

358
TRANSPORTATION
RESEARCH

Number 358, August 1990

CIRCULAR

Travelers' Services

Research Problem Statements

TRAVELERS' SERVICES:
RESEARCH PROBLEM STATEMENTS

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INTRODUCTION

Transportation Research Board Committee A3B05, Travelers' Services, which has interest in the advancement of facility design and the resulting improvements to operations efficiency and safety, developed this circular.

This TRB Committee is concerned with travelers' needs and services which must be provided to all types of travelers in conjunction with planning and executing single or multi-modal trips in a safe, convenient, and efficient manner. Among other items, the Committee concerns itself with rest areas, emergency services, and information necessary for travelers to make decisions relative to the selection of modes, selection of routes, and transfers between modes of travel.

The Committee developed and reviewed eight Research Problem Statements. Four RPSSs considered valid were selected and prioritized for publication. Funding and conduct of the proposed research would provide valuable knowledge leading to improved safety and effectiveness of the nation's highways.

**RESEARCH PROBLEM STATEMENTS FOR
TRB COMMITTEE A3B05**

RESEARCH PROBLEM STATEMENT #1

1. **TITLE:** The Effect of Truck Parking in Rest Areas

2. **PROBLEM:** Since the deregulation of the trucking industry by the 1982 Surface Transportation Act, there has been a substantial increase in the number of owner operators travelling our interstate highway system. These drivers struggle to make a rewarding living while paying off large debts on their expensive rigs and in the face of national regulations concerning hours of operation. Consequently, they often find themselves not properly planning trips and are seeking an area for rest just prior to exhausting the number of hours of service. They appear to be spending more time laying over in rest areas and service areas on our interstate system. The increasing number of trucks has not been accommodated with expansion of these facilities in recent years. Consequently, trucks are parked illegally along ramps adjacent to high speed, mainline traffic. The problem has been further exacerbated when these trucks park on the shoulders of mainline roadways. As a result of this action, the safety of passing motorists is greatly affected, there has been serious degradation in the stability of shoulders, safety appurtenances such as guardrail have been damaged as these vehicles brush against them, and there has been an excessive litter problem.

Effective countermeasures are needed to combat this increasing problem. These must be economically feasible and operationally efficient in order to fully address the problem.

3. **OBJECTIVE:** The study purpose should be:
 - (A) To identify the extent of the problem which exists across our Nation's interstate system.

 - (B) To establish countermeasures within the control of Transportation Engineer and State Police organizations which can effectively reduce the impact to the travelling public.

 - (C) To examine the need to develop additional truck parking facilities or expanding truck parking facilities on the interstate system or coupling this effort with local private operators of truck stops.

4. **KEY WORDS:** Rest areas, service areas, truck parking, safety in rest areas.
5. **RELATED WORK:** Little or none.
6. **URGENCY/PRIORITY:** Urgency is critical because of the direct effect of safety to all motorists.
7. **COST:** \$100,000 over a one-year study period.
8. **IMPLEMENTATION:** This study would provide the basis for rest areas and service areas to eliminate these safety concerns. It could also provide a means by which private operators could take advantage of federal funding to develop or expand their parking facilities.
9. **EFFECTIVENESS:** The goal of the proposed research is to quantify and identify the extent of the truck parking problem on safety and recommend operational countermeasures and requirements for expansion of these facilities to enhance safety.

RESEARCH PROBLEM STATEMENT #2

1. **TITLE:** The Impact of Outdoor Advertising on Traffic Safety
2. **PROBLEM:** Outdoor advertising panels adjacent to our suburban/urban interstate and freeway highway system offer a major identifiable source of distraction to motorists which detract from the successful completion of their driving tasks. The resultant inattentiveness can cause accidents. Outdoor advertising is, by virtue of its very nature, more attractive or appealing to the eye than official traffic signs. The placement of advertising signs within the visual range of motorists subjects motorists to a distraction away from their primary task, safely negotiating a roadway. Outdoor advertising does not conform to any acceptable standard of traffic signing on limited access, high speed facilities. These billboards, for the most part, advertise products and services not pertinent to the driving task.

Outdoor advertising is generally restricted to commercially developed zones. However, it is within these regions that the heaviest traffic volumes are found, the challenges to the driving task are the greatest, and motorists' attention is time-shared with other responsibilities. Conversely, it is within these same regions where traffic volumes are the greatest that the revenues derived from the billboards are the greatest.
3. **OBJECTIVE:** The study purpose should be:
 - (A) To conduct and document a literature search on the effect that billboards have on traffic safety.
 - (B) To describe the potential impact of advertising near high speed, limited access facilities.
 - (C) To examine, through field or laboratory testing, the distracting influence which billboards have on motorists.
 - (D) To identify the types of billboards which are relevant to the driving task and define those types of roadway sections in which they may be used.
 - (E) To recommend federal regulation which addresses the conclusions developed in the research.
4. **KEY WORDS:** Outdoor advertising, billboards, traffic safety, task processing.

5. **RELATED WORK:** Refer to the references section.
6. **URGENCY/PRIORITY:** Immediate undertaking of this project is urgent.
7. **COST:** \$300,000 over a two-year study.
8. **IMPLEMENTATION:** This study could provide the basis for federal regulation. It is anticipated that the implementation of a more stringent regulation would provide a very positive traffic safety benefit.
9. **EFFECTIVENESS:** The goal of the proposed research is to identify and quantify the impact of billboards on traffic safety and recommend measures for more effectively controlling that impact.

RESEARCH PROBLEM STATEMENT #3

1. **TITLE:** The Development of Specific Guidelines for Motorists Signing on the Interstate Highway System.
2. **PROBLEM:** The Manual on Uniform Traffic Control Devices allows States to post logos for specific services in advance of freeway interchanges. In urban areas most food, fuel, phone and lodging services are at the exit ramps where easy off and on movements encourage patronage by motorists unfamiliar with the area. However, in remote rural areas, where interchange spacing is significantly greater, and services less frequent, motorists must be more attentive to their needs, particularly, for fuel.

In some situations, motorists arrive at the end of an exit ramp to be directed to specific services without information concerning the distance to those services. Such signs can direct motorists to fuel facilities fifteen miles or more from the interchange, only to lead the motorists to a closed station.

3. **OBJECTIVE:** The purpose of this study should be to define criteria for signing on the interstate for services and for more specific signing at the end of exit ramps for the distance to those services and the hours of operation.
4. **KEY WORDS:** Services Signing, Logo.
5. **RELATED WORK:** Manual on Uniform Traffic Control Devices.
6. **URGENCY/PRIORITY:** High priority.
7. **COST:** \$10,000
8. **IMPLEMENTATION:** Once recommendations are formulated, they should be forwarded to the National Committee on Uniform Traffic Control Devices for inclusion into the next revision of the Manual on Uniform Traffic Control Devices.
9. **EFFECTIVENESS:** The goal of the proposed research is to enhance motorists' services by providing more accurate information. This, in turn, should lead to fewer wasted miles of travel due to inaccurate or uncertain information. Also, delay or hesitation time at the end of a ramp should be reduced for unfamiliar motorists.

RESEARCH PROBLEM STATEMENT #4

1. **TITLE:** The Use of Highway Advisory Radio Versus Logo Signing for Services.
2. **PROBLEM:** Signing for services seems to proliferate the highway environment in those States that have attempted to control outdoor advertising. Departments of Transportation now are responsible for maintaining these signs which have been placed closer to the shoulders of roadways and within reach of errant vehicles. An alternative form of advertising can be considered with low powered highway advisory radio advising motorists of the services available at a particular rural interchange.
3. **OBJECTIVE:** The purpose of the study should be to define the financial viability of continuous broadcast of commercial messages on the AM radio bands which advertise services at rural interstate interchanges. This cost should be compared with the cost of posting and maintaining logo signs.

An assessment of this form of advertising should be made on motorists who either desire this information or do not. Currently with logo signs all motorists are subjected to the information, regardless of whether they are seeking such services.

4. **KEY WORDS:** Outdoor Advertising, Highway Advisory Radio, Logo Signing.
5. **RELATED WORK:** None known.
6. **URGENCY/PRIORITY:** Low priority.
7. **COST:** \$100,000.
8. **IMPLEMENTATION:** This study could provide the basis for federal regulation which improves safety and service to motorists.
9. **EFFECTIVENESS:** The goal of the proposed research will be to determine whether or not highway advisory radio can be used as a safe and effective form of communication to motorists for services in lieu of side-of-the-road logo signs.

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