

Work Plan—Estimating Time and Cost—Activity Definition**Purpose:**

The objective of this activity is to estimate the time and cost for the lowest level of your WBS. This will be an input to the development of the schedule.

Participants:

The Project Manager estimates the duration and cost for each task in conjunction with the task owners or other Subject Matter Experts.

Inputs:

Work Breakdown Structure [1]

Process:

1. Look at the lowest level of the WBS.
2. Estimate the likely amount of labor/effort that will be spent on the activity keeping in mind resource capabilities.
3. Estimate the cost likely to be incurred on the activity. Cost may not be tracked for all classes of projects.
4. Project teams may also choose to incorporate an additional time frame called contingency or buffer that can be added to the activity duration in recognition of schedule risk. This can be a percentage of the estimated duration or a fixed number of hours.
5. Validate the time estimates with the task owners.
6. Allocate time for reviewing tasks. Also allocate rework time.
7. The cost for each task is the product of the blended rate and the effort for that task.

Outputs:

Time and cost estimates

Work Plan—Estimating Time and Cost—Guidelines

1. There are many approaches to estimate time and cost for the lowest level tasks of a WBS.
 - a. Historical Information
 - b. Similarity to other tasks
 - c. Expert advice
 - d. Delphi method
 - e. Three-point method
 - f. Wide-band Delphi method
2. Historical information is often available from one or more of the following sources:
 - a. Project Files/Historical data
 - b. Project team knowledge
 1. There is a difference between effort/labor and duration. The duration of a task is the elapsed time in business working days (not including weekends, holidays, or other non-work days) required to complete the task. Work effort is labor required to complete a task. That labor can be consecutive or nonconsecutive hours. e.g. If 2 persons work simultaneously for 4 hours each continuously, the duration is 4 hours but the effort is 8 hours. OR e.g. if a person needs a document to be reviewed, the review itself takes around 30 minutes but the time for the document to reach the reviewer's office, the time the document is in the 'in-tray', and the time for the reviewed document to be sent back adds to say, 7 days. In this case, the duration is 7 days but the effort is 30 minutes.
 2. Keep in mind resource capabilities. There might be norms with regard to average productivity in your department.
 3. Estimate task duration based on using people of average skills.
 4. Assume that the average person works at 75% efficiency during a workday.
 5. If there are hand-offs during the project due to a team member moving out of the organization or moving to another project, take into account the learning curve of the person who will be replacing him/her.
5. The actual task duration could vary depending upon the skill level of the person who is actually assigned to the task.
6. Task duration could also depend on resource availability. Planned vacations should be considered while estimating time.
7. For estimating cost, use the blended rate agreed upon in your department. Cost may not be tracked for all classes of projects.