

Construction typically involves a deadline for work completion, so contractual agreements will force attention to schedules. More generally, delays in construction represent additional costs due to late facility occupancy or other factors. Just as costs incurred are compared to budgeted costs, actual activity durations may be compared to expected durations. In this process, forecasting the time to complete particular activities may be required.

The methods used for forecasting completion times of activities are directly analogous to those used for cost forecasting. For example, a typical estimating formula might be: where  $D_f$  is the forecast duration,  $W$  is the amount of work, and  $h_t$  is the observed productivity to time  $t$ . As with cost control, it is important to devise efficient and cost effective methods for gathering information on actual project accomplishments.

Generally, observations of work completed are made by inspectors and project managers and then work completed is estimated. Once estimates of work complete and time expended on particular activities is available, deviations from the original duration estimate can be estimated.

This figure is constructed by summing up the percentage of each activity which is complete at different points in time; this summation can be weighted by the magnitude of effort associated with each activity. In Figure, the project was ahead of the original schedule for a period including point A, but is now late at point B by an amount equal to the horizontal distance between the planned progress and the actual progress observed to date. Illustration of Planned versus Actual Progress over Time on a Project schedule adherence and the current status of a project can also be represented on geometric models of a facility.

In evaluating schedule progress, it is important to bear in mind that some activities

possess float or scheduling leeway, whereas delays in activities on the critical path will cause project delays. In particular, the delay in planned progress at time t may be soaked up in activities' float (thereby causing no overall delay in the project completion) or may cause a project delay. As a result of this ambiguity, it is preferable to update the project schedule to devise an accurate portrayal of the schedule adherence. After applying a scheduling algorithm, a new project schedule can be obtained. Illustration of Planned versus Actual Expenditures on a Project

### **functions of Inspection:**

- 1) Material Inspection
- 2) Process Inspection
- 3) Equipment Inspection
- 4) Finished Job Inspection

### **Various Safety equipments:**

Helmet

Gloves

Shoes

Goggles

Safety Belts

### **technical services required for inspection:**

- 1) Engineers/Designers/Architect/Geologists
- 2) Supervisors
- 3) Scientists
- 4) Technicians