AGC Discussion Paper:
"The Path Forward with AI"

The public release of ChatGPT in November 2022 marked the beginning of an Artificial Intelligence (AI) boom that began a worldwide shift in the way millions of workers perform their tasks. For a lot of Americans, the benefits of AI can help with functions like generating text to write an email or analyze pictures to find deficiencies. AI capabilities have similarly affected many facets of the construction process and have potential to improve efficiency and effectiveness in workforce development, equipment usage, estimate development, and the overall bid process.

AI can enhance workforce education by providing personalized learning experiences, identifying skill gaps, and offering training programs tailored to individual needs. Services already exist to enhance worker efficiency in various aspects of construction such the Job Hazard Analysis (JHA) process. AI can analyze JHA reports, identify areas for improvement, and create detailed compliance reports. Such automated processes can not only help to educate workers, but also provide additional insights prior to stakeholder interactions that might otherwise be unavailable.

With AI capabilities in data driven predictions and data integration, vast amounts of historical project data such as costs, timelines, and resource usage can be used to generate accurate estimates and bids for new projects. Real-time data integration from various sources for material prices and weather conditions can be used to adjust numbers dynamically while machine learning algorithms can potentially identify patterns and correlations that human estimators might miss and lead to potential project delays.

Continuous monitoring capabilities can allow AI services to monitor equipment usage patterns and performance metrics, ensuring that equipment is used to optimal effectiveness and safety. Project requirements can be analyzed to quickly allocate the right equipment for the tasks needed for better resource management and cost savings. As the technology's capabilities increase over time, AI has the potential to autonomously perform complex tasks such as operating heavy machinery while accounting for all job site conditions.

As the capabilities and usage of AI continue to grow at an accelerating pace, the Joint Committee is invited to consider the following questions:

- How can AI be effectively integrated into current workforce education programs and processes in the construction industry? What would be potential challenges in doing so?
- Can the use of AI be effective in reducing the gap between engineering estimates and bid numbers that can sometimes occur during the preconstruction phase? If so, how?
- Does your state allow the use of autonomous vehicles in construction? At what level of technological advancement or metric should stakeholders feel confident in utilizing fully autonomous equipment with minimal to no human oversight?