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Trimble Unity Construct

University of Pennsylvania

Sustainable Design Meets Historic Preservation

CUSTOMER STORY

Sustainable design is critically important to the University of Pennsylvania®—but with a campus that dates back to 1740, that commitment presents formidable challenges. While it's often complicated, renovating timeworn structures is an important piece of the sustainability puzzle.

Prioritizing sustainable building design allows Penn to reduce operating costs while attracting the best talent in students and faculty. Increasingly, students care about environmental issues and choose higher education institutions that reflect those values. Once they are on campus, students remain engaged, helping to drive positive environmental impacts.

Sustainability starts at project inception and plays an integral role in Penn's RFP process. All new projects are required to meet at least LEED® silver standards, but the university strives to achieve the highest rating they can within the available budget.



Increasing Sustainability Standards

Penn released its Climate and Sustainability Action Plan 3.0, reiterating a commitment to the environment. The plan outlines a multi-pronged approach that connects academics, student wellness, and waste minimization. It culminates in a commitment to a 40% reduction in carbon emissions by 2024.

Penn's Facilities and Real Estate Services (FRES) is leading this initiative by ensuring all new construction and renovations are completed to the highest standards of environmental stewardship. Their efforts to date include 18 LEED Gold, 9 LEED Silver, and 1 LEED Platinum projects as well as the installation of numerous green roofs on campus. Additionally, Penn is committed to the adaptive reuse of older buildings. One example is the Perelman Center for Political Science and Economics which fully renovated the historic West Philadelphia Title and Trust Company Building, and included a new building addition, converting the entire property to academic use. Choosing renovation rather than demolition significantly reduces levels of embodied carbon, the sum of all greenhouse gas emissions resulting from the construction lifecycle of a building.

Sustainability starts at project inception and plays an integral role in Penn's RFP process. All new projects are required to meet at least LEED silver standards, but the university strives to achieve the highest rating they can within the available budget. All architects are required to highlight examples of their commitment to sustainable, efficient, and cost-effective design during the RFP process. Penn also seeks to go beyond LEED requirements to explore innovative sustainable design ideas.



CUSTOMER STORY

Incorporating Mass Timber to Reduce Carbon Emissions

A recent example of Penn's commitment to sustainable construction is their new data science building project. Utilizing e-builder, now Trimble Unity Construct to manage documents, reduce paper waste and drive efficiency, the university created a building design that incorporates biophilic principles. The goal of biophilic design is to connect a building's occupants to the surrounding natural environment through the use of direct or indirect nature.

For the new data science building, Penn chose mass timber—rather than conventional steel—as the primary structural element. Mass timber provided many advantages to Penn, including alignment with the School of Engineering's design intent. Mass timber offers substantial environmental benefits: according to Construction Dive, if it replaced steel on a global scale, mass timber would cut carbon dioxide emissions by up to 20%.



CASE STUDY


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CASE STUDY

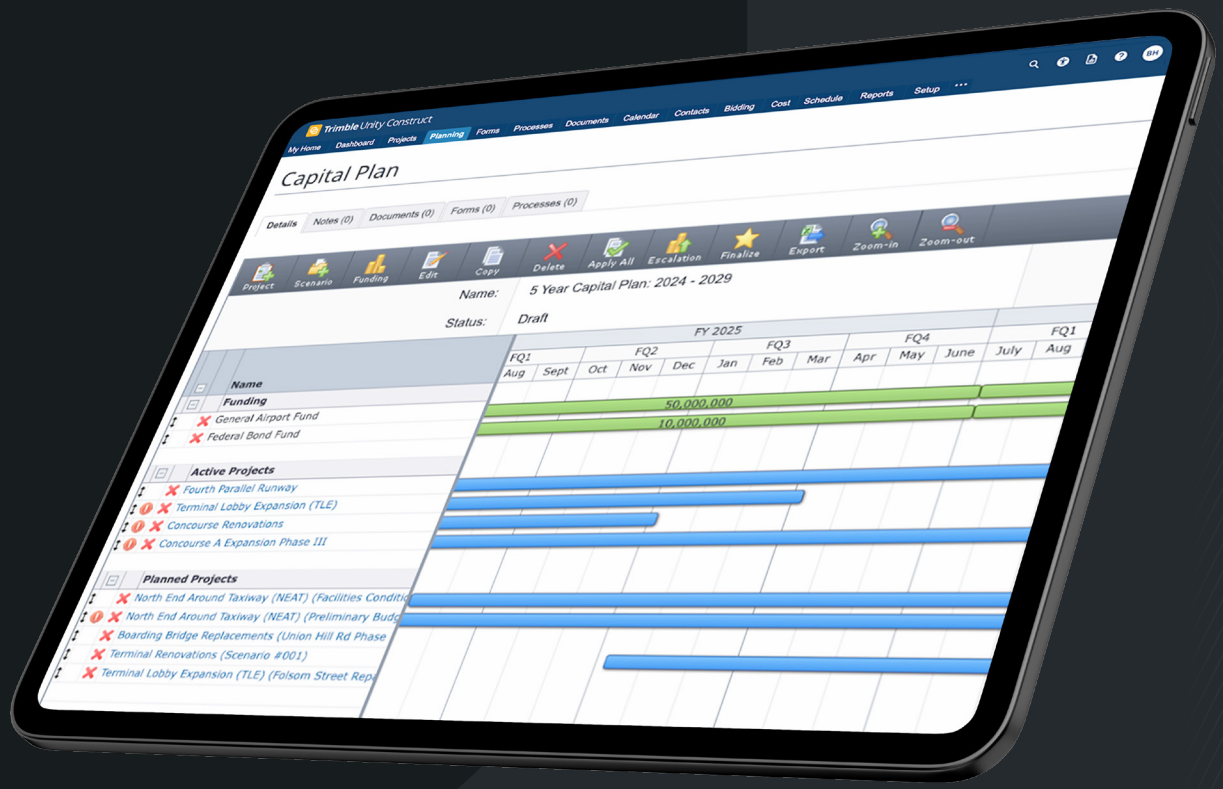
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The best way to understand how Trimble Unity Construct can transform your capital program management is to see it for yourself.

See how Trimble Unity Construct can help you.

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