AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Proceedings of the Transportation Research Forum

Volume 5 **1990**

TRANSPORTATION LIBRARY
APR 1991
NORTHWESTERN UNIVERSITY

32nd TRF Annual Forum
Long Beach, California
October 10-12, 1990

Generated at University of Minnesota on 2021-10-26 15:11 GMT / https://hdl.handle.net/2027/ien.35556034687566
Creative Commons Attribution-NonCommercial-NoDerivatives / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0
Digitized by Google
Original from NORTHWESTERN UNIVERSITY

Roads

Session Moderator: Carol E. Lutz, Association of American Railroads

Summary by Session Moderator

Discussion of Fazil T. Najafi's paper on location alternatives for fiber optic cable installation focussed on the author's concern about the validity of the results, due to the difficulty of getting good cost data. The study concluded that, when cost alone is used as the basis for selection, the freeway median was found to be the most feasible location among the five alternatives. However, when intangible values are considered, the freeway fenceline became the most feasible location alternative, due to its having the highest intangible value. Another question concerned the merits of putting cables where telephone lines are now. Liability concerns and pride of property ownership are two reasons why that is not normally done.

Ramey O. Rogness' presentation of his paper on the planning and design of scenic roads led to a discussion of how one engineers and designs a road once it is designated as scenic, also whether and how high speed drivers should be discouraged from using scenic roads. The author indicated that the scenic roads which are now 50 years old were not built in an unsafe manner, but if they ar not widened, there will be high maintenance costs in the future (due to pavement edge degradation). Discussion also concerned a scenic road study in Kansas which is investigating two questions: 1) what is a scenic road, and 2) what are the economic impacts. The author also responded to a question on the source of his data on driver characteristics.

Kenneth Ogden presented results of his research into heavy vehicle crashes in New South Wales, Australia. The aim of the study was to investigate the factors contributing to heavy vehicle crashes and to develop countermeasures. Factors were divided into six categories: heavy vehicle driver, car driver, heavy vehicle, car, road, and environment. When all road user factors were combined, the importance of fatigue, speed and alcohol was apparent: falling asleep or driver inattention was a factor in 60% of crashes, excess speed in 39%, and alcohol in 34%. Other major factors were road standards (undivided highway) (80%), road alignment (especially horizontal curvature) (48%), and night time conditions (51%). A listing of potential countermeasures, both current and experimental, was developed primarily from the literature, and an assessment was made as to whether each counter measure would have been likely to have prevented the crash from occurring, or reduced its severity. The most effective direct countermeasures were found to be divided road (73%) and reduced truck front end stiffness (48%). The most significant non-direct factors relevant to the crashes investigated are rail use (50%) and increased truck payload limits (50%) – both through reducing the number of trucks on the road.

- ***Location Alternatives for Fiber Optic Cable Installation, Including Transportation Rights-of-Way***
  by Fazil T. Najafi and Abdenour Nazef, University of Florida

When analyzing the feasibility of alternative corridors for utility installation, both tangible and intangible factors must be considered. It is difficult to quantify intangible factors such as public safety, aesthetics, preservation of environment, system security, etc. A method has been devised to quantify these factors, facilitating a more direct and objective comparison between alternative right-of-way (R/W) corridors, for placing underground fiber optic cables. The method takes into account each intangible weight factor (W), and multiplies it by an average rating (R). The product of these two items is referred to as intangible value (i). Both (W) and (R) are ratings obtained from experts in placing fiber cables on different corridors. The concept is referred to as "intangible value" (i), of each corridor or namely, 1) non-interstate highway R/W, 2) private land, 3) railroad R/W, 4) freeway median, and 5) freeway fenceline.

Personal and telephone interviews were conducted with professionals in utilities, and public highways, to select intangible factors. A questionnaire was sent to three groups, namely, 1) highway officials, 2) telecommunications industry, and 3) utility contractors. The purpose was to collect data through a scoring process, used to evaluate alternative corridor locations for placing fiber optic cables. Total intangible values (I) were derived from a summation of individual utility values (i), for each location alternative. Using the "I" values, and the total

Generated at University of Minnesota on 2021-10-26 15:11 GMT / https://hdl.handle.net/2027/ien.35556034687566
Creative Commons Attribution-NonCommercial-NoDerivatives / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0
Digitized by Google
Original from NORTHWESTERN UNIVERSITY

installed cable system cost per mile (C), an I/C ratio was computed for each location alternative.

The results indicate that, when cost alone is used as the basis for selection, the freeway median was found to be the most feasible location among the alternatives. However, when the I/C ratios were compared, the freeway fenceline became the most feasible location alternative for placing underground fiber optic cables.

- *Planning and Design of Scenic/ Recreation Roads: An Engineering and Management Issue*
  by Ramey O. Rogness,
  The Ohio State University

The planning and design of recreational and scenic roads presents a somewhat different set of criteria and restrictions versus other roads. However, since the first parkways were built in the 1920s and 1930s and provided the impetus and criteria for all scenic and recreation roads, several important factors have occurred. One is the age of these park/scenic roads, the age of the driver, the vehicle characteristics, and the driver desires.

Some of the road managers and agencies desire is to retain the intent and function of a scenic/recreation/parkway road, either in terms of new construction or reconstruction. This paper addresses the issues and difficulties involved in this concept, providing examples. The need to recognize the role and nature of the recreation/scenic/parkway road versus its users needs is raised. Comparisons are made between the early road standards, existing standards and proposed lower road standards.

The need to retain the role of the recreation/scenic/parkway road while addressing vehicle and driver factors is addressed. The suggestion is made that one means to accomplish this is through more specific detailing in the design and construction stages. Differences within agencies and units are illustrated to show difficulties from the lack of consistency in philosophy and in design which results in roadway inconsistencies in geometrics, signing and marking, and especially lane width. Non-uniformity in application is what the driver sees and experiences.

- *New South Wales Truck Crash Study*
  by Kenneth Ogden,
  Monash University, Australia

International Transportation Data: Their Sources and Some Applications in the U.S. and Canada

Session Organizer and Moderator:
Tillman Neuner, Consultant

Summary by Session Moderator

As a follow-up to several regional conferences sponsored by TRF in 1989 on the problems of transportation data and statistics, the 1990 Forum included a group of sessions on this topic, emphasizing particularly data on the international movement of people and goods and transportation data systems outside the U.S. With increasing impacts of international trade on the U.S. economy, documentation and analysis of transportation among countries and more generally transportation abroad assume ever greater importance for U.S. transportation specialists. The first of these sessions examined U.S. and Canadian sources on international transportation and the second was devoted to transportation data systems outside North America. A third session was concerned with improving transportation data systems in the U.S. Finally, a group of participants met at the end of the day to discuss what further steps could be taken to study and improve international transportation data systems and to maintain professional contacts and exchanges.

The session on North American data systems contained three papers, two on the data systems for the documentation of U.S. international movements by sea and by air

Generated at University of Minnesota on 2021-10-26 15:11 GMT / https://hdl.handle.net/2027/ien.35556034687566
Creative Commons Attribution-NonCommercial-NoDerivatives / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0
Digitized by Google
Original from NORTHWESTERN UNIVERSITY