

## Critical Path Segments Method for Scheduling Technique

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**Abstract :** Project managers today rely on scheduling tools based on the Critical Path Method (CPM) to determine the overall project duration and the activities' float times which lead to greater efficiency in planning and control of projects. CPM was useful for scheduling construction projects, but researchers had highlighted a number of serious drawbacks that limit its use as a decision support tool and lacks the ability to clearly record and represent detailed information. This paper discusses the drawbacks of CPM as a scheduling technique and presents a modified critical path method (CPM) model which is called critical path segments (CPS). The CPS scheduling mechanism addresses the problems of CPM in three ways: decomposing the activity duration of separated but connected time segments; all relationships among activities are converted into finish-to-start relationship; and analysis and calculations are made with forward path. Sample cases are included to illustrate the shortages in CPM, CPS full analysis and calculations are explained in details, and how schedules can be handled better with the CPS technique.

**Keywords :** construction management, scheduling, critical path method, critical path segments, forward pass, float, project control

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