

RESEARCH PROBLEM STATEMENT #DC-501

I – Problem Title

Temporary Barrier Usage in Work Zones (C-01)

II – Research Problem Statement

Inconsistent application of temporary barriers in work zones

III – Objective

Improve the application of temporary barriers in work zones. Provide recommendations to be used to develop guidance to designers and construction personnel on what type and when to use temporary barriers in work zones. Provide cost data to be included in guidance to designers on how to analyze cost versus safety benefits for temporary barriers.

IV – Background

The Department currently has guidelines for use of temporary barriers to shield non-crashworthy objects and longitudinal edge conditions. However, there is no guidance on when it's appropriate to use a temporary barrier to separate public traffic from the work zone, and there is no departmental guidance on what type of temporary barrier to use for different construction activities. Traditionally, the Department has used temporary railing (type K) for most conditions that have warranted the placement of a temporary barrier. There are other temporary barriers that have been approved for usage by the Department, but no guidance has been developed on the application of these barriers. The Department also does not have a method for weighing the safety benefits of temporary barrier versus cost. Cost includes not only additional contract item cost to include temporary barrier on a project, but the overall cost to the project which would include any cost increases in other items of work and any additional delays to the public.

V – Statement of Urgency and Benefits

This research would improve both worker safety and the safety of the public traveling through work zones.

VI –Related Research

Hargroves, Bradley T. *Barriers in Highway Work Areas* Transportation Engineering Journal, Vol. 108, No. 3, May/June 1982, pp. 259-266

Sicking, D.L. *Guidelines for Positive Barrier Use in Construction Zones* Transportation Research Record No. 1035, pp. 85-93, 1985.

Ross, Hayes E., Jr.; Krammes, Raymond A.; Sicking, D.L.; Tyer, K.D.; Perera, H.S. *Recommended Practices for Use of Traffic Barrier and Control Treatments for Restricted Work Zones* NCHRP Report 358

VII – Deployment Potential

Once the research has been completed, the recommendations can be used to formalized guidelines that would be available for use by designers and field engineers.