

DELAY CLAIMS

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GREENWAY CHAMBERS

DELAY CLAIMS

AGENDA

1. A conceptual framework
2. Concurrent delay and pacing delays
3. An expert's perspective



DELAY CLAIMS

A FRAMEWORK

1. The contract is king
2. What is "delay" anyway?
3. Contractual entitlement or damages?
4. Proving loss



Sample EOT clause (AS4300-1995, clause 35.5):

Extension of time for practical completion

... If the Contractor is or will be delayed in reaching Practical Completion by a cause described in the next paragraph and within 28 days after the delay occurs, the Contractor gives the Superintendent a written claim for an extension of time for Practical Completion setting out the facts on which the claim is based, the Contractor shall be entitled to an extension of time for Practical Completion. ...

Sample delay-costs clause (AS4300-1995, clause 36):

Delay or disruption costs

... Where the Contractor has been granted an extension of time under Clause 35.5 for any delay or disruption caused by any of the events referred to in [that clause], the Principal shall pay to the Contractor such extra costs as are necessarily incurred by the Contractor by reason of the delay.

DELAY CLAIMS

WHAT IS DELAY?

“Delay” can mean:

1. Activity starts later than expected
2. Activity takes longer than expected
3. Practical completion is expected to be late
4. Practical completion is in fact late



DELAY CLAIMS

CONTRACTUAL ENTITLEMENT OR DAMAGES?

1. Contractual entitlement – You are asking the tribunal to step into the shoes of the Superintendent and remake the determination
2. Damages – You are seeking to prove that a loss arose from a breach of contract



DELAY CLAIMS

PROVING LOSS

1. Relief from liquidated damages
2. Direct costs incurred due to prolongation
3. Overheads incurred due to prolongation
4. Hudson formula



DELAY CLAIMS

PROVING LOSS

Hudson formula:

$$\frac{\text{O\&P}}{100} \times \frac{\text{contract sum}}{\text{contract period}} \times \text{period of delay}$$

Where "O&P" = head-office overheads and profit



DELAY CLAIMS

PROVING LOSS

"When a contractor incurs extra costs as a result of delay is a question of causation, and thus a question of fact. It is not correct to tack the owner-caused delays on the end of the contract [period] and take the extra costs as the costs then incurred. The extra costs incurred by reason of the delay must be assessed by regard to the impact in fact upon the contractor's progress"

Thiess v Commonwealth (1992) 14 BCL 61 at 67 per Giles J



DELAY CLAIMS

CONCURRENT DELAY

“A period of project overrun which is caused by two or more effective causes of delay which are of equal causative potency” (SCL paper, 2002)

- *SMK Cabinets v Hilti* [1984] VR 391
- *Henry Boot v Malmaison* [1999] 70 CONLR 32
- SCL Delay and Disruption Protocol, Core Principle

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DELAY CLAIMS

PACING DELAYS

1. Keep pace with the other party's delay
2. Both contractor and principal can pace
3. Risky business



DELAY CLAIMS

AN EXPERT'S PERSPECTIVE

Ian McIntyre

- Director, Ian McIntyre & Associates Pty Ltd
- Expert witness
- Currently member of dispute board on 4 major projects
- Chairman of the Industry Advisory Committee to the School of Civil and Environmental Engineering at UNSW
- Principal of Evans & Peck / Advisian (1987 - 2017)



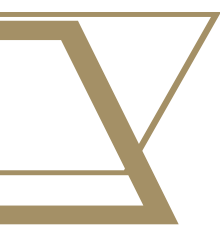
GREENWAY CHAMBERS

DELAY ANALYSIS METHODOLOGY

Greenway Chambers

IAN MCINTYRE
19 February 2019

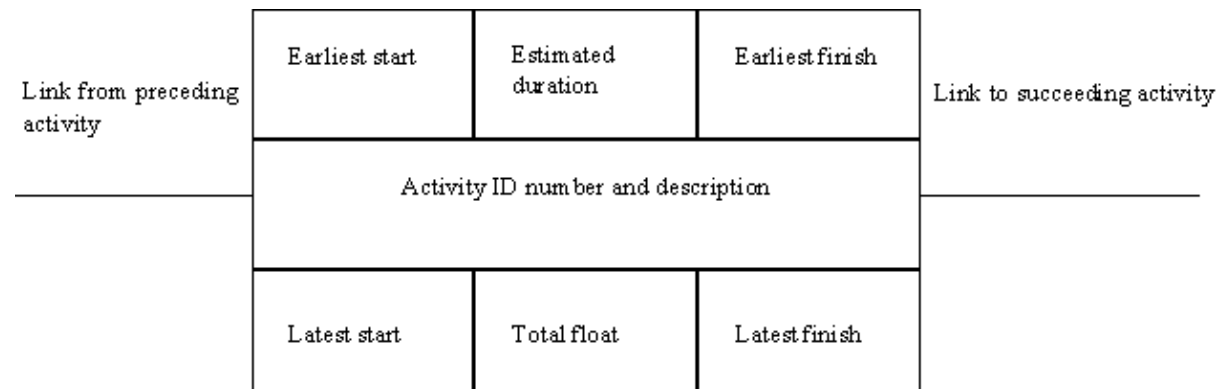
About programs and schedules ...



Precedence Diagram Method (PDM)

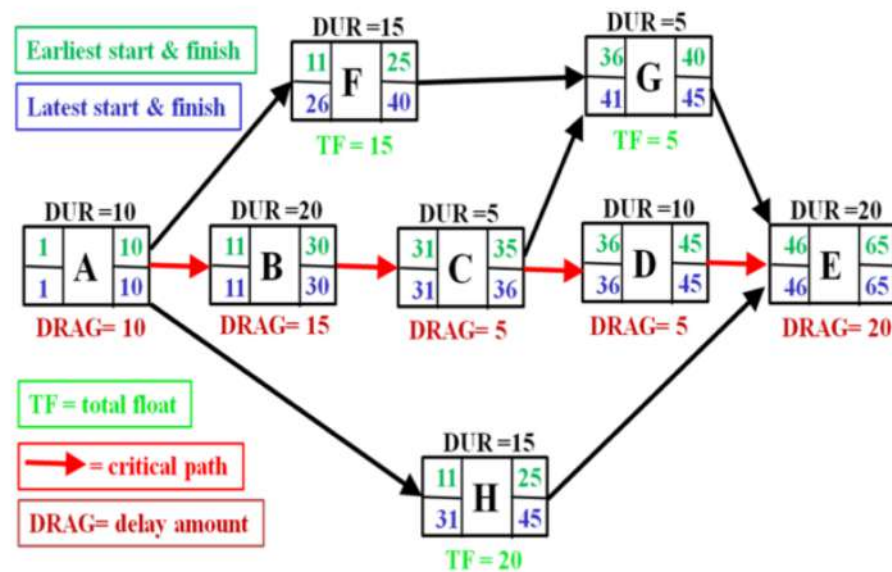
- A visual representation technique that depicts the activities involved in a project.
- It is a method of constructing a project schedule **network diagram** that uses boxes/nodes to represent activities and connects them with arrows that show the dependencies.
- Function is to permit a more accurate depiction of relationships among various activities.

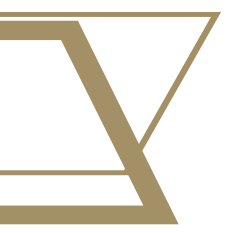
IT IS A MODEL!



Critical Path Method (CPM)

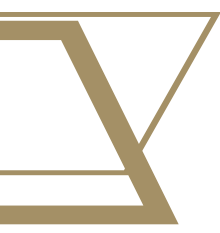
- The Critical Path is the **longest path** in the model of scheduled activities that must be met in order to execute a modelled project.
- The CPM calculates the longest path of planned activities to the end of the project model, and the earliest and latest that each activity can start and finish without making the project model longer.
- This process determines which activities are “critical” (i.e., on the longest path) and which have “total float” (i.e., can be delayed without making the project model longer).





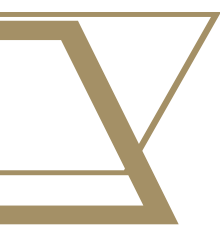
YOU ALL HAVE MORE SCHEDULING

EXPERTISE AND EXPERIENCE THAN YOU REALISE!



How do you plan your method of travel?

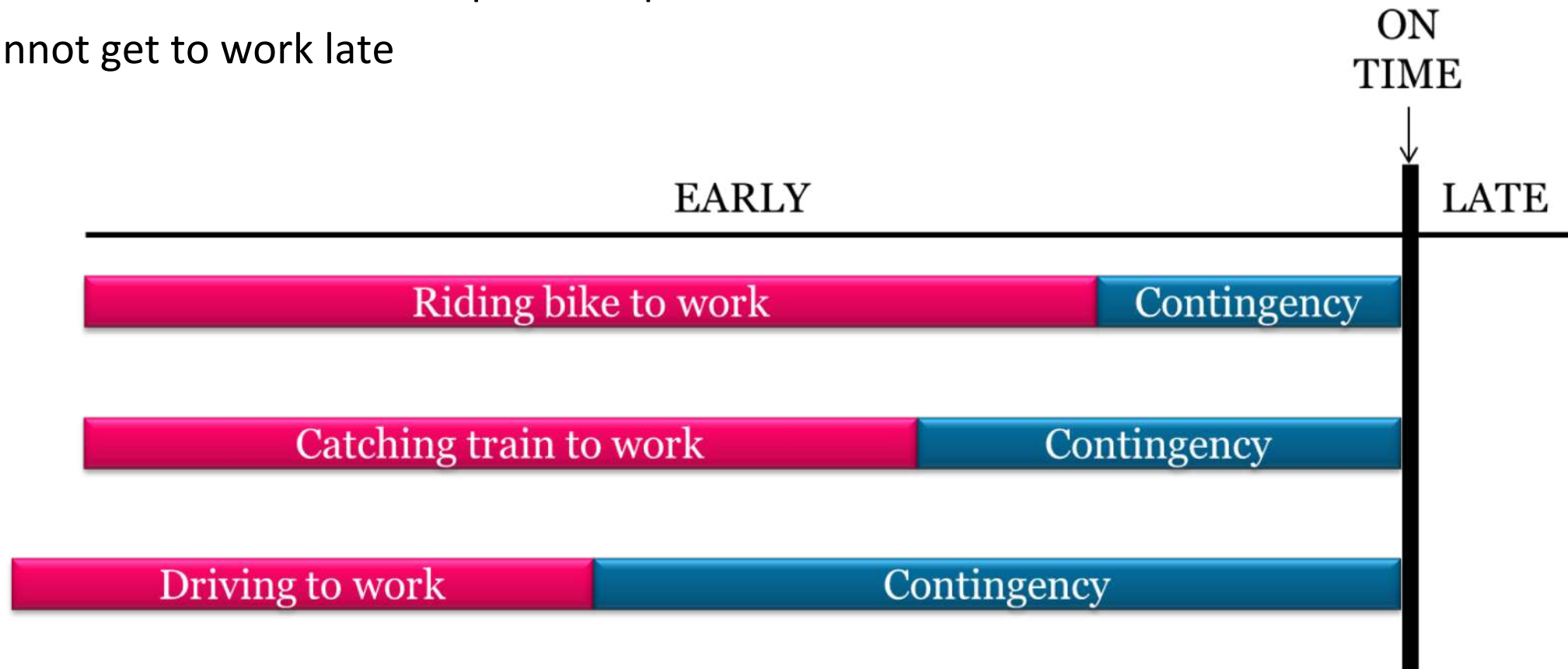
- Balance between: time, cost, reliability and emotional/personal preference
- For example:
 - Do you have to get to work on time? e.g. early client meeting
 - Are you trying to save money on petrol or tolls?
 - Do you need to leave home after the kids leave the house for school?
 - Do you like to get exercise from riding or walking to work?
- Generally higher reliability is associated with a longer planned duration
- Shorter planned duration can be associated with lower reliability
- **CONTINGENCY !!**
- Contingency should vary depending on the circumstance and issues involved



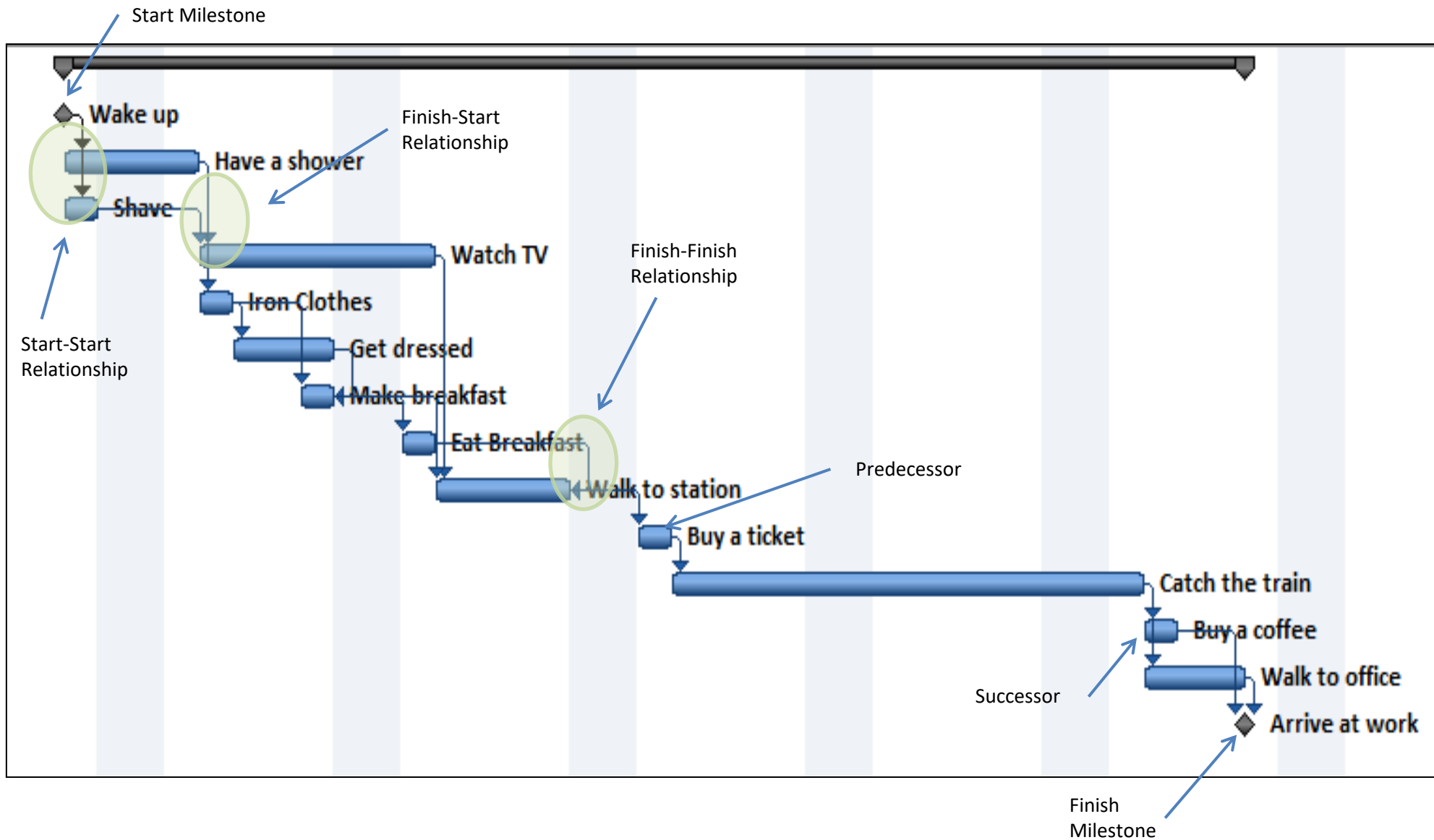
How do you plan your method of travel?

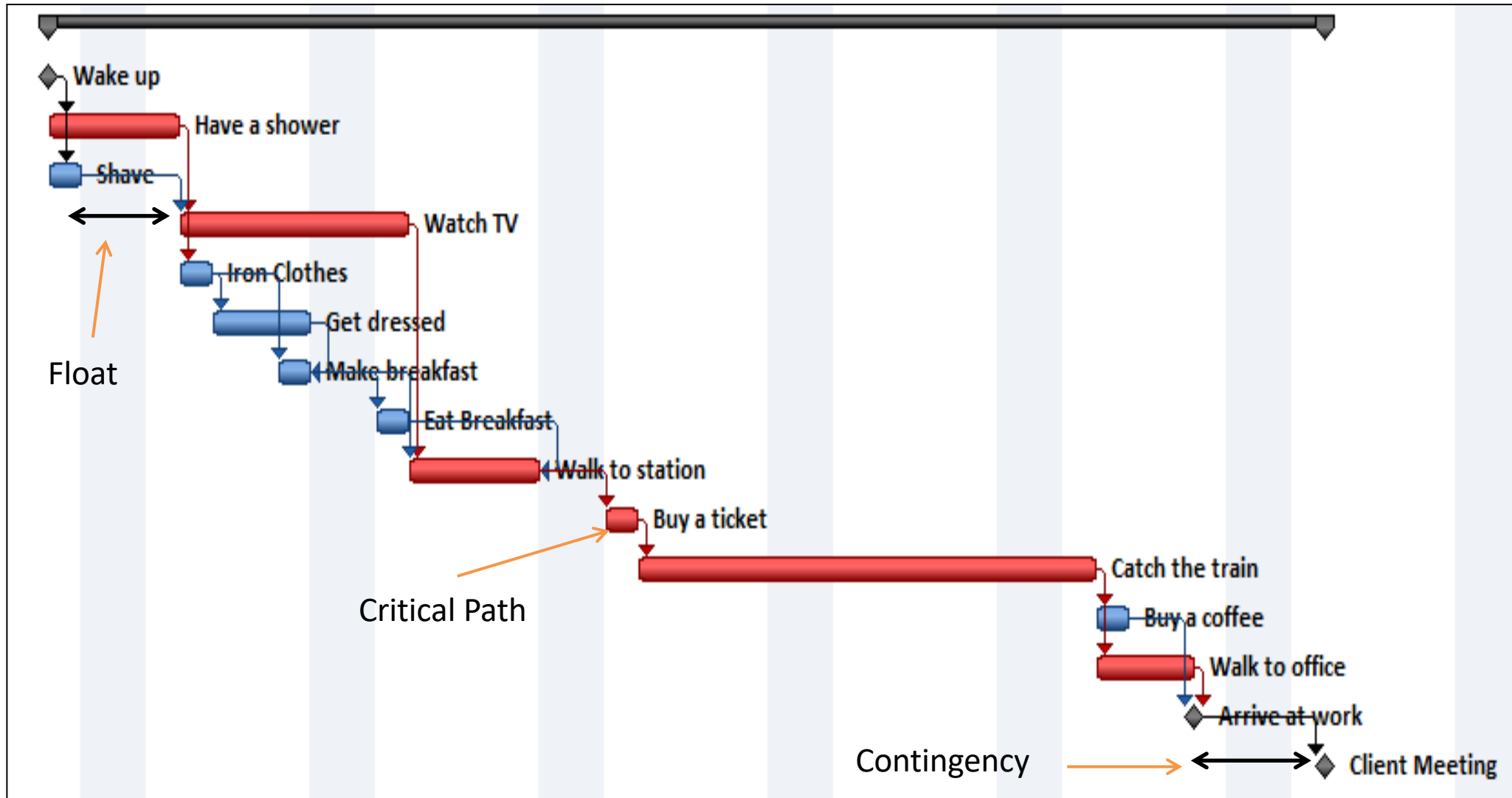
Example:

- 3 methods of transport available
- Costs are not an issue & no personal preference
- Cannot get to work late

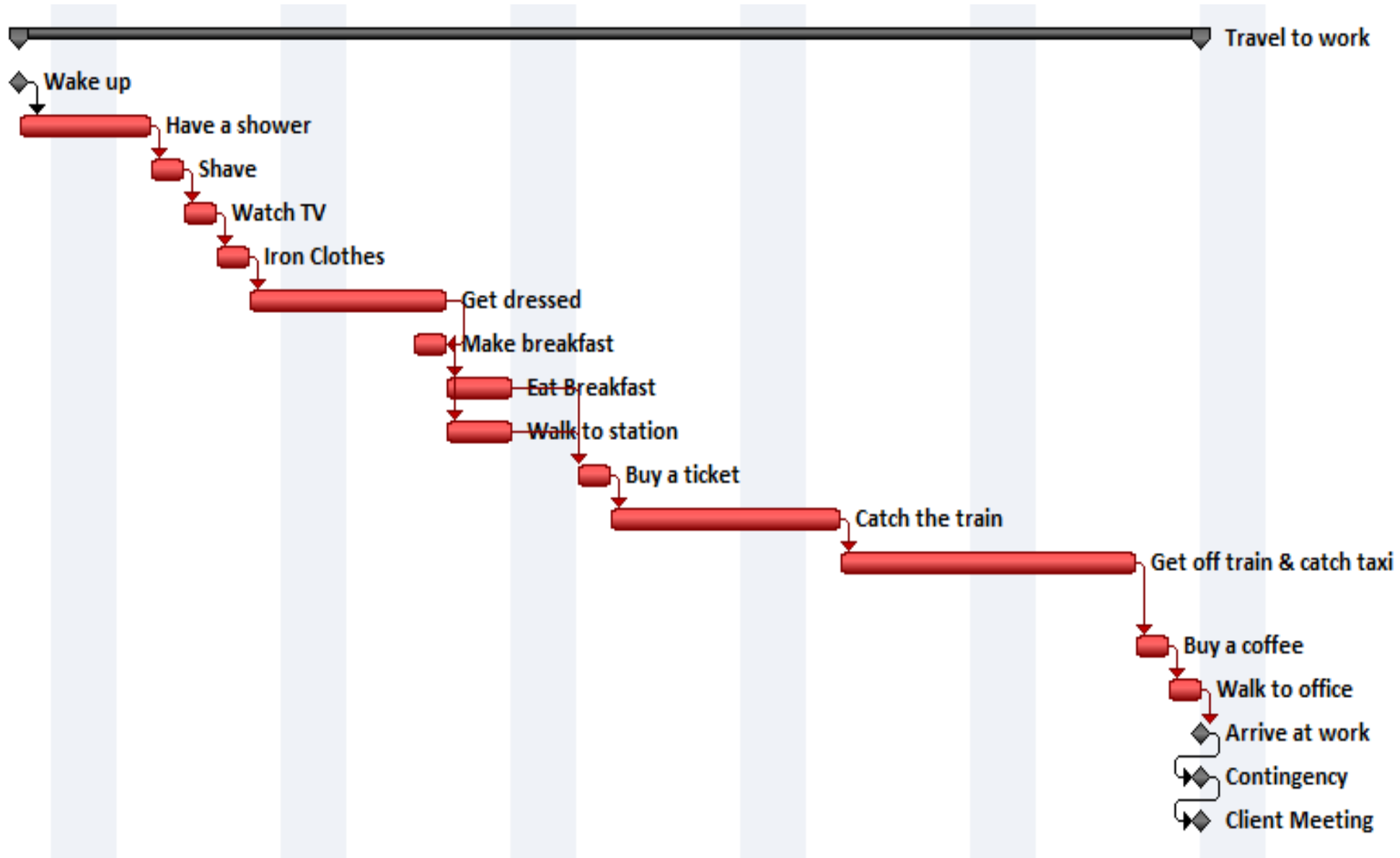


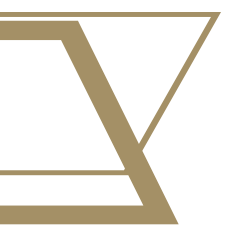
Activity Relationships





As-Built Example





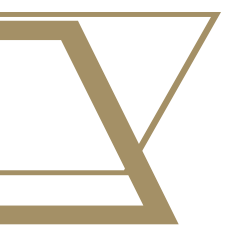
What could go wrong?

Variability in durations – What are the consequences of estimates?

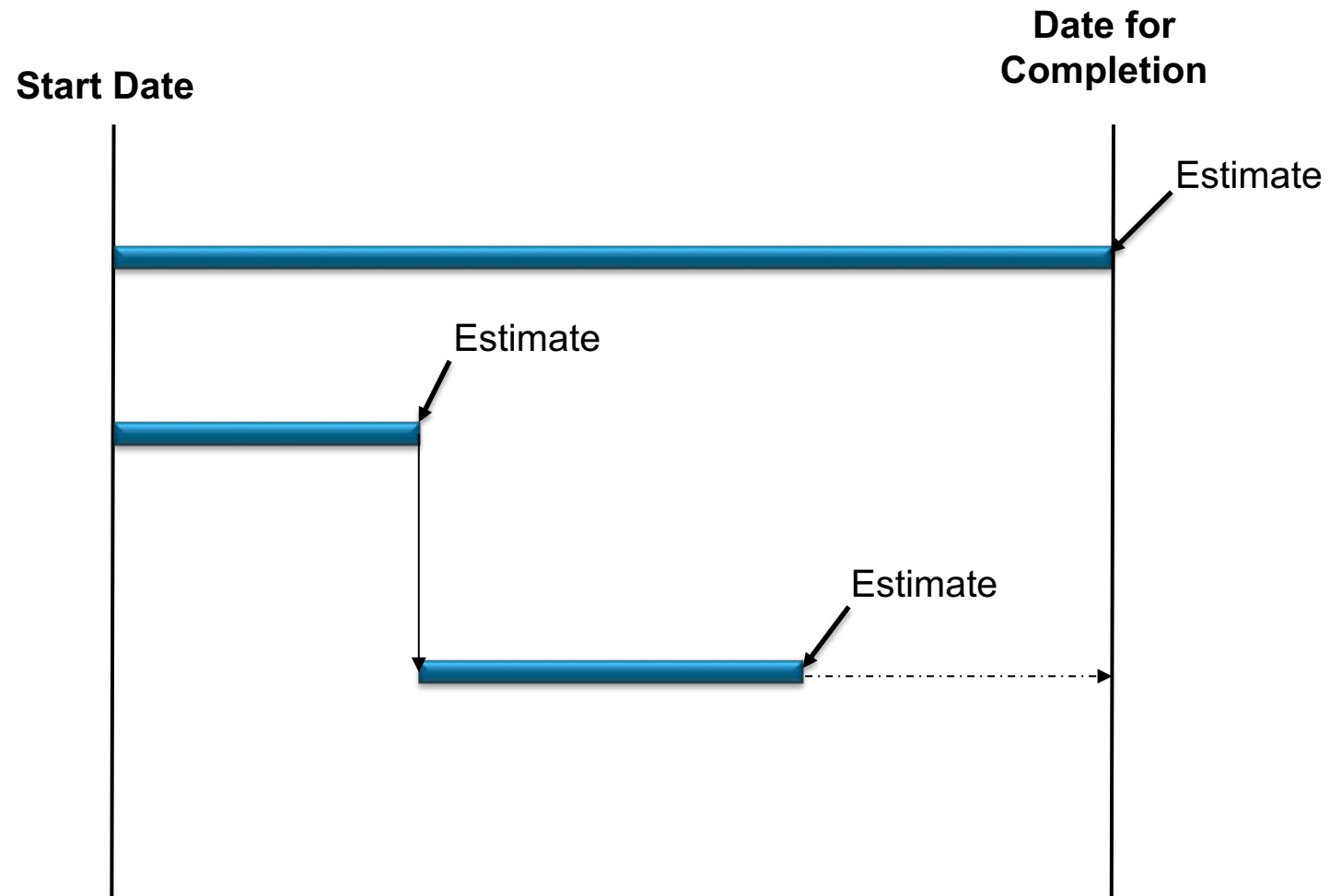
Why do programs get longer and not shorter?

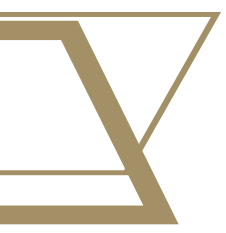
What is the effect of multiple predecessors?

What is the effect of interdependence between pathways and activities?



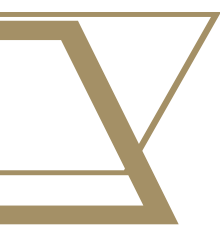
Activity Durations are Estimates



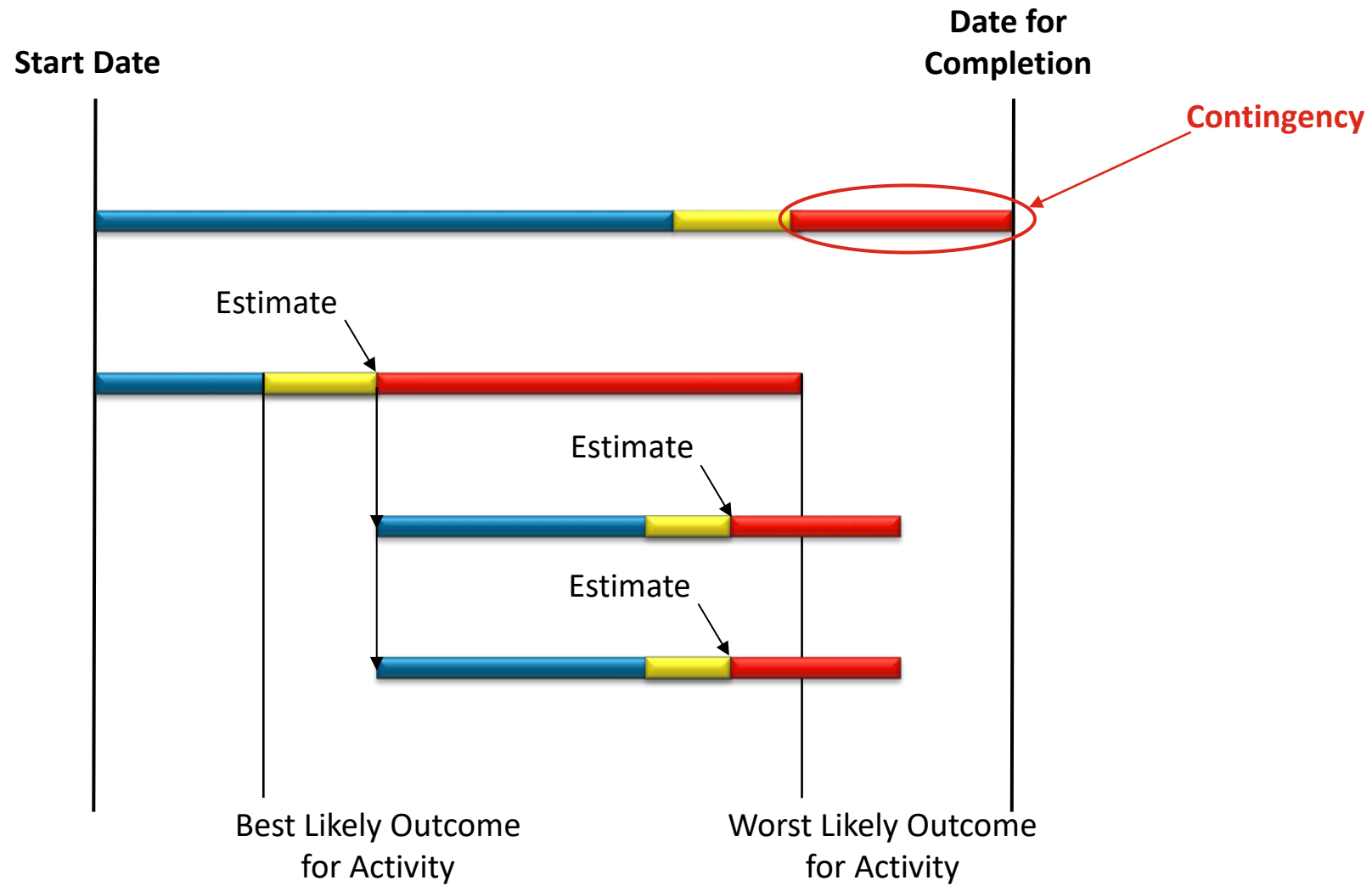


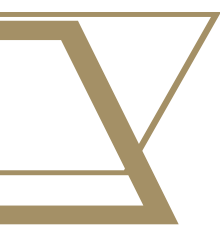
Activity Durations are Estimates (continued)

- Duration estimates can vary markedly from actual durations
- People typically nominate an expected error range of plus or minus 10 or 20%
- A more realistic error range is minus 10%, plus 100%

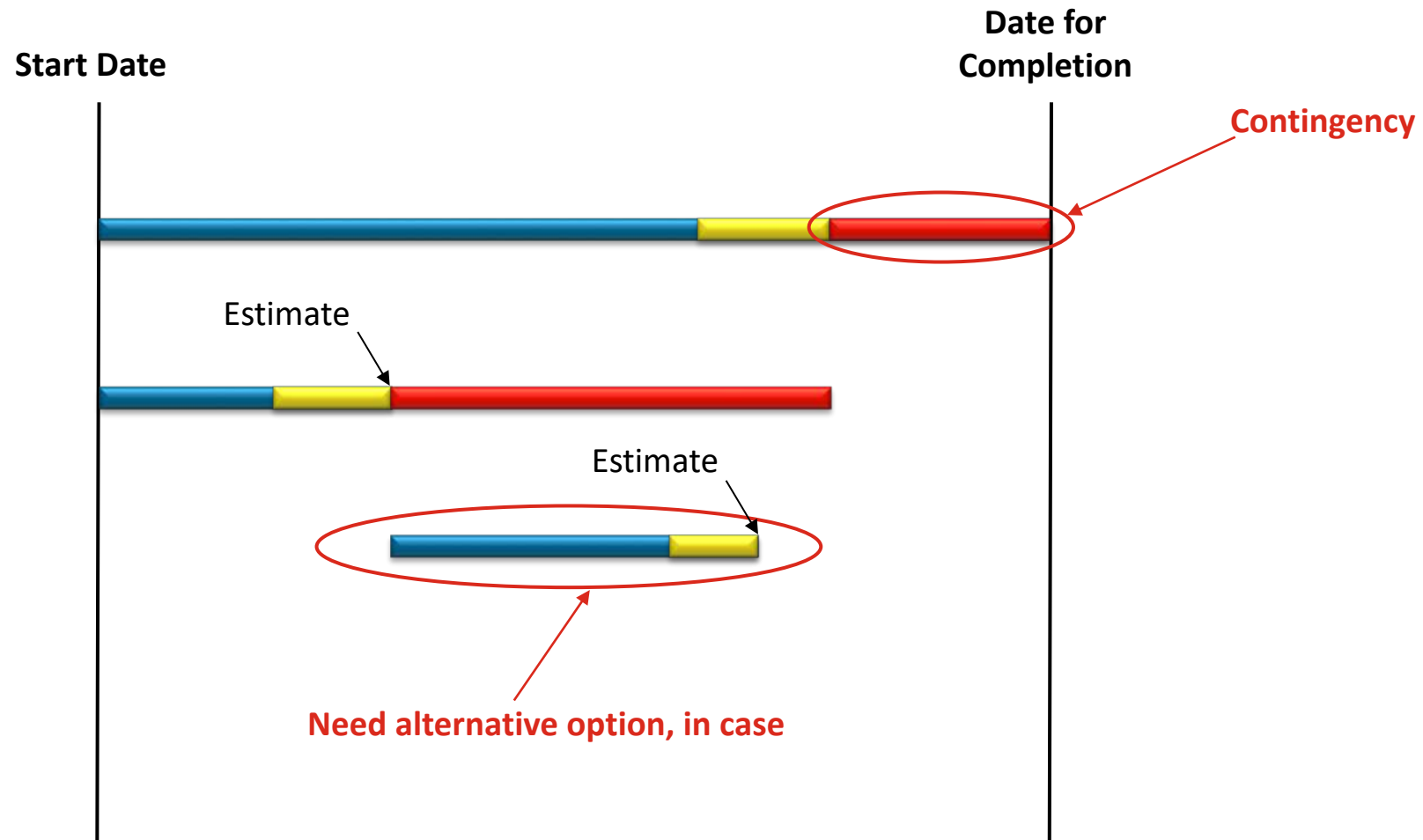


More realistically:

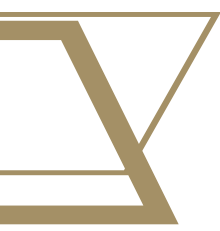




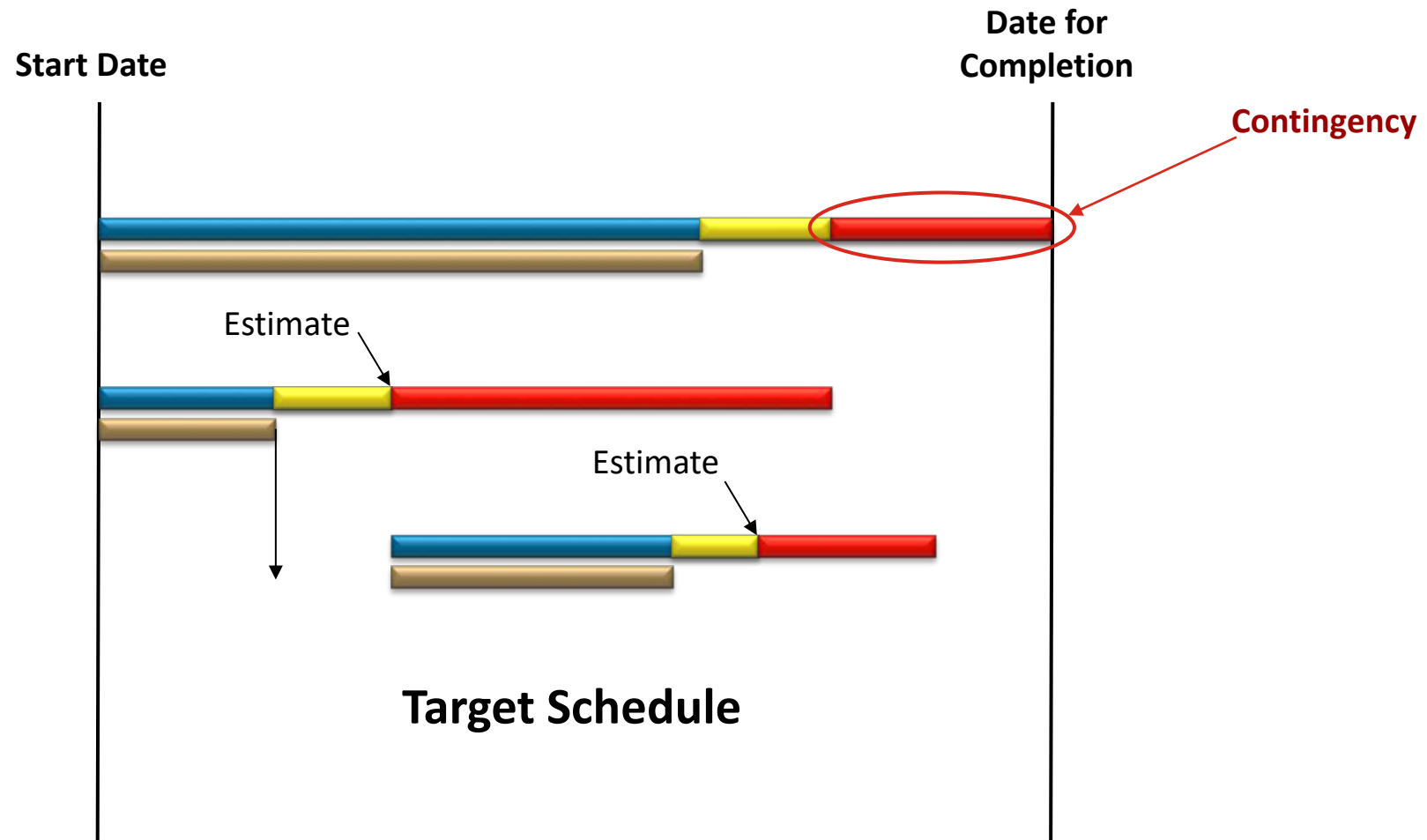
Escape Routes

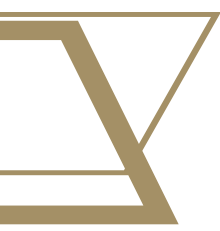


Identify when option needs to be triggered

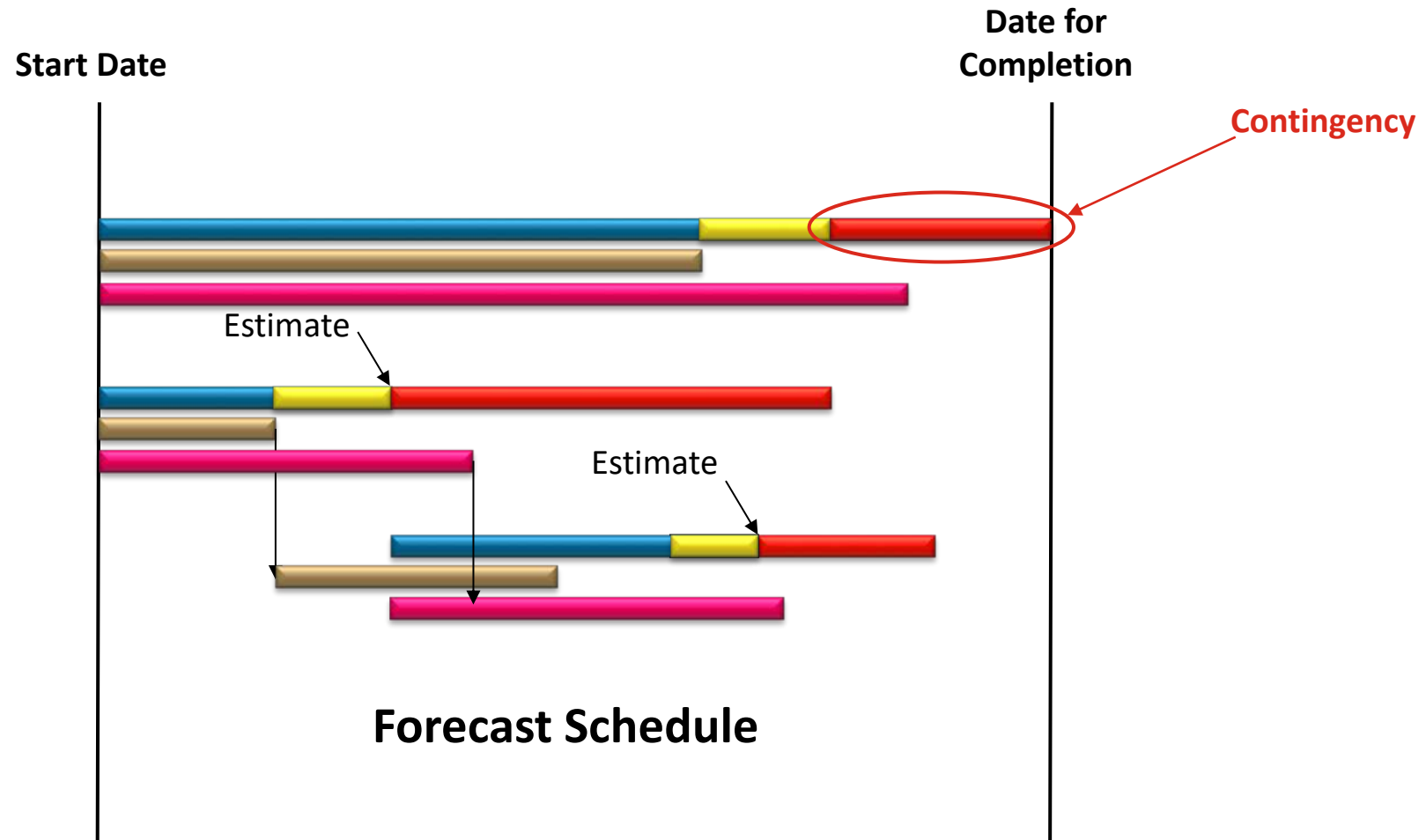


Target Schedule



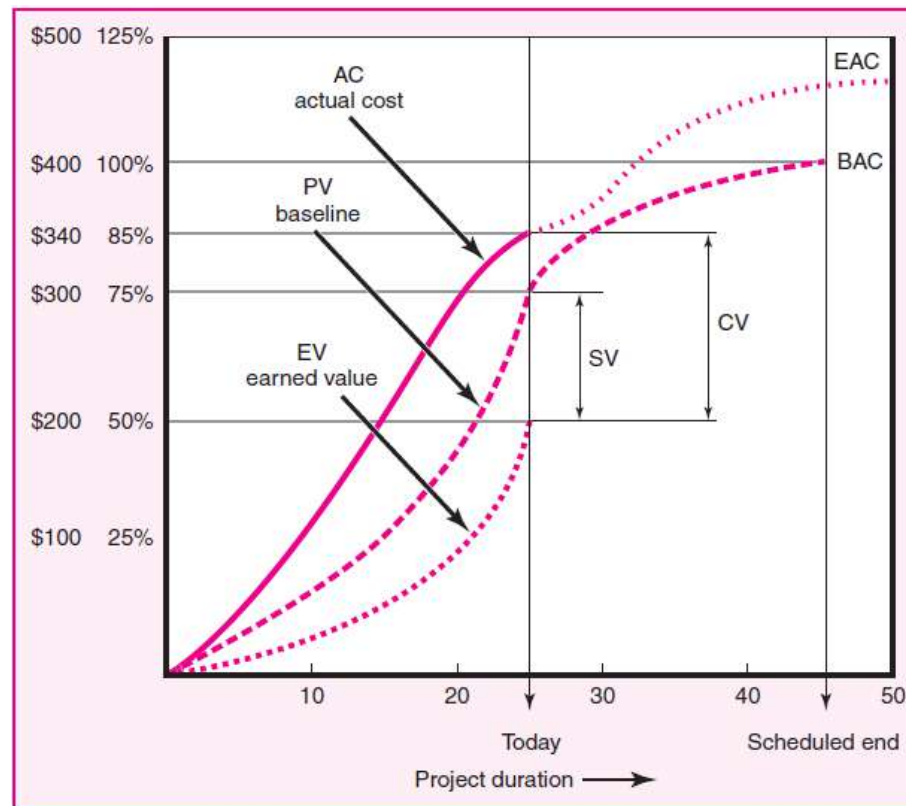


Forecast Schedule



Program vs Cost Schedule Graph (Cumulative Production Curves)

An alternative way to represent progress is to plot production against time. This allows you to forecast what is likely to occur or what would have occurred under different circumstances.



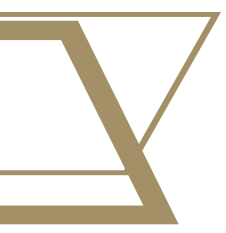
$$\text{SV} = \text{Schedule Variance} \\ = \text{EV} - \text{PV}$$

$$\text{CV} = \text{Cost Variance} \\ = \text{EV} - \text{AC}$$

EV = Earned Value = % of original budget that has been earned by actual work completed

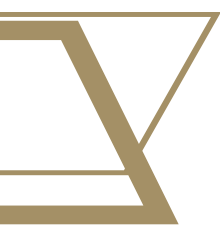
EAC = Estimated Actual Cost

BAC = Baseline Actual Cost



Delay is a relative term

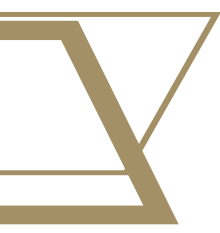
- **Relative to target Schedule.**
- **Relative to approved Schedule.**
- **Relative to forecast Schedule.**
- **Relative to contract date.**
- **Relative to what would otherwise have occurred.**



Procedure, Method and Methodology

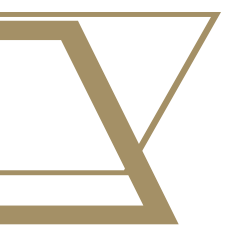
Pocket Macquarie Dictionary

- **Methodology**: the science of method, esp. a branch of logic dealing with the logical principles underlying the organisation of the various special sciences, and the conduct of scientific enquiry ...
- **Method**: a way of going about something, esp. an orderly or systematic way ...
- **Procedure**: the act or manner of doing anything; a particular course or way of action ...



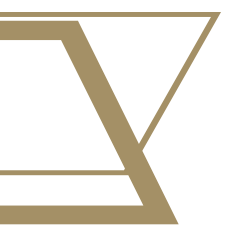
Generic Method for Delay Causation Analysis

- **Causation analysis is identification of causal links between events or circumstances and subsequent events or circumstances.**
- **What has caused an event to be later than otherwise would have occurred can only be determined from evidence as to fact.**
- **Assemble evidence of facts into 'as-built' Schedule.**
- **Identify scenarios of likely sequences and timing of events had suspected causes of delay not occurred.**
- **Test causation hypotheses.**
- **Form opinion as to causation and extent of delay.**



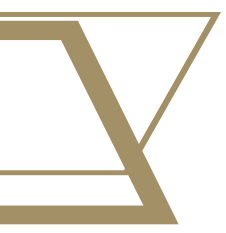
Causation Example

- Overhead bridge cranes in Singapore to move containers within the port.
- 44 cranes to be fabricated, erected and commissioned.
- There was an assumption as to causation that was not consistent with the evidence.
- Lack of **causal continuity** between timing of drawing issues and the timing of fabrication completion.



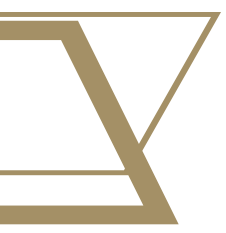
Generic Method for EOT Analysis

- **Depends on words in contract.**
- **First of all examine contract.**
- **Identify criteria for EOT entitlement.**
- **Identify evidence of facts.**
- **Assemble all available relevant evidence, including ‘as-built’ Schedule, for testing against criteria for EOT.**
- **Test evidence against criteria for EOT.**



Generic Method for Delay Analysis

- Delay analysis inevitably means forming an opinion as to **what would be likely to have occurred had the cause of delay not occurred.**
- The answer is not and cannot be in the schedule.

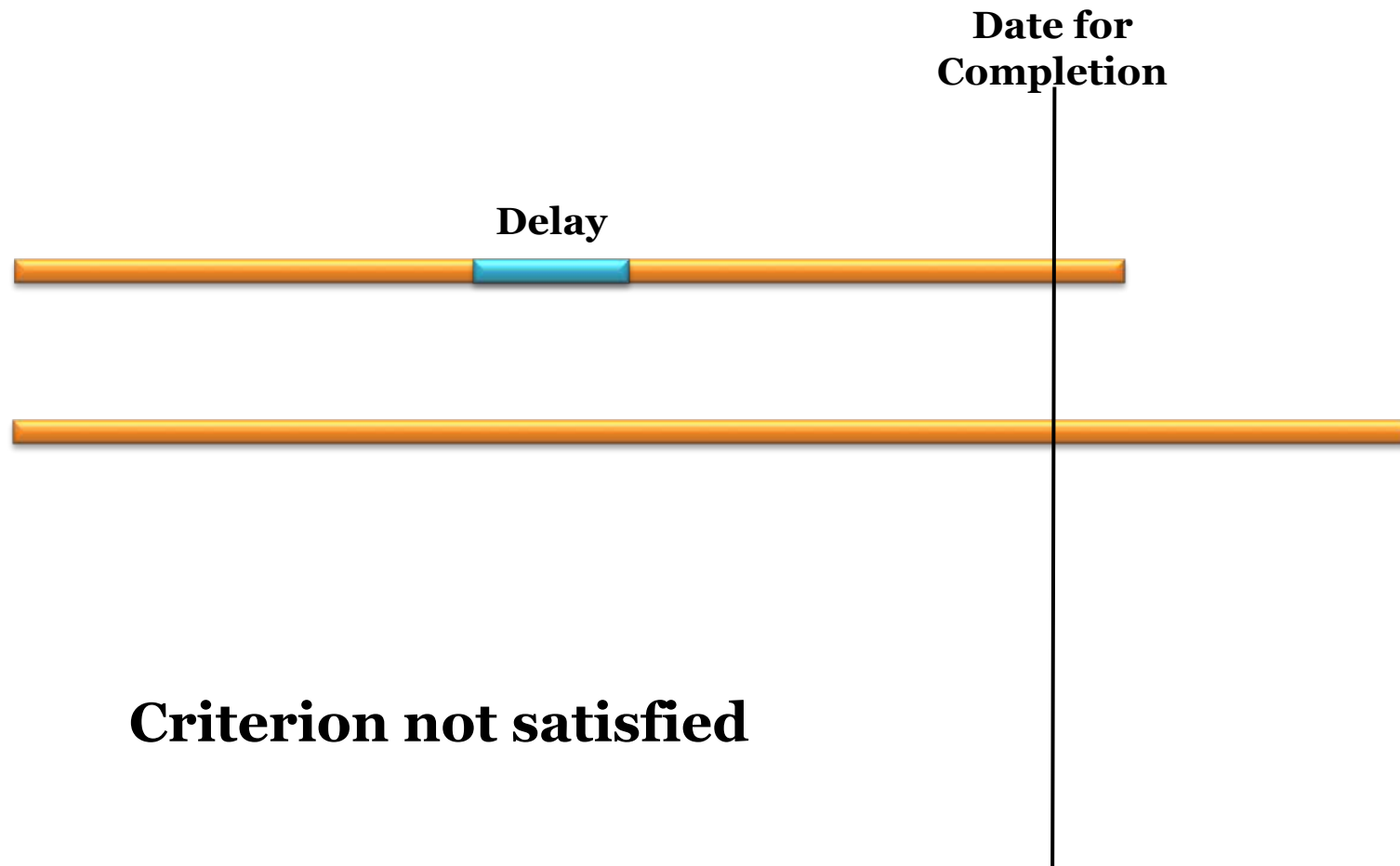


Schedules in Delay Analysis

- **No mention of Schedules in generic method.**
- **Schedules have no more significance than any other evidence, unless given significance by contract wording.**
- **Schedules are evidence of what was written in a Schedule, nothing more.**
- **Schedules cannot tell you what actually happened.**
- **Schedules are, at best, models.**

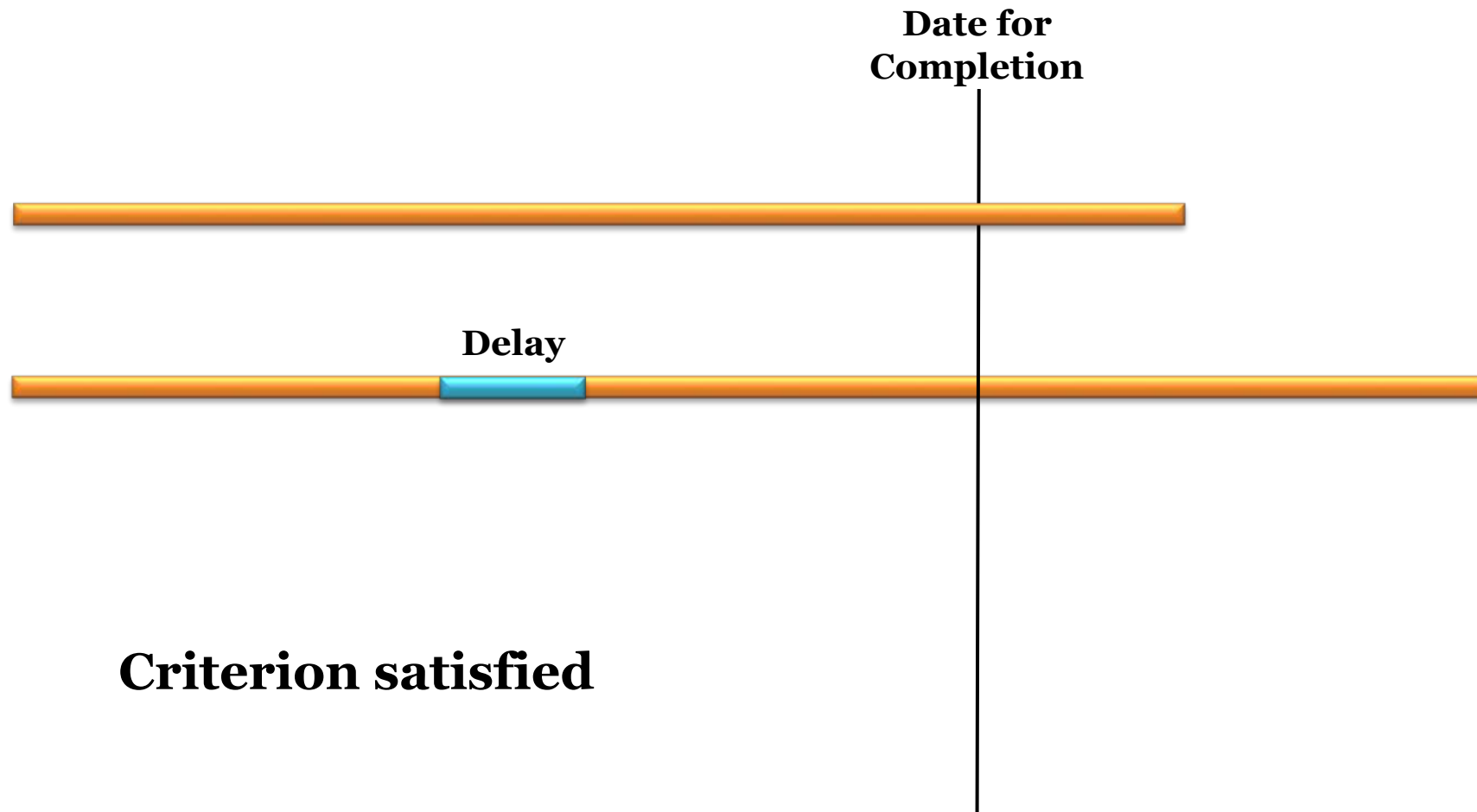
Effect of EOT terms on delay analysis

“If the Contractor is or will be delayed in reaching Practical Completion ... the Contractor shall be entitled to an extension of time”



Effect of EOT terms on delay analysis

“If the Contractor is or will be delayed in reaching Practical Completion ... the Contractor shall be entitled to an extension of time”



The effect of EOT terms

“If the Contractor is or will be delayed in reaching Practical Completion ... the Contractor shall be entitled to an extension of time.”

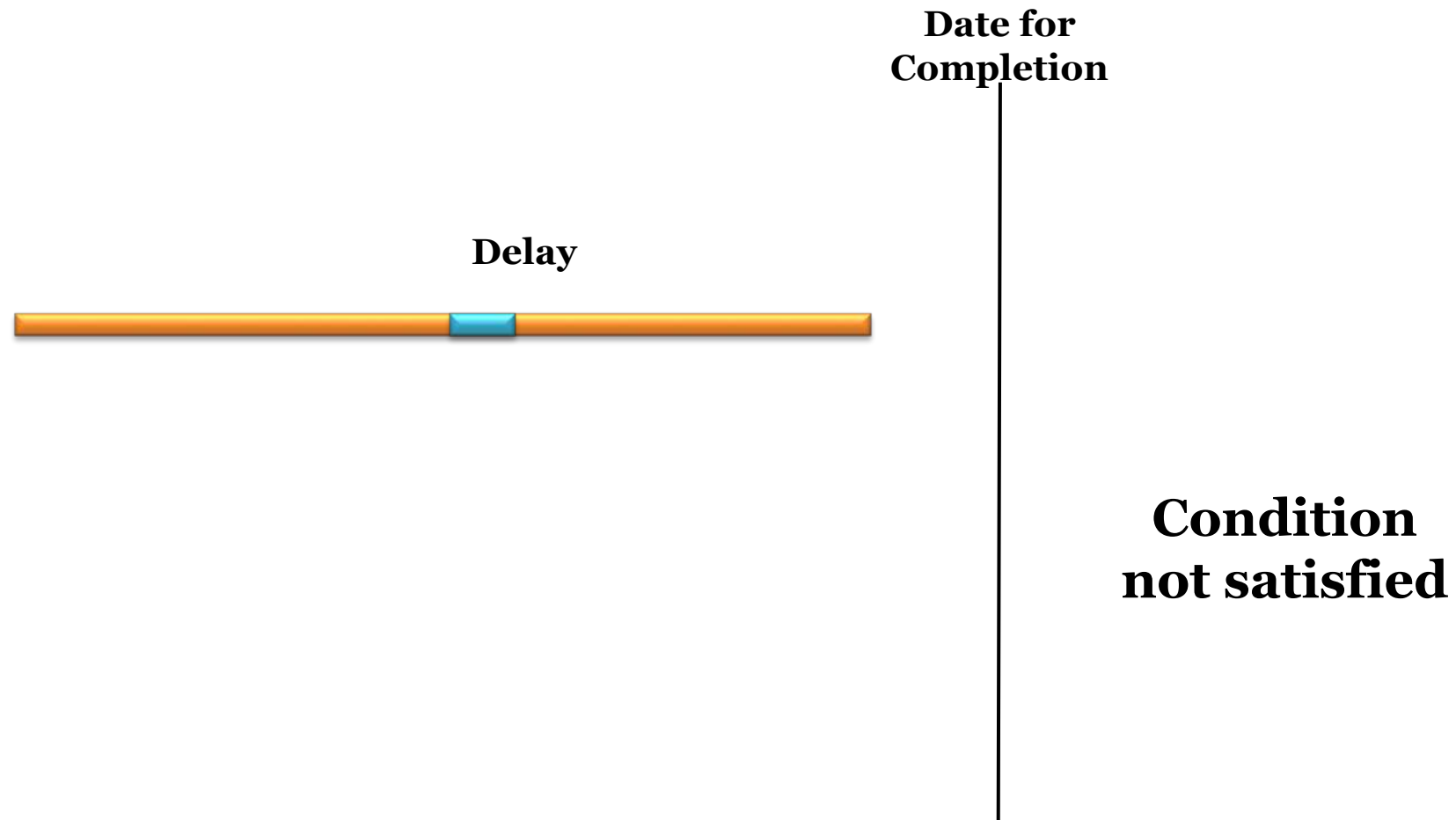
Effects:

EOT only if direct causation to completion.

Complication is that the date from which LD deduction can occur is often earlier than the earliest possible completion date.

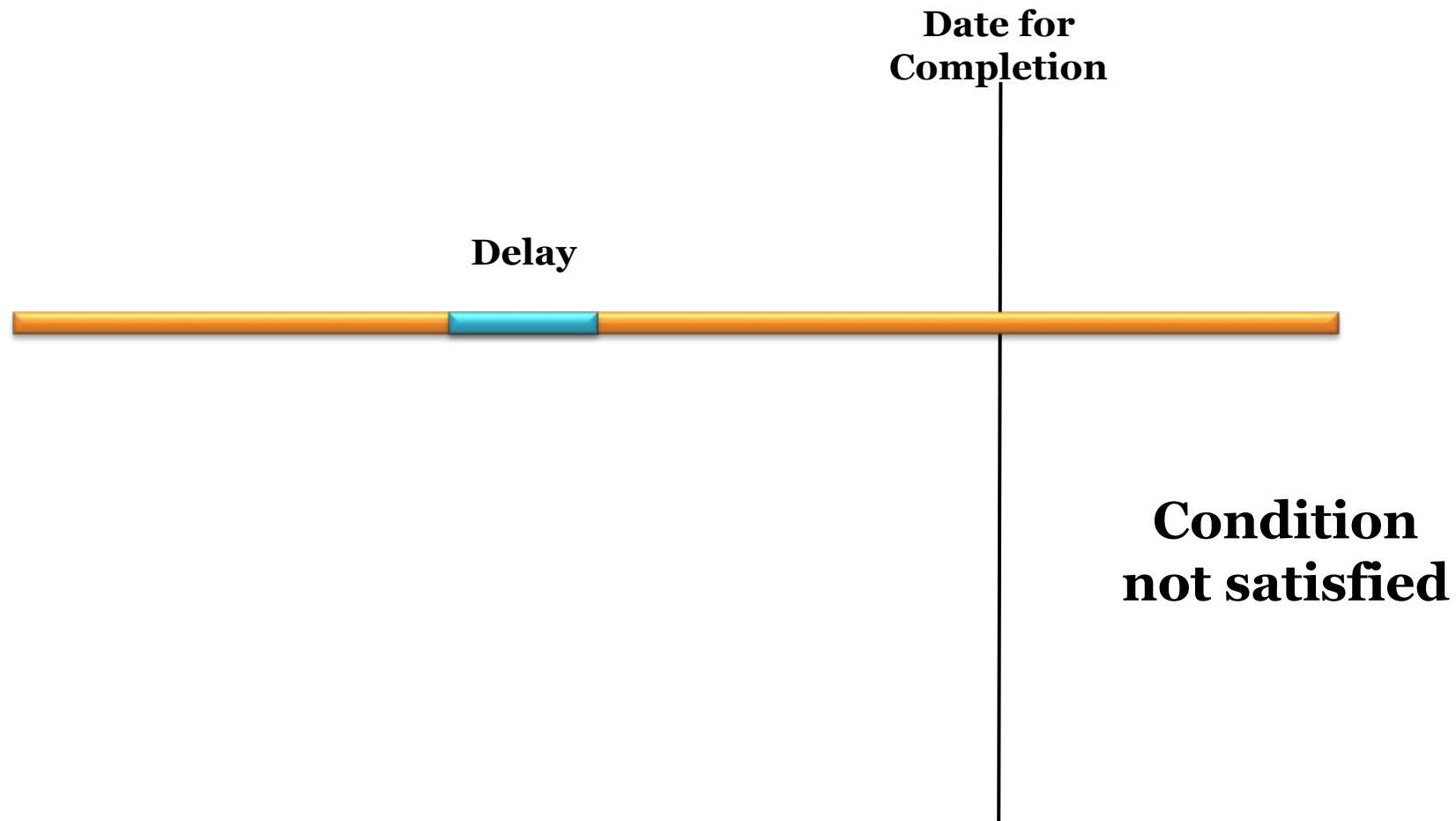
Effect of EOT terms on delay analysis

“If the Builder is, or is likely to be, delayed in achieving Completion ... by the relevant Date for Completion ...”



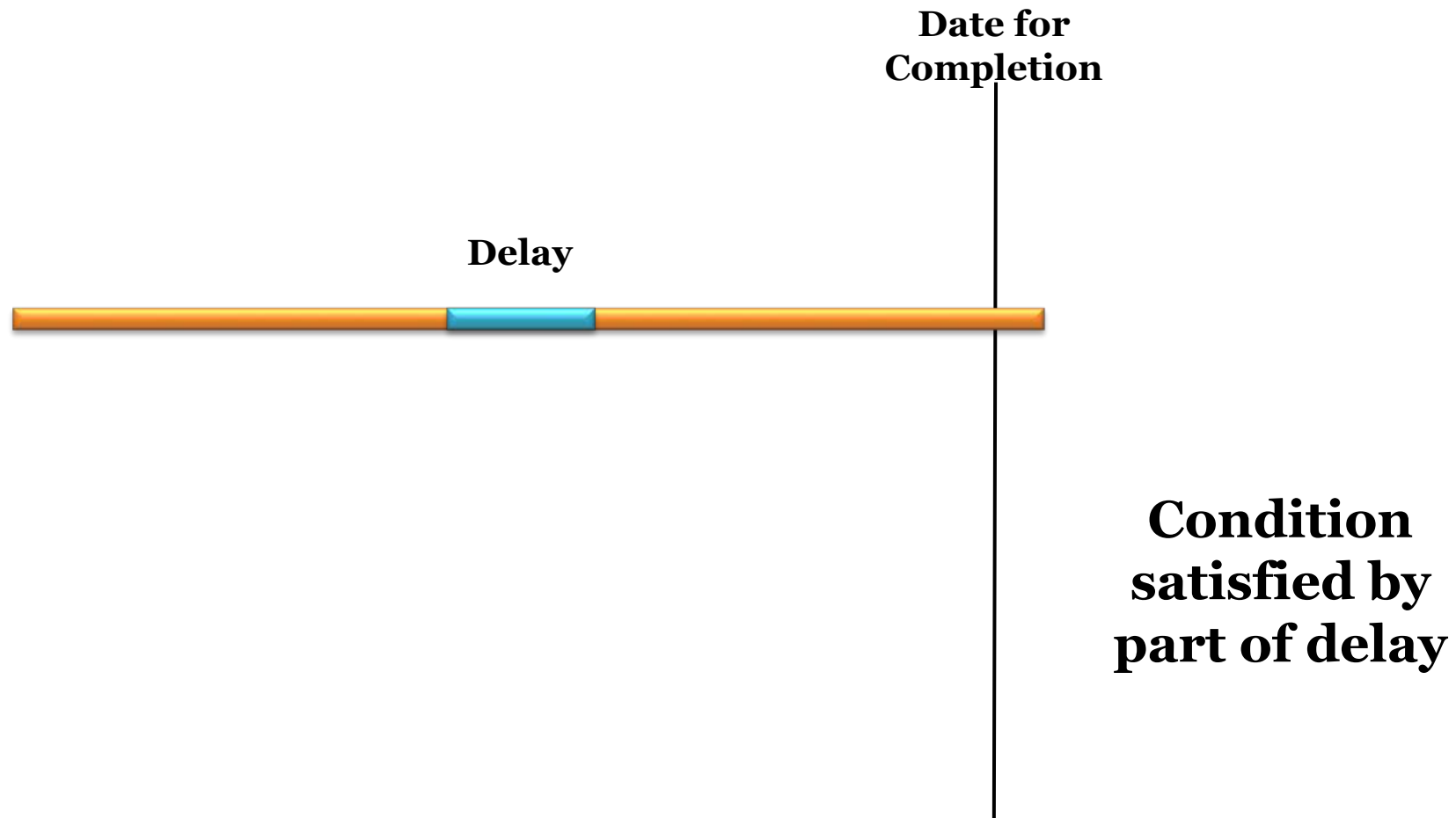
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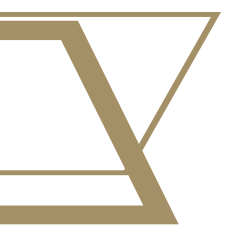
“If the Builder is, or is likely to be, delayed in achieving Completion ... by the relevant Date for Completion ...”



Effect of EOT terms on delay analysis

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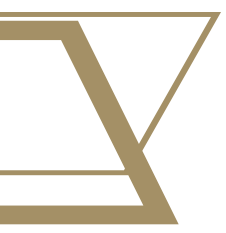


The Effect of EOT Terms

“If the Builder is, or is likely to be, delayed in achieving Completion ... by the relevant Date for Completion ...”

Effects:

- Contractor must hide contingency.
- Contractor cannot show target programs.
- Contractor cannot collaborate on time management.
- Contractor must continually adjust durations so that program completion coincides with Date for Completion.



The effect of EOT terms

“... Requirements for EOT entitlement ... delay is critical ...”

Effects:

Confusion.

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19 February 2019

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