

cally throughout the test period. In column (c), which includes this correction, the same pattern persists: the one-wheeled trailers occupy the extremes; three two-wheeled trailers group closely; and the fourth two-wheeled trailer with a low water output reads slightly higher.

CONCLUSION

The uniform calibration and close monitoring of this study have provided a valid basis for comparison of skid testers. The close agreement among three of the two-wheeled testers and the logical and easily remedied reason for the difference in the fourth two-wheeled tester is encouraging.

The causes for the variability of the single-wheeled testers do not fall within the scope of this investigation.

ACKNOWLEDGMENTS

We would like to thank the supporting staff at Pennsylvania State University for the excellence and precision with which the various tests were run and all the members of the participating state highway departments for their diligence and cooperation throughout this study. The authors also wish to acknowledge Dr. F. Cecil Brenner's review of this manuscript and his continued interest in this work.

MOTORIST WARNING SYSTEM FOR DUST STORMS UNDER TEST BY ARIZONA HIGHWAY DEPARTMENT

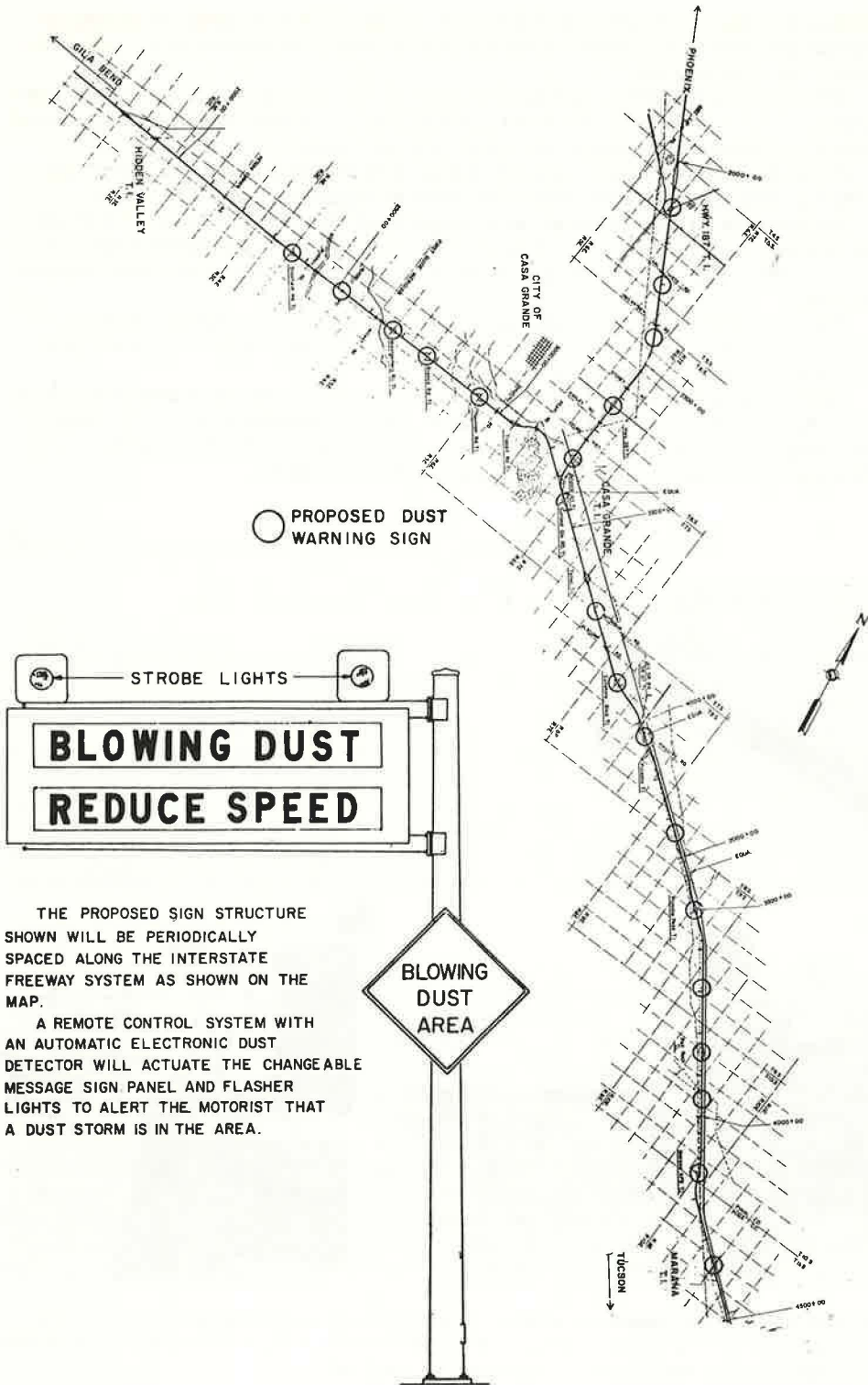
The Casa Grande area south of Phoenix, Arizona, is the scene of frequent dust storms that whip up suddenly, reducing visibility to zero and causing property damage and injury to motorists on the highways that cross the area. Sixteen people have lost their lives on Interstates 10 and 8 due to dust storms during the last 2 years, including eight who died in a multiple vehicle pile-up in May of this year.

This hazard may soon be a thing of the past when one of the most unusual motorist caution systems on the entire Interstate system is completed. The first of 20 warning signs, equipped with flashing strobe lights, has been installed at the scene of the May accident, and the others will be spaced at 5-mile intervals on the two Interstate highways. Bids on the system will be taken later this year, and the installation should be completed by the beginning of the 1972 dust season in March.

The prototype signal features an anemometer that is preprogrammed to activate strobe lights when wind conditions are sufficient to create dust storms in the area. These amber-colored flashing lights will draw motorists' attention to dust storm warning signs on which the signals are mounted.

The balance of the signs in the 20-unit system will employ both wind-activated anemometers and light-sensitive photoelectric cells.

Arizona State Highway Engineer William N. Price estimated the cost of the system at one-half million dollars and said he expects to have Federal Highway Administration approval by the time bids are solicited, including Federal



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funding for nearly 95 percent of the cost. "The FHWA is most interested in solving the dust storm safety problem and is highly sympathetic to our program," he commented.

After thorough studies earlier this year of the unusual condition in the Casa Grande vicinity, the highway department's traffic engineering section prepared several proposals to counter the death-dealing "dusters."

From these alternatives, a final design was adopted and given "rush" priority for detailing and processing for Federal approval, Mr. Price said.

The devices will be mounted on a single-post structure located 30 feet off the highway with an arm extending toward traffic at easy visibility level. A general dust area warning sign will be in view at all times on the steel upright support.

The overhead arm will display a special "extreme caution" message, blanked out when not activated, to be flanked by flasher lights that command motorist attention to the danger.

Activation of the system can be complete or partial by three methods—manual switching by the Department of Public Safety dispatcher, by anemometers that trigger circuits when they reach a predesignated wind velocity, or by photoelectric cells sensitive to sudden drops in visibility.



Arizona State Highway Department personnel make final adjustments to the control center of the prototype dust warning signal on Interstate 10. Electronic controls trigger strobe lights on top of pole in background when anemometer (not seen) reaches critical speed.

In additional efforts to reduce dust hazards, two screens of Tamarisk tree cuttings were planted on Interstate 10 in the same vicinity that, at maturity, will provide a dense wall to protect the roadway from dust blown off nearby dry fields. The department is temporarily watering with tank truck and irrigation tailwater, pending the location of wells.

Preparation of Weather Alert Station certificates and instructions has been completed, and contact of participating service stations will begin in the near future. These weather lookouts will immediately report any sudden weather disturbance in their vicinity to the Department of Public Safety for warning broadcasts to motorists.

The safety program is being established cooperatively among the State Highway Department, DPS, National Weather Service, the Arizona Broadcasters' Association, and Arizona's petroleum industry.

New Transportation Region Is Intended to Solve Traffic Woes of Chicago Area

On November 24, 1970, Richard H. Golterman, Chief Highway Engineer for the Illinois Division of Highways, announced plans for the creation of the Northeast Transportation Region. The newly created region, which is under the jurisdiction of the Department of Public Works and Buildings, has the responsibility for all highway and waterway functions in a nine-county area of northeastern Illinois. In addition, the region has been given the opportunity to enter into the initial phase of total transportation planning. Eventually, attempts will be made to coordinate the various modes of travel, i. e., highways, waterways, air travel, railways, and mass transit, into a unified effort to solve the monumental transportation problems facing the Chicago metropolitan area.

Illinois Transportation History

In 1918 the people of Illinois passed a \$60 million bond issue that resulted in a limited network of paved roads. This was followed in 1924 by an additional \$100 million bond issue for roads that were completed in 1932. Thus in 14 years Illinois purchased a system of 9,900 miles of highways for \$160 million and literally got itself "out of the mud." None of the other states had created a comparable highway system by that time. By contrast, in the last 12 years Illinois has built 1,292 miles of interstate highways at a cost of \$2.8 billion.

The building of the complete bond issue system was accomplished by an organization consisting of nine districts. District 1 comprised nine counties in the northeast portion of the state at that time. Soon after the completion of the bond system in 1932 the problems within the Cook County area grew to such magnitude that the managers of the day reorganized, making Cook County a separate district. This structure has been in existence for the past 39 years.

The creation of the northeast region in 1970 was due primarily to the inability of the various modes working individually to provide a satisfactory transportation network. It was becoming increasingly apparent that a satisfactory solution to the dilemma could be achieved only through the creation of