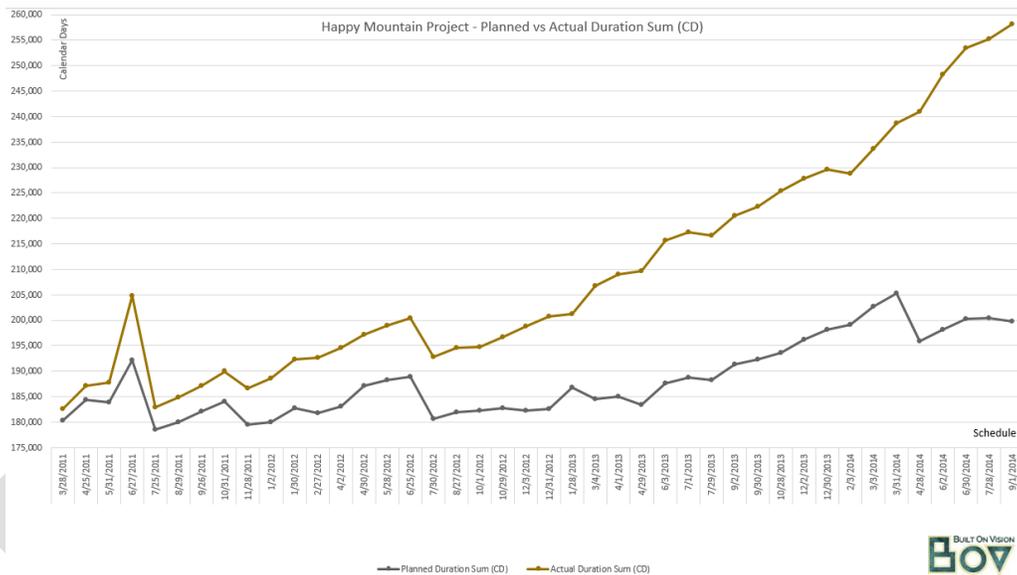


## Plotted Planned and Actual Duration Sum As Powerful Forensics Indicators

By Farid Saddik

The entire set of activities in a project schedule is presumed to capture the entire contract work scope. The duration sum is an aggregated metric of the total number of work-days required to complete the entire contract scope of work. I cannot emphasize enough that each of the numbers from a single schedule by itself is not meaningful. It is not to be confused with contract duration, critical path, or longest path. But when you plot a collection of snapshots representing a baseline and periodic updates of the baseline, you see a powerful indicator. When you contrast the plotted Planned (Original) Duration Sum (PDS) line against the plotted Actual Duration Sum (ADS) line, you may be able to identify likely schedule analysis paths and more.



The graph above shows the planned duration sum and the actual duration sum from the baseline schedule and from available schedule updates (Courtesy Built On Vision).

There are three indicators this particular graph tracks:

1. The Planned Duration Sum plotted line by itself (not in relationship with the ADS),
2. The Actual Duration Sum plotted line by itself (not in relationship with the PDS, and
3. The Planned vs Actual Duration Sum contrast.

**An increase in the Planned Duration Sum by itself is an indication of one or more of the following:**

- a) Corrections for missed scope,
- b) Correction for misestimated scope durations,
- c) Added scope, and
- d) Changed scope.

Of course any or any combination of those would likely impact your work, and would potentially indicate scope instability (particularly when you see an increase followed by a decrease).

**An increase in the Actual Duration Sum by itself is an indication of one or more of the following:**

- a) Mis-estimated scope original durations,
- b) Missed scope that ends up getting added or combined with existing scopes without corresponding original duration or duration increases,
- c) Disruptions and suspensions to own work or to preceding trade work, and
- d) Delays to own work or to preceding trade work.

Any or any combination of those would likely impact your work, and would potentially indicate one or more of the following:

- a) Scope instability, typically resulting from design or requirement changes,
- b) Poor planning, typically causing unnecessary concurrency, crowding, and inefficiencies,
- c) Poor execution, typically resulting in inefficient operations that take longer to complete,
- d) External events that disrupt work,
- e) External events that delay work, and
- f) Preceding trades delays.

A divergence between the ADS line and the PDS line, with the ADS line greater than that of the PDS is an indication of the issues listed above continuing without being remedied. Even with projects that start with the issues outlined above, one generally sees a “tapering-off” with the ADS stabilizing as more of the project activities are progressed with actual dates.

Other useful derivative indicators, such as plotting the number-of-activities-normalized PDS and ADS lines.

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