

De-Prefabricating Modular School Buildings with Creative Placemaking

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By Amaktoolik Studios, Brian Fagerstrom, CEO/Founder and Lisa Jelliffe, Senior Strategist

Prefabricated modular structures are sometimes the most feasible option for charter school facilities solutions. While there are benefits, there are also downfalls.

What is a Prefabricated Modular School?

A prefabricated modular classroom is an educational building constructed using pre-fabricated/manufactured components which are built off-site and then assembled on location. Modular classrooms are often used as stand-alone single or multi-classroom buildings. The key benefits of this building method are the cost and time savings during the building process compared to traditional construction methods.

Often considered temporary and having shorter-life spans than brick-and-mortar building structures, the faster and less expensive prefabricated modular facility option is appealing to many financially constrained charter schools with limited school building options.

While there are benefits taking the modular facility route for new school buildings, there are also drawbacks. One negative is an out-of-the-box modular structure's inherent "institutional" look and feel. For charter schools that are typically unique educational and community offerings, the one-size-fits-all modular option limits the ability of a school's "place" to complement its own culture and character.

One relatively simple and easy-to-implement solution to offset the institutional image is applying a bit of innovation and creative placemaking. Schools can quickly turn a personality-less facility into a unique place of learning and community gathering reflective of the school's special mission and its location, people, and community.

Pros and Cons

Proponents of prefabricated modular school buildings cite numerous benefits, including the bottom-line impact of cost and time savings. The degree of difference can range as much as half the cost per square foot for prefabricated modulares compared to a traditional brick-and-mortar building, and they can be up and running as much as a full year before a permanent one.

In contrast, opposing perspectives highlight negative aspects. One example is a long-term trend in school facilities where prefabricated buildings have been utilized as temporary solutions but have become permanent. Another is that prefabricated modulares do not have the same lifespan as traditional brick-and-mortar facilities. As a result, prefabricated facilities cost more to maintain as



Photos above show modular classroom buildings manufactured by Boxx at two different schools. (<https://www.boxxmodular.com/classrooms/>)



Photo above of prefabricated modular classrooms manufactured by Wilmot Modular, Inc. (<https://www.wilmotmodular.com/blog/how-to-get-your-portable-classroom-in-time-for-the-new-school-year>)

they get older. As freestanding buildings, they're more expensive to heat and cool and less energy efficient than newer buildings. While there are many benefits of prefabricated modular school facilities, there are similarly many cons. (At the end of this article is a list of reference sources to understand the pros and cons better.)

Creative Placemaking to Turn Modular Structures into Unique Cultural Places of Learning

Creative placemaking can turn an institutional and uninteresting place into something dynamic and even an interpretive learning element. Sometimes creative placemaking can be an innovative alternative to a technical need like traffic calming or safety. For example, instead of go-to solutions like adding concrete barriers and crosswalks to resolve pedestrian safety concerns, the solution can become something interesting, vibrant, and even a piece of art. Several examples of schools that have incorporated creative placemaking strategies include Academy at the Farm, Dream Diné Charter School, and Pemahtv Emahakv Charter School.



Above photo of typical bollards used for separation and barriers between vehicles and pedestrians.



Photo above shows bollards designed as baseballs as an alternative to utilitarian typical bollards used for barriers and separation.



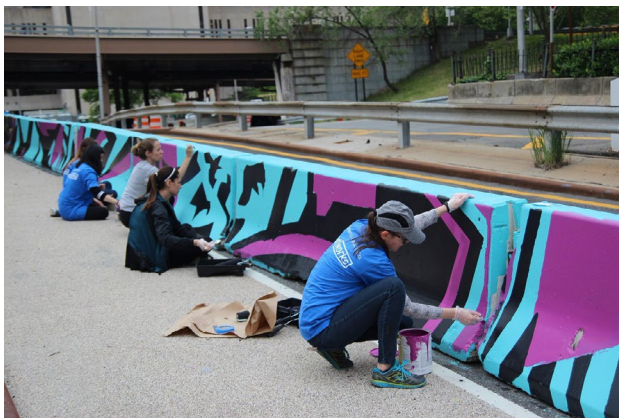
Above photo of typical painted crosswalk for pedestrian crossing.



Two photos above show examples of painted crossings turning utilitarian crosswalks into dynamic pieces of art.



Above photos show several typical jersey barriers commonly used as safety barriers. Below are alternative creative placemaking examples where concrete jersey barriers are painted as murals. The activity of creating this art is an opportunity to bring people together creating a community building opportunity while beautifying and adding unique aspects within a community.



Academy at the Farm

<https://www.academyatthefarm.com>

Academy at the Farm in Dade City, Florida is a school campus made up of prefabricated modular structures manufactured by Affordable Structures. (<https://affordablestructures.com/portfolio/academy-at-the-farm-charter-school.html>). Opened in 2004, the K-8 charter school is situated on 15 acres of rolling hills of farmland and orange groves. Today it serves 625 students. The school has a distinctive “place brand” that builds on the unique agricultural program and location of the school. School buildings have been painted with murals of farm related images and the site features red painted support structures including a barn and fences.



Photos above of Academy at the Farm Charter School modular classroom buildings during construction.



Photos above show painted murals painted on the prefab modular classrooms at the Academy at the Farm Charter School.

Dream Diné Charter School

<https://dreamdine.org/>

Dream Diné is located in Shiprock, New Mexico on the Navajo Nation. The charter school opened in 2014 and today provides for grades K-5 in an Indigenous-centered educational program. The school campus is a collection of prefabricated modular buildings and traditional structures that support cultural learning aspects. A Navajo hogan and cha'a'oh shade house are featured indigenous components on the site. The prefabricated modular structures are painted with beautiful interpretive murals reflective of Navajo culture and the surrounding lands. The school's mascot is the Hummingbird which is an important Navajo symbol and is prominently featured throughout the school facilities, inside and out.



Above photos show a variety of cultural elements on the school site for traditional learning. Murals are used all over the modular buildings adding creative placemaking unique to the school's community.

Pemayetv Emahakv Charter School

<https://ourwayschool.org>

The Pemayetv Emahakv Charter School is located on the Seminole Tribe's reservation in Florida and serves PK-8 with 246 current students. The school opened in 2007 with an elementary school, added a middle school later, and finally a high school. While not an example of a prefabricated modular school facilities, the cultural interpretation and creative placemaking is worthy to highlight as a Native American charter school. The school is located on a 10-acre campus with abundance of cultural components that support traditional learning. A super-sized cooking chickee hut at the back of the school with a thatched roof made of palm fronds, is where girls learn to make traditional food. Tribal custom allows only the girls to cook while boys do woodcarving. Smaller chickees front a large garden where students grow squash, tomatoes, beans, pumpkin and other vegetables just as their ancestors did.



Photos above show outdoor places for cultural activities. Chickee huts on campus provide spaces for traditional learning.

Creative placemaking strategies are prime opportunities to serve as exciting community-building activities that bring people together, generate school pride, and have a long-term impact. The Academy at the Farm and Dream Diné Charter School are two examples of charter schools that have used creative placemaking to define their unique place brand even with pre-fabricated modular structures as their facilities foundation.

Creative placemaking can help de-institutionalize schools that have to rely on less expensive facility solutions of prefabricated modular structures. To support creative placemaking, there are many funding sources like grants to implement creative placemaking strategies.

About Amaktoolik Studios

Amaktoolik Studios is a 100% Native American owned firm that offers architecture, master planning, creative design services, strategic planning, and community planning. Amaktoolik has a long history working with Native American communities across the country. The firm has worked on numerous educational facilities and on a variety of projects for more than 50 tribes and urban Natives focused on projects to improve Native American lives and communities.

Resources

- “Design for Modular Construction: An Introduction for Architects,” The American Institute of Architects and the National Institute of Building Sciences - https://content.aia.org/sites/default/files/2019-03/Materials_Practice_Guide_Modular_Construction.pdf
- “7 Benefits of Prefabricated Construction,” Construction World - <http://www.constructionworld.org/7-benefits-prefabricated-construction/>
- “Portable Classrooms No Place To Learn, Critics Say,” NPR - <https://www.npr.org/transcripts/311103104>
- “Portable Classrooms Not Always The Right Answer To School Money Question,” inewsources KPBS News - <https://www.kpbs.org/news/education/2016/04/20/portable-classrooms-not-always-right-answer-school>
- “Prefabrication and Modularization: Increasing Productivity in the Construction Industry,” 2020 SmartMarket Report by McGraw Hill Construction - https://proddrupalcontent.construction.com/s3fs-public/SMR1219_Prefab_2020_rev_9-29.pdf

About this Document

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