

The Hard Truth About Soft Costs in Highway Work Zones

What you don't calculate could kill you.



In an industry burdened with highway work zones, the idea of calculating “soft costs” is often dismissed. When faced with spending millions of dollars in labor and materials for highway maintenance and repairs, many ignore the “soft costs” in hopes of saving a few dollars.

If a traffic engineer or planner prepares any type of “soft costs,” “road user costs,” or “cost benefit analysis” for highway work zone projects, it is frequently a multi-page report that contains complex calculations, statistics, graphs, assumptions and disclaimers. There are no sexy headlines or impassioned pleas for change. Most of these reports are so formulaic and dull that they get summarily deleted or filed along with a myriad of other miscellaneous reports -- *but at what price?*

The Hard Truth

The hard truth is that ignoring soft costs could be the most expensive mistake ever made.

It could mean the difference between life and death for highway workers and the traveling public. It could mean the infliction of intense suffering for workers and motorists who incur debilitating injuries from work zone accidents that could've been prevented. It could mean hours of unnecessary traffic congestion and delays for drivers and their passengers, because soft costs were deemed unimportant.

Soft costs are real. Disregarding them as unnecessary or inconvenient could result in damages that far exceed the money spent for a short-term highway maintenance and repair project. As evidenced by a recent California jury verdict against CalTrans for \$59.2 million arising from a work zone injury case¹, there's simply no excuse for overlooking them.

Soft Costs – So What Are They?

Soft costs are generally thought to include anything other than labor and materials. Soft costs include road user costs, which is defined as the additional costs borne by motorists and the community at-large as a result of work zone activity, such as crash costs, user delay costs, vehicle operating costs, and emission costs.²

¹ *Caltrans Hit With \$59M Verdict Over Construction Crash*, Brandon Campbell, Law360, New York (February 3, 2017).

² See, e.g., Federal Highway Administration Work Zone Safety and Administration, “Work Zone Road User Costs - Concepts and Applications,” Chapter 2: Work Zone Road User Costs, at Section 2.1.

Soft Costs – What Can Be Done to Promote Safety and Reduce Congestion?

With the increase in work zone fatalities and injuries, and the considerable congestion in our metro areas from work zones, it has become clear that positive protection is the only answer to promote safety and reduce congestion. While the use of durable PVC traffic cones with reflective collars might help to raise awareness, they do absolutely nothing to protect the workers or motorists when a vehicle accidentally enters a work zone. They also do nothing to reduce congestion, and were not designed for that purpose.

Contrast that with the benefits of using moveable or mobile barriers, TMAs, and related safety equipment. Numerous studies show that barriers, not barrels, provide excellent protection for both workers and motorists and reduce the severity of incidents in and around work zones.

Positive protection has typically not been used on short term activities because of the impracticality of deploying barriers and still performing meaningful work. A mobile barrier, for example, addresses these issues. It travels at roadway speeds, requires no setup, and carries applicable power and lighting. A barrier's walls can provide both physical and visual separation to keep traffic moving at the zoned speeds, and there is signage and rear crash/impact attenuation to reduce accidents. This integrated utility has allowed DOT's to do certain tasks with a 50-80% reduction in time and equipment. Clearly a win-win for all.



Nearly twenty (20) years ago, in his testimony before the House Committee on Transportation, FHWA Executive Director Vincent F. Schimmoller understood and emphasized the importance of factoring soft costs into work zone planning: *“We must explicitly incorporate user delay and safety costs in project decision-making. Because these are "soft costs" rather than actual budget dollars, it is difficult for a State DOT to choose construction materials and staging strategies that will be safer or will reduce travel delay, if those techniques and strategies are more expensive. Consideration of user and safety costs can counterbalance the "low bid" approach. Nevertheless, the costs of delays and crashes due to work zones are real, and we must factor them into our work zone planning.”*

With thousands of lives being lost, tens of thousands of people incurring injuries, and hundreds of thousands of hours of productivity being wasted as a result of congestion arising from work zones, it's time to pony up and factor the soft costs into our planning. The hard truth is that soft costs cannot be dismissed. What we refuse to calculate could kill us.

