



TEXAS  
TRANSPORTATION  
INSTITUTE

TEXAS  
HIGHWAY  
DEPARTMENT

COOPERATIVE  
RESEARCH

MAINTENANCE OPERATIONS  
2-8-54-1

in cooperation with the  
Department of Commerce  
Bureau of Public Roads

BIBLIOGRAPHY (64-14)  
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## MAINTENANCE OPERATIONS

Compiled by  
Texas Transportation Institute  
May 1964

1. "Administrative session: The administrator's role in protecting highway investment with sound planning." Michigan Contractor and Builder (Public Works Issue) 58: n 3, April 18, 1964. p 72-73+

Basic principles for highway planning by Clinton L. Heimbach; Cooperative planning approach to interchange areas, Robert S. Boatman; Problems facing county highway administration, Charles E. Ash; The administrator's legal tools, Clayton M. Foor.

2. "Administrative session: Importance of personnel in quality control. Michigan Contractor and Builder (Public Works Issue) 58: n 3, April 18, 1964, p 141-142, 145+

Incentives for government personnel at the State and local level, by C.T. Hardwick; Recruiting and restraining qualified personnel, Donald J. Sublette; Employee-employer relations in a system of change, Daniel H. Kruger.

3. "The AASHO road test-report 3 -traffic operations and pavement maintenance." Nat'l Research Council-Highway Research Board Special Report 61C, 1962, 65 p.

This report is presented in three chapters. The first is a brief description of the project; the second describes the test vehicles; their operation and maintenance; the third covers the maintenance of the test pavements and bridges.

4. Babcock, W.F., "Advance planning operations in the North Carolina State Highway Commission." Nat'l Research Council-Highway Research Board Proc 40: 1961, p 71-78.

Today most engineers and administrators are aware of the importance of the planning function within the framework of the highway department. It is the intent of this paper to be set forth in some detail how the North Carolina State Highway Department handles its advance planning functions. To understand North Carolina's particular operation, it is important to note that in that state the Highway Department has responsibility for some 71,000 miles of highways, including all primary highway, all secondary roads (there are no secondary roads under county government), and approximately 30 percent of all the streets within the incorporated limits of the

municipalities. Thus, the Highway Department has responsibility for all streets and highways in the State with the exception of approximately 7,000 miles of city streets, which are primarily residential or collector-type streets.

5. "Formulating highway construction programs." Nat'l Research Council-Highway Research Board Special Report 62, 1961, 208 p.

... A third objective of this workshop conference is to bring into printed form an authoritative discussion -- a taking apart and putting together-- of the factors, aspects, and considerations pertaining to the process of formulating a program of construction in a highway department. The programming of construction is as old as are the highways themselves. The literature contains hundreds of references on the subject. Nowhere, however, is there a compilation of literature on the programming of highway construction such as will materialize from this workshop conference. We will bring into one volume an authoritative discussion of all aspects related to highway construction programs. This is one reason why you find in the program a breadth of subject material covering financing, budgeting, accounting, management procedures, public relations, and requirements of the statutes. We will miss our goal if the proceedings of this conference are not in demand by all highway officials concerned with the important task of allocating financial resources to creating permanent fixed assets in highway facilities.

6. "Guide for planning in highway administration." Nat'l Research Council-Highway Research Board Special Reports 72s, 1963, 18 p.

Highway administration, in common with management generally, is caught in a ground swell of innovation, fast moving changes in the traditional ways of doing things, and technological breakthroughs. These accelerated changes have stepped up the tempo of decision making, have introduced the need for decision lead times that would have been thought visionary but a few years ago, and have put the pressure of time-accomplishment relationships on all individuals in responsible positions of highway management.

Recognizing these problems, this guide discusses eight topics so developed that one builds on another in a progression of ideas. These may be dealt with in a number of ways. Although the main session heads and

and subjects of the original conference were necessarily used as a point of departure, regional arrangement committees should not feel the necessity of covering the content of each topic word by word. The plans suggested for each session is conceived as a guide and presumes that a committee not only will develop its own session plan but will also determine what topics are desired in relation to the primary objective of the conference.

7. "Highway maintenance--summary of recent trends." Highway and Bridges & Eng Works XXXII: n 1550, April 29, 1964. p 8-10-11.

In this survey of developments in highway maintenance an attempt has been made to cover the entire programme that local authorities cover each year in their constant efforts to defeat the effects of wear and tear on road surfaces, the accumulation of debris at the road side, and the many problems associated with the seeding and growth control of verges.

The subject is vast, and the problems numerous, but a spotlight has been focused on some of the trends which may well become rather more significant in the near future.

It will be noticed that there is a short mention of the use of epoxy resins for concrete road repair, also an interesting commentary on winter surface dressings, and a general survey of some of the methods and most popular schemes employed by the more important local authorities.

8. Hiscock, W.J., "Organization and control of highways maintenance." Instn Civ Engrs--Proc 6: Apr 1957, p 709-27 (discussion) 727-34. see also Surveyor 116: n 3377, Jan 12, 1957, p 39-40.

Organization of highways maintenance work and methods adopted by City of Leeds where Highways Department is separate unit and where Highways Engineer is responsible to Highways Committee.

9. "Iowa state highway maintenance study--time utilization, productivity, methods, and management." Nat'l Research Council--Highway Research Board Special Report no. 65, Suppl. 1, 1961, 200 p.

This report contains the principal findings, conclusions, and recommendations developed during a one-year study of maintenance operations on State primary and interstate highways in Iowa, as well as descriptive background material.

10. Jorgensen, Roy E., "Management improvement programs in state highway departments." Nat'l Research Council--Highway Research Board Proc 41: 1962 p 1-14.

One of the principal objectives of the National Highway Management Conferences, jointly sponsored by the American Association of State Highway Officials and the National Highway Users Conference is to stimulate activity in the States, to help define management problems, and to indicate ways in which State highway departments may undertake management improvement projects.

More than 20 State highway departments have undertaken management conferences for executive and supervisory personnel. These follow the pattern of the National Conferences and utilities as study material a manual developed as a product of the AASHO-NHUC sponsored program. Although most states have held the management conference sessions just for the upper level executives, several States have had numerous sessions including personnel down to the project supervisors. In some cases these sessions have taken the form of management problem-solving workshops.

Several management improvements projects of a special and promising character are now under way.

11. Larsen, Melvin B. "Iowa County Highway maintenance practices, Nat'l Research Council--Highway Research Board Proc 40: 1961, p 497-511.

The maintenance committee of the National Association of County Engineers is currently obtaining information relative to maintenance procedures on county roads, with the objectives of preparing a manual on standard maintenance procedures. Such a manual should be helpful to all counties of the nation.

The Committee prepared a questionnaire on county maintenance procedures to be sent to counties in all states. The 99 counties in Iowa were asked to complete this questionnaire. Typical of the cooperation which is evident between state and county officials in Iowa, 94 counties responded by completing the questionnaire.

The data from this questionnaire are the basis for this paper. Also included are personal observations of the writer, together with other information gained from a comprehensive road study recently completed for the Iowa Legislature.

To obtain the most from this type of questionnaire and its results, it is necessary to understand the basis of county highway administration in Iowa.

12. Musgrave, J. Jr, J.V. Leigh, "Modern trends and developments

in road maintenance." Instn Mun Engrs--J 83: n 6, Dec 1956 p 204-20.

Circumstances which have led to present developments in road maintenance in county areas in Great Britian and changes in improvement which have taken place; greatest factor in trend of road maintenance has been shortage of manpower; economics of road design; developments in design of road crusts and bases and subbases; snow and ice problems; road machinery.

13. "Planning in highway administration." Nat'l Research Council Highway Research Board Special R<sup>e</sup>ports 72, 1962, 131 p.

The conference objective is to discuss freely what is needed in planning for solving basis problems of State highway administrators, to explore effective ways of using the planning process for realignment of finances and improvement of administration, and to identify re= search needs that will improve planning functions.

14. "State highway organization charts, 1959 revision." Nat'l Research Council--Highway Research Board Special Report 53, 1960, 50 p.

This publication is a revision of Special R<sup>e</sup>port 20 published by the Highway Research Board in 1954. Organization charts are included for all of the states (except Alaska and Hawaii), for the District of Columbia, and for Puerto Rico. State highway departments are now being organized in Alaska and Hawaii, bur each of these states indicated that a chart showing a fixed organization would be premature at this time.

Although there have been few changes in the types of state highway organization since 1954, there have been numerous internal changes in the organizational structures. Many of these changes are apparent from a comparison of the current charts with the earlier ones, but many are not. For example, 26 of the 50 states now have utilities engineers in their highway organizations, but some of these are shown only on charts of individual bureaus, departments and divisions, as distinct from the over-all charts presented here.

As in the earlier publication, all of the charts included here were obtained directly from the states for this particular purpose. In a few cases, in the interest of uniform size, it has been necessary to reduce the size of charts furnished or make slight format changes, but in most cases the charts have been reproduced exactly as furnished by the States.

15. "Studies in highway administration." Nat'l Research Council

Highway Research Board Bul 200, 1958, 50 p.

This bulletin contains seven papers presented at the Thirty-Seventh Annual Meeting, Jan 6-10, 1958.

16. Yeager, H.G., "Operating problems of maintaining uninterrupted use." Am Soc Civ ENgrs--Proc 83: (J HighwayDiv) n HWI May 1957, paper n 1246, 4 p.

"Interstate System" of limited access highways will present motorists with most modern routes man can devise; unless maintenance and maintenance procedures are revised and amplified to provide uninterrupted use, freedom of movement and carrying capacity provided by construction, will be choked to fraction of its potential.