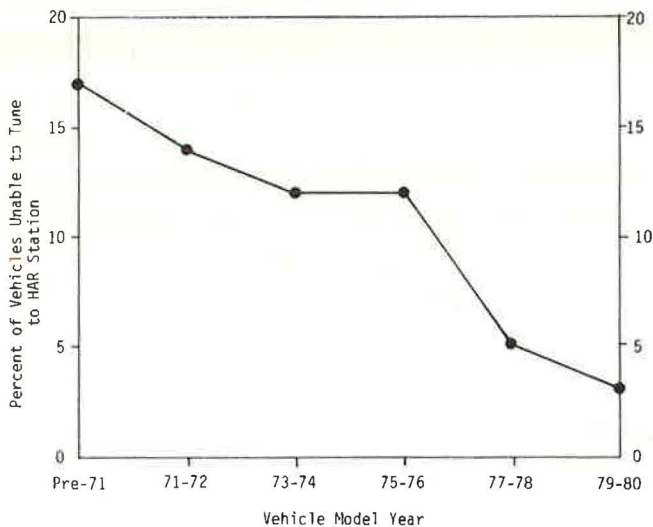


Figure 2. HAR reception related to age of vehicle.



characteristics of AM car radios. The comparison of the model year and the percentage of vehicles unable to tune to the station is shown in Figure 2. There was a general trend toward improved reception at the 530-kHz frequency in the newer vehicles.

Drivers that did receive the HAR message were

asked to rate the signal reception in comparison with that of their regular radio station. The results show that 35 percent of the drivers interviewed rated the HAR signal to be weaker than commercial AM broadcasts but only 6 percent rated the HAR signal to be inferior.

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## Motorists' Needs for Information on Services

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A comprehensive review and analysis of the state of the art on motorists' needs for information on travel-related goods and services and on means to satisfy these information needs have been made. Information needs and potential information-transmission means are identified. Problems associated with the design and implementation of service information systems are delineated. A number of existing services information systems are analyzed and a conceptual prototype system that uses existing technology is developed. This system is designed to overcome the information-presentation problems associated with the elimination and control of billboards.

Information concerning goods and services that may be needed during travel represents an important part of the total of motorists' information needs. The satisfaction of these needs is required by the driver for the safe, convenient, and comfortable completion of his or her trip. In the historical development of the total highway information system, this class of needs has traditionally been satisfied by private signing erected on or adjacent to the highway right-of-way.

For instance, a standard text on motel management (1) published just prior to the enactment of the Highway Beautification Act of 1965 (P.L. 89-285, October 22, 1965) stated, "This medium [outdoor display advertising] is probably the most important single promotion method for motels."

Only with the large-scale construction of limited-access highways did traffic engineers begin to consider the need for public signing for services. The 1948 edition of the Manual on Uniform Traffic Control Devices (MUTCD) (2) does not mention signing

for services. The concept was introduced for the Interstate system when the separate Interstate signing manual (3) was published and extended to non-Interstate expressways and freeways when the 1961 edition of MUTCD was adopted (4). These provisions were continued and extended to the conventional system in the 1978 edition of MUTCD (5).

Service signing as covered by MUTCD is restricted to the following six classes: gasoline (and associated services), food, lodging, telephone, hospital, and camping. Miscellaneous goods and services that may be required by the traveler are not included in the MUTCD list.

Traditionally, information transmission concerning brand identification of services has been the role of private signing adjacent to the highway right-of-way. However, the 1958 Bonus Law (23 C.F.R., Part 750, Subpart B, Sections 750.151-705.155, May 12, 1975) and the Highway Beautification Act of 1965 have placed actual or potential limitations on the role that private signing can play.

Since the availability of commercial advertising was reduced by these legal restrictions, Congress recognized a corresponding obligation to provide information about necessary motorist services. Exceptions to the prohibition against commercial advertising were made for certain categories of signs (e.g., on-premise signs) and for certain types of roadside areas (commercial and industrial). In addition, public agencies were authorized to assume