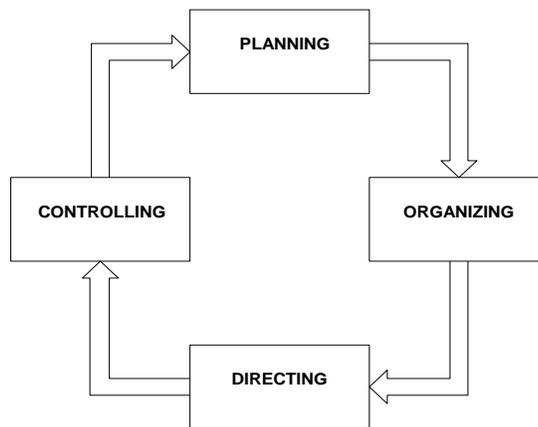


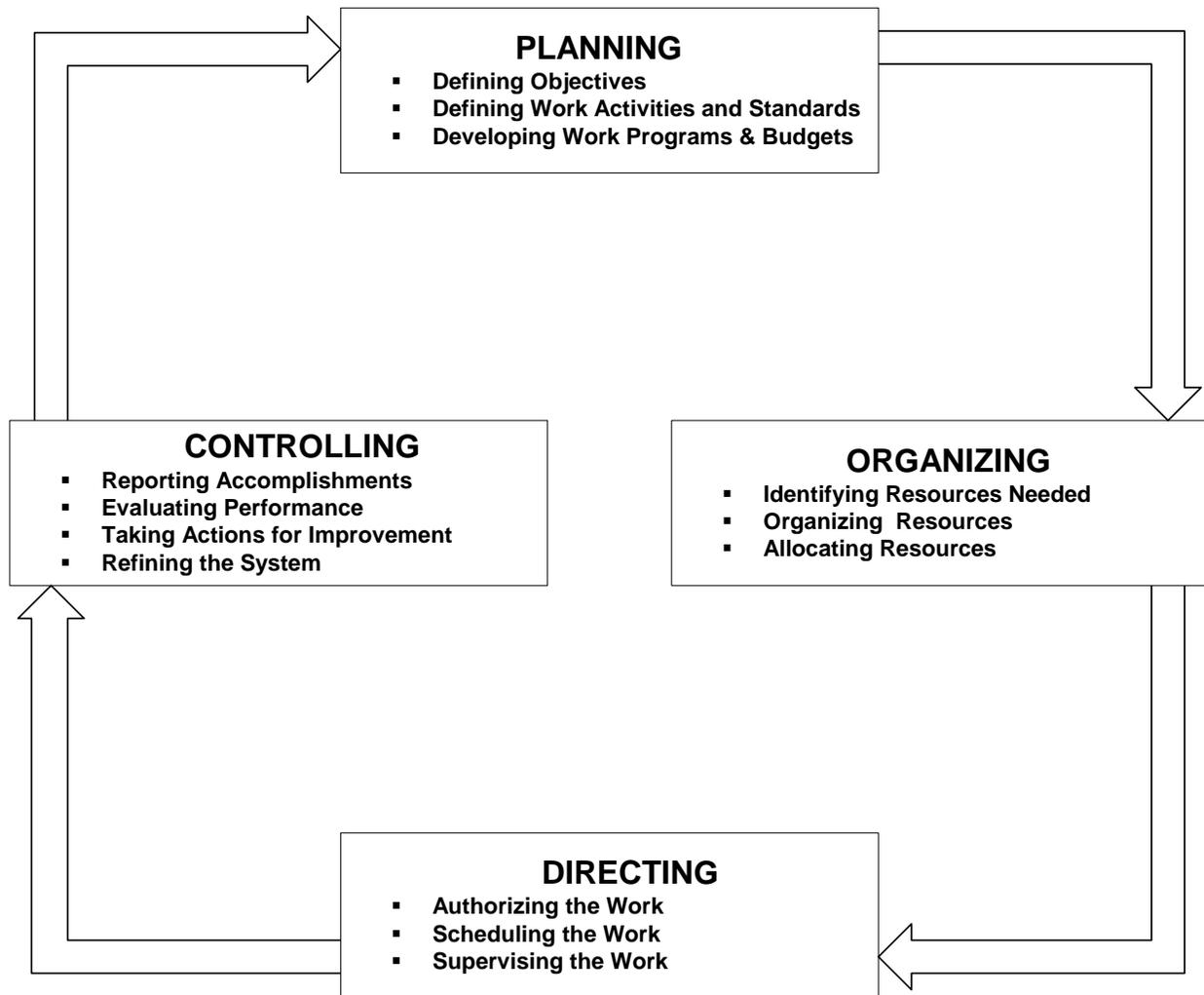
Maintenance management is a method of utilizing resources to accomplish a predetermined level of service for road assets. Formal maintenance management includes the primary management functions of planning, organizing, directing and controlling. A maintenance management system (MMS) can be described as a systematic process to manage a maintenance program.

Starting from this brief description of maintenance management, the paragraphs and figures below provide additional, and increasingly detailed, descriptions of maintenance management procedures and elements of maintenance management systems.

Applying management principles to county road maintenance operations recognizes that many county road activities can be planned, scheduled and accomplished in a defined manner. Maintenance management provides a framework for developing maintenance plans, tracking work accomplishment and preparing reports that compare planned and actual performance. Beginning with a basic framework for management which includes planning, organizing, directing and controlling, an overview of maintenance management can be presented as:



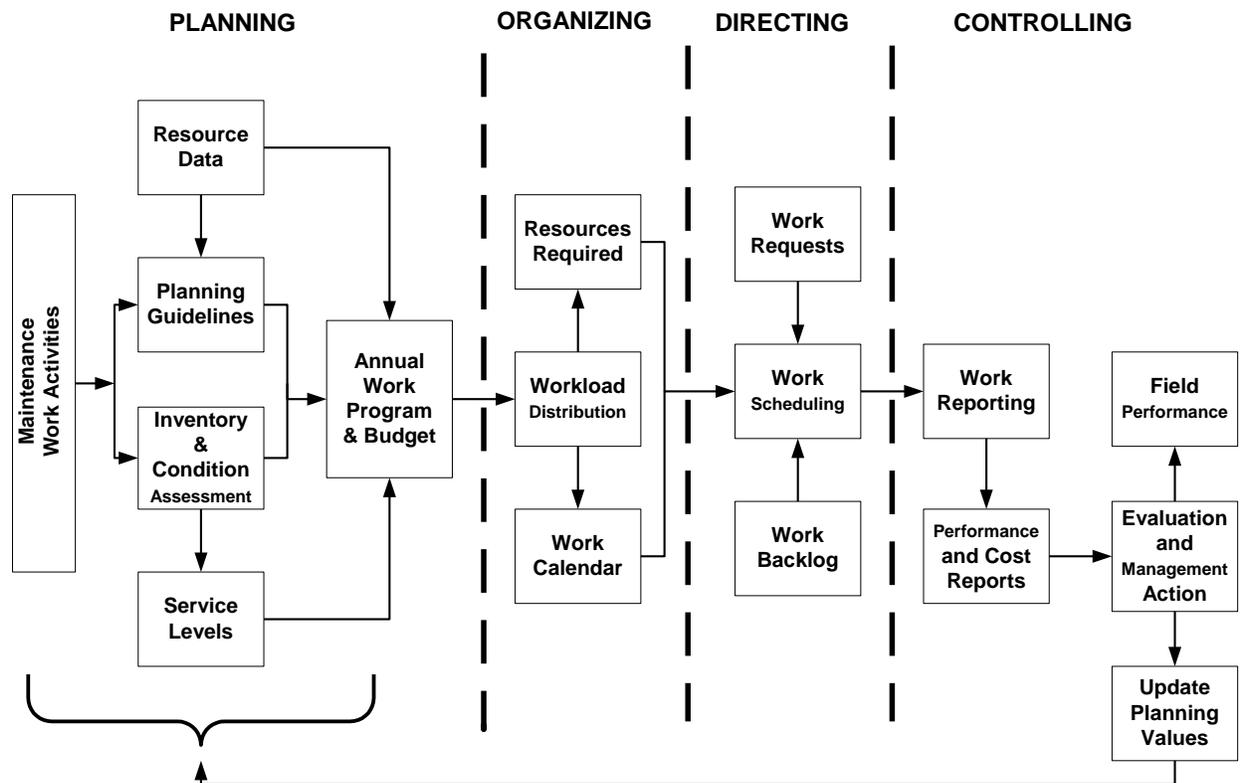
A more detailed overview follows:



Further descriptions of these elements of maintenance management include the following:

- Planning maintenance activities based upon the road features to be maintained, the resources (labor, equipment & materials) needed to provide maintenance and the level of service to be provided by the maintenance. This includes preparing budgets based upon maintenance performance standards to define the specific types and amounts of maintenance work.
- Organizing the labor, equipment and material resources to ensure that planned maintenance activities can be accomplished with the budget available.
- Directing maintenance operations by authorizing, scheduling and supervising maintenance activities and preparing the annual, seasonal and short-term schedules needed for guidance.
- Controlling maintenance operations by monitoring work accomplishment and expenditures to ensure that planned work programs are actually achieved within available resource levels.

The flow of information throughout the maintenance management process provides another, yet more detailed, view of a formalized maintenance program:



The above information flow depicts the primary elements and sub-elements of a formalized maintenance management system (MMS). Maintenance management systems are used by public works directors and field managers to plan, organize, schedule, control and evaluate road maintenance programs.

Regardless of the way in which the data is processed, the concepts of a maintenance management system remain the same. The basic components of maintenance management systems developed and generally accepted by road maintenance organizations include:

- The development of performance standards for principal maintenance activities describing the procedures to be followed, the labor, equipment and materials to be used and the rate of production to be achieved.
- The determination of workloads through the measurement of quantities of the various elements of the road system (system inventory) and the evaluation of external influences (such as weather and traffic) acting upon these elements which create a need for maintenance.
- The budgeting (dollars) of resources (labor, equipment, materials) to meet the predicted workload in terms of specific programs (activities, quantities, locations) to be achieved.

- The scheduling of activities within the budgeted program to utilize resources in the most efficient manner, to reduce fluctuations in manpower and equipment requirements, and to keep the roadway system operating in a safe, convenient manner.
- The establishment of a management information system which provides the basic knowledge required by operating managers for routine decisions and the special reports required by management for control and improvement of the program.