The marquee is an amalgam of wood panels etched and angled on scaffolding in ways that attract and fascinate visitors entering Project RE. Most haven’t a clue it is made of hollow-core doors spared by imagination from ending up in landfills—or that it was conceived, designed and built by an unlikely team that pairs young architecture and design students from Carnegie Mellon University with men like Carl Meyers, who spent eight years of his youth in prison.

Mr. Meyers made two important discoveries during the long days he was imprisoned in the heart of West Virginia coal country, far from his Hill District home: a love of reading and the resolve to take a different path from the one that led to a robbery conviction at age 19.

Once released, he returned home and scratched out a living as a hotel banquet houseman before finding the Trade Institute of Pittsburgh, a chance to learn the building trades and an opportunity to work with college students exploring creative ways of turning America’s unwanted materials into things of beauty, function and value.

“None of this was built when I came here. So we built it,” said Mr. Meyers, 32, under a ceiling of orphaned church pews sliced and arranged to diffuse lighting. This space within the cavernous Construction Junction reuse center is reserved for Project RE—and its “reuse materials, rebuild communities, restore lives” mission—where he’s a carpentry apprentice in training. “I’m grateful for the opportunity. I needed something to get me on the right path.”

Pittsburgh has been at the forefront of green building and sustainable design for longer than a decade. Today, initiatives such as Project RE and Urban Design Regional Employment Action for Minorities (UDream), a program aimed at growing the city’s historically thin ranks of minority architects and urban designers, are demonstrating the role those fields can play in improving social and racial equity. This is a key principle of the city’s p4 framework—with its emphasis on people, planet, place and performance strategies to achieve a sustainable future—and The Heinz Endowments’ vision of a “Just Pittsburgh.”

Architect John Folan brought the idea for Project RE to the city. He came to Carnegie Mellon in 2009 to create a design-build environment that exposes architecture and design students to everything from concept through construction to conditions in under-represented neighborhoods, while offering training and career paths in the building trades to those who find such opportunities scarce. He had started a similar project at the University of Arizona, where he had architecture students work with young men and women in the juvenile justice system on design projects and saw how both reaped life-changing benefits in doing so.
Carl Meyers has moved past the eight years he served in prison for a robbery conviction. Today, he is a carpentry apprentice in training with the Project RE sustainable design program and social enterprise. Mr. Meyers’ tools of the trade, hanging behind him at the Construction Junction reuse center, reflect his new skills and opportunities to improve his life and his community.
“There was an incredible transformation in the personalities of the juvenile corrections kids,” said Mr. Folan, the T. David Fitz-Gibbon Professor of Architecture at Carnegie Mellon and director of its Urban Design Build Studio. “They no longer saw a university education as something unattainable, no longer saw themselves as not smart enough. It became evident to them that circumstance had a lot to do with where they were in life, and their confidence and self-esteem grew enormously. In my students, the level of humility escalated exponentially.”

“We’ve seen the same with Project RE, magnified to a greater degree.”

Mr. Folan also learned that collaboration with like-minded partners was necessary if the venture was to flourish. In Pittsburgh, the Endowments offered financial support and introduced him to such partners.

“People without education have fewer opportunities and are struggling,” said Rob Stephany, director of the Endowments’ Community & Economic Development Program. “They may have service sector jobs and are struggling or they may live in poverty, which has a natural undertow. We have to figure out new paths to family-sustaining work.”

Construction Junction, the largest nonprofit retail outlet for used and surplus building materials in Pittsburgh, signed on, offering space for a wood, metal and fabricating shop and a steady supply of material. So, too, did the Trade Institute of Pittsburgh run by straight-talking masonry contractor Steve Shelton who teaches the building trades to ex-offenders willing to learn, only 12 percent of whom return to prison after three years compared to 42 percent of inmates statewide.

The church pews repurposed as the Project RE community room ceiling are among materials that Construction Junction sees in volumes greater than it is able to sell. The flexible LED lighting system that the pews became was conceived by Urban Design Build Studio students, more than 100 of whom have participated in Project RE. Trade Institute carpenters cut the pews to specification, built the prototypes and installed the finished product, lending their thoughts on how to make it work along the way.

The same process led to the Project RE entry marquee of unwanted hollow-core doors, as well as the scaffolding on which they are arranged—both of which have emerged as products with retail value.

While sustainable design and green building architecture have steadily advanced in the city, the professionals doing the work have included few architects and designers of color. Victoria Acevedo, Ashley Cox and Dario McPhee are among a new wave of minority architects and urban designers who are changing that landscape.

Pittsburgh wasn’t on the radar for any of them until they heard about UDream’s program offering minority graduates in architecture and design additional training, experience working in an urban neighborhood, and internships with the hope that they will stay and work in the field.

“The only thing I knew about Pittsburgh was the Steelers,” recalled Mr. McPhee, a 31-year-old native of the Bahamas who came to Pittsburgh after earning a master’s degree in architecture from Florida A&M. Ms. Acevedo, 25, a Georgia Institute of Technology graduate from Atlanta, also knew Pittsburgh had good sports teams and chuckled as she added that, before UDream, she didn’t know where in Pennsylvania the city was located.

But today, they and Ms. Cox, a Howard University graduate from Brooklyn, have not only made their home in Pittsburgh, they also praise the UDream program for providing them with the training, support and networks that have enabled them to advance in their chosen careers.

All three work with Pittsburgh architecture firms. Mr. McPhee is a registered architect at Indovina Associates Architects, and Ms. Acevedo is an intern architect with Bohlin Cywinski Jackson. Ms. Cox, 25, is an independent consultant working on several urban design projects with evolveEA as she develops her own practice.

UDream grew from a partnership between the Endowments and the CMU School of Architecture’s Remaking Cities Institute to find ways to diversify the practice of architecture and design in Pittsburgh. When the program began in 2009, there were only 10 African American and Hispanic professionals in the city employed in those fields. Minority graduates from across the nation with degrees in architecture and design are offered full tuition, a stipend and housing to attend an 18-week program that immerses them in sustainable development and underserved neighborhoods.

Courses taught by Carnegie Mellon architecture faculty and urban design professionals range from digital fabrication to sustainable design. They even learn about real estate development to help them understand the market dynamics of the neighborhood that the program’s urban design studio places them in to work with residents on developing design concepts.

“One approach to architecture is to have the community express its needs and come up with a design that meets them and is sustainable. Too often, people get things thrust upon them and don’t have much of a voice,” says Erica Cochran, UDream director and an assistant professor at CMU. “We look for people who are dying to make the community a better place.”
“As an African American, I’m aware of how the gentrification and racial issues that are everywhere have been shown in this city,” she said. “But seeing the grass-roots efforts in Pittsburgh has been inspiring because so many people are willing to do something about what’s going on.”

Recently, the UDream studio project has focused on the Hill District. Students working with residents and the Hill Community Development Corp. created a vision of the Centre Avenue corridor that includes artist housing, live/work units, and multi-generational living among its themes. The CDC has adopted the concepts as part of what it wants to see developed in the neighborhood. Ms. Cox also is involved with the Centre Avenue project through her work with evolveEA.

“Design of public spaces, public institutions and large buildings are all opportunities for the community to have a dialogue about what they want,” said Endowments President Grant Oliphant. “The key is empathetic listening. To create just design and have architecture and design contribute to a just community, we have to engage and listen to people, and incorporate what they tell us into our thinking.”