

**SUMMARY REPORT 228-9/263-2(S)**

**FEASIBILITY OF CHANGEABLE MESSAGE  
SIGNS AND HIGHWAY ADVISORY RADIO  
FOR FREEWAY MAINTENANCE**

**SUMMARY REPORT  
of  
Research Report Number 228-9/263-2  
Studies 2-18-78-228 and 2-18-79-263**

**Cooperative Research Program of the  
Texas Transportation Institute  
and the  
State Department of Highways and Public Transportation  
In cooperation with the  
U. S. Department of Transportation, Federal Highway Administration**

**July 1981**

**TEXAS TRANSPORTATION INSTITUTE  
The Texas A&M University System  
College Station, Texas**

# **Feasibility Of Changeable Message Signs And Highway Advisory Radio For Freeway Maintenance**

by

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Changeable message signs (CMSs) and Highway Advisory Radio (HAR) are playing increasing roles in managing traffic. The report summarized here presents the findings of field studies conducted to determine the feasibility of using these traffic management tools during freeway maintenance.

Field studies were conducted during maintenance activities on I-35 in San Antonio to assess the feasibility of using CMSs for work zone traffic management. The studies evaluated the use of CMSs for 1) encouraging traffic to vacate a closed lane at a lane closure work zone and 2) diverting traffic around a work zone to an alternate freeway route.

The studies revealed that CMSs can be used at lane closure work zones to encourage more drivers to vacate the closed lane(s) farther upstream of the cone taper. However, CMSs should *not* be used in place of flashing arrowboards at these work zones. Arrowboards are very effective devices for advance warning of median and shoulder lane closures.

The San Antonio studies also determined that CMSs can be used to divert traffic around a freeway maintenance work zone to an alternate freeway route. A specific diversion message displayed on a CMS is most effective; however, a general warning message about a work activity will also encourage a significant number of motorists to divert if an alternate route is available.

Studies were conducted at a major maintenance work zone on a rural Interstate highway in Chambers County, Texas to evaluate the use of HAR for work zone traffic management. The studies revealed that the HAR had little or no effect on traffic operations at the work zone studied because of two factors. First, the conventional signing at the work zone was excellent and the HAR functioned only as a supplemental information source. Second, the advanced signing used to encourage motorists to tune to the HAR broadcasts was apparently inadequate in terms of legibility and visibility.

Even though the HAR system did not significantly affect traffic operations at the work zone evaluated, the studies indicated that HAR may have good potential for work zone traffic management in certain applications. HAR may be best suited for displaying long or complicated messages (e.g., diversion instructions) at long-term work zones. Because of current Federal Communication Commission regulations and licensing requirements, HAR is not practical for most maintenance operations.

The studies also revealed that existing HAR hardware (with a monopole antenna system) performs adequately. Motorists, generally speaking, were satisfied with the quality of the broadcasts and supportive of this innovative approach to work zone traffic management.

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