



COAA-PA 2022 Spring Workshop, April 7, 2022

The Pennsylvania Chapter of COAA returned to in-person events on April 7 at The Penn Stater Hotel and Conference Center in State College, PA, with over 135 attendees participating in a full day of educational offerings and networking opportunities.

Conversation Session topic:

Back to the Future on Prefabrication & Modular Construction

Facilitators:

Stacy Tanner – MODLOGIQ, Curt Johnson – Klover, Sean Underwood – Worth Mechanical, Rod Frey, Jr. – Gilbert Architects, Erik Saffell – Lighthouse Electric

Learning objective:

Utilize different construction techniques/products such as prefabrication to develop an innovative design/build solution for building smarter in the future.

Groups were to brainstorm creating buildings/plans for their project type using prefabrication techniques and products to meet the following success measurements:

- Mitigate risk
- Shorten schedule
- Reduce site and community impact
- Control budget
- Maximize sustainability

Prefabrication Options:

- Panelized Wall Sections – Klover
- Volumetric – MODLOGIQ
- Mechanical Racks – Worth Mechanical
- Electrical Skids – Lighthouse Electric

TOPIC PROJECT(s):

Both projects are being built in year 2041, 20 years from now! What new prefabricated, modular technologies will you utilize to build faster, more efficient, sustainable, cost-effective building? Select one of the two different projects and develop your own modular program for the future!

1. **Student Housing:** Future College needs a new student dorm for its largest incoming freshman class ever. The multi-story dorm must open by September 2043, less than 18 months from today (April 6, 2042). The site for the new dorm is surrounded on three sides by research buildings that have strict restrictions regarding noise and vibration disturbances. There is almost no room for a laydown yard close to the site. In addition, the nearby quad area is an historical natural preserve sanctuary that cannot be disturbed by human activity (let alone construction equipment). To complicate matters, hundreds of e-scooter/e-bike lanes intersect at a roundabout/hub just twenty-five yards west of the site, and these e-lanes must remain open and accessible to allow students to e-travel to and from classes without interruption. Future College is 100% carbon neutral and has stringent guidelines regarding landfill waste and greenhouse gasses.



2. **Medical Ambulatory Care Building:** UltraModern Hospital must expand its medical office and exam space to deliver specialty services for pediatric patients and the healthcare specialists who serve them. Currently, there is a month's long waiting list for these pediatric patients. To handle as much of the overflow as possible, the hospital has been serving pediatric patients in its existing robotic surgery center. Unfortunately, this results in bad medical outcomes for pediatric patients who must wait for treatment. What's more, the hospital loses five million Cryptos each day due to pediatric patients crowding out high-value robotic surgery patients. Set in the heart of dense urban Metropolis, parking for the foldable e-vehicles used by doctors, nurses, staff, and visitors is extremely limited. Thus, using this parking area for laydown and construction equipment storage is not an option, as the closest open parking availability is more than seven kilometers distant. Further intensifying the situation, a large regional health network has just closed its doors and UltraModern Hospital is racing against two competing medical centers build out the capacity necessary to capture its fair share of the underserved pediatric patient population.

Continuing Education Units:

0.5 AIA CEUs

Approximately 50 people attended/participated in this session. Attendees were split up into groups of 5-6 people and the groups came up with some very futuristic ideas for construction and project delivery methods.

- *(3-D) Three-dimensional printed building foundations*
- *Material delivery via drones*

COAA-PA LEADERSHIP TEAM

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VICE PRESIDENT – Dan Marcinko, University of Pittsburgh

TREASURER – Todd Webber, The Pennsylvania State University

SECRETARY – Andrew Reilly, Carnegie Mellon University

The following is a list of some of the Owners and Partners that attended.

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