AUTODESK UNIVERSITY

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Plan with Everyone: See into the Future of Digitized Work Planning

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Autodesk

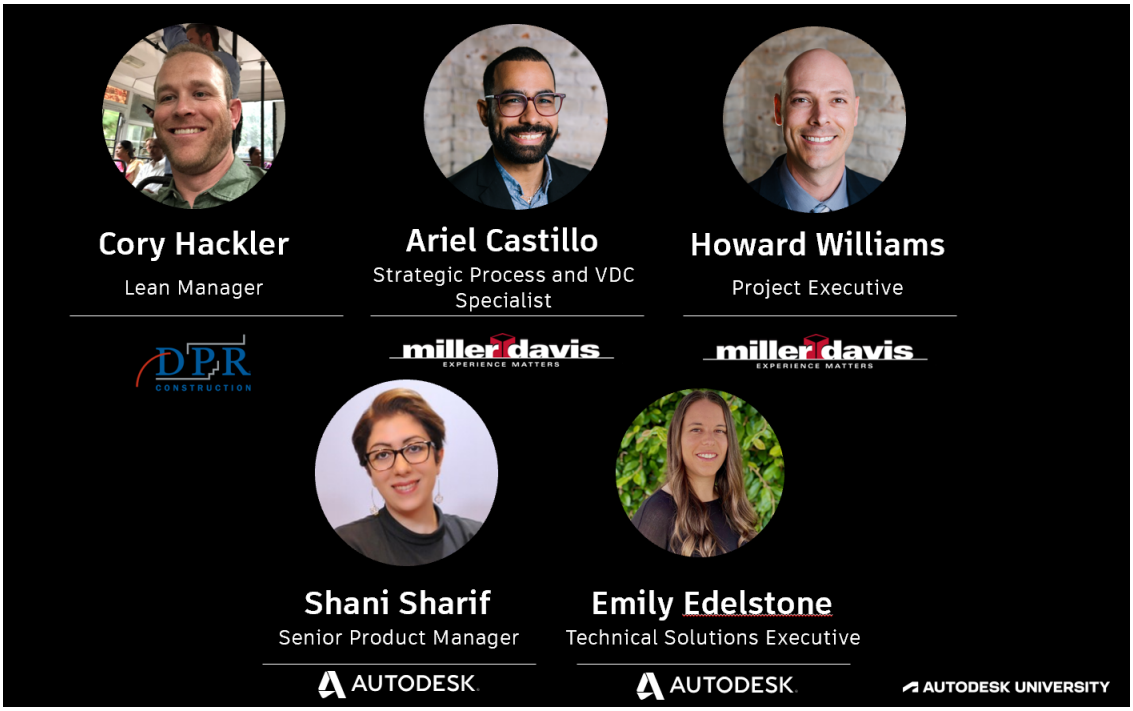
Learning Objectives

- Learn why lean construction is a continuous improvement journey.
- Learn how leading contractors are preparing their project teams for success by digitizing their short-term plans.
- Learn how to track commitments, roadblocks, and performance to mitigate project risks.
- Learn how teams can run collaborative sessions both in-person and remote with Work Plan in Autodesk Build

Description

In this era of tight margins and high costs, no one can afford workers standing around doing nothing on site due to mismanaged schedules or incomplete prior work. Collaborative planning and other lean construction principles promise contractors the ability to improve productivity so they can deliver projects successfully within budget and on schedule. In this session, you'll hear about lessons learned from leading construction companies that have adopted lean for more than a decade. DPR Construction will share how, over the years, it has digitized its schedules and implemented digital work-planning tools. As part of the early beta users of the new Work Plan tool in Autodesk Build software, DPR will share experiences and provide insights into what worked well, and we'll cover future opportunities for even more enhanced productivity through collaborative work planning. The Autodesk Work Plan product team will be on hand to moderate the discussion, demonstrate product functionality, and share road-map initiatives.

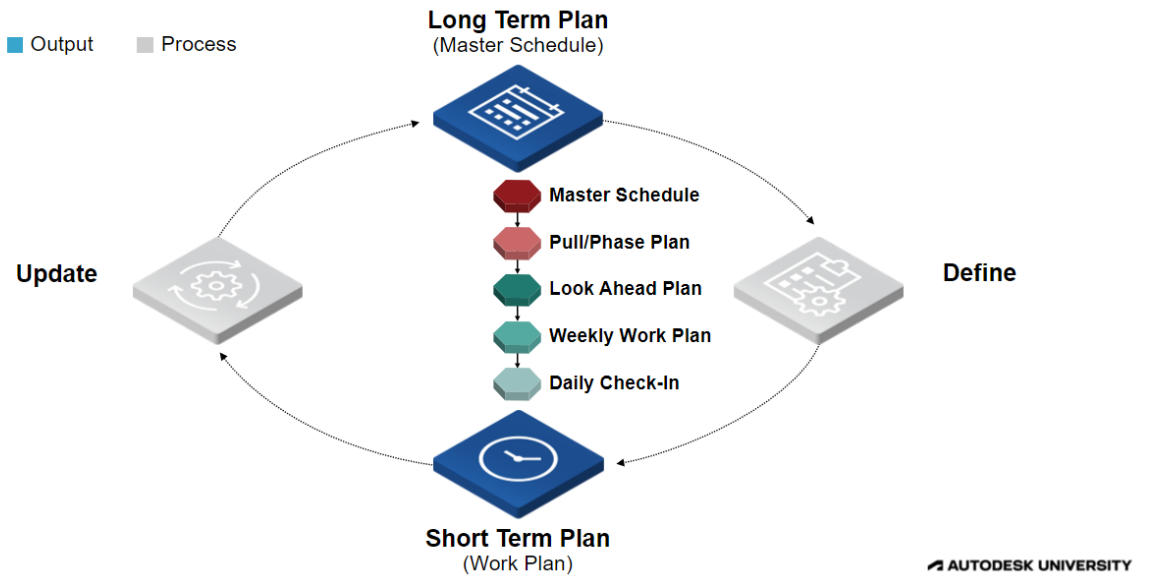
Speaker(s)



- **Shani Sharif** is a Computational Design and Digital Fabrication expert. She currently is Sr. Product Manager for Work Plan at **Autodesk** Construction Solutions and also serves as an AEC advisor on the Robotics and 3D Printing for Construction research teams. Shani holds a Ph.D. degree in Architecture (Design Computation) from Georgia Tech, a SMArchS degree in Computation from MIT, a Master of Architecture from Shahid Beheshti University, and a Bachelor of Architecture from the University of Tehran. Before joining Autodesk, Shani was a researcher at Georgia Tech's Digital Building Lab and MIT Media Lab, where she was engaged in BIM-focused projects such as developing the Masonry Unit Database for the BIM for Masonry initiative. She also initiated and taught Robotic Fabrication courses at Georgia Tech and Complex Geometries at Wentworth Institute of Technology. Shani is a scientific reviewer for journals such as Automation in Construction and Construction Robotics.
- **Emily Edelstone** is a Technical Solutions Executive with almost 10 years of experience in construction in Southern California. She has worked in project management, the field, and preconstruction. In addition, she has experience working at both large general contractors and a structural concrete contractor. Some notable projects that she has worked on include Netflix Hollywood HQ, Illumina i3 Campus, Palisade at Westfield UTC, SDSU Aztec Stadium, and IQHQ RaDD. Her love of construction technology brought her to **Autodesk**. Emily holds a master's degree in Construction Engineering and Management from the University of Southern California and is currently an engineer-in-training. She is a big USC football fan and loves to attend as many games in person as possible. She currently resides in beautiful San Diego.

- **Cory Hackler** is an advocate and educator for Lean at **DPR Construction**. Cory became an advocate early on in his career, working in the field as a superintendent. Cory has worked for a few different GCs and used the PDCA cycle of improvement on each of his projects. Cory has evolved with the industry and is now solely focused on improving Lean delivery at DPR. Cory's focus at DPR is sharing this journey and improvements and working with project teams to bring fun and quality work-life balance back into the industry. As jobs staffs start to decrease and owner requirements increase, how can we maintain and manage the crazy firefighting we often reward as a superintendent's job? How can we change our mindsets to reward better planning as the result of using lean principles and quality planning in its place? Cory has published multiple papers on the topic of educating organizations on Lean Construction and the never-ending continuous improvement mindset.
- **Ariel Castillo** is the strategic process and VDC specialist at **Miller-Davis Company**. Working in the industry since 2010, he has become a reference in the Latin America region. His focus is on promoting and utilizing emerging technologies to create new experiences that allow companies to maximize resources, whether they are designing, building, maintaining, or selling a project. Ariel has proven his expertise by working on high-demand construction jobs, implementing new technologies, and incorporating new project delivery processes in multimillion-dollar projects. He also creates BIM content for the industry through his BIMnomad Newsletter and podcast, Shared Coordinates. Ariel was recently featured in 40 Under 40: Construction Champions of 2019.
- **Howard Williams** is a Project Executive at **Miller-Davis Company**. Howard has been with Miller-Davis for 5 years, moving up from Project Manager to Project Executive during that time. In his current role as Executive, Howard oversee multiple project teams helping to oversee the project and ensure the project stays within budget and on schedule. Howard also oversees the Bond Programs for two different school districts, managing the total bond for funds available and project scope, working with the Owner team and design team to keep the bond on the scope and within statutory limits. Prior to his time with Miller-Davis, Howard was a Project Manager and Owner Representative for the State of Colorado Department of Military Affairs for 10 years. During this time, Howard worked with the State of Colorado's Army National Guard and the National Guard Bureau (NGB) to build and maintain facilities for our States National Guard, managing funds from Federal sources and ensuring funds were legally spent with proper oversight and maintaining project scope, milestones, and schedule for all construction projects. Howard's background is in Architecture, with a degree in Environmental Design / Architecture from the University of Colorado. Howard also has a CM-Lean certification as well as NCARB credentials.

Understanding Long-term Master Scheduling and Short-term Work Planning



Base Definitions

Master Schedule: Defined before the start of construction, identifies major milestones that helps gauge the pace and completion time of a project at a high level. The master schedule should summarize the project at a high level; it should not contain all the production planning details.

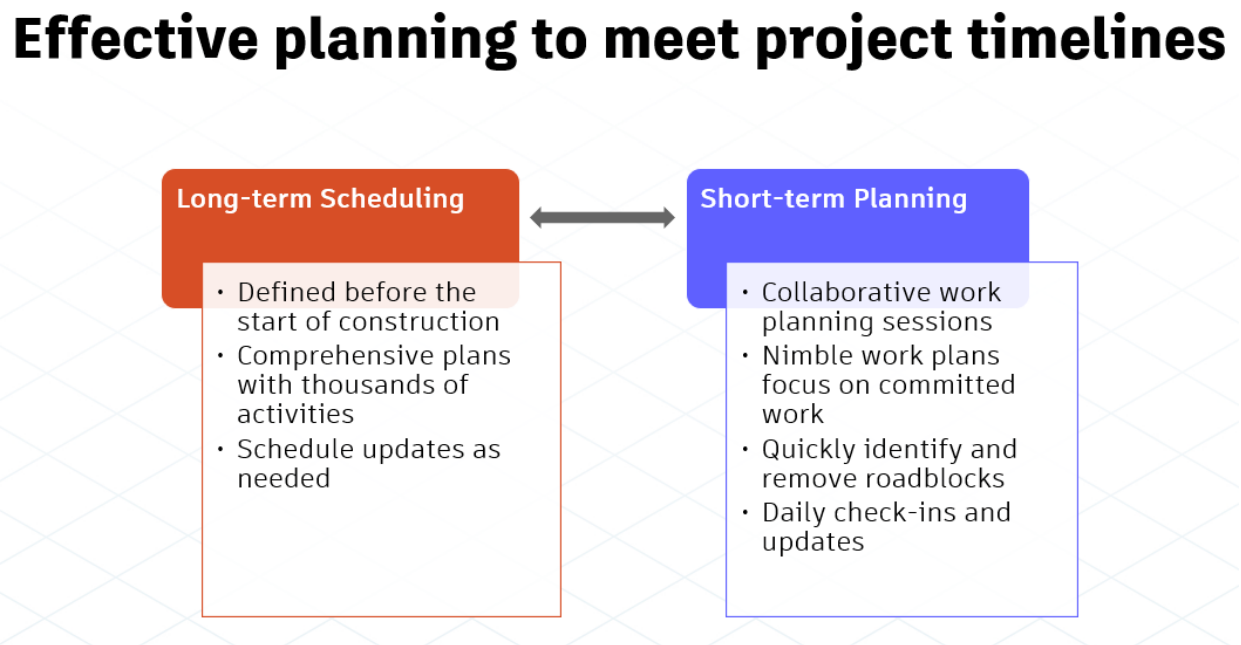
Short-term Planning: Collaborative work planning sessions focused on commitments, roadblocks, daily check-ins, and updates.

Milestones: Completion dates for each of the major project phases. They are identified in the master schedule. A milestone is a task with zero duration that marks a significant achievement in a project. Milestones are used to monitor progress and determine if a project is on schedule.

Pull/Phase Planning: determining the sequence of work that must occur to achieve the milestones in the master schedule. It usually consists of 6-8 weeks of work. You work backward to develop the most efficient sequence of work.

Weekly Work Plan: The weekly work plan, created by the last planners each week, is the most reliable commitment to what will be done during the following week. Only work that can be accomplished in the designated time frame is put into this plan.

Planned Percent Complete (PPC): A primary measure of how well the planning system works – calculated as the number of assignments completed on the day stated divided by the total number of assignments made for the day.



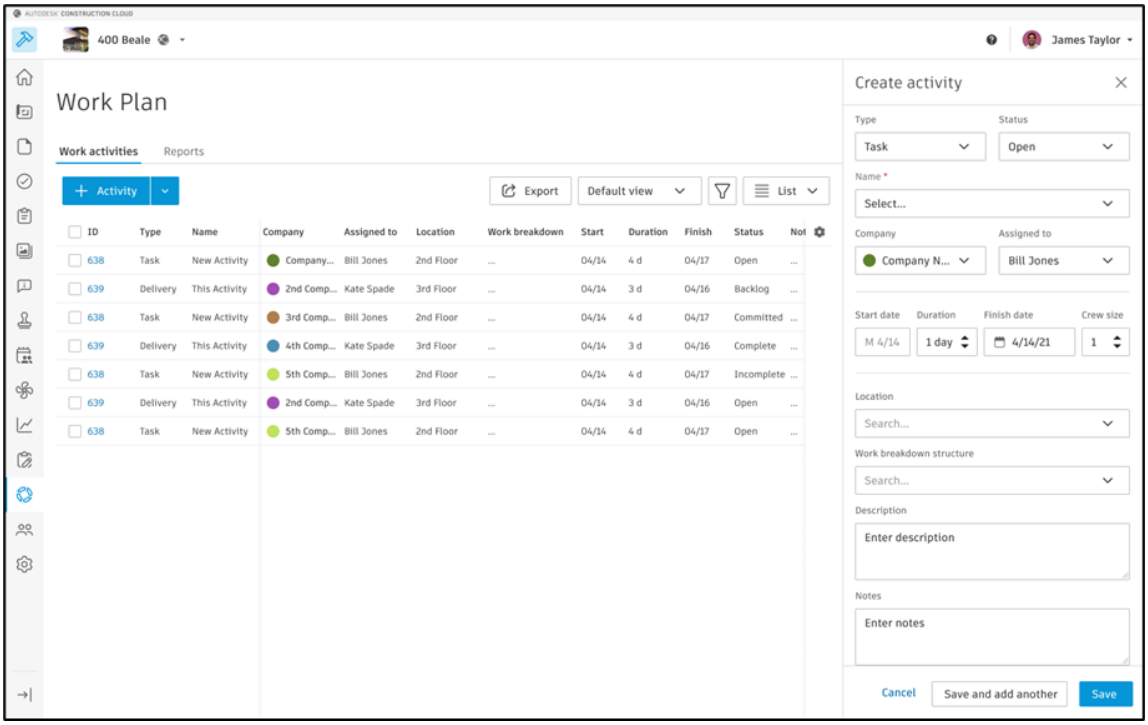
Benefits of Short-term Planning

- A lot of the waste can be eliminated by more effective planning
- Utilizing the Lean Construction Principles, teams can reduce waste and over production and get clear commitments by those performing the work
- It is a strategic way of ensuring expectations are met to keep projects on schedule and within budget

About Work Plan tool in Autodesk Build (Currently in Closed Beta)

The Work Plan tool in Autodesk Build is a construction production planning solution that helps teams prevent delays, reduce project waste, and enhance accountability. The Work Plan is currently in a closed Beta with carefully selected participants. With the Work Plan tool, teams can collaboratively build short-term plans using Lean Construction principles, track commitments, manage constraints and view progress towards key performance metrics.

The basic concept is to break the work down into small tasks that can be reliably planned and executed to keep projects on track. The key is to engage the experts (trade partners and stakeholders) and use the knowledge from all stakeholders involved in completing a work plan that the team (general contractor and trade partners) commits to.



Watch the session where leading General Contractors walk us through their pull planning journey over the years as they look towards the future of digitized work planning.