

Climate Justice in Architecture

Design centering both the environmental and social aspects of climate change.

Climate justice in architecture refers to engagement, advocacy, planning, and design that draw down emissions; build resilience and capacity; support human, cultural, and ecological health; and protect all communities in the era of climate change.

Committee on the Environment

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Baltimore Unity Hall: Street View
Image Credit: Tom Holdsworth

Baltimore Unity Hall

This case study shares an exemplary architecture project that centered both the environmental and social aspects of climate change in their design process, approach to community engagement, and final design. It touches on many aspects of the AIA Climate Justice in Architecture Taxonomy at the building, neighborhood, regional, and global scales.

Baltimore Unity Hall

Baltimore, MD



Community Gathering at Renovated Baltimore Unity Hall
Image Credit: Baltimore Unity Hall

Summary

Baltimore Unity Hall (BUH) is a community center housed in the renovated 1964 Union Hall for Amalgamated Clothing and Textile Workers, the first example of International Style modern architecture in its location.

The renovated building was designed to support Baltimore Unity Hall’s (BUH) mission: “By fostering community arts, education, and job training, we aim to dissolve barriers, empower individuals, address social justice issues, and create a safe, healthy, and harmonious future for all.”

The project deploys climate change mitigation and resilience strategies to reduce disparities and build community connections across a historic red line that divided affluent white neighborhoods from disinvested non-white neighborhoods in Central West Baltimore.

Project overview

- BUILDING PROGRAM TYPE(S):**
Commercial/Industrial
- PROJECT TYPE:**
Existing Building/Renovation
- CONDITIONED FLOOR AREA:**
30,000 sq. ft.
- TOTAL USERS:**
40 (daily); 100 (events)
- SITE AREA:**
16,965 sq. ft.
- NUMBER OF FLOORS:**
3
- PROJECT CLIMATE ZONE:**
ICC Climate Zone 4A
- PROJECT SITE:**
Previously developed land,
Historic structure or district
- PROJECT SETTING:**
Urban
- YEAR OF SUBSTANTIAL COMPLETION:**
2022
- COST OF CONSTRUCTION (EXCLUDING FURNISHING):**
\$7.38 million
- THIRD PARTY RATING SYSTEM:**
IgCC, Baltimore Commission for Historical and Architectural Preservation

Project team

- OWNER:**
Memorial Apartments Corporation (MAC) and Somerset Development
- ARCHITECT:**
Ziger|Snead Architects (Doug Bothner, partner in charge; Kelly Danz, project architect/manager)
- MP ENGINEERS:**
Engenium Group
- STRUCTURAL ENGINEER:**
Morabito Consultants
- CIVIL ENGINEER:**
Morris & Ritchie Associates, Inc
- GENERAL CONTRACTOR:**
Southway Builders

To me, [the BUH project] was a social impact project that integrated environmental sustainability. When you think about these two elements together, they add up to climate justice: Addressing the unequal impacts of climate change on underserved populations. This building was vacant and is now a sustainable community hub - a solution that addresses both the climate crisis and the underlying inequalities that exacerbate its effects. To me, that is climate justice.”
—Kelly Danz, Project Architect/Manager, Ziger|Snead Architects

Design Process

Baltimore Unity Hall (BUH) completes the redevelopment of a key block at the border of Bolton Hill, Madison Park, Upton, and other neighborhoods in Central West Baltimore, Maryland. The remainder of the block was previously redeveloped by the same development team—renovating an existing 266-unit affordable, senior housing development and building a new, 62-unit market rate apartment building with a restaurant on the ground floor. BUH capitalized on the vibrancy introduced to the block by the residential developments, seeking to activate its western boundary with a community center dedicated to building a social network and bridging the historic divide across Eutaw Place Boulevard.

“I put [the BUH project] in the social justice bucket. Because, given the historical context of its [location] on the line where red lines started, that sparks a conversation about reparations. It starts a conversation about the state of repair of a building. It’s not just about putting band-aids on it, because that’s what I see [with other projects]. A lot of community folks trying to take a building that is old and preserve it ... without adequate funding. So, it’s not brought to a state that’s safe or what [neighborhood residents] deserve....To see [the development and design team] say to community members, ‘You all tell us what you need’ and actually listen to that—not come in with a plan already crafted, and say, ‘Here’s what we think you need.’ But no, ‘You guys lead the conversation, and we’re here to support.’ That is very rare, and I don’t know how you bottle that. It really takes a mindset shift, and I think proving this can work is that that mindset shift can happen down the line. Hopefully. I do think we should unpack why this works and why there are powerful things happening in the building.”
—Ash Esposito, ED of BUH, community leader



Baltimore Unity Hall Location in Relation to the Neighborhoods it Serves
Image Credit: Ziger/Snead Architects

Community engagement

The development and design team benefited from a years-long community engagement process that started with the redevelopment of an affordable senior housing development on the same block and continued through the development of market rate apartments. The developer and community advisory board invited the design team into the ongoing conversation, first as an active listener, and then as a co-designer alongside half a dozen community-based organizations from Central West Baltimore who became the anchor tenants of the new center. Together, they created a common vision for how the redevelopment could serve the needs of surrounding neighborhoods.

The process culminated with developer Somerset Development Company and community members jointly founding Baltimore Unity Hall, Inc., a 501 (c)3 not for profit organization, which is the development’s master lessee. Its goal is to place the property on solid financial footing over the long term.

“We had an incredible opportunity to design by community and with this new home that had once been a community center and bring it back online for not one organization but for seven organizations and all the people who would walk by or would want to engage.”
—Douglas Bothner, Partner in Charge, Ziger/Snead Architects

Project financing

BUH faced a difficult financing landscape. The project is located on the wrong side of the street to receive tax credits. And, its holistic programming did not fit naturally into philanthropic funding streams.

BUH balanced that financial reality and its social impact goals in two ways: First, the design minimized future operational costs by installing energy and water efficiency measures and a photovoltaic solar array on the roof. The solar array cost \$129,581 and saves \$6,000/year in electricity bills. \$100,000 of the installation cost was offset by a grant from the France Merrick Foundation. BUH sells the solar renewable energy credits (SRECs) generated by the array to a state-based marketplace, generating ~\$3,500 income annually. The electricity savings plus the SREC revenue have resulted in a three-year payback period net of the grant from the France Merrick Foundation.

Second, as a 501(c)3, the organization was eligible to receive grants and donations. The developer donated as an organization, as well as individually from its principals. BUH also received a capital grant from the Maryland State Bond Program, a mortgage loan from The Reinvestment Fund (TRF), and a bridge loan from People’s Bank.

BUH’s success demonstrates the need for governmental and philanthropic funders to embrace cross-cutting social impact projects, rather than sticking with well-established single-topic funding streams.

“If you look at the [BUH pro forma, it was] much less efficient than most multi-use building projects. It likely doesn’t pencil out if you are a traditional developer, because we’ve got a shared auditorium, a huge gallery space, an immense event space, a commercial kitchen, a lounge, and a kitchenette. And, all of these spaces are shared amenities built into the pro forma. But, because [BUH] kept the leasing numbers down so that it could be affordable, philanthropic dollars or fundraising had to come in and fill those gaps. Or, leasing the space to weddings and the like. So, we’re building the design around these community shared amenities. And we’re doing that in a way that is an open door to everyone.”

—Douglas Bothner, Partner in Charge, Ziger|Snead Architects

Essential climate justice design components include:

1. Select a development location and program that complements development on surrounding properties. Fill in programmatic gaps to help strengthen neighborhood social and economic networks.
2. Integrate meaningful community engagement from the beginning of the design process. Ask community members how the development could benefit them and center those priorities in the design.
3. Get creative with funding sources to bridge funding gaps related to social impact and climate resilience. Position the building as necessary to support programming that is a high priority for the funder.

AIA Climate Justice in Architecture Taxonomy

Climate change creates new, and amplifies existing, environmental, and social challenges across the following seven themes or categories: social determinants of health, cultural connection to place, economic development without displacement, environmental justice, ecosystem health, climate change health and resilience, and decarbonization. The Climate Justice in Architecture Taxonomy centers both the environmental and social aspects of climate change and helps teams respond with an architectural design impacting the themes across three scales: building occupants, the surrounding neighborhood, and regionally and globally. The taxonomy aligns and connects with the AIA Framework for Design Excellence, which represents the defining principles of design excellence in the 21st century. The Framework is comprised of 10 principles and informs progress toward four outcomes – a zero-carbon, healthy, resilient, and equitable built environment.

Baltimore Unity Hall addresses all three scales in the taxonomy, with particular emphasis on the building and neighborhood scales.

Climate Justice Taxonomy	Impact of Design Features by Spatial Scale			Alignment with Framework for Design Excellence			
	Building	Neighborhood	Regional/ Global				
 Social Determinants of Health				 Integration	 Equitable Communities	 Economy	 Well-being
 Cultural Connection to Place				 Integration	 Equitable Communities	 Economy	
 Economic Development without Displacement				 Integration	 Equitable Communities	 Economy	 Energy
 Environmental Justice				 Ecosystems	 Well-being		
 Ecosystem Health				 Equitable Communities	 Ecosystems	 Well-being	
 Climate Change Health & Resilience				 Equitable Communities	 Change		
 Decarbonization				 Integration	 Water	 Economy	 Energy
				 Well-being	 Resources	 Change	

Overview of AIA Climate Justice in Architecture themes and spatial scales: Baltimore Unity Hall. Source: Biositu, LLC



Entry Embraces Inclusive Design Principles
Image Credit: Ziger/Snead Architects

Social determinants of health

Reducing disparities in mental health: 27–28.4% of adults in the historically redlined neighborhoods served by BUH report poor mental health—35% higher than the average in Baltimore City (19.6%) and 80% higher than the U.S. average (14.7%). Meanwhile, adults in the historically white neighborhood adjacent to BUH report lower rates of poor mental health than Baltimore City (16.6% compared with 19.6% in Baltimore) and 13% higher than the national average of 14.7% (CDC Places). Skylights and windows were strategically placed in the renovated building to ensure that 100% of normally occupied spaces have access to natural daylight, which supports mental health and contributes to the sense of safety and well-being in the indoor environment. A wellness room on the second floor offers privacy for regular occupants and visitors who need to take a mental break.

Designing an inclusive & inviting space for people with all abilities:

The building entrance and the flow of public spaces on the main floor use inclusive design principles to welcome people with all abilities and backgrounds to the space. The renovation added a ramp to an existing planter outside the building to create a single entrance for all visitors. This approach is one of many aspects of the building that seek to create a safe space for dialogue and collaboration across neighborhoods that had historically felt unwelcome to nonresidents. The anchor tenant, a non-profit who plays a catalyzing role in the mission of BUH to build cross-neighborhood social connections, is officed just inside the front door. The remainder of the main floor flows through exhibit and event spaces, drawing visitors into the building through engaging installations and activities relevant to Central West Baltimore.

“We’ve seen ... the mental health impact of people being in the building and believing, ‘I deserve to be in this space. And, I deserve to be in a state of the art building.’ [This is] a form of reparations to address the historic disinvestment [in redlined neighborhoods]. Partners like Somerset and everybody that’s been at the table, have taken on that risk and recognize that there is a lot of bureaucracy [involved in] trying to ... bridge the [funding] gap. I wish there were more developers that were willing to do that.”
—Ash Esposito, ED of BUH, community leader

Catalyzing neighborhood public safety: BUH’s goal of acting as a bridge across neighborhoods that have historically been defined by their differences is designed, in part, to enhance real and perceived personal safety in all the neighborhoods surrounding the center.

Enhancing walkability, bikeability, & transit access in the surrounding neighborhood: The BUH renovation supported opportunities for physical activity in a neighborhood with a walkability score of 71 by upgrading the corner bus stop, adding bicycle parking, showers, and changing rooms inside the building, and providing priority parking for high occupancy vehicles.

Spurring neighborhood economic development: BUH is equipped with private office space, co-working space, collaboration spaces, and training spaces to accommodate local community-based organizations dedicated to creating economic development opportunities for residents and businesses in Central West Baltimore, including youth career training and food security programs for children.

Cultural connection to place

Redeveloping a building with a rich history in the neighborhood:

Redeveloping the Union Hall instead of tearing it down and building a new building retains a piece of both social and architectural history in this part of Baltimore.

Incubating neighborhood artists: Significant space was set aside in the renovation for artist studios and an exhibition space designed to host exhibits that build a sense of shared culture and community in Central West Baltimore.

Mending a discontinuity in the urban fabric: The design team added red, vertical sunshades to the main façade to push the building towards the street and align it with the brownstones on either side. The changes to the building façade retain enough of the existing building to recall its historic use while also signaling to neighbors and passersby that it is being put to a dynamic new use.

Working with trusted community-based organizations to create a community hub: Having the right partners in developing the vision for the project and recruiting tenants from surrounding neighborhoods was crucial to the project’s success in contributing to neighborhood revitalization without sparking displacement.

“It wasn’t so much the building [that drew me to BUH] as that I trusted [the community-based organization] No Boundaries Coalition. That brought me to the area. And then, I was brought back again by Black Arts District, working with them as an artist. I think that’s what really drew me to the space over and over again—the relationships with organizations that I’ve been actively involved in and trusted and are deeply rooted in the community. So, the space is, by default, a trusted space because these are trusted partners that we all know of in the community.”
—Ash Esposito, ED of BUH, community leader

Economic development without causing displacement

Building efficiency measures to offer below market leasing rates: The design prioritized public spaces and shared amenities that would create opportunities for collaboration across the community-based organizations leasing the space. Those decisions reduced the rentable square footage and made it more difficult to finance the project. Sustainability strategies were introduced to the design to lower operating costs as part of a multi-pronged effort to bridge the project’s financing gap.



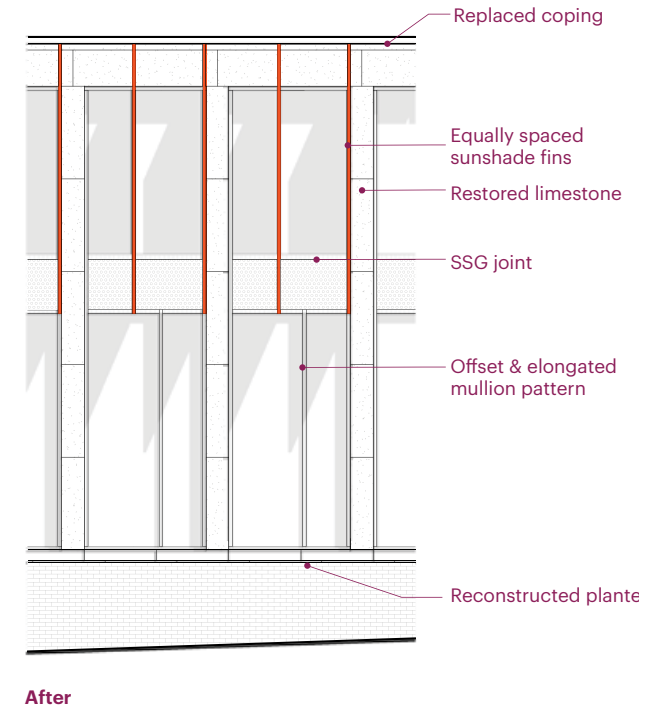
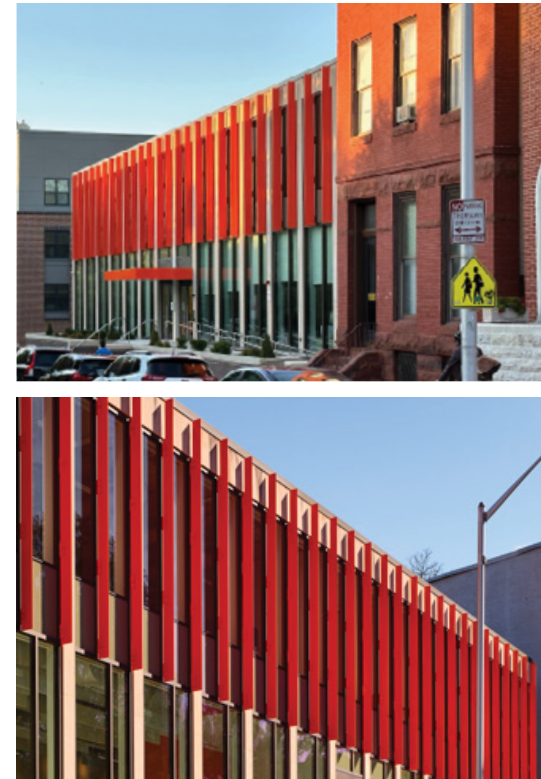
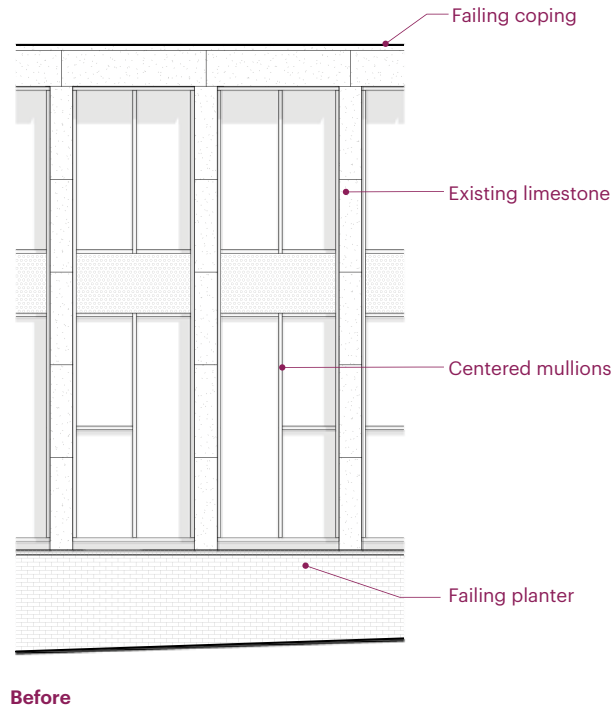
Flexible Office Space Facilitates Collaboration
Image Credit: Tom Holdsworth

Adding to the vision of the HUD Choice Neighborhood plan: The renovation contributed to the vision of the existing HUD Choice Neighborhood plan which envisioned mix-income housing, neighborhood retail, accessible amenities, and improved neighborhood quality of life.

Offering accessible & affordable office space: By setting below-market rates for office spaces, the building makes its spaces accessible to community-based organizations that provide services in the neighborhood. Services include employment training, youth programming, and educational programs.

Community gathering space: The project prioritized exhibition and event spaces, as well as a commercial kitchen to create a flexible space for gatherings.

“The development became that catalyzing moment. That whole corner. It’s not just one project. It’s the homes ... and this building creating a critical mass of development that could really spark community reinvestment on multiple levels.”
—Douglas Bothner, Partner in Charge, Ziger|Snead Architects



Façade Renovation and Vertical Fins Contribute to Both Environmental and Social Goals for the Project
Image Credit: Ziger / Snead Architects

Creating a replicable approach to community engagement: Deep community engagement and partnership with trusted community-based organizations have created an approach that could be replicated in other parts of Baltimore and in other cities. BUH’s approach, which sought out, listened to, and partnered with community-based organizations who were deeply rooted in the neighborhood could be replicated in other communities.

“I live in a community that is prime real estate for some type of development, but not necessarily the development that we want. [BUH] proves that development without displacement can happen.”
—Ash Esposito, BUH ED, community leader

Environmental justice

Embracing the responsibility of asbestos remediation to avoid demolishing a 1960s era building: The renovation project included remediation of asbestos and other contaminants from the 1960s era Union Hall. Remediating those environmental contaminants avoided the need to demolish the building and reduced the risk of future occupants and neighborhood community members being exposed to toxic chemicals through the air, water, or dust.

Ecosystem health

Contributing to urban greening in an historically disinvested neighborhood: BUH strives to connect neighborhoods that have historically been divided by a beautiful, planted esplanade called Eutaw Place. BUH is turning the boulevard into a place of meeting and collaboration.

Climate change health & resilience

Battery ready: Central West Baltimore neighborhoods are at high risk of exposure to extreme heat. Adding a battery to the solar panels on the roof of BUH would allow it to act as a cooling center or resilience hub when the power goes out during extreme weather events like heat waves. Enhancements to the building envelope and building systems reduce the facility’s electrical load, which increases the time it can function during power outages.

“While the tenant spaces were taking shape, they were flexing. Sometimes, somebody wanted 2,000 square feet, and then the next day they wanted 1,200. So, how they flex around these core public spaces was really important.”
—Douglas Bothner, Partner in Charge, Ziger|Snead Architects

Decarbonization

Renovating a 1960s Union Hall instead of building new: Reduced embodied carbon by reusing the existing building’s structure and shell.

Upgrading building systems to increase energy & water efficiency: The renovation met International Green Construction Code (IgCC) requirements (as amended by Baltimore City), which are 10% above code minimum in the state of Maryland. Exterior fins shade the front façade. The renovation includes a new high-performance curtainwall, new roof, increased insulation on all exterior walls; and, new high efficiency HVAC, lighting, plumbing, and fire protection systems. Windows and skylights provide natural light in spaces that are primarily used during the day. Energy efficient building systems reduce electricity demand.

Installing a rooftop solar array to offset electricity & increase resilience to power outages: The project installed a 5.418 kW solar array on the roof that produces ~54,000 kWh per year of clean energy, offsetting 20 tons of carbon emissions. The solar array produces 20% total annual electricity needs.

Leveraging flexible spaces and shared amenities to enhance carbon efficiencies & expand tenants’ social networks: Space set aside for offices is easily reconfigurable to allow for established organizations to increase and decrease the space they occupy as needed. The adjacent spaces accommodate occupants who prefer a co-working set-up. Shared meeting and lounge spaces foster conversation and collaboration across the organizations leasing space. All of these changes can be made without construction and demolition—further reducing the building’s lifetime embodied carbon.

Using high quality design as a global method of carbon sequestration: Beautiful designs can be used to protect the carbon embedded in existing buildings rather than tearing them down to accommodate a new use.



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Contributors

COTE Knowledge Community and AIA staff.

Special thanks

Baltimore Unity Hall, Ziger | Snead Architects, interview participants.

Additional information

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