer Space, the Work Space and the Termination Zone. Each of these Five Elements of a work zone must be designed with safety and mobility in mind. It is the road authority’s responsibility to provide these instructions to the contractors to ensure that this work zone not only is safe for the worker, but that every road user can travel safely through any work zone in the world with a minimum of inconvenience.

In particular, it is critical that every road authority utilizes a set of harmonized guidelines (known in many countries, including the United States, as the Manual on Uniform Traffic Control Devices) to set the minimum requirements for the design of a safe work zone. In the United States, each state will add additional requirements appropriate to the environment in that State. These guidelines which are used to create proper Traffic Control Plans (TCP) must be kept current to ensure state of the art technologies and best practices are used. The Traffic Control Plans should be a pay item in every contract to avoid any confusion for the contractor.

Contractors will follow these criteria to develop their TCP and every contractor must utilize the same criteria. This is often referred to having a “level playing field.” Road authorities should not rely on the contractor to design a safe work zone unless the contractor has clear guidance on how to achieve this safe work zone.

Deploying Cost-Effective Countermeasures

The complexity and sophistication of the traffic control devices that are required in a work zone are typically determined by the length of time the work zone will be in effect, the amount of traffic at the site, the actual speed of traffic at the site and the distance from the travelled way to the work zone. The traffic control devices that are employed should make the work zone as safe as possible for ALL ROAD USERS, including pedestrians, bicyclists, motorcyclists, pedestrians with disabilities, as well as motorists.

Fortunately, technologies and concepts for traffic control have been developed to make construction sites safer for all road users. These apply in equal parts to developed, as well as developing countries. These best practices **MUST** be used in every country.

Software has been developed that will help the road authority, design firm, general contractor or traffic control sub-contractor lay out an appropriate TCP that includes the necessary traffic control devices for a job based on the length of time for the job, the traffic volume, the traffic speed and the proximity of the work zone to the travelled way. This software allows for a professionally prepared TCP that can be confidently proposed to the road authority for approval so there are no excuses for the implantation of a work zone that does not meet the minimum safety standards.

In many countries traffic control companies have been created to supply the necessary traffic control devices on a rental basis. They often act as a subcontractor meaning the prime contractor does not need to own the traffic control equipment and can just rent or hire the equipment as required on a job by job basis. This reduces the capital expenditures required by a prime contractor to create a safe work zone.

Strengthening Capacity

The importance of training for workers in a work zone cannot be overstated. Too many countries do not enforce the necessary training requirement, and as a result the workers are putting themselves as well as the road users in harm's way. The United Kingdom utilizes a system called Lantra to ensure the workers are properly trained to do their part to make the work zones safer. Australia is also considering the use of this formal training process for workers in their work zones. IRF strongly endorses the need for proper safety training for all workers in a work zone.

Auditing Work Zones

Pillar II, Safer Roads and Mobility, of the United Nations Decade of Action strongly recommends that road authorities enlist the use of road safety auditors to conduct Road Safety Audits during the Construction Phase of a road project. The Road Safety Audit should be conducted during the Work Zone Stage, the Construction Stage and the Pre-Opening Stage (Stage 3 Audit in

Europe.) The Road Safety Auditor would be able to determine if contractors' requests for "Value Engineering" changes would have a negative effect on the safety of the work zone.

It is vital that the road authority commissions a safety review of a work zone before it is opened to the motoring public to ensure it meets the local minimum safety requirements. Ideally this review would be done as part of an independent Road Safety Audit process. However, if a formal Audit is not commissioned, this review may be conducted by the road authority or its agent. All necessary corrective actions should be noted by the independent safety auditor, the road authority or its agent before the work zone is opened, so the contractor will be liable for the consequences caused by any violations that are not corrected.

IRF strongly encourages this inspection of a work zone BEFORE it is opened to the public. Contractors often have bonus and penalty clauses to ensure their projects are finished on time. Refusing to allow a work zone to open is a strong "hammer" that a road authority can use to make sure work zones are properly designed for safety. Since many road authorities do not have work zone safety experts, road safety auditors can be used to complete this inspection process. Once the job is open, measure should be taken to routinely inspect the system to insure the integrity of the original TCP is upheld.