

THE USE OF SYSTEMS LOGIC IN PLANNING MAINTENANCE PROGRAMS

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ABRIDGMENT

•THE underlying logic used in systems analysis can be of great value to engineers and planners. Although it is a simple technique and is easy to use, systems analysis is a very effective tool. Because it is a process as well as a tool, the successful use of systems analysis is dependent on the sequence in which each step is taken. Frequently, planners put "the cart before the horse" and arrive at the right solutions to the wrong problems. By using systems analysis, the planner can avoid such mistakes.

The steps that make up the process of systems analysis follow this general order: determine purpose; translate purpose into functions; translate functions into requirements; generate and select candidate solutions; and translate requirements of selected solutions into specifications.

The process is the same regardless of the type or order of system being analyzed. For example, the roadside rest system is a part of the highway system, which is a part of the overall national transportation system. The national transportation system in turn is part of the overall social system.

Because the roadside rest area maintenance program has its beginnings in the architect's design, the maintenance engineer all too often feels that he has inherited a situation over which he has no control. This feeling is not necessarily justified; every system, including roadside rest systems, is made up of interrelated subsystems. Each subsystem affects the overall system as well as other subsystems. In a very real way, the person responsible for planning the maintenance of a roadside rest area can influence the overall program, including basic policy.

In conclusion, it must be remembered that the analysis of a system is not the end product of a system. Systems analysis is only a technique, and a technique is only a tool. It is an effective tool, however, because it helps the engineer to organize and apply the inherent good sense he already possesses.