



TECHNICAL PAPER

Choosing a Delay Analysis Method

Practical guidance on evidence, method selection and limitations

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Evidence connected.

Programme context preserved.

Professional judgement retained.

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Choosing a delay analysis method

Delay analysis should help people understand what delayed a project, how completion was affected, and what the evidence supports. A technically impressive analysis has limited value if the reader cannot follow the connection between the event, the affected work and the conclusion.

In our earlier article, we explained why there is no single method suitable for every project. That remains our starting point. This refresh takes the discussion a step further: how do we make the choice transparent, and how do we avoid asking a method to answer a question it cannot reliably resolve?

Our revised matrix is designed to support that conversation. Each method is paired with a useful application, an evidence requirement and a challenge to test before relying on the result.

Start with the question

Before opening the programme analysis software, complete this sentence:

“We need this analysis to establish...”

Are we assessing the likely effect of a new instruction? Investigating why a completed project finished late? Testing whether a proposed recovery measure can work? These are different tasks, even when they concern the same project.

Be specific about the completion date or milestone being examined. Delay to an activity does not necessarily delay the whole project. Equally, a project-wide completion date can conceal an important delay to a section or an intermediate obligation.

The scope should also identify the assessment date and the information available at that date. Otherwise, an analysis can drift between what was reasonably forecast at the time and what became known later.

Separate the programme finding from the claim

A delay analysis provides evidence about time. The next question is what that evidence means under the contract.

An extension of time, payment for prolongation and compensation for disrupted productivity are separate assessments. The SCL Protocol expressly distinguishes entitlement to time from entitlement to compensation. A favourable programme result does not resolve every element of a claim. [1]

For that reason, our revised matrix does not award a method a green light for “costs” or “disruption”. The useful question is what additional evidence and assessment are needed. Cost records, resource deployment, output measurements and contractual provisions cannot be replaced by a calculated movement in completion.

Check the records before choosing the model

A folder full of programme files is not the same as a reliable programme history.

We suggest preparing a short evidence register before committing to the method. Record what each file represents, its data date, whether it was issued or accepted, and whether the underlying progress can be checked. Keep the original files and distinguish subsequent corrections from contemporaneous information.

Investigate material changes between updates. A movement in forecast completion might reflect recorded progress, revised logic, changed calendars, new scope or a different assumption about remaining work. Those explanations should be visible to the reader.

Where records are incomplete, identify the consequence precisely. Which period cannot be reconstructed? Which activity date is disputed? What assumption bridges the gap? A general statement that the records are “poor” tells the client very little about the reliability of the conclusion.

Use the matrix to shortlist methods

The matrix on pages 7 and 8 covers seven practical approaches, including a simple overall comparison and more detailed observational and modelled analyses.

Impacted as-planned and time impact analysis remain useful distinctions from our original article: one inserts events into the baseline; the other models their effect from an updated project position. A later assessment must explain whether it is reconstructing a forecast or investigating actual outcomes. [2]

We have also separated time-slice windows from as-planned versus as-built windows, and added retrospective longest path. “Windows” alone does not sufficiently describe how the analysis works. These distinctions are addressed in the SCL Protocol’s discussion of methods. [1]

Treat each row as a candidate to investigate. Read across the evidence and challenge columns before selecting it. The matrix is our practical selection aid, not a scoring system or an endorsement by a professional body.

Test the explanation against the project

Consider an illustrative project where a late design release is followed by a shortage of installation labour. Inserting the design event into the original baseline may demonstrate a forecast effect. It does not, by itself, explain the final completion position after labour availability and the sequence of work changed.

The useful investigation asks what work could proceed, what prevented the next stage, and how those conditions changed. The answer needs to connect the programme to instructions, progress records and the work actually undertaken.

Competing explanations should receive the same scrutiny. Identify potential overlapping causes explicitly, explain their effects on the relevant completion path, and state the contractual and legal basis used to assess any concurrency issue. Do not let a colour in a matrix stand in for that reasoning.

Recovery deserves the same attention. If a forecast delay reduced, explain the evidence for resequencing, additional resources or improved progress. Do not assume that every improvement proves acceleration, or that the original forecast was necessarily wrong.

Make the choice proportionate and reviewable

We recommend a short method-selection note recording the question, available evidence, selected approach, alternatives considered and material limitations. Identify any record or finding that would cause the choice to be revisited.

Avoid a universal ranking for speed or cost. An apparently simple method can require substantial reconstruction; a more detailed analysis may be efficient when reliable records already exist. Estimate the work after sampling the evidence.

Similarly, negotiation, adjudication and arbitration should not be treated as automatic method selectors. The forum affects the presentation, timetable and scrutiny. The selected approach still needs a reasoned explanation tied to the particular project.

AACE's forensic schedule analysis framework separately addresses source validation and method implementation. That separation is a useful reminder to show how the evidence was checked as well as how it was analysed. [3]

Keep the conclusion simple

The final explanation should let the reader trace a clear route from source records to affected work, from affected work to completion, and from completion to the assessment being advanced.

Our original principle remains useful: keep the explanation as simple as the evidence allows. The improvement is to make the choices and limitations equally clear. A good matrix helps us ask better questions; a good analysis answers them with evidence.

How FPEP Enterprise can assist

FPEP Enterprise helps organise and review the project evidence that supports delay analysis. It brings source records, events and programme information together so the practitioner can investigate what happened, when it happened and how it relates to the work being assessed.

Users can search project records using exact words and controlled synonyms, review highlighted passages, and prepare source-linked chronologies, timelines and programme reports. These outputs help identify relevant correspondence, trace the sequence of events and examine the records supporting an assessment.

For method selection, this can help practitioners understand the available evidence and identify gaps requiring further investigation. During the analysis, it supports the connection between an event, the affected activities and the explanation presented in the report.

The accompanying Delay Analysis Method Explorer provides a separate learning aid for comparing methods, evidence requirements and limitations. Use FPEP to investigate the records behind the explorer's inputs: programme information, actual progress, controlling work and defined events. Record the source checks, assumptions and reasons supporting your choice in the selection note.

The explorer does not read FPEP case data or verify the adequacy of records. FPEP supports professional judgement: the practitioner remains responsible for validating programme information, selecting and applying the appropriate method, establishing the effect on completion, and assessing contractual entitlement. A search result or chronology does not, by itself, demonstrate critical delay.

References

1. Society of Construction Law, Delay and Disruption Protocol, second edition, February 2017, Guidance Part B, sections 11 and 12. [Official Protocol](#). This is guidance; the applicable contract and governing law remain relevant to the assessment.
2. Stephen Wright and Kevin Wishart, Keep it simple – An introduction to delay analysis, and companion Delay Analysis Matrix. [Original article](#) · [Original matrix](#).
3. AACE International, Recommended Practice 29R-03, Forensic Schedule Analysis, public sample, revision dated 25 April 2011, contents sections 2 and 3. [Official sample](#). Reference is to the publicly available sample, not a review of the full recommended practice.

Delay analysis selection matrix

Part 1 of 2 | Overall comparison, event modelling and time slices

Define the question, validate the evidence, then test the method. Read across each row; the entries are indicative applications, not scores or universal ratings.

Method and approach	Useful application	Evidence to establish	Test before relying	Main limitation
As-planned versus as-built Overall comparison	Explain the broad difference between planned and actual delivery.	Comparable scope and milestones; planned dates; verified actual dates.	Start with a readable chronology, then investigate the controlling work.	A date variance alone does not establish the cause of delay to completion.
Impacted as-planned Baseline event model	Explore the effect of defined events on the original plan.	A credible logic-linked baseline; evidenced event durations and links.	Test whether the original sequence still represents the issue being assessed.	Actual progress and later changes can make the baseline an unreliable explanation of actual delay.
Time impact analysis Updated event model	Assess an event's forecast effect from the relevant project position.	A validated update, or supportable update reconstruction; defined event inputs.	Fix the assessment date and distinguish information then available from hindsight.	A forecast impact is not automatically the eventual delay; insertion sequence and assumptions need testing.
Time-slice windows Analysis across updates	Investigate changing critical delay over successive periods.	A validated update series, or justified reconstruction; records explaining changes.	Reconcile progress effects with logic, scope and forecast revisions.	Unexplained changes between updates can be mistaken for delay caused by an event.

Apply to every method

Method names do not decide entitlement, cost recovery, disruption or concurrency. Explain the additional evidence and assessment required. Choose the approach for the project and question; do not rank methods by dispute forum.

Original editorial selection aid. Method terminology is informed by the original Iain Wishart article and SCL Protocol, Part B section 11. This is not an SCL or AACE matrix.

Delay analysis selection matrix

Part 2 of 2 | Factual windows, longest path and but-for modelling

Read with Part 1. The assessment date, available evidence and the question being asked govern the choice.

Method and approach	Useful application	Evidence to establish	Test before relying	Main limitation
As-planned versus as-built windows Factual period analysis	Investigate delay period by period where update models need support or are incomplete.	A planned reference; dated progress and event records; evidence of controlling work.	Explain why the selected work controlled completion within each window.	A persuasive chronology still needs a demonstrated connection to completion.
Retrospective longest path Analysis from actual completion	Examine the sequence governing the achieved completion date.	Verified as-built sequence and dependencies; planned reference dates.	Challenge the selected path against earlier periods and alternative sequences.	The path visible at completion may not explain every earlier change in criticality.
Collapsed as-built But-for event model	Test completion in a model with specified delay events removed.	A workable, evidenced as-built logic model; explicit event-removal rules.	Test reconstructed logic, removal order and the work that becomes controlling.	The result is sensitive to the counterfactual assumptions and remaining constraints.

Apply to every method

Document the assessment date, source checks, corrections and assumptions. Identify the sensitivity tests performed and the evidence that would cause the method or conclusion to be revisited.

Original editorial selection aid. Method terminology is informed by the original Iain Wishart article and SCL Protocol, Part B section 11. This is not an SCL or AACE matrix.