

Why TIA?

Using Time Impact Analyses to Make Better Project Decisions

By Michael Siburt, PE, CCM, PRMP, PSP, CCP
Andrea Dunn, CCM, PSP

For years, we've wanted to write a blog about the use of TIA. Who should perform them? What should be (or not be) modeled in them? When should they be performed? And where should the argument over the results take place? We even had a catchy title to use… "To TIA, or Not to TIA, that is the Question." But that isn't really the question, is it? The question we should be asking is, "Why are we doing a TIA in the first place?"

Before we answer the "Why," let's back up for a moment. "TIA" stands for Time Impact Analysis and is a method for quantifying the impact of a change on the project's schedule, helping project teams evaluate options and make informed decisions. In a broad sense, TIA can be used to describe dozens of ways potential schedule impacts are modeled and analyzed on a project. In many situations, a TIA is a widely understood and frequently specified method for prospectively modeling potential delays for use in time extension requests. For these situations, a fragnet (a fragment of a schedule) is created to represent an impact. This fragnet is inserted into an unimpacted schedule just before the impact starts (usually in a periodic update). The forecasted completion date of the impacted schedule is compared with that of the unimpacted schedule. Any later forecasted date is interpreted as delay due to the alleged impact. In instances where everyone agrees on the entitlement and quantum of the delay, a modification is issued quickly, and everyone goes about their business. However, in other instances, the review process can be protracted and fraught with arguments from both sides over how the TIA was performed and its results.

This brings us back to Why. Impacts happen on every project. No one can argue that point. But everyone can and does argue about every detail surrounding that impact and the TIA describing it. Project teams can lose sight of the true purpose and value of TIAs in successfully managing a project and navigating inevitable change. Timely TIAs, when approached from this broader perspective, can be an essential tool to support governance and decision-making, change management, and risk management.

Let's look at some examples:

ENHANCED GOVERNANCE AND DECISION MAKING

TIAs offer critical information to project leadership at all levels, from the field to the front office. They provide insight into the potential cascading effects of changes on an entire project and all of its stakeholders. It can drive decision-making not only about quantifying the change but also about any needed project realignment or revisiting of project objectives.

When armed with timely-submitted TIAs, project leadership can consider multiple courses of action. For example:

- Determine if the change needs to be made prior to Substantial Completion or can perhaps be deferred as a "Day 2" change.
- Discuss possible means of overcoming the time impact, for example through additional crews, extended shifts, alternate manufacturers, etc., and the associated cost implications.
- Assess the impact of the change on the timing and availability of project funding or on planned revenue dates.
- Examine any implications of the change on follow-on work, to include third-party contractors installing specialty systems, FF&E installation, move-ins.

EXPANDED RISK MANAGEMENT

The TIA can further serve as a catalyst in a risk workshop. It offers a framework for the project team to evaluate the risks and opportunities associated with the change. It can also be used to model potential mitigation strategies proactively. For projects where quantitative risk analysis is used, it is possible to evaluate the implications of the change for the modeled schedule confidence and contingency. TIAs serve as valuable launching points for expanded risk management.

DISCIPLINED CHANGE MANAGEMENT

TIAs can serve as valuable information to consider before moving forward with a change. Before project teams agree to incorporate changes, they should understand not only the direct cost of the changes but also the additional time and time-related costs. Good change management protocols leverage timely TIA information to throttle and control change.

TIAS GUIDE DESIGNERS AND BUILDERS TOO

A TIA does not always have to stem from an owner-driven directive or change order. Design and construction teams constantly face situations where materials are late, a trade contractor cannot meet the planned schedule, or other issues arise on an active construction site. Like the owner, a TIA can serve as a decision-making tool benefiting the designers and builders in many ways:

- Provide valuable information on where additional crews may be needed to maintain the current planned schedule.
- Provide insight into the need for any resequencing work needed to align with available materials and crews.
- Shed light on larger changes that need to be made, such as choosing new materials or changing selected trade contractors, which can prompt discussions with the owner.

Thinking back to our original blog title idea, "To TIA, or not to TIA?", we know the answer to that question is still, "Yes." The value of TIAs extends far beyond just calculating days of delay associated with a single change. They are critical data points that drive collaboration, risk mitigation, change control, and, ultimately, decisions that improve project outcomes. So, why do you TIA?

Visit this blog on our website here.