

The Nonprofit Paradox: High-Performance on a Budget

Pittsburgh Ballet Theatre Annex, Byham Center for Dance

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“High-performance building” takes on new meaning when showcasing a visual art like ballet. When the Pittsburgh Ballet Theatre announced plans to build an expansion in 2013, they accepted an obligation to grow responsibly and ensure the longevity of a beloved arts organization. With this obligation comes a distinct set of priorities (and constraints) for nonprofit organizations where sustainable practices often fall short in the face of time and budget. How, then, does a brand in the business of “pushing the limits,” push the limits of green design on a budget?

In partnership with [IKM](#), a firm committed to the goals of the AIA 2030 Challenge, the Ballet agreed on a design that puts art on display while striking a balance between sustainability and affordability. In a combination of new construction and renovation of the existing building, the team identified the low or no-cost improvements that would impact the life and operation of the Annex at every stage of design. Today, the Byham Center for Dance serves as a testament to the poise and commitment of its dancers and the community members who made it possible.

HIGHLIGHTS: SITE PLAN

Sitting amidst the buzz of Pittsburgh’s Strip District, the site needed to accommodate both pedestrian traffic and commercial vehicles unloading production pieces on a busy, urban site. There was a need for not only parking onsite, but also safe student drop-off via private car and buses.

Solar Optimization: The team agreed on a spatial layout that optimizes the solar orientation of site – dispersing daylight evenly in dance studios from North while minimizing opening on the East and South.

Main Entry (pictured above): The site offers a new, unifying main entry that opens up into a two-story atrium. Though the main entry sits back from the street, its generous canopy and backlit glazing provide a well-marked beacon to passersby.

HIGHLIGHTS: EXTERIOR DESIGN (BEFORE AND AFTER, PICTURED ABOVE)

The primary goal of the massing design for the Annex was to create larger dance studios than those in the existing building. In terms of aesthetic, the subtle, angled wrapping of the building’s exterior skin was inspired by the inherent movement in the art of dance. This juxtaposition of curved and straight forms, warm and industrial hues, became a recurring motif in the design of the interior as well.

Insulation: Achieving a tight building envelope was critical to achieving high R-values as well as a detailed air-barrier. The envelope is reinforced by high-performance glazing to reflect heat.

Materials: IKM chose a simple material palette to accentuate the physical form of the building. This also helps to draw visual attention to the dancers rehearsing in the second-floor studio. The wood-look aluminum siding on the main facade provides an intimate scale and warm hue at the pedestrian level with significantly less maintenance than that of real wood.





While LEED certification was not a feasible option, IKM worked with the Ballet to make informed decisions about the building's functionality from floor to ceiling. Despite necessary value-engineering in less-critical areas of the design, the team minimized the building's carbon footprint through exposed building systems and recycled materials.

Exposed Infrastructure: Mimicking the technical, yet fluid movement of the Ballet's dancers, exposed mechanical systems in Annex ceilings not only add texture to the design, but they add improved ventilation and temperature control by giving hot air generated by physical activity somewhere to travel.

Lighting: LED lights are used in all public spaces and T-5 are used in industrial, back-of-house settings.

Visual Design: The use of glazing on the guardrail of the open stair and balcony above visually maximize the width of the lobby. The exposed structure of the annex ties into the post-industrial aesthetic of the existing building and forms a recurring motif in combination with the warm balance achieved by wood finishes. On the second floor, the wood-covered, curved sculptures niches work elegantly with the straight forms surrounding them – a dissonance that distinguishes the ballet from other genres.

Acoustics: The studios are designed with thoughtful acoustics using pyramidal ceiling diffusers, acoustic wall panels, and an acoustic roof deck. The right sound balance was necessary to create invigorating rehearsal spaces that also physically perform well within the open mechanical framework.

SUMMARY

While many regional dance companies are struggling to keep their doors open, the Pittsburgh Ballet Theatre has seen a 75% increase in enrollment over the past 10 years. As the arts renaissance continues in Pittsburgh, the new Annex will not only give Pittsburgh a front-row seat to the future of its dance community but also demonstrate that nonprofit clients need not tiptoe around performance-based design with the right planning and execution.

By identifying the key touchpoints of a community asset like the Ballet Theatre, IKM was able to determine the most critical areas for innovation in a way that gives back to the environment, community, and dance students. Nonprofit organizations need not be excluded from conversations around sustainability when they establish appropriate goals and take advantage of existing resources including geographic orientation, user groups, and a clean aesthetic vision. In the case of the Annex, high-performance solutions were most feasible through the lens of urban accessibility, solar optimization, and low-maintenance materials.

Project Manager: Melanie Como Harris, AIA

Project Completion: 2016

Area: 14,000 sqft