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NEXT SESSION

# THE LATEST IN SCHEDULE VISUALIZATION: THE 3D GANTT

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This session will be recorded.

University of Maryland
Project Management Symposium

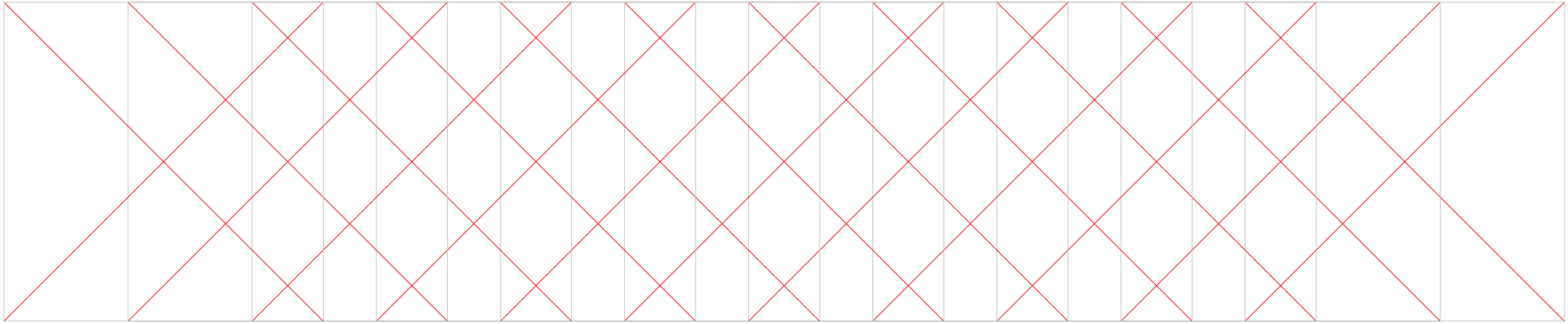
# Novel Approaches to Schedule Comparison and Forensic Delay Analysis: Discovering the 3D Gantt Chart

*Brian Leach, Steelray Software*

*2023 Project Management Symposium*

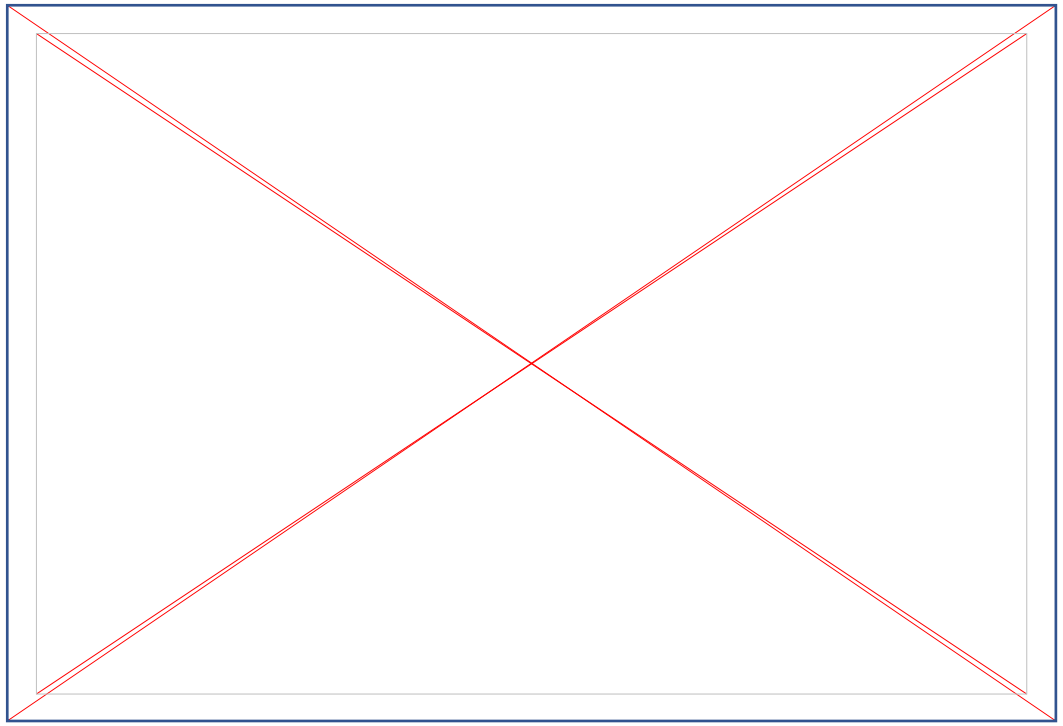
# Why A 3D Gantt?

Given a set of schedule updates, it is a superior method for visualizing, analyzing, and understanding how a schedule changed over time.

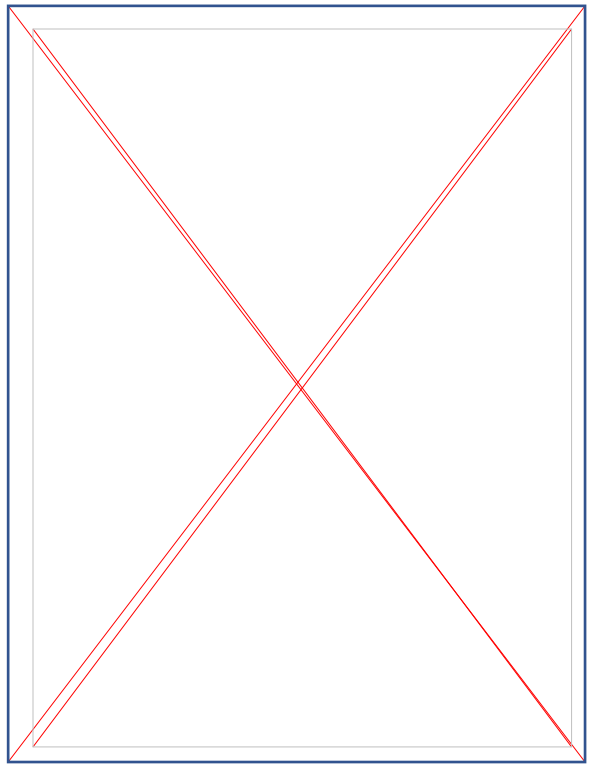


# A Common Scenario

After the conclusion of a construction project that experienced delays, the owner and the contractor have different explanations for the reasons behind the delays.



# Why Did the Finish Date Move?

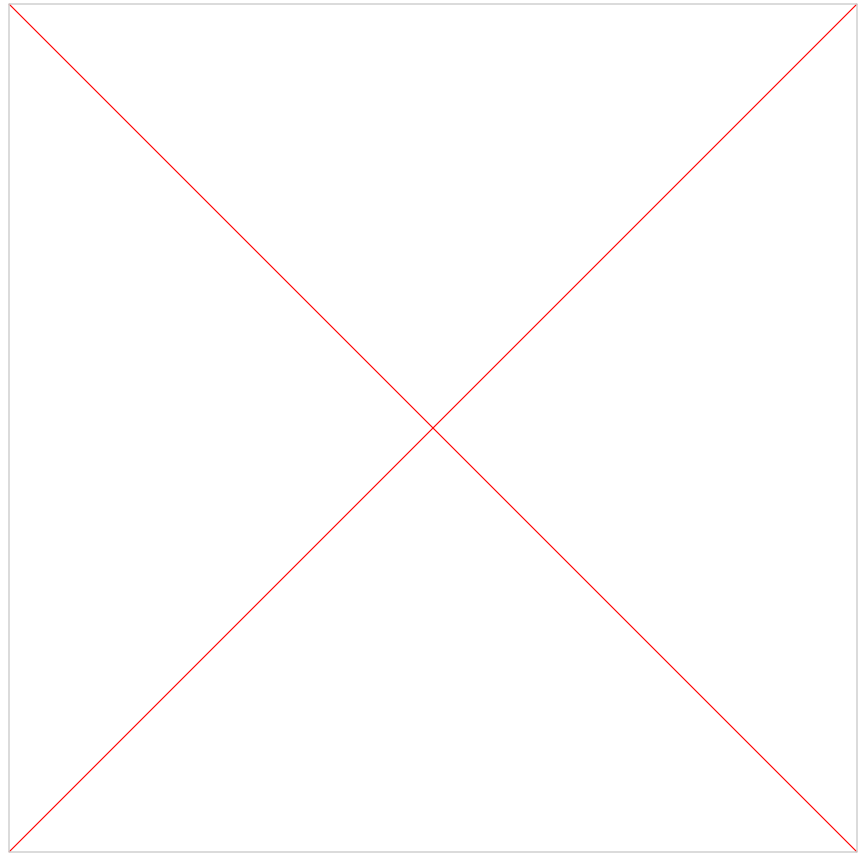


Forensic Schedule Analysis encompasses a set of methodologies that help answer this question.

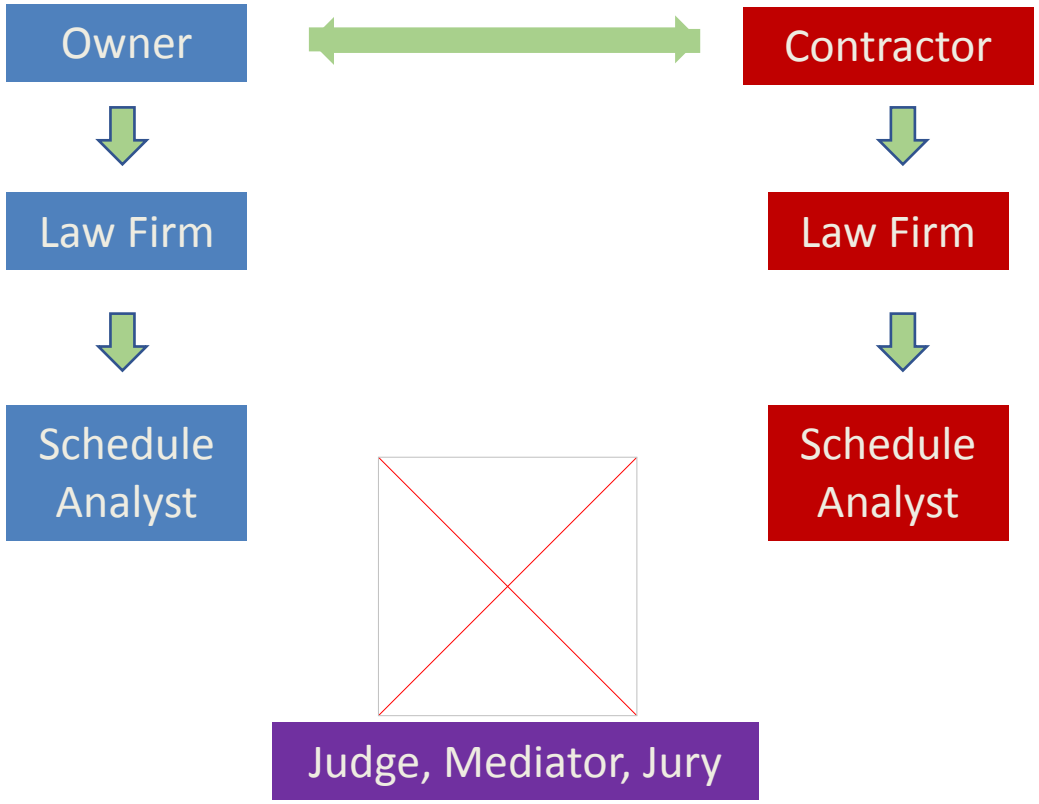
# The Economic Issue

Forensic schedule analysis is:

- difficult to perform
- time-consuming
- malleable (for bias)
- often not cost-effective



# Follow the Money




# Where do the courts go for guidance?

Different forensic schedule analysis methodologies can be employed to favor one side or the other.

A computer-assisted methodology must be:

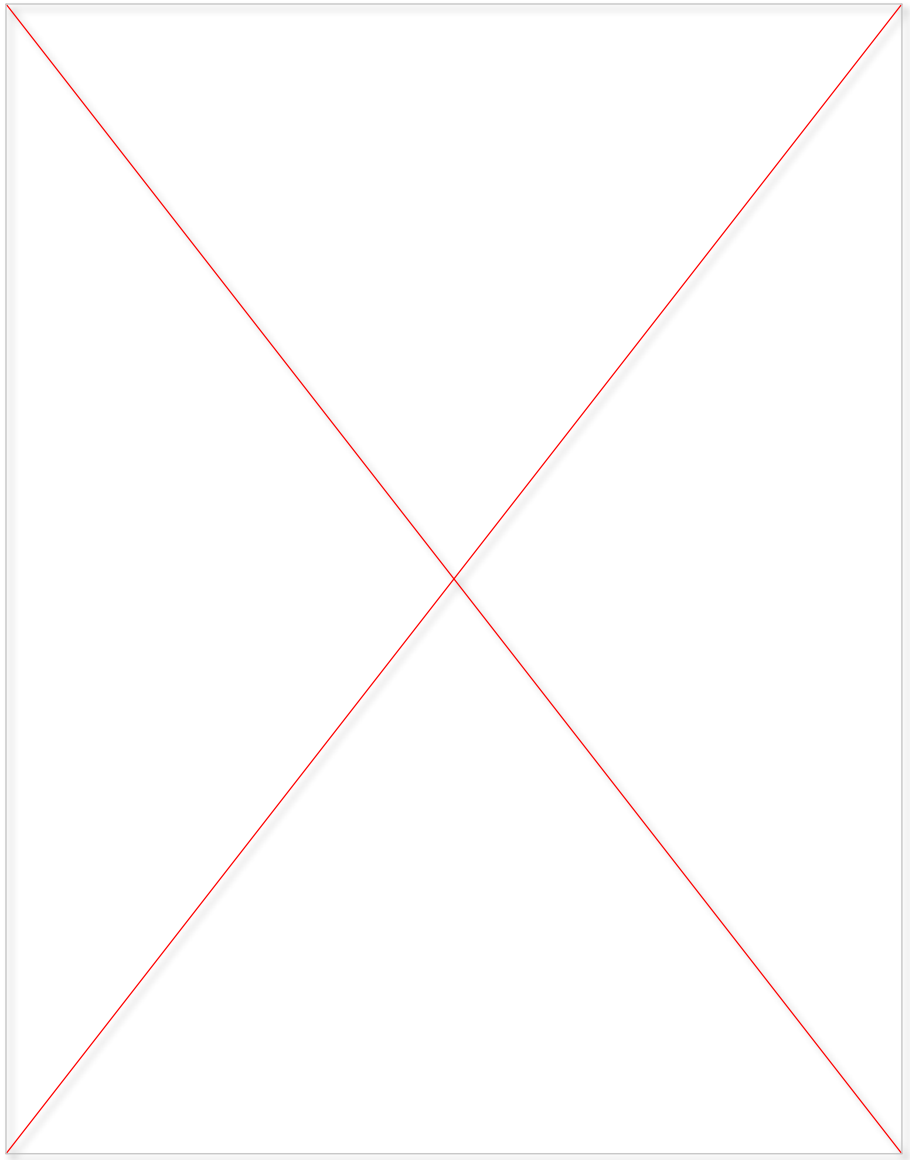
- well-defined
- objective
- accepted

# AACE RP 29R-03 – Forensic Schedule Analysis

- From the Association for the Advancement of Cost Engineering (AACE) International.
- We consider it to be the gold standard reference.
- We chose MIP 3.4: Retrospective / Observational / Dynamic / Contemporaneous Split (known as half-step analysis)
  - **Retrospective**: analysis after the delay has occurred and impacts are known.
  - **Observational**: examine the schedule without making changes to it.
  - **Dynamic**: compare logic variations from multiple schedule updates (as opposed to a single baseline).
  - **Contemporaneous Split**: examine schedule updates as they occurred but split the updates by work progress and non-progress revisions.

# Additional Research

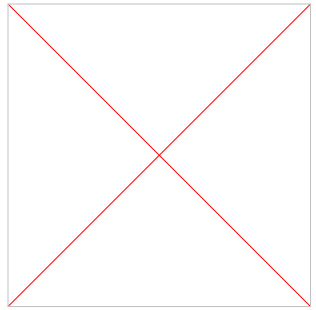
We collaborated with several of the authors of AACE Recommended Practices and incorporated their suggestions, ideas, and feedback.



# Research on Industry Solutions

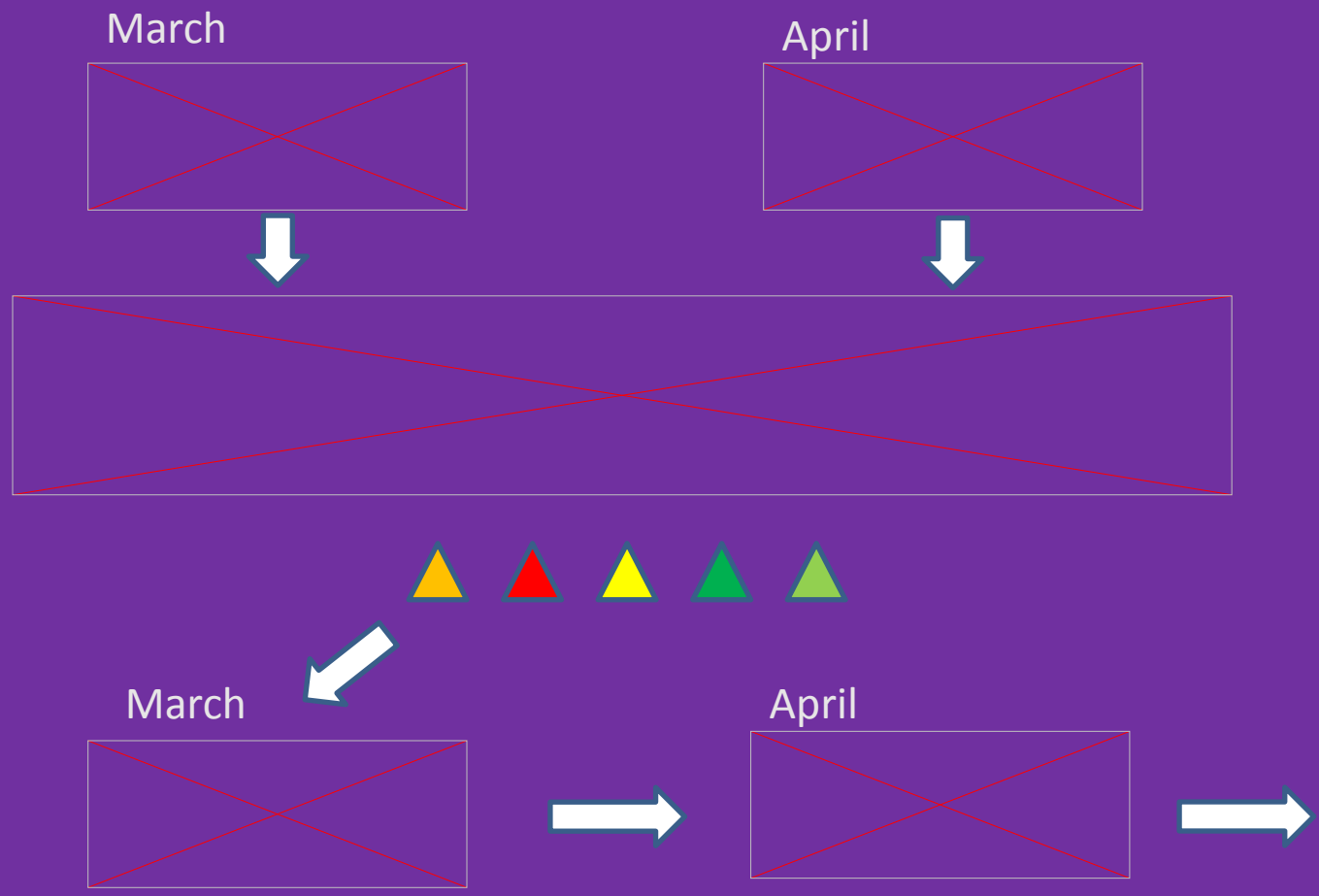
- We didn't begin with a 3D Gantt in mind.
- We began by looking at tools like Claim Digger, Acumen Fuse, and our own Project Analyzer.
- Our goal: **find a better method for understanding how changes in a schedule impacted the project finish date and the critical path**.
- We envisioned designing a tool that could provide considerably more assistance than existing tools.

# A Necessary Caveat



The accuracy and quality of the analysis is AT BEST only as good as the accuracy and quality of the data.

# Technology Building Blocks




| Change | Impact |
|---|---|
| ▲ | +8d |
| ▲ | +2d |

# The 3 Components of Computed Delay Analysis

comparison engine

critical path engine

delay analysis engine

0 in 2018

2 in 2023: Steelray, SmartPM

# Comparing: Change is Difficult

Think about the ways a schedule can change that can impact the finish date . . .

## Performance Changes

Early and delayed starts
Out of sequence starts and finishes
Early and delayed finishes

## Schedule Revisions

Adding and removing activities
Adding and removing logic
Changing the relationship type
Activity type changes
Adding, removing, changing constraints
Calendar changes
Revised remaining durations (unstarted)

# (Demo)

# Thank You

EVALUATE SESSION

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