

THE PLANNING FALLACY AND ITS EFFECT ON REALISTIC PROJECT SCHEDULES

By Jeffrey A. Valdahl and Shannon A. Katt, PMA Consultants

“How long do you think that task will take?” It’s a question that is asked frequently during the course of a project, but is often answered with little or no factual basis. Project team members typically underestimate the time needed to complete a task they are responsible for. This tendency has been referred to as the “Planning Fallacy,” and it can have a dramatic effect on developing a realistic overall project schedule.

As a project manager or planner, it’s important to recognize when these psychological effects are impacting your project schedule. Identifying where adjustments need to be made at both the task and overall project level is essential in developing a project schedule that is both achievable and reasonable.

The Planning Fallacy Defined

The Planning Fallacy concept was first used by Daniel Kahneman and Amos Tversky to describe the tendency to underestimate the time needed to complete a given task. More importantly, they found that this underestimation happens even when people have previous experience in performing similar tasks. Kahneman states that the Planning Fallacy describes plans and forecasts that:

- Are unrealistically close to best-case scenarios
- Could be improved by consulting the statistics of similar cases [7].

Recognizing the Planning Fallacy

A savvy project manager or planner will recognize when their project team is becoming aggressive in their activity duration estimates. Often, recognition happens when activity sequences or project phases appear to be forced into time frames established by top-down planning techniques. In other cases, an unrealistic project schedule is the output of a collaborative planning session driven by a few influential team members. These situations need to be recognized during the planning process and then offset with challenges to the basis of optimistic durations. Frequently, the person questioning the validity of the planned schedule is not very popular with the rest of the group [1].

The following sections describe project schedule planning situations that often promote Planning Fallacy effects. Identifying when these occur is a key to offsetting them and to developing a more realistic overall project schedule.

The Project Planning Environment

When project schedules are developed in a group environment, gathering project team members in a conference room to walk through their assigned tasks in the context of the entire project is a common approach. Various tools are used to plan the project, from sticky notes to specialized software that facilitates a group collaboration effort. A project plan and schedule that the full project team “buys into” are the measure of success.

Unfortunately, research suggests that this group planning environment often exacerbates Planning Fallacy issues. Group predictions tend to be more optimistic than those set by an individual. Researchers have described this group accentuation effect as a result of dynamics between team members during the planning process. Even though individual members can act as observers to other members’ tasks, any impartiality tends to be overshadowed by being an active participant and stakeholder to the entire group’s optimism [3].

To examine various group planning scenarios that lead to the Planning Fallacy and overly optimistic project schedules, we’ll visit a planning meeting for the fictitious YYZ Plant Expansion Project.

Schedule Anchors

YYZ Engineering Manager: “So our current engineering schedule shows that all detailed drawings will be issued by the end of April.”

YYZ Project Sponsor: “Wait. In the approved funding document we said that we would have engineering done four months earlier in December.”

YYZ Project Manager: “Yeah, but we added more equipment scope and are still waiting on

vendor drawings, so that’s adding time to engineering.”

YYZ Project Director: “Well, we originally told the Board the end of December for engineering completion. Unless you two want to stand in front of them and explain why we can’t make it, we need to make it happen.”

Specific dates tend to establish themselves in project stakeholders’ minds. Research in this area suggests that when quantities and overall scope of a project are still not established, people are still relatively comfortable in estimating a project’s completion date [10]. These initial estimates, even though often without a firm basis, are often “anchored” to the project and to its stakeholders going forward.

Even when new information or additional scope suggests that the completion date should be extended, stakeholders often are anchored to the original date and are reluctant to change [8]. If the original anchored date is based on a biased prediction, any adjustments made to reflect specific project information will usually still result in an unreasonable revised date [12].

continued on page 5

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SEE PAGE 4

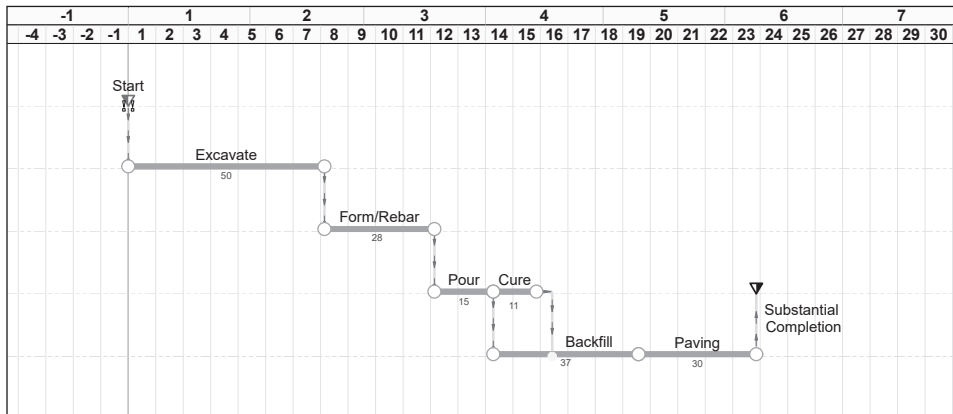


Figure 1 - Example Schedule with Ordinal Dates



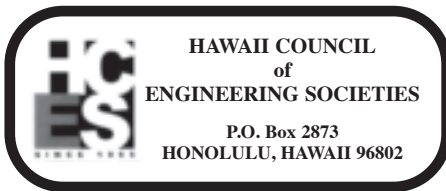
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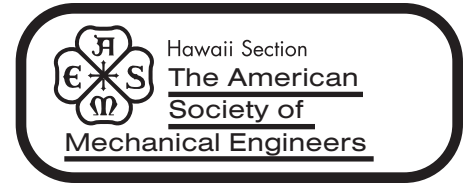
A MESSAGE FROM THE ACEC HAWAII PRESIDENT

by Sean K. Sugai, P.E.

July 1 marked the start of our 2018-2019 fiscal year and my term as President of ACEC Hawaii. For the past year, under the leadership of Jeff Kalani, our organization continued its work in building value for our membership. Continued legislation at the local and national levels as well as a new leadership program were a few of the highlights that were accomplished under Jeff's leadership. Great job Jeff! Now, it is with extreme privilege and honor that I am afforded the opportunity to carry the torch forward and build on the work of all of our past leaders.

With the support of ACEC Hawaii's Board of Directors, committees and staff, we will continue advocating for the business interests of our member firms, continue hosting member events with distinguished speakers, conduct professional development sessions, and provide special networking opportunities. Our organization is only as strong as the membership that belong to it and we encourage all of our members to get the most out of their memberships by getting more involved. Contact me or anyone on the Board if you would like to make suggestions, requests, or find your best fit within the organization. If your firm is not a member of ACEC Hawaii, please contact me or visit our website at www.acechawaii.org for more information.

President Chad Kadokawa welcomed everyone to the ITE Annual Hawaii Section meeting at the Plaza Club held on June 13th. Garret Matsunami from Castle & Cooke Homes Hawaii, Inc. was introduced and spoke on the development plans in the state. Cathy Leong, Western ITE District Past-President, then announced and swore in the new 2018-2019 ITE Hawaii Section Officers listed above.



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NEXT ASME-HAWAII PROFESSIONAL GENERAL MEETING

Date: To be announced.
Time: usually from 5:30 pm to 7:00 pm
Place: Johnson Controls, 420 Waiakamilo Road
Agenda: To be determined.

As usual, all members and guests are invited and encouraged to attend our meetings. There are always lots of complimentary refreshments. Please contact Chairman Froilan Garma for directions and for more information, such as parking.

WRAP UP OF THE 2018 MATHCOUNTS COMPETITIONS

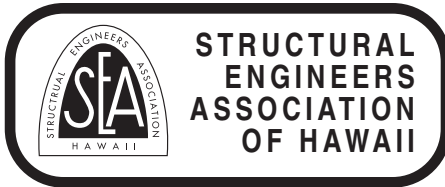
The 35th Annual Hawaii State MATHCOUNTS Competition was held March 10, when the top eight teams from the Hawaii Island, Maui, and Oahu Chapters competed to see who would represent Hawaii at the National Competition. After the scores were added and the Countdown Round completed, the Hawaii MATHCOUNTS Team included Taylor Ann Agena of Highlands Intermediate School, Jared Lo of Punahou School, Minjae Seo and Felicity Zhou of Washington Middle School. They competed in the May 12-15, 2018 Raytheon MATHCOUNTS National Competition with their Coach Sung Park of Washington Middle School.

On Monday, May 14, the Countdown Round was webcast live on ESPN. The host was Wil Wheaton of The Big Bang Theory fame. This round determined the National Champion, and history was made when Luke Robitaille of Texas became the first Mathlete to repeat as National Champion. In second place was another Texas Mathlete, Andrew Cai.

Annually MATHCOUNTS shares the top 25% of individual competitors and the top 50% of teams with the general public. The top 56 students are ranked and listed, and the top 23 teams are ranked and listed. For 2018, the first three teams listed are Texas, California, and New Jersey, in that order. The lists are found on the MATHCOUNTS website. Unfortunately, Hawaii and its team members are not on these lists.

Hawaii MATHCOUNTS is sponsored by The Hawaii Society of Professional Engineers (HSPE) and the Hawaiian Electric Company.





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PREVIOUS BOD MEETING

June 13, 2018

General Membership Meetings/Technical Seminars/Events

For all events see seaoh.org or look for an email flyer for registration.

- July's Programming Event is scheduled to be



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<http://hawchapter.cmaa.org>

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CMAA Hawai'i Chapter News:

Aloha CMAA Hawai'i! On Thursday, June 21st the CMAA Hawai'i Chapter held its Pau Hana at Taps & Apps. Members and friends located in the West and Central side found this to be convenient and appreciated the change. Information regarding our next speaker lunch in July will be shared via email. As shared in the past, our chapter is here as a resource for all Construction Engineering and Management professionals, and the things that we do benefit not only our CM community but our larger Ohana as well.

If you have any questions regarding any of our upcoming events, would like to join our Ohana and become more involved with the CMAA Hawai'i Chapter or would simply like to be added to our email list, please email us at hawaii.cmaa@gmail.com, or at our mailing address; CMAA Hawai'i, PO Box 531, Honolulu, HI 96809

Looking for a CCM? The current listing for all Hawai'i CCMs can be found here: <https://cmaanet.org/certified-construction-managers-registry>. Safety always.

a general membership meeting with a webinar. A recent survey was emailed to all active members inquiring about the webinar topic and possible meeting times. Please check your email and respond to the survey. You may contact the SEAHO Secretary on the seaoh.org website if you are not receiving emailed surveys.

- August's Programming Event may be an ATC-20 training seminar in the middle of the month depending upon interest received from the survey mentioned above.

2018 SEAHO Convention

The convention has been scheduled for September 14-15 at Aulani. Please check the events section on the seaoh.org website for the convention save-the-date form. Speakers are currently being finalized and a program agenda will be available soon. A block of hotel rooms have been reserved at Aulani for the convention, so book soon!!

2018 SEAHO Scholarship Golf Tournament

The golf tournament has been scheduled for Friday, October 19, 2018 at Hoakalei Country Club. The tournament is the main source of revenue for the SEAHO college scholarships that are given every year. This year, SEAHO is planning to award four \$3,000 college scholarships, with one scholarship being reserved for a student who may not be pursuing a structural engineering degree. Please check the events section on the seaoh.org website for information on the scholarship application.

Next Meeting on July 3, 2018. For information, contact SEAHO President; Jeoffrey Cudiamat jcudiamat@structuralhawaii.com



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AACE HAWAII SECTION NEWS

15 members and guests assembled for lunch at the office of J. Uno & Associates in April to view the webinar, "The Planning fallacy an its Effect on Realistic Project Schedules" presented by Mr Jeffrey Valdahl and Ms Shannon A. Katt. This 2015 webinar brought to light the many ways in which we consciously and unconsciously place our own biases on the planning process which leads many times to the creation of unrealistic schedules. New Member Anas Nasr, PE, PSP joined us and won the Door Prize!

The Hawaii Visitor Industry Charity Walk.

For 40 years, the Hawaii Lodging & Tourism Authority has sponsored the Hawaii Visitor Industry Charity Walk which raises money for local non profit organizations. This year, the Hawaii Section members, family and guests participated, joining over 5,000 other walkers in this community activity. The Hawaii Section donated \$500 to the event!

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email: jurabe@ascehawaiiymf.org

EXECUTIVE COMMITTEE MEETING

Last held: Friday, June 1, 2018
 Next meeting: July 5, 2018

INFRASTRUCTURE REPORT CARD

The Committee is convening a third report card call-in with National resources. The agenda includes review of progress to date, recent report cards (such as Idaho's), and Alaska's report card video presentation. The Committee is coordinating with various agencies for data gathering efforts and has set preliminary meetings to discuss the objectives and field any questions and/or concerns. Additional volunteers are welcome -- if you would like to participate, please contact Lara Karamatsu, lkaramatsu@ascehawaii.org.

CONTINUING EDUCATION

Please visit <http://www.ascehawaii.org/links.html> and click on ASCE National for complete details.

July Lunch Meeting – Big Island (Hilo)

Date: July 17, 2018
 Location: Hilo Yacht Club; 11 AM Social Time, 11:30 AM Lunch, 12:15 PM Program
 Speaker: Engineering Division, Department of Public Works, County of Hawaii

Inside look at the Impacts from the Kilauea Eruption and the Kapoho Lava Flows – Get an inside perspective from the County of Hawaii and their experiences in dealing with this event being talked about around the world. Hear how they are dealing with this emergency and impacts to the county's infrastructure and roads.

ASCE Elections

Voting for ASCE Elections closed on June 1, 2018. Hawaii's own Tony C.G. Lau of NAVFAC was elected Region 8 Director. Congratulations to Tony who will continue to serve ASCE and the engineering community through his Directorship.

2018 ASCE Walter Lum Scholarship

Applications are now closed for the 2018 scholarships. Hawaii Section is reviewing the applications and should be notifying the successful candidates soon. There will be up to two awards of up to \$3000 each.

2019 MRLC

Hawaii Section's Younger Member Forum will be hosting the 2019 Western Multi-Region Leadership Conference on March 7-9, 2019 at the Hilton Hawaiian Village. Attendance is anticipated to attract approximately 400 attendees from Regions 8 & 9 and Society leaders.

If interested in assisting, please contact Conference Co-chairs Norman and Amanda at yfm.hawaii@gmail.com.

Committee Positions

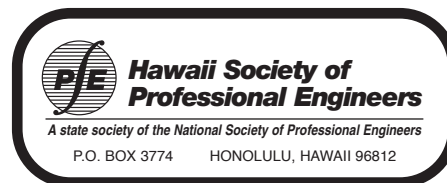
ASCE Hawaii is looking for volunteers to fill the following committee positions: History & Heritage Chair, Advocacy Captain, Student Practitioner Advisor and Report Card Committee members. If you are interested or have questions on any of these positions, please contact President Lara Karamatsu, lkaramatsu@ascehawaii.org.

Dream Big DVDs

A big MAHALO goes out to all who have been very generous in the Dream Big DVD Drive! ASCE has met our initial goal of raising money to provide a DVD to all middle schools in the State and has now expanded our goal to provide a DVD to each elementary school in the State. If interested in making a donation for the Hawaii elementary schools to receive a Dream Big DVD (\$5 each), please contact Lara Karamatsu, lkaramatsu@ascehawaii.org.

Membership

If you haven't already done so, please renew your ASCE membership. You can renew your membership at www.asce.org.



<http://www.hawaiispe.org/>

HSPE Officers for 2018-19

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mlum@bowersandkubota.com

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MujTravel@aol.com

House of Delegates: Mike Silva
mike@femaui.com
 Irina Constantinescu
IConstantinescu@BrwnCald.com

Secretary: Kurt Kunimune
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HSPE had its installation banquet at the Harbor Restaurant in Honolulu on June 9, 2018. The guest of honor was Mr. Mike Aitken, incoming NSPE President.



From left to right: Mike Silva, House of Delegates; Sara Doi, President Elect; Mike Aitken, incoming NSPE President; Mike Lum, President; Kurt Kunimune, Treasurer; Majella Stevenson, Vice President; Mike Kamaka, Past President.



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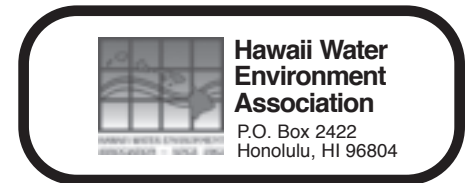
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Norman Leong, Past President
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YMF General Meeting

The next YMF general meeting is scheduled for Wednesday, July 11th, 2018 at 6:00 pm at Aloha Beer Company (Kakaako). If you are interested in attending and learning more about the various professional, social and service opportunities available through YMF, please contact YMF at yfm.hawaii@gmail.com.



www.HWEA.org

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NEXT EXECUTIVE COMMITTEE MEETING

July 19, 2018, 11:30am, Sand Island WWTP

NEXT QUARTERLY LUNCHEON MEETING

Program: Class A biosolids production via anaerobic digestion and drying

Date: Wednesday, July 18, 2018

Location: Dave & Busters Honolulu

Time: 11:30 a.m. – Check In

11:45 a.m. - Lunch

12:15 p.m. - Program

1:00 p.m. - Adjourn

Menu: Buffet

Cost: \$20.00 for HWEA Members

\$10.00 for Students

Please make checks payable to: HWEA and mail to Hawaii water Environment Association c/o Puna Kaneakua, AECOM, 1001 Bishop Street, Suite 1600, Honolulu, HI 96813. Reservations for the luncheon meeting to Puna Kaneakua by Monday, July 16, 2018, by phone at 521-3051, fax at 524-0246 or email at puna.kaneakua@aecom.com.

THE PLANNING FALLACY continued from page 1

More Project Planning Environment Scenarios addressed in the full paper are as follows:

- Project Team Optimism Bias
- Team Member Egos
- Power Bias
- Short Memory
- Task Unpacking

Combating the Planning Fallacy

The Planning Fallacy is a real psychological phenomenon that requires a focused effort to offset its effect. Discussed here are a few of the many suggested options for making that happen.

Ordinal Dates

Project team members have a tendency to fixate on a calendar date, often anchoring to it, as discussed previously. They have predisposed ideas of when they expect to perform various phases of the project and will adjust durations to make that happen even if those durations conflict with reality. This is particularly common when activities are weather-sensitive and the desire is to perform that work during the summer months. To combat this tendency, it is often useful to set the calendar strip of the schedule to ordinal number dates as depicted in Figure 1.

Additional Combating Elements available in the full article:

- Inside vs. Outside View and High-Level Sanity Check
- The Pre-Mortem
- Resource Overpromising/Awareness
- "Risky" Schedules
- The Coach's Challenge
- Less Collaborative Planning?

Summary

The Planning Fallacy is a tangible influence that can lead to planned schedules that are doomed to fail even before a project starts. Optimistic and often biased estimates of individual activity durations can combine to produce a schedule that severely underestimates the total time needed to complete a project. The planning approach, especially in a group environment, can often exacerbate the Inside View taken by a project team when proposing an overly aggressive schedule.

Planning Fallacy research shows that other

factors, such as memory bias, power influence, egos, group optimism, and level of detail can play a major role during schedule development. An effective project manager or planner will recognize these effects and take steps to mitigate their impact on the schedule. Techniques like ordinal dates, a Pre-Mortem, the Coach's Challenge, and risk-adjusted schedules can often be used to offset unrealistically short schedule durations. Effective project teams welcome an Outside View of their plan and use comparative data to validate and provide a solid basis for their schedule.

An examination of the Planning Fallacy might suggest that the ultimate solution is to simply extend planned schedules out so that they reflect an overly conservative estimate of the project's duration. In the project world, however, this approach is simply not viable. Projects should be planned to complete in a sensible amount of time, including contingency. Recognizing and overcoming potential Planning Fallacy issues during development will produce better project schedules that are both achievable and reasonable.

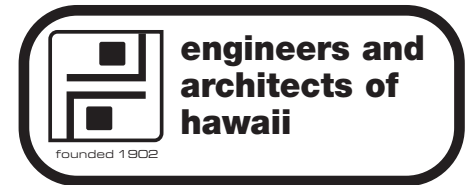
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(Note: This article is a condensed paper presented at the AACE International Conference and Expo in 2015. The full paper and webinar is available on AACE's Virtual Library by searching for "PS.1971" <https://web.aacei.org/resources/publications/downloads/>).

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EAH's new meeting location is Room 301 in the Topa Tower (Ewa tower on Fort Street; Old AMFAC Building). Validated parking is available (enter from Nimitz). The WEB site has been updated to provide directions and a Map. If you have questions please call Sam Gillie (543-4739).

Meetings are held every Friday (except Holidays). Meetings start at NOON and have ended PROMPTLY at 1:00 pm for 70 Years.

Program schedule may be adjusted. Call Sam Gillie to confirm speaker 543-4739; Fax 203-1335.

Lunch is \$10.00 Members, \$12.00 Guests. (All Welcome), Students Free. Drink refreshments are complimentary. You may bring your own lunches, in which case a \$2.00 donation is gratefully appreciated!!

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