

GrOWING GREEN: A Mobile Greenhouse

TIMOTHY GRAY

Ball State University

GrOWING GREEN is a prototype for a fully automated mobile greenhouse designed to address the unique conditions of the urban farm. While different economic models have been tested to support local and regional urban farming efforts, few innovations have been made relative to facilities that support grass roots farming operations which make use of vacant or underutilized urban land. These types of farms are often small in scale, economically challenged, and are often located on marginal sites where conventional structures might not be allowed.

This project, designed and built by a group of fourth year architecture students at a cost of \$40,000, is shaped by these contemporary urban conditions. The greenhouse is designed to function year round and can be reconfigured to grow starts for a wide variety of crops. Mobility allows the facility to be shared between farming operations which are often small in scale, and mobility also amplifies the potential for community engagement, education and outreach by actually taking the farm into the community. The project incorporates automated heating, cooling and ventilation systems as well as a four zone irrigation system. All building components were rigorously

researched, prototyped and fabricated to maximize durability, flexibility and efficiency while minimizing cost.

The mobile structure is well suited to the often onerous legal constraints of marginal urban properties, such as flood prone areas, where farming operations often exist. Mobile structures navigate within the seams of the building codes which distinguish between the temporary and the permanent, allowing mobile structures to be installed legally on properties where more conventional facilities might not be allowed. Mobile structures also lend themselves to the temporal nature of the urban farm, which can be subject to frequent dislocation through shifting patterns of urban development. When the farm moves mobile facilities move with the farm!

GrOWING GREEN is the first fully automated and fully mobile greenhouse. The project was designed and built to address the needs of a specific client, but simultaneously offers an innovative prototype for a unique and emerging building typology shaped by our contemporary urban condition.



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Project Type: mobile greenhouse prototype
 Project Address: Center for Urban Ecology
 Substantial Completion: May 2016



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