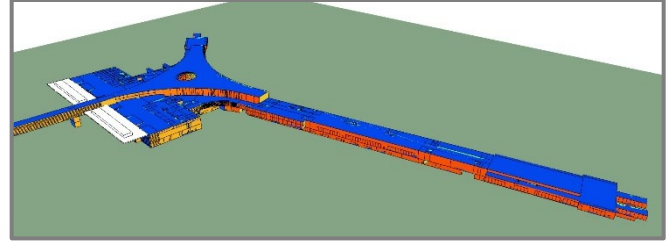


Columbus Midfield Airport Terminal

Building Energy Model (BEM) – Essential for Integrated Design & Construction

Just as Building Information Models (BIMs) transitioned from proprietary tools to widely shared resources, Building Energy Models (BEMs) are now following a similar path.

To facilitate this crucial shift, we developed a BEM Execution Plan. This plan ensures that all project team members have access to the original BEM files, which is fundamentally changing how BEMs are used throughout a project's lifecycle, especially during operational phases.



Project Goals for the New Terminal

The new midfield airport terminal project has several key objectives designed to accommodate future growth and enhance the passenger experience, including significantly increasing passenger capacity, and improving the overall passenger journey through modern amenities, a centralized security checkpoint, and a wide array of dining and shopping options.

Efficiency is a core focus, with efforts directed at streamlining layouts and reducing wait times. Furthermore, sustainability is paramount; we are incorporating energy-efficient systems and environmentally conscious design principles. Ultimately, this new terminal will boost economic development and serve as a welcoming gateway. The entire project team used the Building Energy Model to explore new ideas, validate assumptions, and identify opportunities to enhance energy performance, improve indoor environmental quality, and reduce costs.

Case Study

Reducing Costs with Open BEMs

By implementing a BEM Execution Plan, the entire project team gained complete and unrestricted access to the Building Energy Model and all its associated model files. The construction manager leveraged this access to thoroughly evaluate numerous exterior envelope options against the project goals and budget.

This approach embodied the spirit of Value Engineering (VE); a process focused on reducing costs while simultaneously improving a project's overall value. By openly sharing the original BEM files, VE was achieved quickly and cost-effectively. The construction team rapidly proposed alternative envelope solutions that not only met the building's performance guidelines but also significantly reduced the project's overall construction costs. This case study demonstrates that an open-source BEM and strong team collaboration are vital for optimizing the Value Engineering process.

Existing Building

Midfield Airport Terminal
1mm square feet
\$200 million

Project Team

AUROS Group
Gensler
Heapy
Southland Holdings

Project Reference

NDA – references are available upon request.



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