Work Zone Safety

by Michael Dreznes, ASIRT Board Member,
retired Executive Vice President of International Road Safety Federation (IRF)

If you ask anyone who has worked in a road work zone to define the most dangerous job location in the world, they most likely will point to the work zone, and say, "it is right there!" They have seen their friends injured or killed by errant motorists and they have seen motorists, pedestrians, bicyclists, and motorcyclists taken away by ambulances after horrendous crashes in the work zone.

The contractors are very concerned for the safety of their workers, and they take the appropriate measures to ensure they are able to go home to their families after their work shifts. However, approximately 80% to 85% of the fatalities in work zones are motorists, pedestrians, bicyclists, and motorcyclists. Who is responsible for their safety? The contractors would prefer the motorists, pedestrians, bicyclists, and motorcyclists not even be present in the work zone because they see them as a potential danger to their employees. Looking out for the safety of the motorists, pedestrians, bicyclists, and motorcyclists is not a primary concern for the contractor.

The safety of the motorists, pedestrians, bicyclists, and motorcyclists in a work zone is the responsibility of the road authority. The road authority must tell the contractors what they must do to make the work zone safe for the motorists, pedestrians, bicyclists, and motorcyclists, and then they must make sure the contractors do what they are told to do. In too many countries around the world, this is not happening.

It is difficult to obtain international injury and fatality statistics in work zones, and this could be an indicator that this issue is not being properly addressed. In 2019, the National Safety Council reported that 842 people were killed and 39,100 people were injured in work zone crashes in the United States. Work zone crashes were defined as taking place within the boundaries of a work zone or on an approach to or exit from a work zone due to activities, behaviors, or controls related to traffic moving through the boundaries of a work zone. These figures suggest that, taken at global level, hundreds of thousands of injuries, and thousands of fatalities, occur each year in work zones.

Unfortunately work zone fatalities and serious injuries may actually be underreported, and the situation may be even worse than reported. For example, in too many countries, worker fatalities and serious injuries are reported as pedestrian crashes without mentioning that they are work zone related. Crashes that occur in a queue prior to a work zone too often are not noted as work zone crashes.

Police need to be trained and police reports must be adjusted to allow police to clearly note that the fatalities and serious injuries were caused due to the work zone.

It is true that a safe work zone may cost more money than an unsafe work zone. When one considers that the estimated societal 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 costs of multiple safety measures in that work zone as compared to the total cost of the project. For example, the societal cost of a road fatality in the United States is approximately US$4,613,700 (US$65,910 X 70).

Texas DOT estimates that the cost to design and implement a safe work zone can cost approximately 10% of the project costs. This percentage will vary widely depending on the project. However, it is a good starting point estimate, and it allows the road authority to better grasp the cost for and the importance of, a proper work zone to the safety, mobility, and timely completion of the project.

While the fatalities and serious injuries are the obvious consequences of these crashes, the pain and suffering by the families and friends of the victims must also be considered. These effects cannot adequately be measured, but for sure they can be life altering for those close to the victims.

Road authorities must develop and update national guidelines i.e., Manual on Uniform Traffic Control Devices (M.U.T.C.D.) that incorporate state of the art technologies and best practices for motorists, pedestrians, bicyclists, and motorcyclists in a work zone to set a “level playing field” for the contractors bidding on road construction projects. Contractors must similarly be held accountable for training their crews on best practices for safety. For work zones of a certain scale, an independent road safety audit is strongly encouraged to ensure safety standards are met and maintained both before and during the road work project.

If the work zone is not identified as the probable cause for the fatality, the seriousness of the issue is not defined, and the funding needed to address the work zone danger is not allocated. Better understanding of the severity, gravity and size of the Work Zone Safety situation is a significant issue, and it must be treated with a sense of priority.