Federal Aid for Maintenance and an All-Modes Management System

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Recent years have seen suspension of commercial flights because of runway deterioration, restricted operating speeds because of deteriorating railroad tracks and roadbeds, questions about the effects of reduced service levels on structural investment and safety, and increased pressure to optimize use of limited resources. It has been suggested that federal aid for maintenance and all-modes management systems may hold some solutions. This paper deals with those issues. The federal aid for maintenance alternatives posed by some is supported but only if it comes in the form of a highway development and operations block grant to each state. Expansion of the categorical grant approach will result in the addition of cumbersome and costly procedures and provide no real benefit. After enumerating several approaches, the paper suggests that an all-modes maintenance management system would operate most effectively as a joint decision-making process by modal administrators with guidance and assistance from the U.S. Department of Transportation.

A few years ago, commercial flights into the Santa Fe Airport were suspended because of the deterioration of the runways. The clear inference was that maintenance was inadequate. We are hearing ever more frequently that the deteriorating condition of railroad tracks and roadbeds is resulting in restricted operating speeds and raising questions about safety. With the current financial restrictions on highway agencies, there are questions about how much levels of service can be reduced before safety and structural investment are critically sacrificed.

Transportation agencies must be interested in preserving essential elements and providing safety and efficiency for all modes of transportation for which they have responsibility. They must be interested also in planning and carrying out maintenance while optimally using the limited resources available to them. A logical question that has been posed is whether an all-modes maintenance management system should be developed by departments of transportation in the interests of attaining adequate across-the-board maintenance.

A number of years ago there was a drive for establishing "unit" management for local roads. This was aimed at overcoming the inefficiencies that presumably exist where a county is split into commissioner or supervisor districts or where there are township road authorities in addition to the county authority. Considerable progress was made in getting changes to unit management, but there was a long way to go and things seemed to stabilize about 20 years ago. I had occasion then to review the local road management situation in Kansas, which was a state in which there were still many county and township management authorities. One would presume after analyzing the situation that I could develop information that would provide stimulus to consolidation of management responsibility. The state highway department helped me select two sets of side-by-side counties. One county in each set had unit management and the other had county and township management. I made inspections of a large sample of roads in all counties and reviewed the inventory and financial record data. I fully expected to develop a strong case for unit management.

As it turned out, either the case was not to be made or my two-set sample was not representative. One set of adjacent counties had little comparability in terms of terrain and farming economy. It provided only a demonstration of disproportionately great needs for improvement in one county created by terrain, drainage problems, and soil conditions. The other set of counties appeared to be a good comparison. Both had prosperous agricultural economies. Both had good professional county engineers. In one county, of course, the engineer was responsible only for county (not township) roads. In the other county, the engineer had responsibility for all local roads. The overall road expenditures for construction and maintenance in the two counties were comparable. Inventory records for the two counties, supported by field inspections, showed surprising differences. The unit management had provided an almost uniform level of improvement and maintenance throughout the total road system. The roads were gravel surfaced and well maintained. The county-township-management county had a range in types of roads and levels of maintenance. The principal county arterials were hard-surfaced with asphalt concrete. The remainder of the county arterials had well-maintained gravel surfaces comparable to the roads in the unit management county. The extensive

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length of hard-surfaced arterials represented the significant difference between the county arterials in the two counties.

There was another big, and probably just as important, difference. The township roads, in the county-township management county, included some improved gravel roads but, what was most significant, a large proportion of the township roads were unimproved and apparently received little or no maintenance. These were roads that served no essential year-round service. They either provided alternates to other improved routes or simply served as field access roads for farming operations. Many of them were simply a pair of wheel tracks (classified as primitive roads in inventory records).

Although I recognize the limited nature of my study, the road users and the county economy appeared to be better served in the county-township than in the unit management county. Major routes provided better service. Much less money was spent on roads of little or no importance.

Three things were demonstrated in this study.

1. Unit management does not guarantee the most economic development and maintenance of road facilities.
2. There may be more incentive for discriminating decisions where local taxes and conscientious local managers are responsible for local roads.
3. Levels of maintenance should be established to fit service needs and not be applied uniformly to a road system in which there is great variability in traffic service.

FEDERAL AID FOR MAINTENANCE

It has been my long- and strongly held conviction that providing federal aid for maintenance would be a tragedy, that it would relegate state agencies to branch offices of the federal government and stultify innovative efforts by state agencies. In looking at the situation today, I am not so positive about the results of federal aid for maintenance. It really depends on whether the historic "strings-attached" federal aid for highways procedure is followed or whether the objective of providing financial assistance for maintenance is effected by converting federal aid for highways into a block grant to states to be used for highway development and operations. This would represent a drastic change from the existing categorical grant approach, but there are indications that the climate may be right for such a change. The Comptroller General, in his report to congress on August 19, 1975, pointed out the need for fundamental changes in federal assistance to state and local governments.

Highway officials are very much aware of the problem associated with effective management of federal-aid programs split into many categories. The executive arm of the federal government has recommended a sharp reduction in federal highway aid categories. The general public is concerned that the proliferation of federal programs has resulted in cumbersome and costly procedures and administrative practices.

Insofar as federal aid to state and local governments for transportation is concerned, why should we not have a block grant? The advocates of categorical grants have implied that such grants are necessary to direct resources to urgently needed and not adequately recognized programs. The bridge programs and numerous safety programs are examples. The fallacy in this approach, however, is the assumption that decisions on needed emphasis can be effectively made on a national basis. There are just too many variations from state to state and community to community. Furthermore, and of greatest importance, the controlling nature of the categorical program grants discourages states and local governments from pursuing more rational and beneficial programs.

I suggest that the aims of current federal-aid programs can be obtained under a block grant system with requirements for establishment of cost-effective planning and programming techniques by grantee agencies receiving grants. I think such techniques are the only answer to the effecting of real economies in government, and, at the same time, to meeting the development and operating requirements for safe and efficient transportation. The federal responsibility will then be to review and approve planning and programming processes and to foster research and development directed toward improved management. They will not be responsible for reviewing programs and projects whether they be for transportation development or operations.

ALL-MODES MAINTENANCE MANAGEMENT

There are some instances now where maintenance organizations have multimodal responsibilities. The Highway Division of the Oregon Department of Transportation maintains state airport facilities. The Wayne County Road Commission in Michigan operates and maintains the Metropolitan Detroit Airport. It is significant, however, that, because of the specialized nature of much of the airport facilities, the greater part of the maintenance is done by personnel always assigned to the airport. In other words, even though there is an agencywide maintenance management system for the county, only a limited amount of work activities is done by crews that work both on roads and airport. It is worth noting further that the Wayne County maintenance management system covers county parks, sewers, and buildings as well as the airport and roads.

All-modes maintenance should be considered in two parts: (a) the planning function and (b) the operating (organizing, staffing, and directing) function. In carrying out the planning function (setting levels of service, establishing work methods and staffing patterns, and allocating resources through the budget process) there should be a consistency between programs for the different modes. It should be possible to evaluate the programs to ensure that cost-effectiveness achievements are comparable from mode to mode. This does not mean that the U.S. Department of Transportation (DOT) should do the planning. If we are to have modal administrations, the individual modal administrations should perform the planning but in ways consistent from mode to mode.

Should the transportation agency, as distinguished from the modal administrations, decide how the department will be organized, staffed, and directed to accomplish the planned objectives? In other words, should we establish maintenance operations as a department function, or should the resources be allocated to the modal administrations and the carrying out of programs be left totally as their responsibility? Or shall there be joint decision making by modal administrators with guidance and assistance from DOT? This strikes me as the logical approach. There are some maintenance activities that are common to two or more modes. And, in some instances, these might be performed more efficiently by the same crews. Some work might be effectively contracted out for all administrations.

The important thing is that there be joint decision making on organizations, staffing, and directing. A task force might be established to accomplish this under a steering committee with representatives from all modes and DOT.