Design Outreach: The TrailerWrap Project

A University of Colorado Service Learning Collaboration

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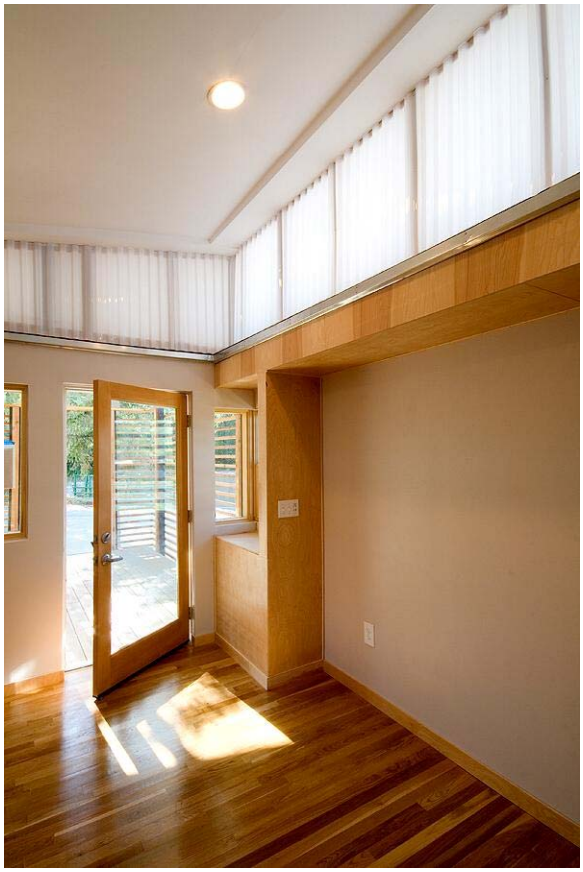
Often overlooked or looked down upon, the mobile home is an important but under-appreciated housing type that serves a wide range of residents. Since the mid-1900s, mobile homes and manufactured housing have been mass produced to provide a solution to low-cost housing; however, in doing so, several important factors that make a house a home have been overlooked. Unimaginative aesthetic and spatial design combined with inefficient energy strategies and poor construction techniques define the major shortcomings common in the industry.

Such conditions make these homes difficult to maintain, often leading to disrepair and abandonment. In response to common misconceptions related to trailers and the stereotypes of the people who live in them, the TrailerWrap project (TW) set out to provide simple and affordable solutions to improve the spatial quality and energy efficiency typically found in conventional manufactured housing.

An overarching goal was to sensitize young designers to community needs through a real-world experience that shows them how, after



graduation, they can use their skills to help improve housing for low-income households. It not only exposed students to the problems, but also showed them how their work can make a difference.

Against this background, we wanted to offer the next generation of young designers a hands-on learning experience not available in the traditional studio in a way that would engage them with the community, address a local need for affordable housing, using sustainable building techniques and materials (e.g., wall insulation is made of recycled blue jeans). A further goal was to explore issues that could be transferred to large scale production.

TW addresses issues of sustainable and affordable design in the context of the often overlooked American trailer park. At the scale of an individual building the project, explores the potential for augmenting this affordable housing type with outdoor living space, improved, energy efficient construction and high volume, light-filled interiors.

At the urban scale, TW reexamines the mobile home park as a model for, high- density alternatives to suburban sprawl. In pushing the envelope of adaptable reuse, TW created high-quality, small-scale architecture for people of modest means. The completed project provides dignified, permanently affordable, urban living for a low-income household.

The project incorporates a site strategy that links indoor and outdoor space through placement and circulation. The resulting interwoven spatial sensibility mixes the linear character of the trailer with a processional sequence more common in a traditional house with a large yard and spacious front porch.

This unobstructed path celebrates the relationship between the interior and exterior, while thresholds mark transitions and modulate the formal transition from the more the more public spaces on the front, west side of the house to the relatively private space of the rear, east side.

The interior organization compresses functional utility into a dense, multifunctional zone that dissolves the boundaries typically associated with partitioned rooms. The large, freestanding structure located in the center of the interior defines the four main spaces: Living Room/Dining Room, Kitchen/Office, Bedroom, and Bathroom. The mono-pitched roof slopes to the south allowing for indirect lighting through the expanse of clerestory windows on the north elevation. The roof slope also provides advantageous solar orientation for a future, solar hot-water heating system or photovoltaic array.

Diverted on its way to the landfill, a derelict 10'-4" x 47'-0", two bedroom trailer was donated to the project and transformed into an open, expansive example of small-scale architecture. As a single, loft-like volume oriented toward a new outdoor living room, the project privileges experiential conditions that affect the immediate scale of human occupation. The re-fabricated trailer measures 12'-4" x 47'-0", but feels much larger and more gracious. The high ceiling of the interior extends out to define and incorporate a new outdoor space that combines aspects of a front porch and a patio. This extension takes advantage of the temperate local climate and the adjacent Goose Creek wildlife corridor as it expands the visual and functional limits of interior domestic space.

Following the adaptive reuse principles in the project, the interior uses leftover materials. Interior partitions were framed with salvaged solid core doors and clad with scrap veneer plywood, donated by a local cabinet shop. The redwood slats and deck used in the outdoor room were reclaimed from old deck material and culled wood from local lumberyards. Remnants of "utility" grade oak flooring were purchased at scrap prices, trimmed to avoid the most offensive knots and blemishes, and installed for less than $1.00 per square foot.

In terms of both scale and cost, the trailer park fills an underserved niche in spectrum of contemporary housing options. Falling between the typical suburban ¼ acre lot and the multi-unit condominium complex, the standard 25 by

75 foot mobile home lot offers the single family a viable ownership option, complete with its own piece of land, at an affordable price.

TW was a five-semester collaboration between the college's Children, Youth and Environments Center, which provided the initial concept and impetus for the project, Thistle Community Housing (TCH), the Mapleton Home Owners Association (MHA), the Boulder campus' Department of Facilities Management, and an interdisciplinary team of four faculty and eighty-six students from the College of Architecture & Planning.

TCH, a Boulder Colorado non-profit, purchased the Mapleton Mobile Home Park in 2002 to ensure the long-term viability of permanently affordable housing in one of the country's most expensive communities, where the average home price is just under $500,000. While TCH owns the land, individual households own the 132 trailers and lease their lot. In order to live in the park residents, must meet limits on income and assets set at 30% of the Area Median Income. MHA governs and maintains the park on a day-to-day basis, while working with TCH on long-term planning.

The project received financial support from various sources. A 1965 mobile home was donated by its owner. TCH advanced a $20,000 loan toward the construction. Grants supporting the construction and evaluation of the project were awarded by the Outreach Committee, Service Learning Program, the Office of Diversity and Excellence, and the Institute for Ethical and Civic Engagement on the Boulder campus of the University of Colorado. These funds, along with support from the Children, Youth and Environments Center and the Dean of the College of Architecture & Planning, established the project's $46,000 budget. An independent evaluation, using focus groups, showed strong student appreciation of the project as a learning experience.

Michael Hughes is currently at the University of Arkansas, and Bruce Wrightsman is at Montana State University.