IT'S IN THE BOX

MOBILE PUBLIC SPACE INTERVENTIONS

by Nick Lavelle

A project submitted in partial fulfillment
of the requirements for the degree of:
Master of Landscape Architecture
August 2012

Thesis Committee:
Assistant Professor Beth Diamond, Chair
Associate Professor Stan Jones

ABSTRACT

Though it seems far from it now, Detroit was once the epicenter for the American dream. Those were left behind after industry and jobs moved to the suburbs, to other regions and other countries, after white flight following the civil uprising of 1967, have been trapped in an environment of social, economic, and environmental disinvestment with no more hope of escaping to something better than they experienced over forty years ago. The remaining residents do not have anywhere to go and they are not going away. Detroit, despite images promoted in the popular press, is not a blank slate.

In response to this condition I have devised a kit of parts for mobile, adaptable public space as a form of interactive, "interactvist" architecture called It's in the BOX! This proposal is intended to build off of what remains in the city, build upon and give structure to green spaces opened up through vacancy, build spaces the current residents of Detroit can use, and perhaps most importantly build up the autonomy and self-reliance of the community. To demonstrate these processes and characteristics, the following proposal describes three different interventions at three different locations that vary in scale.

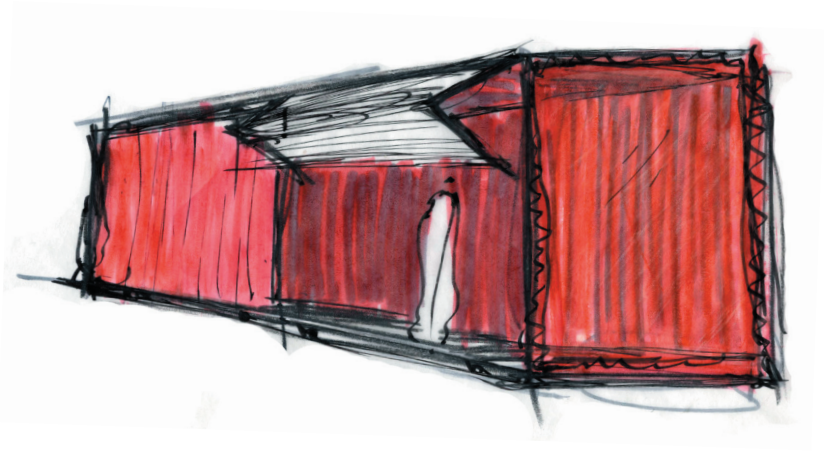
Figure 1.10 (opposite): bench and planter prototypes at Michigan Central Station

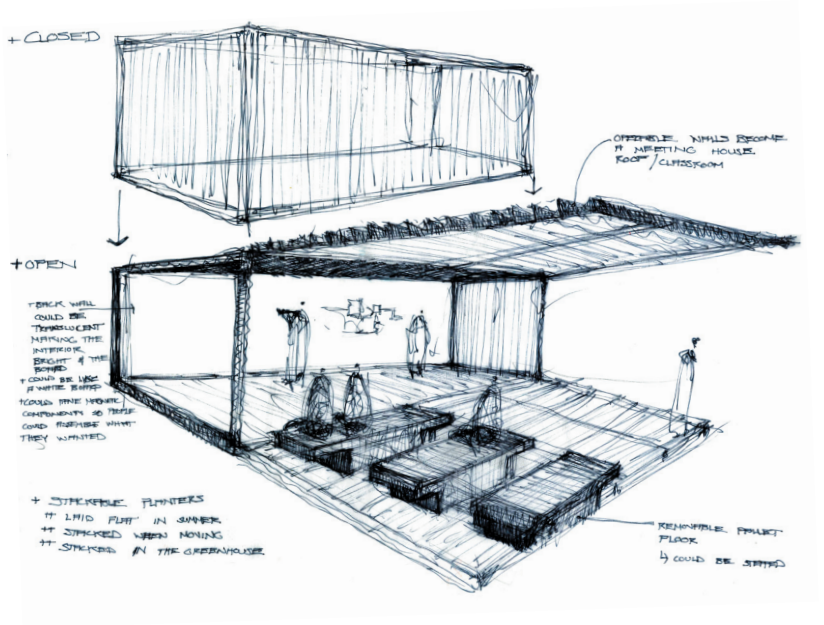
ACKNOWLEDGEMENTS

I would like to begin by giving my biggest thanks to the two Beths in my life: Beth Lavelle, my wife, and Beth Diamond my advisor. My wife has given undying support for over a year with this thesis project with not only advice about design decisions and layout but kept me going when I felt like quitting. Beth Diamond started out as my first year studio professor, hiring me shortly after to work with her on the Heidelberg Project Cultural Village. Since then she has not only become my academic and thesis advisor, but a good friend as well. This project nor myself as a designer would be as strong without her guidance and undying honesty. A great many thanks to you both.

I would also like to thank my professor and secondary advisor Stan Jones on his wisdom in the technical aspects of the project as well as his firsthand advice in community involvement processes. Thanks also go to my classmates as they had to endure the noise and sawdust while constructing the numerous models and prototypes as well as those who showed support by attending my final presentation. A special thanks goes to M'Lis Bartlett specifically who played an integral part in the brainstorming of the project. She really broadened my focus from the early stages of a small-scale movable park to really incorporating the needs of Detroit residents. The project would not have gotten where it is today without her. Last but not least, I want to thank the Heidelberg Project, especially Tyree Guyton, Jenenne Whitfield, and Sharon Luckerman who believed in me, gave me support, and showed me what it's like to succeed and bring light, energy, and hope back to the people and places of Detroit.

Figure 1.11 (opposite): bench and planter prototypes at Michigan Central Station




+ CLOSED
+ OPEN
+ STACKABLE PLANTERS
++ LAID FLAT IN SUMMER
++ STACKED WHEN MOVING
++ STACKED IN THE GREENHOUSE

IT'S IN THE BOX!

CONTENT

Introduction
- The People Left Behind 1

Response to the Problem
- It's In the BOX! 7
- A Utilitarian Response: Renewing ideals of early Modernism 11
- The "macro" Concept 13
- Mobility 15
- Creating Alternative Forms of Public Space 19
- The "micro" Concept: Components--multi-dimensionality + flexibility 21
- Component Profile: the BOX!--the structural and aesthetic backbone 22
- Component Profile: Pallets 23
- Not Another Master Plan but a Process 29

Implementing the BOX!--site evolution
- Site Evolution 33
- Building Community Through the Construction of Public Space 36
- 3 Experimental Sites 39
- Street-Scale BOX!--At the Heidelberg Project 41
- Component Profile: Matryoshka Boxes 45
- Component Profile: Solar Slide 45
- Neighborhood-Scale BOX!: Capuchin Service Center 47
- Component Profile: Lamella Structure 53
- Component Profile: Panel System 55
- Providing Alternative, Community-based Infrastructure 57
- Component Profile: Merry-go-round 59
- City-Scale BOX!--Roosevelt Park and Michigan Central Train Station 61
- Component Profile: Water Crates 71
- Component Profile: Metal Cable 75
- Component Profile: The Jack 75
- Building Skills + Providing Economic Opportunities 75
- Sustainability: Embedding its Principles into Everyday Life 77

Conclusion 81
List of Figures 83
Bibliography 89
Appendix I 93
Appendix II 94
Appendix III 95
Appendix IV 97
Appendix V 98
Appendix VI 99
Appendix VII 100

Figure 1.12 (opposite top): early sketch of container transformation
Figure 1.13 (opposite middle): early concept sketch of container meetinghouse
Figure 1.14 (opposite bottom): model of container meetinghouse

W.E.B. DuBois said at the end of the last century that the great challenge for the twentieth century would be to bring those up who had been left behind (DuBois 1903, 109-110). Those who have been left behind are the invisible members of our family. Here we are in the twenty-first century, and we still have people living in these conditions.
(Mockbee in Bell 2004, 156).

INTRODUCTION

+The People Left Behind

A drive on a narrow two-lane street yields sights such as pheasant-filled grasslands exploding with wildflowers, two-story houses spaced generously apart, and sweet corn and other produce in neat rows. The people one sees are primarily African Americans or other minorities on the lower portions of the economic pyramid whose daily lives lack many of the products and services that most citizens of developed countries take for granted. This picture at first seems like the rural south but it is far from it. This is Detroit in the year 2012.

Jerry Herron, in his book, Afterculture, paints a vivid picture of Detroit that still exists nearly two decades after its publication:

> There's no denying the power of the place, particularly at first sight. It is impossible to convey the eerie effect of so much real property—houses department stores, office towers, theaters, shops, schools, apartment buildings, hospitals, hotels, fire houses, mansions, streets, fountains, factories, whole neighborhoods—having simply been left behind, as if the inhabitants were carried off by some terrible natural disaster. Detroit is a worst-case illustration. (Herron 1993, 204)

Though it seems far from it now, Detroit was once the epicenter for the American dream. Those were left behind after industry and jobs moved to the suburbs, to other regions and other countries, after white flight following the civil uprising of 1967, have been trapped in an environment of social, economic, and environmental disinvestment with no more hope of escaping to something better than they experienced over forty years ago. The remaining residents do not have anywhere to go and they are not going away. Detroit, despite images promoted in the popular press, is not a blank slate.

Figure 1.15 (opposite left): detroit east side--1950s
Figure 1.16 (opposite right): east side neighborhood--present day

then

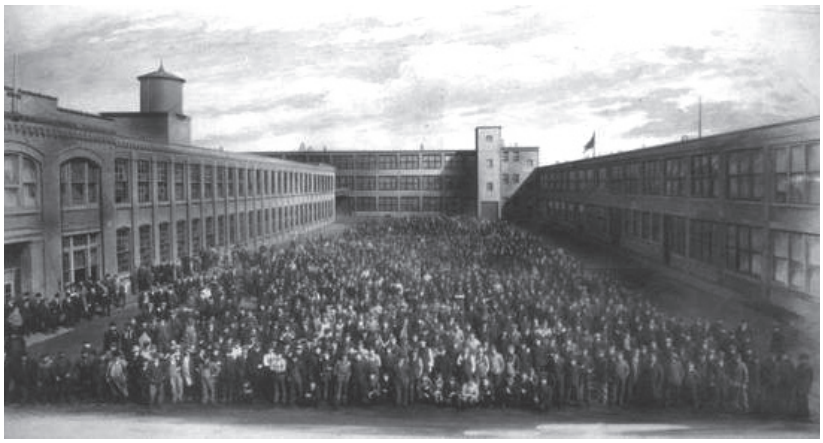
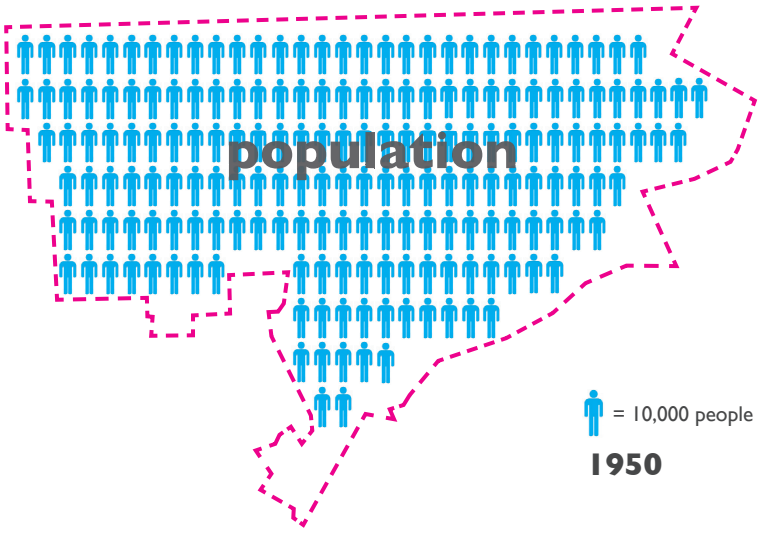
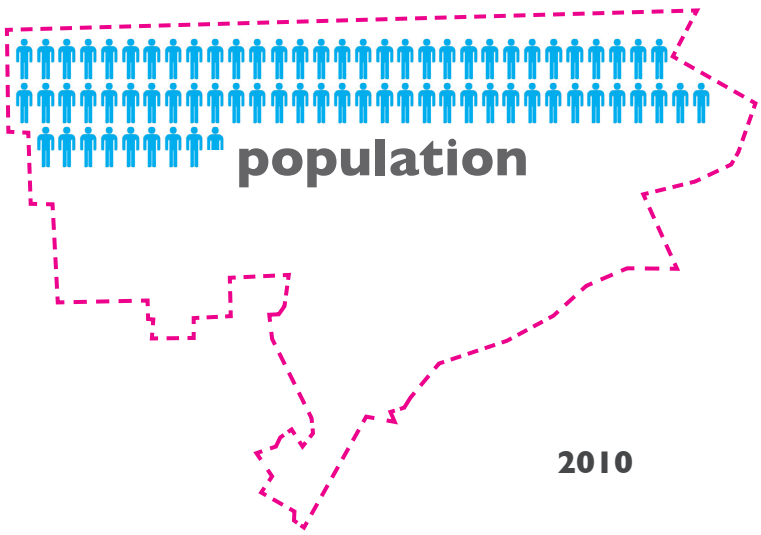


Figure 1.17 (top): Packard Plant when operational
Figure 1.18 (middle left): Woodward Ave circa 1960s
Figure 1.19 (middle right): Gratiot Ave circa 1960s
Figures 1.20 (bottom left) + 1.21 (bottom right): Michigan Central Train Station during operation

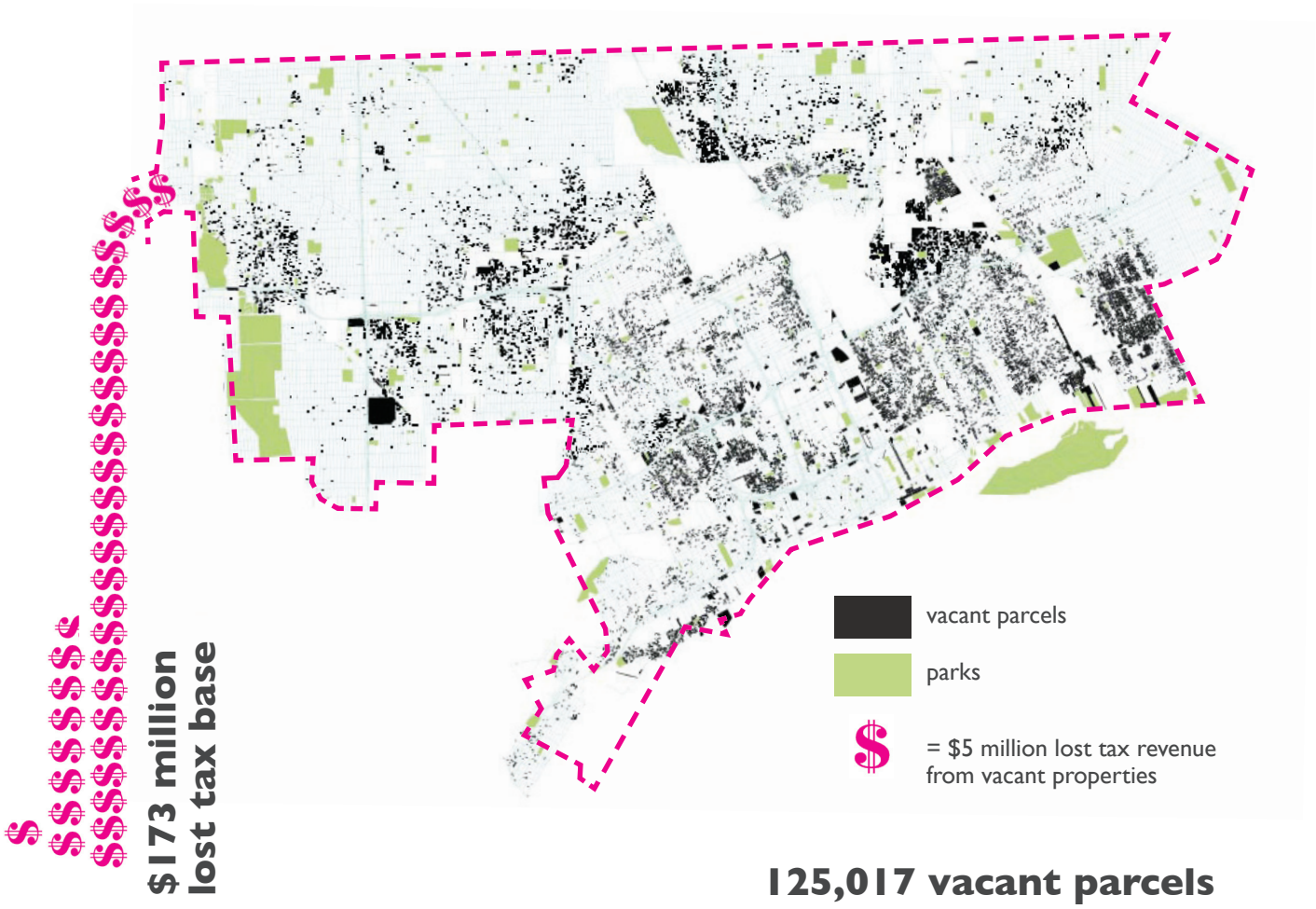
Figure 1.22 (top): Packard Plant--present day
Figure 1.23 (middle left): Woodward Ave--present day
Figure 1.24 (middle right): Gratiot Ave--present day
Figure 1.25 (bottom): Michigan Central Train Station--present day





Figures 1.26 (left) + 1.27 (right): Population change from Detroit's peak in 1950 to its continuing decline in the 2000s

Figure 1.28 (below): Vacant parcels in Detroit in 2010



Today, residents fight everyday to survive in a city whose population has dropped 57% in the past 50 years (Red Fields to Green Fields, 2011). With over 125,000 vacant parcels, the city has lost its tax base to support and provide services for the 143 sq. miles of land within its urban boundaries. Over $173 million in tax revenue has dried up and has been withdrawn from educational institutions, parks, community centers and even the maintenance and provision of basic infrastructure services like water and sewer (Glaeser, 2010). For the citizens who remain "south of 8 Mile", greater pressure is put on basic needs and everyday survival (Herron 1993, 122). If the plan goes through to shut off services and utilities to certain parts of the city, the people who live there will be faced with the decision of abandoning their homes or being removed from the grid.

When visiting Detroit, outsiders are shuffled in via the freeways to the handful of redeveloped areas Detroit has reinvested in, such as the $20 million Campus Martius renovation, the $4.3 million Dequindre Cut greenway, and the $100 million revitalization of the Detroit Riverfront (Duggan and Welch, 2009). Though these improvements provide great benefit for the City of Detroit's public image, these new public spaces are not intended to provide direct benefit for those living within the city limits. Rather, they are meant to entice those that live in the outlying suburbs or other places to visit or move there. These improvements merely maintain the historic division between races and classes.

Existing spaces and community centers frequented by Detroit residents must struggle to stay maintained and even open. According to the New York Times, of the more than 300 parks in Detroit, forty percent are in substandard condition (Saulny, 2007). In June of 2010, the city announced its plan to close 77 public parks which included pools, historical sites and basketball courts (UPI, 2010), but retracted the plan due to public outrage (WXYZ, 2010). There is clearly a demonstrated lack of consideration for the residents' rights to adequate public space.

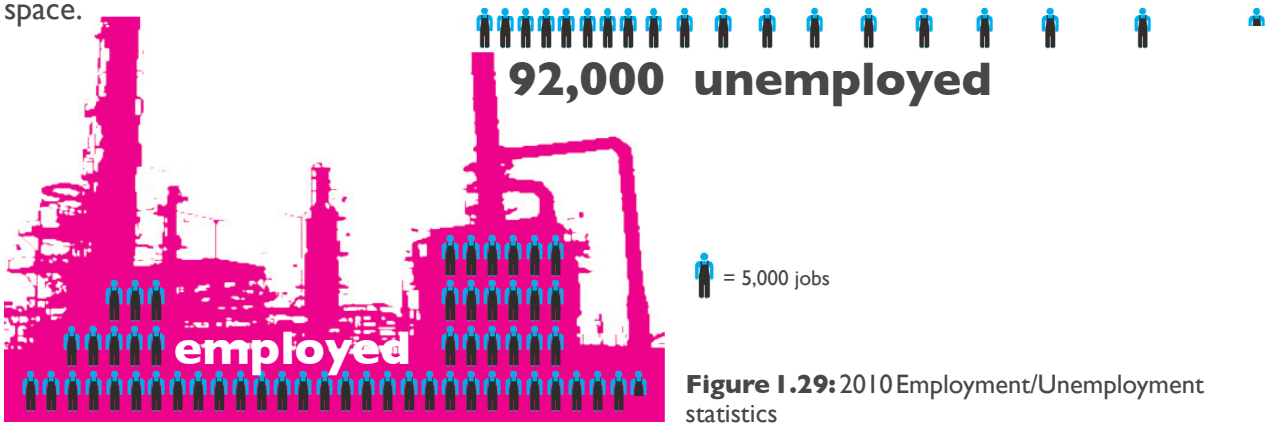


Figure 1.29: 2010 Employment/Unemployment statistics

Spaces can enliven. They can excite the soul, fill us with a sense of wonder, and bring us comfort and reprieve. When planned with their ultimate users in mind, spaces become more than bricks and mortar and glass and steel; they become incubators for serving, working, learning, and loving. This is what architecture is all about—providing spaces that empower people to live their best lives. (Cary 2010, 16)

RESPONSE TO THE PROBLEM

+It's In the BOX!

In response to this condition I have devised a kit of parts for mobile, adaptable public space as a form of interactive, "interactvist" architecture called It's in the BOX! This proposal is intended to build off of what remains in the city, build upon and give structure to green spaces opened up through vacancy, build spaces the current residents of Detroit can use, and perhaps most importantly build up the autonomy and self-reliance of the community.

It's in the BOX! is intended as an instigator of change, creating a domino effect of urban transformation. Change can only gain a foothold when it is believed that it is possible and the community is empowered to participate and invested in the outcome. Because Detroit receives everything but positive publicity, It's in the BOX! looks to use an asset-based approach to keep the energy positive. Amanda and Seth Hendler Voss of Design Corps used such an approach when working with the troubled Shiloh community in Asheville, North Carolina stating that, "Shifting the focus from needs and deficiency to strengths and possibilities can empower communities and designers" (Voss and Voss in Bell 2008, 124). Detroit has tremendous resources and potential energy at hand from the materials of abandoned buildings to the very people living in the city and the skills they bring to the table. It's in the BOX! avoids being "driven by preconceived political or architectural theories, but rather consists of responses to given realities" while most imperatively being a moderator of change and conversation (Lepik 2010, 21).

Gro Harlem Brundtland, author of the United Nations publication, Our Common Future (1987), wrote: "Human progress has always depended on our technical ingenuity...but this is not enough" (Hosey in Bell, 2008, 36). Lance Hosey responds by suggesting that "Designers can benefit the global community by reconsidering the purpose, process, and products of design all at once" (Hosey in Bell 2008, 36). The BOX! responds to these comments by: (1) establishing a unique purpose of providing mobile, community-based infrastructure, (2) creating a process that facilitates and encourages community participation and use, and (3) creates simply designed and easily mobilized and duplicable components to encourage interaction and personalization of elements and space.

Figure 1.30 (opposite): It's In the BOX! driving through abandoned buildings in Detroit

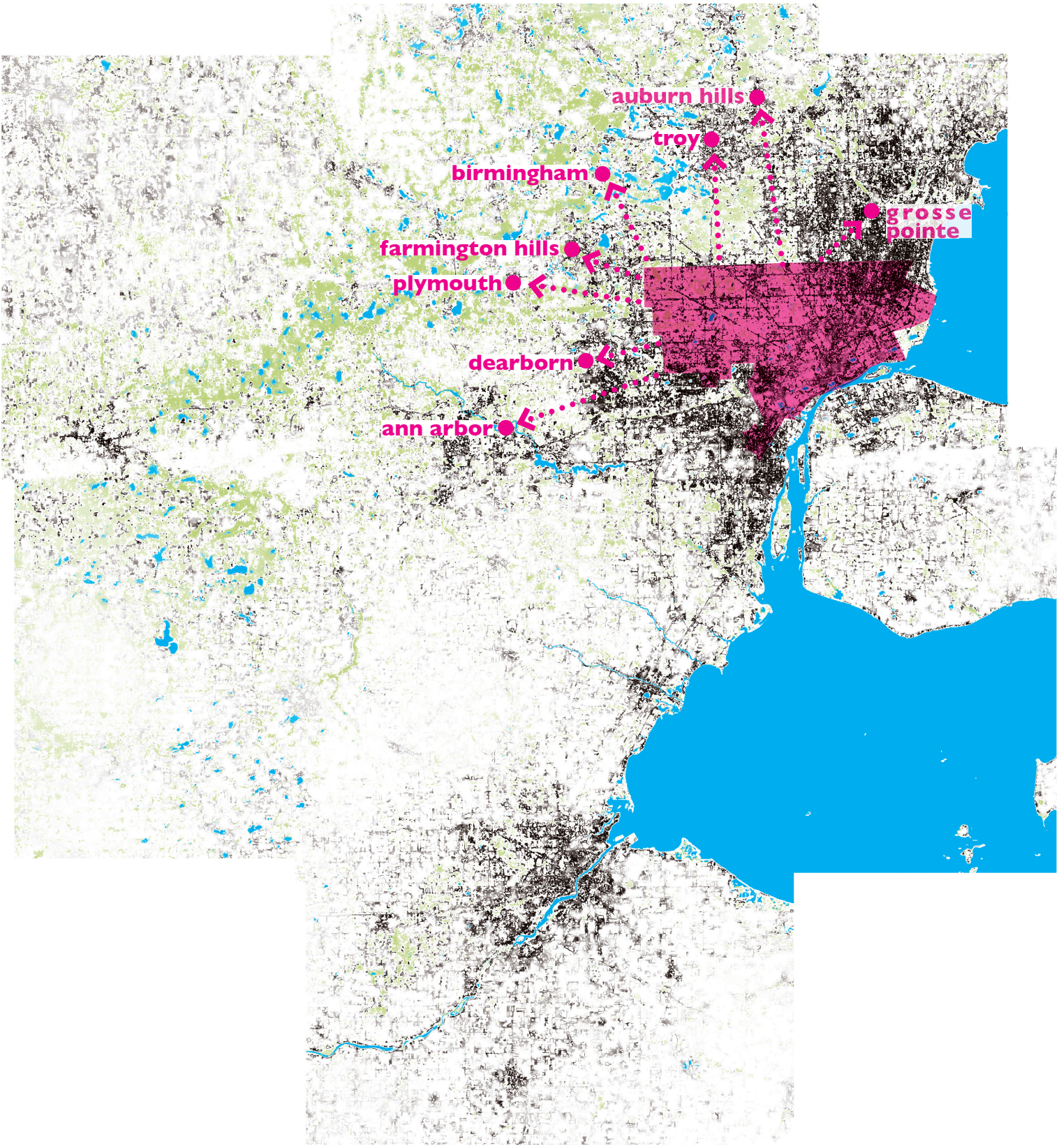


Figure 1.31: Detroit Metropolitan Area

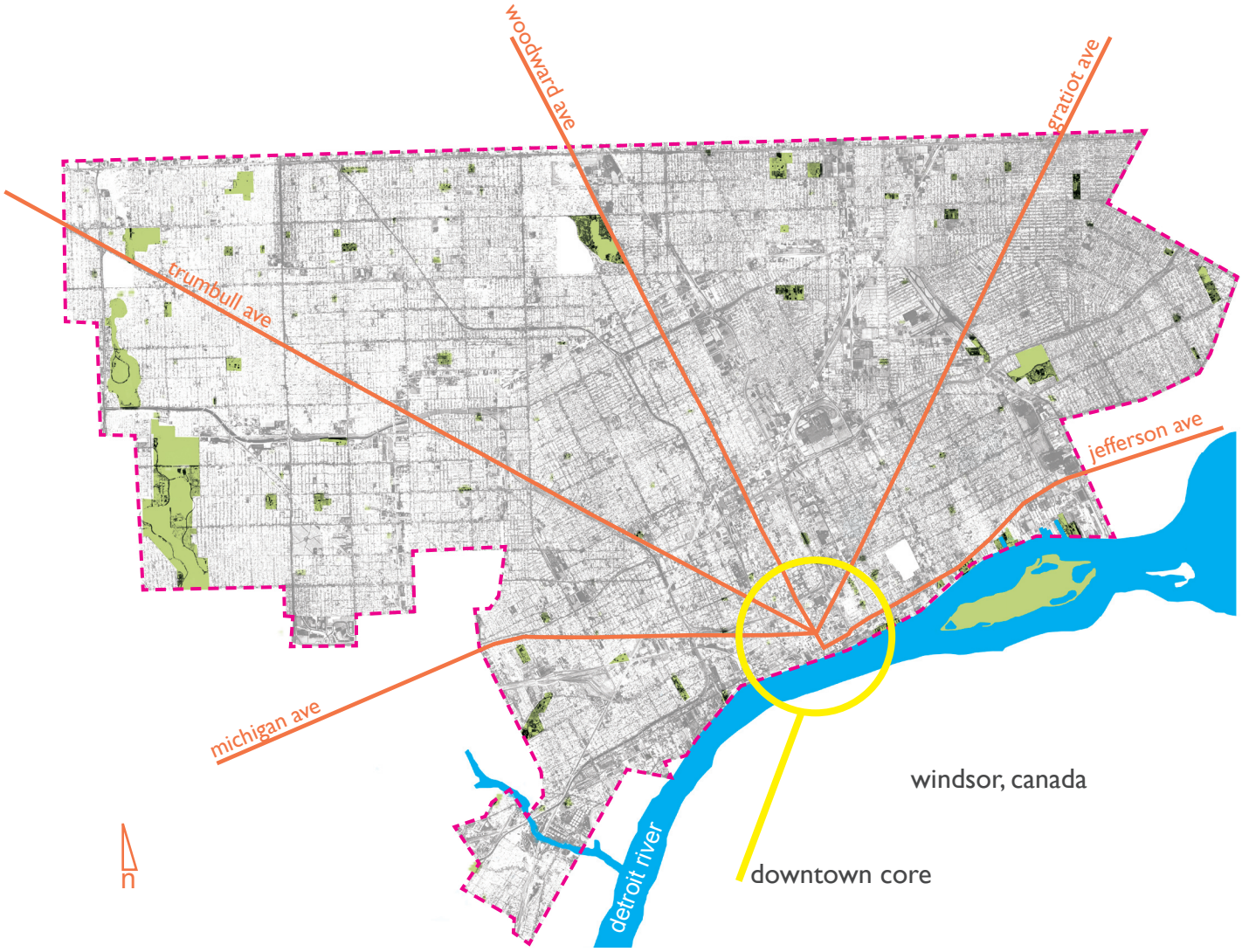


Figure 1.32: City of Detroit

The call for an architecture of change is not new, but it has fallen out of favor. The early modern movement possessed a clear sense of political engagement, and it envisioned broad societal change as a crucial and fundamental part of its architectural practices...the modern movement conceived of progress and technological advancement as tools to be employed in the service of social equity. Modernist architects strove to create 'universal' spaces—rational, orderly, and accessible—that would give opportunity and freedom to everyone. (Gamez and Rogers in Bell, 2008, 19)

Figure 1.33 (top) + 1.34: Model of a BOX!, displaying its name and message at night. The movable doors allow different combinations of words and amounts of light.

+A Utilitarian Response: Renewing ideals of early Modernism

The aspirations of social justice through design that were the foundation of early Modernist thought were never realized to their full extent. Such ambitions shifted from an avant-garde approach to re-envisioning the built world for the majority of people who inhabit it, to design driven by the capital flows of a globalized economy (Bergdoll in Lepik 2010, 9-11). According to Gamez and Rogers, early modernism, the architecture of change, was not dropped because of its ideals, but instead "...because of the conflicting principles by which it was realized—namely, the contradiction between the goal of social change and those of market capitalism and institutionalized power" (Gamez and Rogers in Bell 2008, 20).

The BOX! reaches out to those who may not realize how design can positively impact their everyday lives. Bryan Bell argues, "Design can play a direct role in addressing critical social issues that we face. The process of creating the built environment can allow communities and individuals to improve and celebrate their lives. It can help solve their struggles by reshaping their existence (Bell in Bell 2008, 15). The BOX! addresses the needs of the underserved population in Detroit, aligning it with Roberta M. Feldman's concept of an "activist practice" described as "the act of architects leaving the office, engaging a community, and seeking a need for design in that community, rather than passively waiting for clients to come to them" (Bell in Bell 2008, 15).

The BOX! is about the people on the ground, meeting everyday needs in a visual manner that aligns itself to what can be observed everywhere in Detroit. This type of everyday urbanism "celebrates and builds on everyday, ordinary life and reality, with little pretense about the possibility of a perfectible, tidy, or ideal build environment" (Kelbaugh 2002, 171). Instead of high design for the few, the BOX! responds to everyday life and actual human dynamics.

concept

Figure 1.35: free pallets : anywhere USA

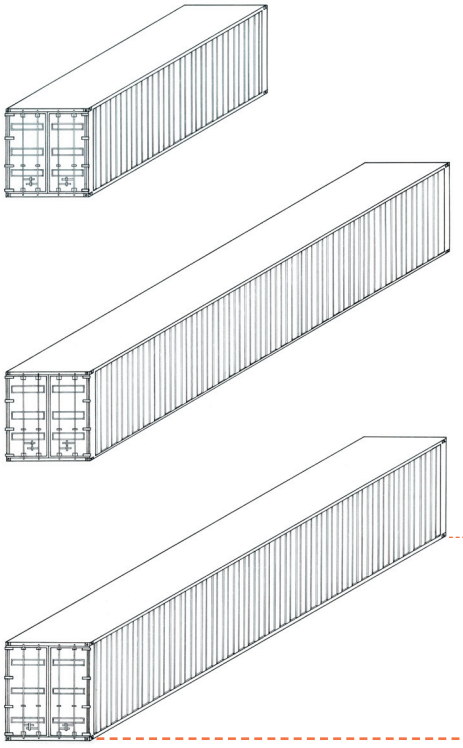
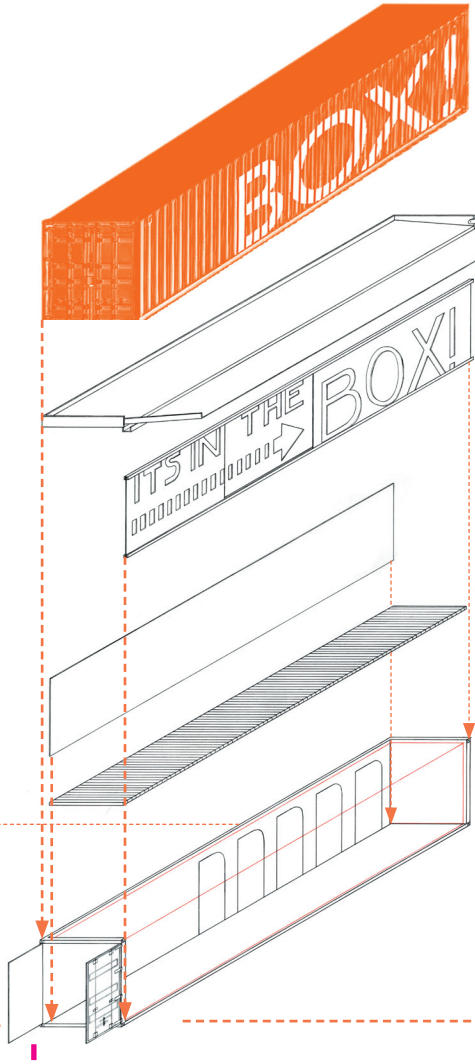


Figure 1.36: standard shipping container sizes



painting the container orange calls attention to a site while brightening the surroundings

an expandable roof increases surface area of available rainwater collection

sliding doors double as signage for the intervention with the ability to light up at night

a floor-to-ceiling, wall-to-wall magnetic white board facilitates community design charrettes allowing people to move around magnetic components to achieve a final design everyone understands and agrees upon

existing floor is replaced with hardwood salvaged from pallets

doors are added so shower/toilet stall components can be attached. the container provides a solid base while creating a securable facility for people to feel safe performing such tasks

Figure 1.37: container transformation

salvage

repurpose

+The "macro" Concept

The main concept driving It's in the BOX! is the BOXES! themselves which are salvaged and repurposed shipping containers. These brilliant orange shipping containers respond to the issues facing Detroit through the creation of a new icon for the city, that provides a catalyst for conversation and signpost of commitment to place. The project is a tactical kit of parts, designed to initiate new forms of public life on formerly abandoned landscapes. Using inexpensive, easy-to-find, and common building materials, the BOX! is a flexible, adaptable set of interchangeable components which can empower communities to reclaim their open spaces. As these constructed landscapes help promote neighborhood stability, continued development of surrounding vacant lots and abandoned buildings becomes more economically feasible. It's in the BOX!is about generating a sense of self-reliance and collective efficacy for the residents of Detroit in the construction of their own lives.

The name, "IT'S IN THE BOX!" conveys a positive message about the present. Unlike "Coming Soon" or "Coming to a city near you" slogans, It's In the BOX! carries an assurance that once a BOX! appears on a site, change is already happening; it merely needs to be unpacked. If the concept of the BOX! is to spread and reach out to disinvested communities across the city, it needs to become synonymous with a purpose. The mobility of shipping containers will allow them to reach the eyes and needs of a sparsely scattered population. Painted orange and lit from the inside at night, they sharply contrast the green of the urban prairie, the stark ruins of the built environment, and the danger-filled darkness.

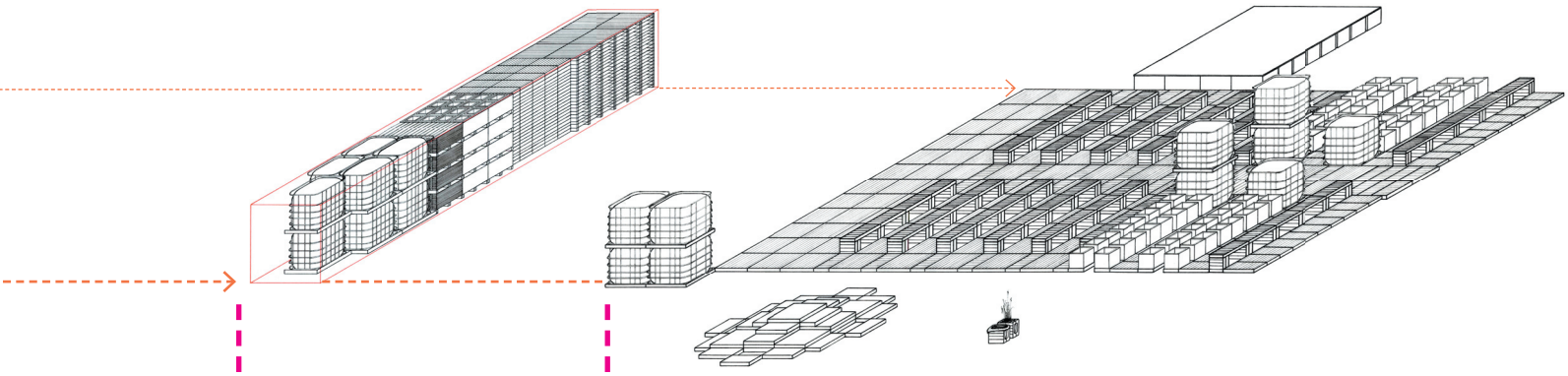
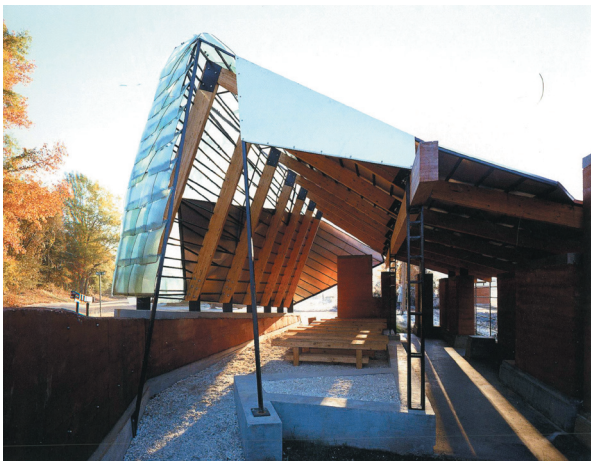


Figure 1.38: packed container

Figure 1.39: unpacked container

mobilize

intervene



Figures 1.40 + 1.41 (top): Newbern Baseball Field by The Rural Studio utilizes ordinary chain link fence and transforms it into something sculptural

Figures 1.42 + 1.43 (middle): Mason Bend Chapel by The Rural Studio reuses Chevy Caprice windshields into a glass facade

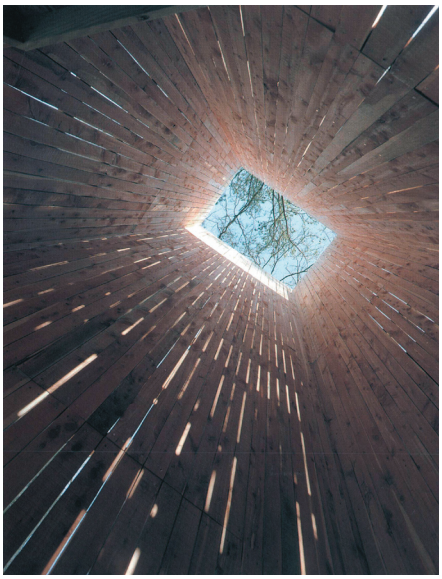
Figure 1.44 (right): Avery Vegetable Stand by the Rural Studio reuses found metal and highway signs to create a fence/wall more like a collage

+Mobility

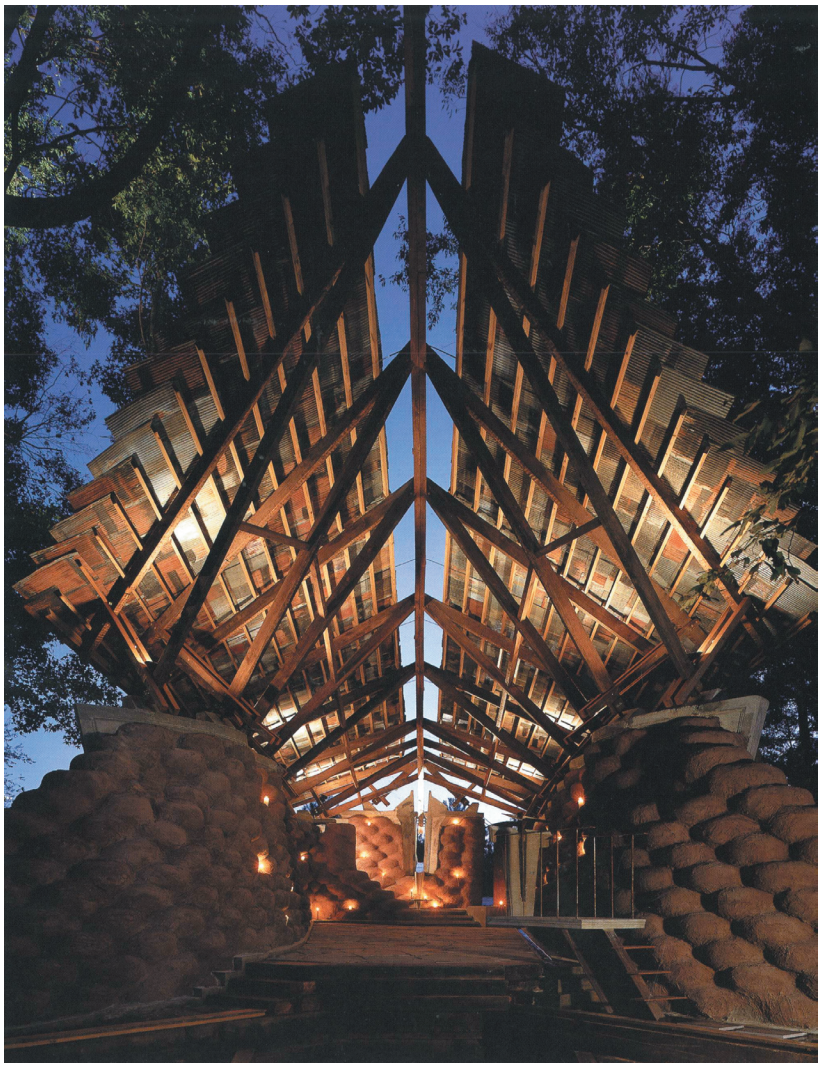
Mobility allows the BOX! to go to areas in need of a catalytic spark without risking substantial investment. If an intervention is unsuccessful it can simply be packed up and moved to an alternative site and attempt the process over again. Mobility in this case, is an initial step toward potential long-term stability and new development -- not just of the built environment, but of the people and communities that have been ravaged by decline.

Mobility and lightness come with many advantages. They can equate to a lower carbon footprint in terms of materiality; because something is mobile, it needs to weigh as little as possible to be transported easily. The BOX! avoids having to be remodeled or demolished because it is fully mobile and has the ability to be disassembled. The BOX! overcomes the tendency towards monotony because each individual component can be transformed and reconfigured. The resultant space has limitless possibilities and configurations. People reconfiguring, adding to, or personalizing already existing components will contribute to the sense that this intervention is custom-constructed for the residents themselves. Through these adaptable components and systems, the BOX! encourages interaction by allowing inhabitants to collectively redefine and reform their shared space. Such activities can promote forms of social efficacy that can continue to be built upon over time, and help to ensure a long-term commitment by the community.

The aesthetics of the BOX! are in some ways as important as its functional aspects because people will see its construction as a reflection of their community. Ordinary, everyday materials typically cast aside like pallets, shipping containers, and corrugated metal that have been cleaned, refined, and refinished to obtain a clean aesthetic are re-assembled in a way that recollects the beautiful, rhythmic, simplicity of Detroit's historic industrial architecture. Pallets normally grey and stained are sanded to reveal beautiful hardwoods like walnut and cherry and while shipping containers often found rusting on abandoned industrial sites, are transformed into glowing orange beacons illustrating the transformation of the ordinary into the extraordinary.



Figures 1.45-1.47: Perry Lakes County Park, Thomaston, Alabama by the Rural Studio
Figure 1.45 (top left): These unique restrooms utilize high craft and materials like cedar and stainless steel that engulf the surrounding landscape and trees
Figure 1.46 (top right): View from the tall toilet
Figure 1.47 (bottom): View of all the toilet facilities at the park



Detroit is home to a diverse population and although the majority is African American, other cultural groups also inhabit the city including sizable Latino and Arab American communities. If an intervention is targeted for a neighborhood that has a distinct identity or cultural heritage, the BOX! can easily serve as a spatial frame that can accommodate forms of expression unique to different cultural constituencies. The shipping containers themselves can be manipulated before the interventions are delivered. The container design includes elements such as sliding doors and fold out roof/shade structures. These have the potential to be altered in shape, profile, materiality or color in response to certain cultural preferences. Such decisions could be made by the community during the participatory design process and the alterations then made to the components or BOXES! before final delivery.

Figure 1.48: Yancey Tire Chapel at night by the Rural Studio utilizes old tires for the walls and salvaged corrugated metal to create a sacred space

The city is only rarely these days a place of hope, of promise and glory. It is not merely that it is harsh and dirty...It is that it has become so indifferent to the very idea of the public realm, to the notion that the city is a collective, shared place, a place that is in the most literal sense common ground... If there is any legacy of the Reagan years, it is to have devalued completely the importance of the public... so much so that the public realm has almost ceased to have meaning.

(Herron 1993, 178)

Figures 1.49 (top) -1.52 (bottom): Mobile City Farm in Chicago, IL

+Creating Alternative Forms of Public Space

As a way to regain a foothold on negative publicity, Detroit has experimented with ways to reinvest in certain parts of the city, principally focused on the downtown core. Though this reinvestment is positive for Detroit's image, and potentially its tax base, this does little for its currently underserved residents. Contrary to such developments, The BOX! is primarily intended for the underrepresented inhabitants of Detroit rather than for tourists and visitors from the suburbs. The sites that have been selected are located in neighborhood settings amongst existing populations of residents outside the downtown core.

The residents of Detroit have been under constant threat of losing neighborhood parks where children, teenagers and the elderly go to recreate and socialize. Parks and recreation centers are essential to the lives of this important and vulnerable portion of the population yet they are some of the first areas targeted for budget cuts. In 2010 the city government voted to close 77 parks which would have resulted in conditions such as barricaded parking lots, unmown grass, unmaintained play equipment, and the removal of trash cans, saving an estimated $9.1 million in the budget (Glaeser, 2010). The residents were able to show enough opposition that the City Council and Mayor David Bing called an emergency session to put that money back in the budget and keep the parks and community centers in operation (WXYZ, 2010). The response and action of Detroiters in this situation illustrated their commitment to preserving and maintaining public space firsthand, despite its current condition. The BOX! seeks to use this attitude and energy as a driver to develop an alternative approach for making and maintaining public space.

The BOX! is intended to provide meaningful, useful public space for the residents of Detroit, in order to serve a broader array of people and accommodate their basic needs. It's in the BOX! attempts to engage a diverse set of users in an attempt to create an authentically democratic form of public space. The result may more closely resemble an outdoor community center than a park. John Cary argues the importance of community centers in The Power of Pro Bono, stating that "These spaces can go beyond the bare minimum of their intended purposes to become places that foster a sense of belonging and dignity. Rather than just adding some greenery to a block, a lively, thriving neighborhood garden can unify residents, pulling them out of their isolated houses and apartments and giving them a communal activity in a shared space in the public realm" (Cary 2010, 17). When outdoor spaces are designed with a common purpose, such spaces have a more likely chance of survival. The BOX! attempts to engage people by forming mutually beneficial social linkages through community-based infrastructure, by providing services that everyone needs. In The Right to the City, Don Mitchell says, "What makes a space public...is not its preordained 'publicness.' Rather, it is when, to fulfill a pressing need, some group or another takes space and through its actions makes it public" (Mitchell 2003). In order for the BOX! to become a true public space, the community must come together to show its interest through the process of creating the space and then its dedication through the use and care of the space.

+The "micro" Concept: Components--Multi-dimensionality + Flexibility

Each BOX! component fulfills a number of overlapping functions and uses. Components are compiled from elements that typically serve as accessories to mobility, such as shipping containers and wood pallets. The way things are shipped have become standardized and conform to what a truck can carry. Pallets tend to be forty inches wide so that a standard semi truck can carry two across in its seven and a half foot wide trailer. Using existing standards for every component greatly increases qualities of compactness and ease of mobility. All BOX! components rely on items often found in the waste stream; These items are cleaned, repurposed, and reconfigured in a variety of combinations.

In order for the BOX! to serve as many different people and perform as many functions as possible, the components that come in the BOX! must be flexible and adjustable to change. The increased flexibility contributes to a sense of ownership. Customizable elements allow people to invest their creative energy in something that is reflective of who they are.

Multi-functionality provides the added benefit of delivering one set of components that can function in several different ways for different purposes. For example, the matryoshka boxes can serve as a stage for a performance and then be re-assembled into tables and chairs for a large community dinner. If anything breaks or needs servicing, anyone with basic carpentry tools can examine an identical component and be able to either fix it or create a replacement.

+Component Profile: The BOX!--the structural and aesthetic backbone

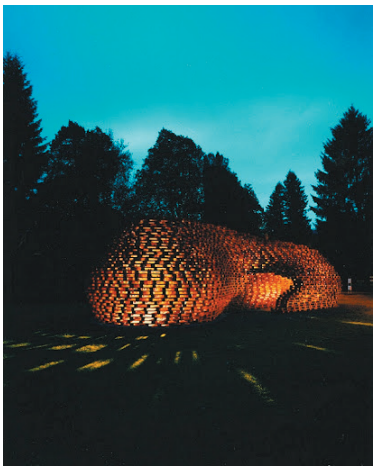
In recent years, shipping containers have been re-purposed for a variety of different uses, from a Starbucks drive-thru to houses, cabins, and classrooms. Once delivered the shipping container is modified by the removal of one of the long walls, which is then replaced by large sliding doors that have the project name on them. The interior face of the wall that remains is given a floor to ceiling, wall-to-wall magnetic white board. This element can serve several purposes: It is used as (1) an interactive medium for the participatory design charretes, (2) as a community message board, (3) as a canvas for drawing, and (4) as an instructional medium for educational activities. The roof is replaced with one able to fold out to increase rainwater collection. Light fixtures are added to the interior for nighttime use. The roof can be covered in solar panels allowing the container to generate electricity with the expensive transformers secured inside. The containers are used to ship the components from site to site and promote the aesthetic possibilities of the site. Once on site, they provide secure and lockable storage for valuable tools or recreation equipment. They are also used to catch rainwater, connect to the toilet and shower pods created by the water crate components, and provide shelter from the elements.

Figure 1.53 (opposite): Container graveyard in Detroit
Figures 1.54-1.55 (above): Shipping container transformed into a forest cabin
Figure 1.56 (left): A Starbucks drive-thru in Washington utilizes repurposed shipping containers

+Component Profile: Pallets

Pallets are often discarded making them easily attainable as construction materials. They come in a range of sizes, but are typically forty inches wide and forty-eight inches long and are all uniformly 4.5-5 inches high. The materiality of pallets runs the gamut from the most expensive and durable pallets made of plastic, all the way to the cheapest pallets made of wood. Wood used for newer pallets is typically pine and of the poorest quality; however, older pallets which are more durable are often made of hardwoods like walnut, cherry, and white and red oak.

Pallets in the BOX! are disassembled, cut to standard-sized pieces, and sanded and finished to maintain uniformity. The basic element of the BOX! are primarily constructed of these reconfigured pallets. The BOX! pallets come in two sizes: full size (36" x 40") and half-size (18" x 36"). Each slat of wood is removable and repositionable using carriage bolts and door hinges are attached in the middle of each pallet. The hinges allow both types of pallet to fold in half and be re-configured for new uses. When folded, each pallet creates a cavity, allowing a receptacle to be placed inside for uses such as planters or trashcans. Door hinges are used because the pin can be removed allowing each pallet to come apart into two pieces. This is especially important in the bench design: the full-sized pallets pull apart to make two bench tops that set on three folded half-sized pallets. Other uses for pallets include flooring or stacking pallets to create traversable topography (useable as stadium seating).

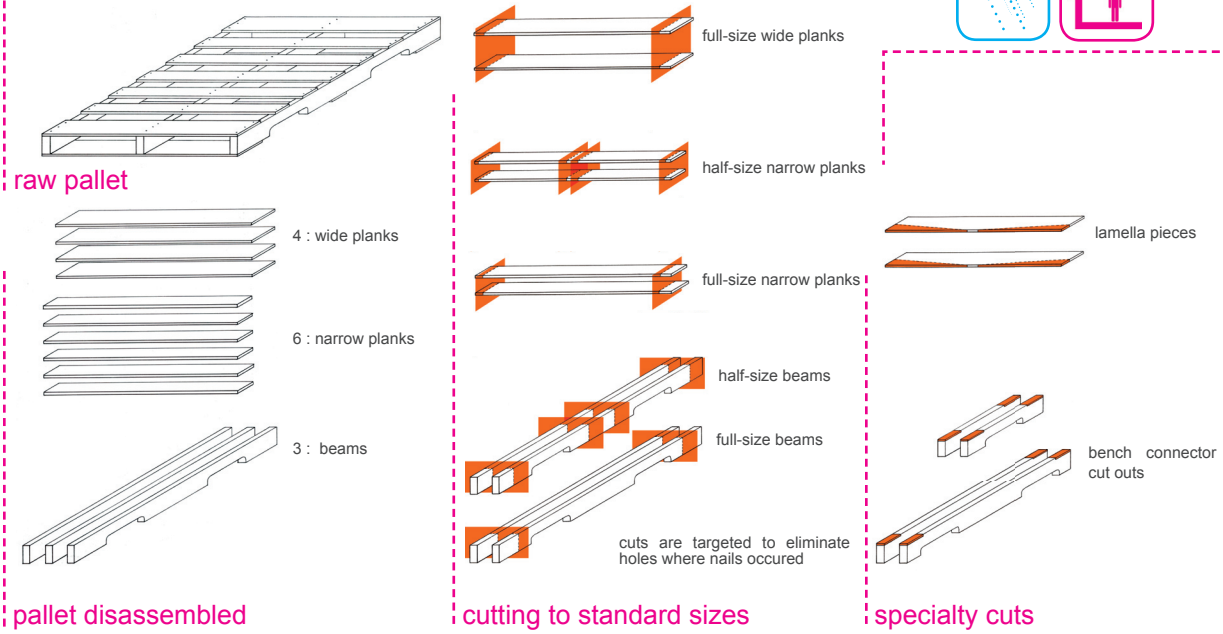


Figures 1.57 (left) + 1.58 (middle): Palleten Pavilion uses pallets to create an organic shape
Figure 1.59 (right): State of Rio de Janeiro Pavilion at the Rio21 Summit

Figures 1.60 - 1.63 (top 4): Assemblage series of photos for the planter, bench, and floor prototypes for the BOX!
Figure 1.64 (bottom): Planter, bench, and floor prototypes

pallets

Figure 1.65 (below): Pallet transformation



lamella structure

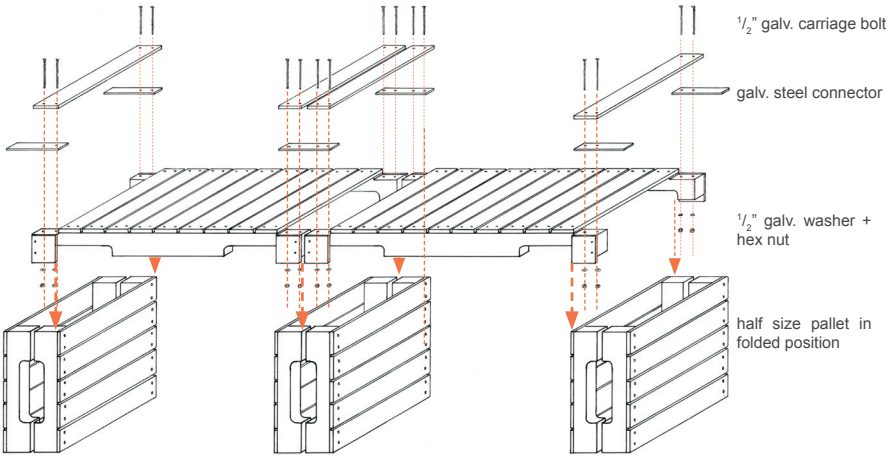


Figure 1.66: Bench assemblage

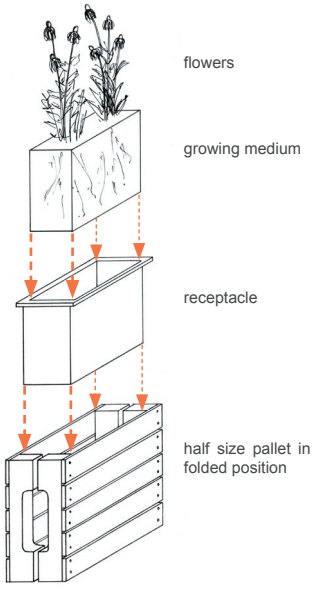
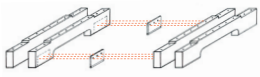
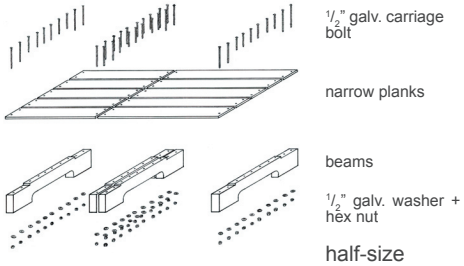


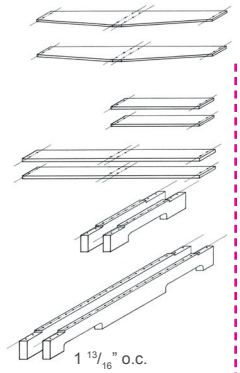
Figure 1.67: Planter

Figure 1.68: Example of a completed lamella structure

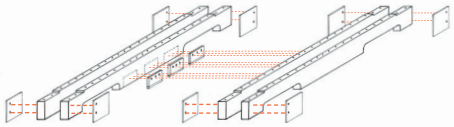


half-size



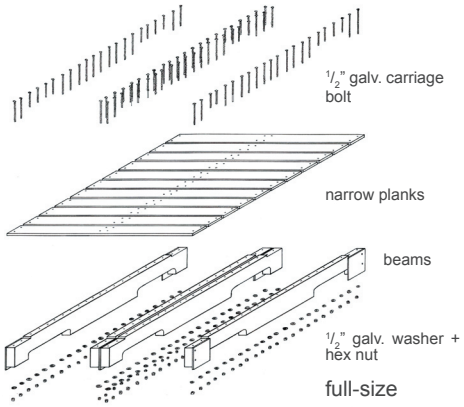


drilling holes

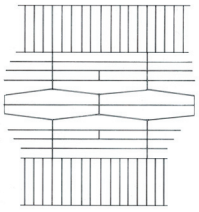


full-size

hardware additions



assembling final pallets

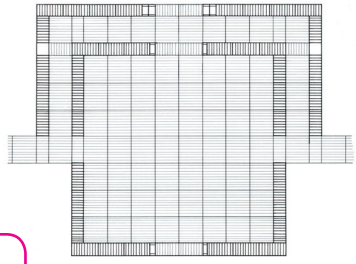


bench row

full size pallet aisle w/ lamella inlays

bench row

standard classroom



outer bench ring

inner bench ring

inner focal/performance area

dance floor/ meetinghouse

Figures 1.69 + 1.70 (above): Hilltone--an example of a hardened topography made of wood

Figure 1.71: Floor arrangements

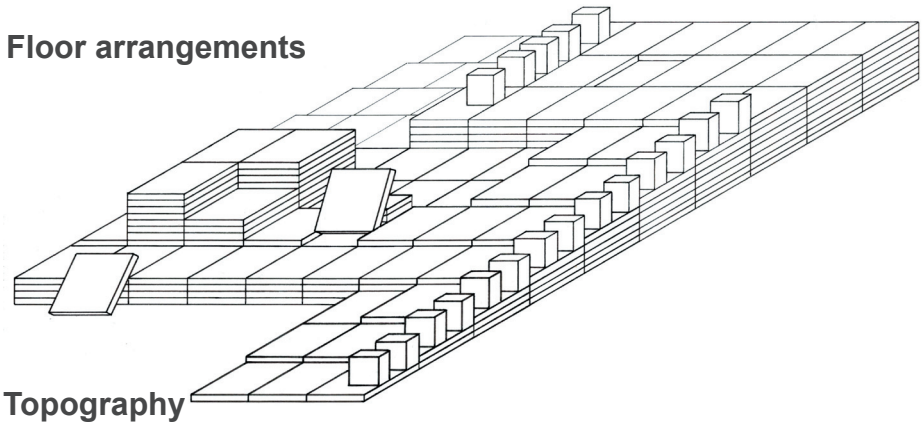


Figure 1.72: Topography

Figures 1.73 (opposite) + Figure 1.74 (above):
Photos of completed pallet prototypes

+Not Another Master Plan but a Process: a layered approach for flexibility and community involvement

The BOX! is equally about process as it is about the physical space being produced. Too often designers control the design process using professional jargon rarely understood by those outside the profession. The BOX! avoids this alienation and replaces it with community-driven design. The participatory process allows the community to have a voice in the shaping and decision-making of the project. According to Aeschbacher and Rios "Full civic participation in the creation of the built environment inspires competing visions of the common good. Within a reinvigorated vision of agonistic democracy, participation enables empowerment and bestows responsibility for realizing a vision of the future" (Aeschbacher and Rios in Bell 2008, 90).

Community design opens up the floor to diverse perspectives, sources of inspiration and ideas, that put toward the actual design results in a richer, more socially relevant public space (Bell in Bell 2004, 30). Through participatory design, designers can help eliminate the misconception that good design is about great monetary expense and thereby for the rich only, by demonstrating that good design can be about paying close attention to people as individuals (Bell in Bell 2004, 182). John Pearson believes an "expansion of the scope of architectural practice is based on participants' shared recognition of the inadequacy of conventional design strategies and practice models to address the full complexity of contemporary social, political, and environmental challenges, particularly among economically challenged communities (Pearson in Bell 2004, 233). This perspective is useful for the type of complex issues faced by Detroit residents. In order to respond to the people currently inhabiting the city, the design of the BOX! must cater to their particular needs and help provide real solutions.

The BOX! draws inspiration from a variety of participatory design models and strategies in order to engage Detroit residents more effectively. The participatory portion of the process begins when the first BOX! arrives on-site to announce change and a schedule of design meetings and community events is posted. This initial shipping container is specially designed to facilitate the participatory design process. This BOX! is able to completely open up to the outside and includes a fold-out roof or shade structure to provide a canopy for participants. An outdoor forum is created through the addition of a pallet floor with rows of movable pallet benches. The container acts as the stage: on the forty-foot long back wall is a wall-to-wall magnetic whiteboard where issues and design decisions are displayed for all to see. Through this pioneer container, an intimate yet comfortable public environment for free speech and community advocacy is initiated.

The participatory design process is critical for successful implementation of the BOX! due to the complexity of issues that any proposed public space may potentially address and the multi-functionality involved with each component. Because at least three and upwards of ten functions are associated with each component, it must be made clear how each component functions. Although the components are pre-designed, the community has the final say in how those components are used in regards to function, aesthetics, and economics. The BOX! is a more sophisticated translation of "Legos" at full scale – made for real people and real places. When making constructions of Legos, it is up to the builder to determine how each piece fits to another. For example, a community may use the matryoshka boxes as raised beds for crop production or they may choose to use the same set of boxes as a stage. Instead of orienting the boxes in standard rows, they may decide to create a maze so children could use it for play while still serving as a functional garden and source of fresh food for the community.

The BOX! offers a simplified solution for working with residents who may be unfamiliar with the construction process. By having user-friendly components pre-designed, built prototypes can be previewed and their functions demonstrated firsthand, building an overall understanding of the limits and possibilities of each component.

The final stage of the process involves the community participating in the assembly of all components. According to Shannon Criss "This looser fit between architect, builder, and user suspends the design process to involve others in it early on, which provides the grounding for many to be involved and able to pursue long-term community making. The practice of designing and building allow others to be involved in tangible ways and establishes the place for long-term community making" (Criss in Bell 2004, 216). If people partake in the initial construction, they can begin to understand how each element attaches to one another or structurally supports one another. And if they start out with this understanding, they may feel empowered to make adaptations and alterations to help the space function better or respond to changing needs.

Since the idea of plan drawing is relatively abstract to the average layperson, a model with movable pieces serves as a working "site plan." Multiples of each component representing the range of possible uses are provided for community members to move around, add, and replace. Simple, brightly colored icons would be divided into three categories: (1) blue for water, (2) green for sustainable building practices -- more specifically renewable energy and landscaping/vegetation, and (3) pink for culturally related elements. These would be placed next to each model piece to distinguish its functional aspects. A master list of component functions would always be visible so community members could easily see the possibilities and limitations of each component.

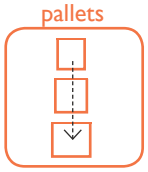
Lack of attendance and participation would be detrimental to the success of the BOX!. The giant white board, movable models, and functional icons are intended to make the process fun and engaging. Another medium for bolstering participation would be the prototype components that would arrive with the initial BOX!. These would be full-scale and fully functioning prototypes for the purpose of engaging community interest and encouraging physical interaction with the project components from the start.

component funtions and uses

components

the BOX!

pallets


matryoshka boxes

panel system

water crates

lamella

metal cable

solar slides

merry-go-round

pallet jack

water harvesting

showers

water storage

drinking water

water pump

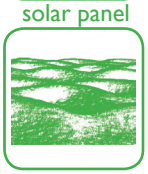
water oriented

planter

solar panel

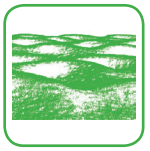
power generation

gardening tools


topography

growing food

green screen



plant and power oriented

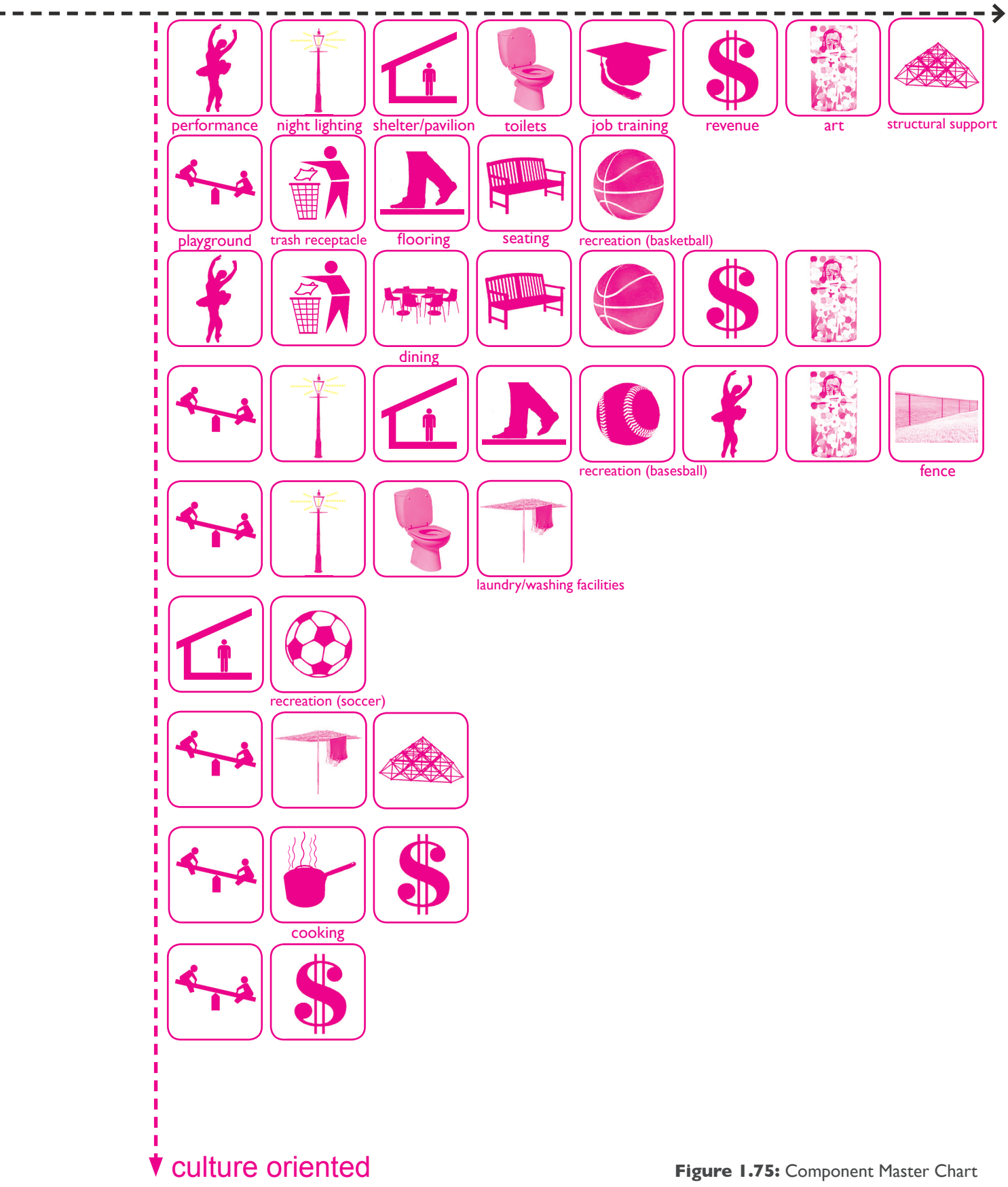


Figure 1.75: Component Master Chart

Figure 1.76 (top): The BOX! in transit in front of the Renaissance Center, downtown Detroit
Figure 1.77 (bottom): Delivery of the BOX! on the Capuchin site

IMPLEMENTING THE BOX!

+Site Evolution

The process for It's in the BOX! begins with selecting potential sites for interventions. Sites chosen need to be dynamic, accessible, and easily viewed by people passing by. While the idea is for the BOX! concept to evolve over time and expand its reach to new user groups, the main constituency that the park seeks to support are those that might otherwise remain marginalized by conventional development practices. The selected sites must represent both potential areas where the most pressing needs of the community can be met and possess qualities which would be attractive to others outside the immediate neighborhood.

Once a site has been chosen for an intervention, an initial BOX! is sent to that site. While in transit, the orange shipping containers, etched with their message, become a mobile billboard, and when delivered, it becomes the beginning of the site's transformation. Posted on this BOX! is a schedule of future community meetings and gatherings that initiate the participatory process for designing and constructing the public space.

The BOX! first unfolds like a flower to become a place for facilitating social gathering and conversation. A floor, seating, planters, lighting, and a roof structure are unveiled to create a town hall type setting. Here people gather not just for deciding what the design for the future space will be but also for celebratory events like concerts, performances, dances, and cookouts. Including one of each of the potential site components allows the community to envision and experience firsthand how each piece can be used. The outcome of this process is a plan outlining which components are to be used, how those components will function, and how they will be organized on the site.

After a community has decided upon a site layout, the needed components are packed inside additional BOXES! and arrive at the site a short time later. The setup and construction is the community's next step to creating their own public space. Construction is relatively simple for the most part, utilizing ordinary tools for securing and connecting components. By allowing the community to participate in construction, they become knowledgeable on how the different components assemble and attach to one another. After this initial setup, community participants may reassemble the intervention in any way they see fit as long as it meets safety regulations.

Figure 1.78: The BOX! establishing presence on the Capuchin site

Figure 1.79: The BOX! transformed into a community gathering place and meetinghouse

Figure 1.80: Delivery of the initial site design components and BOXES!

+Building Community Through the Construction of Public Space

The BOX! is a medium to help re-build community, not only through the planning and construction of common space but also through informal interaction and community building activities. The community engagement process for the BOX! includes cookouts, concerts, and social gatherings separate from scheduled planning meetings, because in order to engage the diverse personalities and constituencies in any population, it is important that the different "stakeholders" first and foremost get to know each other as people.

Through participation, the BOX! attempts to create a sense of investment among residents so that the public space interventions become widely used and maintained by those who live nearby. The BOX! provides the components in a 'blank-canvas' state, meaning they are in their raw material forms without decoration. By providing the components in this state, the BOX! allows the people who are to inhabit the space, the opportunity to customize it and truly make it their own.

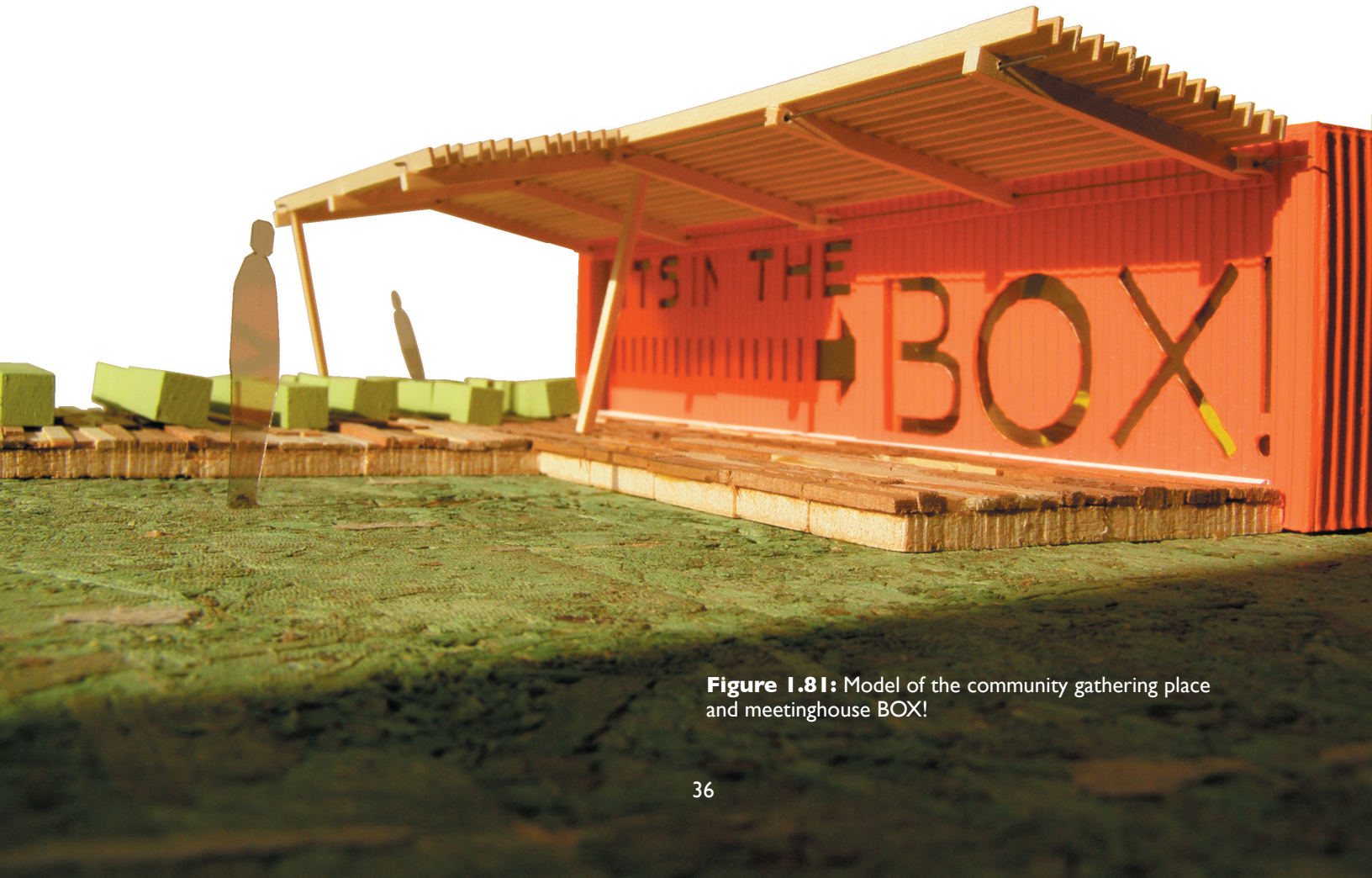


Figure 1.81: Model of the community gathering place and meetinghouse BOX!

Figures 1.82 (above) + 1.83 (left): Model of the community meetinghouse at night, lit up to establish a greater sense of safety while displaying its message

Figures 1.84 (above) + 1.85 (right): Model of the community meetinghouse and its fold-out shade structure

site process + evolution

Figure 1.32: City of Detroit

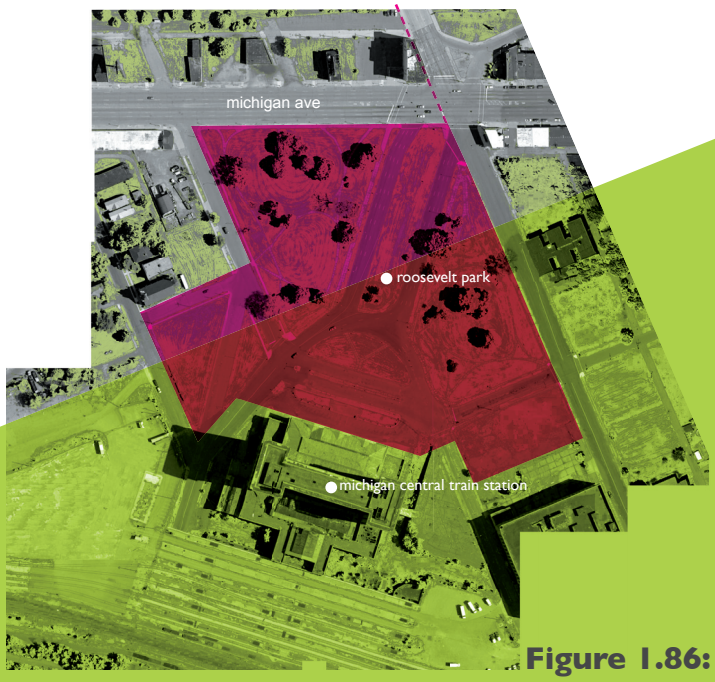


Figure 1.86: Michigan Central Train Station/Roosevelt Park site

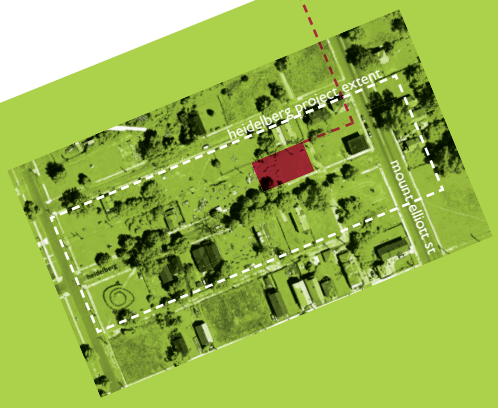


Figure 1.87: Heidelberg Project site

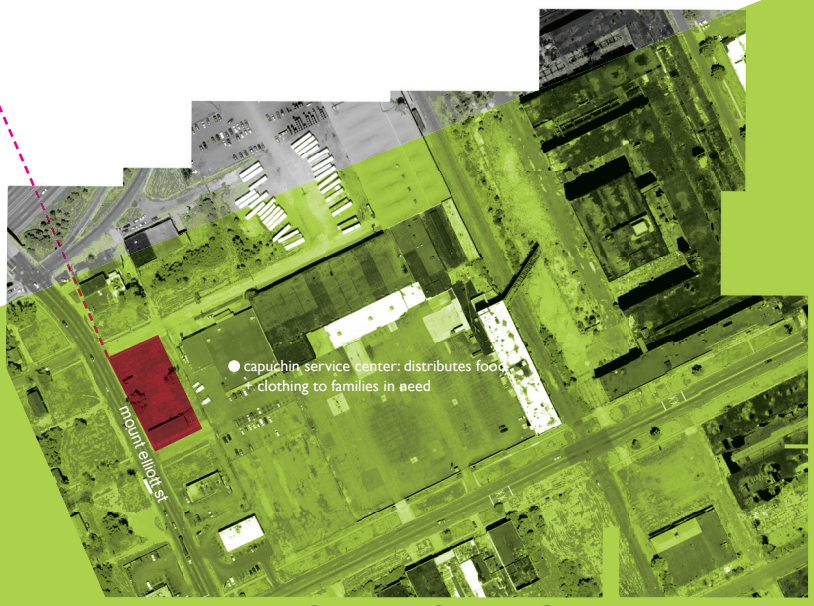


Figure 1.88: Capuchin Service Center site

+3 Experimental Sites

The following proposal describes three different interventions at three different locations that vary in scale.

Figure 1.32: City of Detroit

+Street-Scale BOX!--At the Heidelberg Project

Over 275,000 people visit the Heidelberg Project annually making it highly visible to people all over the city, country, and globe while moving forward on its mission to educate youth about art and its power to create change. The artist and founder of this two-block artscape, Tyree Guyton has taken the broken pieces of Detroit to create new life in a part of the city once considered dead. The pieces of the BOX! take a cue from Tyree's art, scrounging materials and transforming them to create something new while simultaneously re-enforcing the spatial framework already begun, in order to provide opportunities for leisure, recreation, and functional infrastructure.

The functions of the design are to serve both the Heidelberg non-profit organization, visitors and the surrounding neighborhood residents. The program for this BOX! includes a classroom/gathering space, a playground, toilets, and an area for creative activities such as painting, sculpting, or performing. Water crates line Heidelberg Street adding visual order in the day but also at night when they light up the street to support a greater sense of safety. A half-sized container placed on the site serves as Heidelberg's new welcome center, providing a more permanent place to greet new visitors and sell merchandise. Sets of matryoshka boxes that can serve as tables and chairs for their K-8 arts education program can be converted into a stage for musical and visual-arts performances.

Figure 1.87 (above): heidelberg project site
Figure 1.89 (right): Heidelberg Street at the Heidelberg Project
Figure 1.90 (far right): Tyree Guyton face at the Heidelberg Project

street-scale BOX!
the heidelberg project site

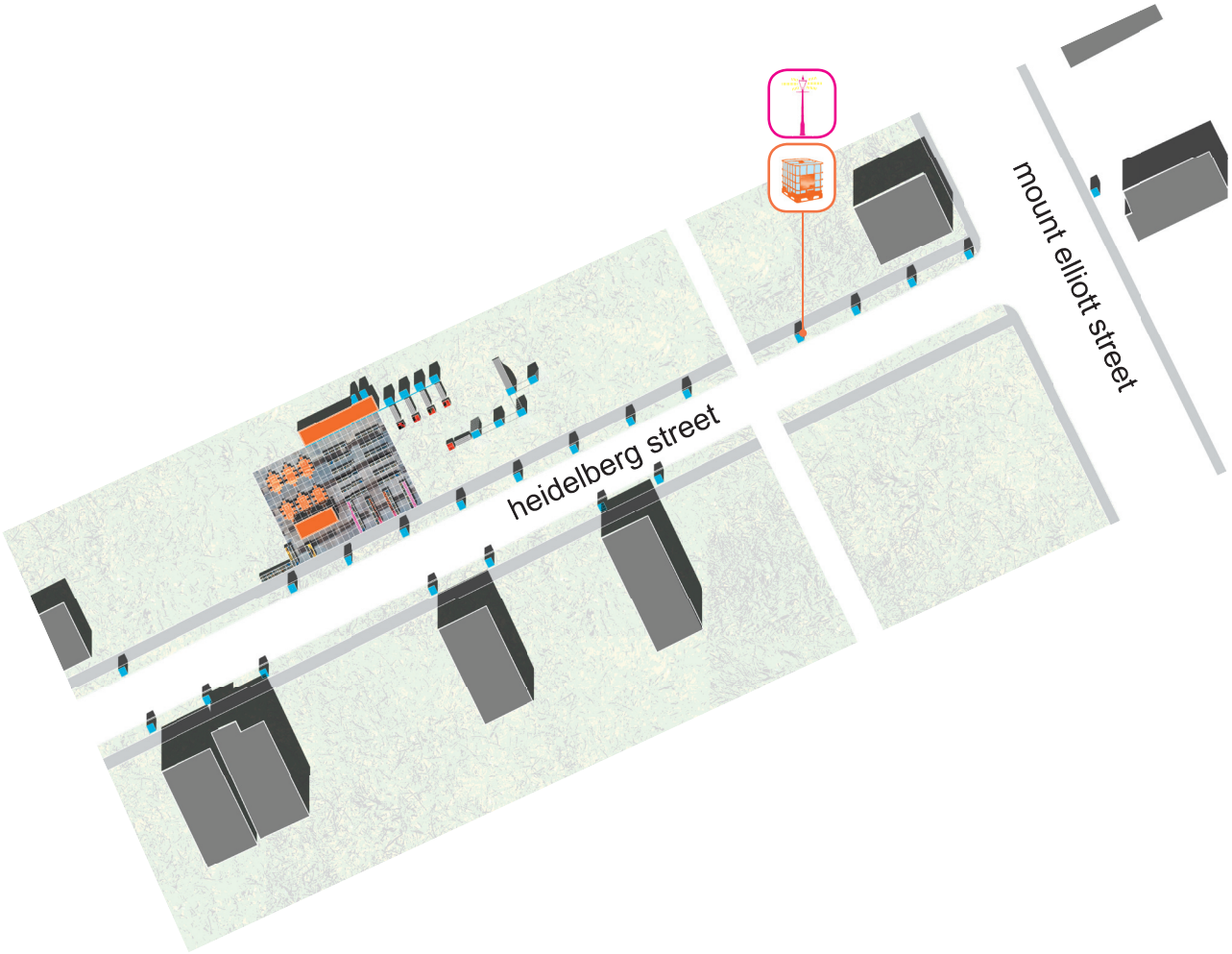


Figure 1.91: Heidelberg Project site

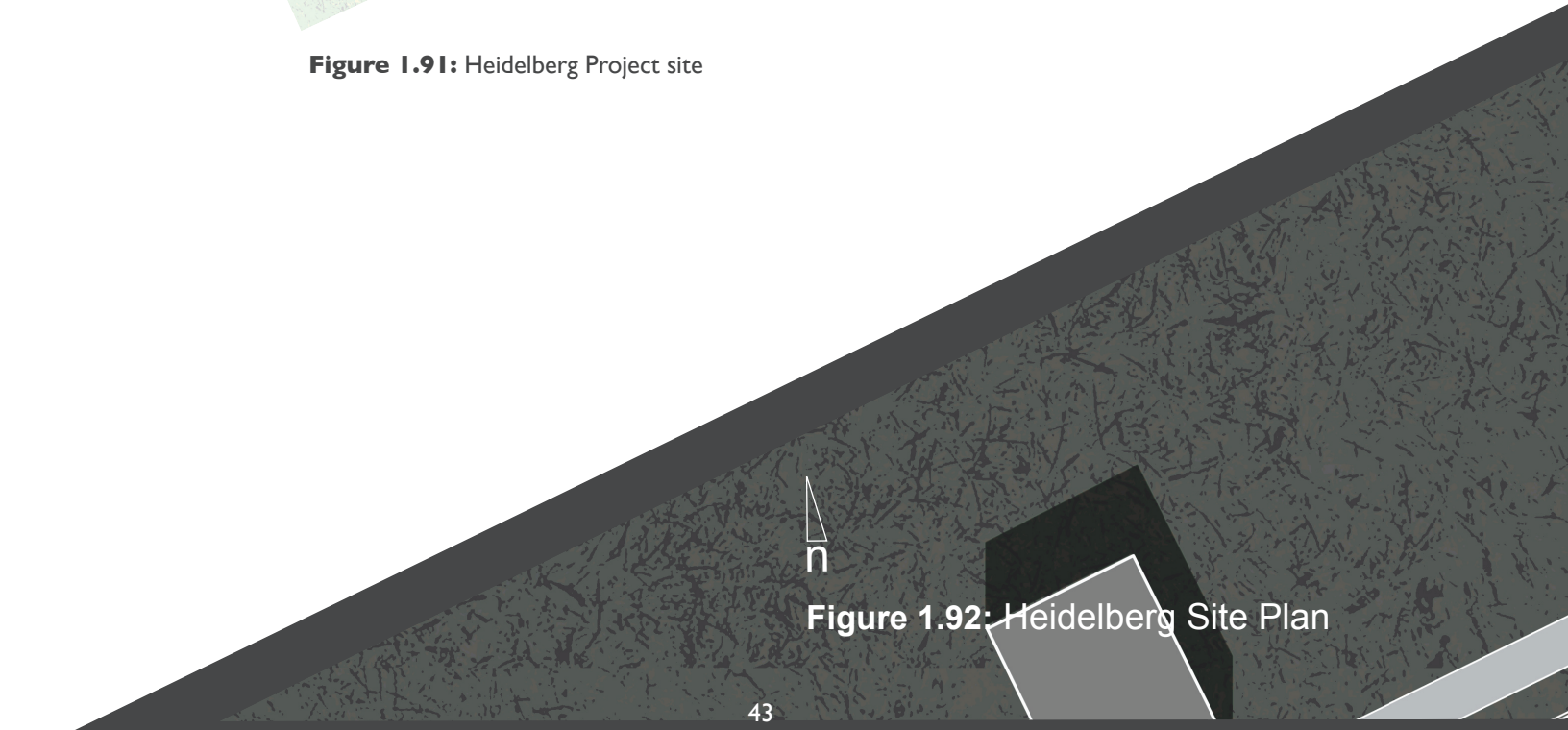
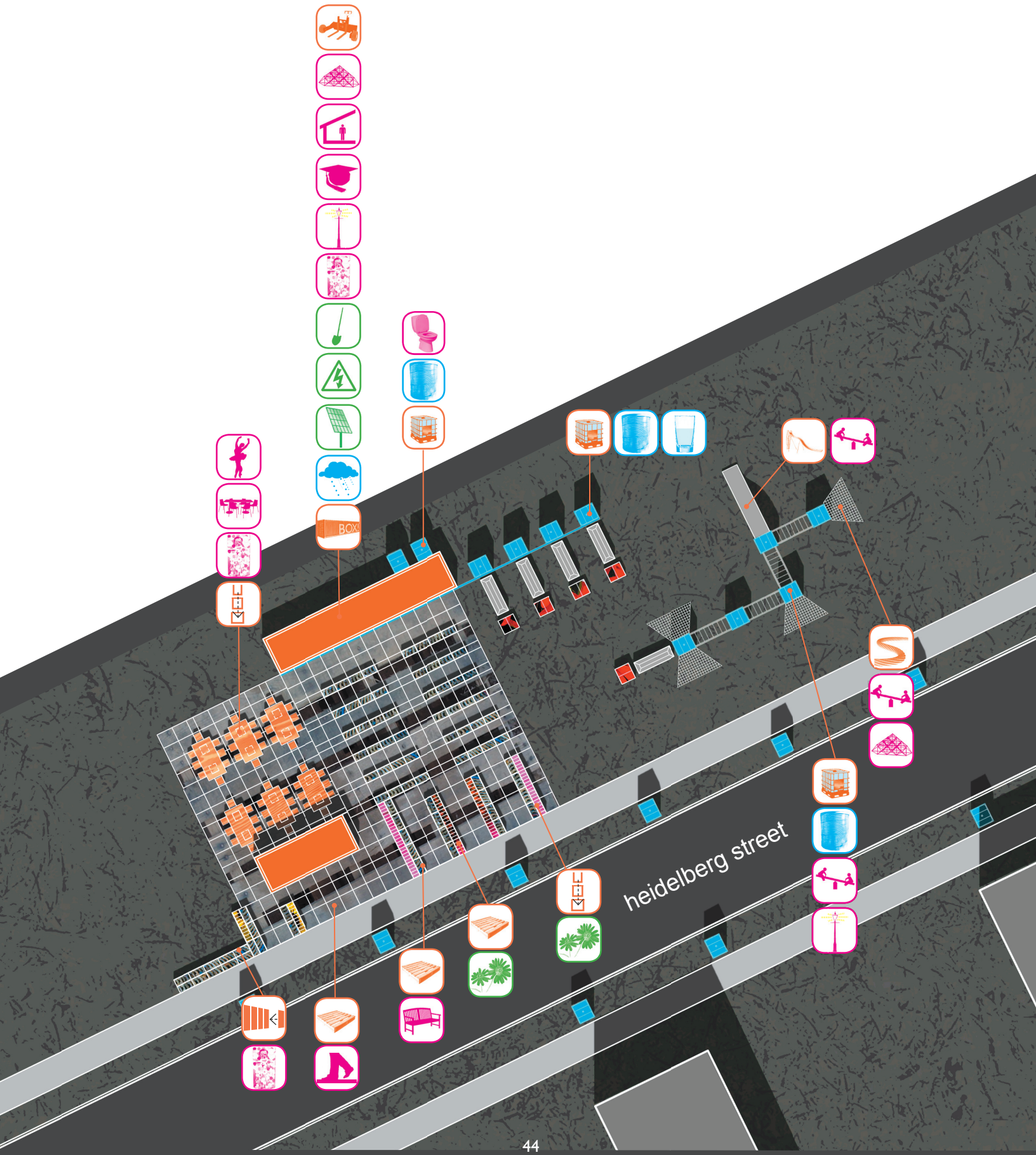
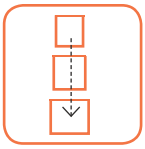


Figure 1.92: Heidelberg Site Plan

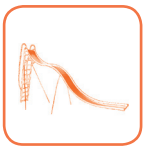

BOX
heidelberg street



+Component Profile: Matryoshka Boxes

These BOX! components were inspired by the Russian Matryoshka Dolls that fit inside one another. Matryoshka Boxes facilitate ease of shipment, storage and mobility for a variety of interchangeable components. Each set consists of five separate boxes: one double-sized rectangle, and two sets of two boxes that are consecutively smaller.

The boxes are used to raise elements above ground level. Urban agriculture requires raised beds because much of the vacant land in Detroit is contaminated with lead, asbestos, or other toxic substances. The boxes can be used as the base of a platform structure for performances. They can be made into tables and chairs for community potlucks, workshops and classrooms. A piece of plywood placed on the large rectangular boxes becomes the table and all the smaller squares become seats. The boxes can also be used as shelves or bins for selling produce or other goods.



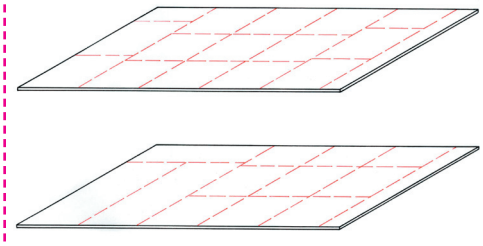
+Component Profile: Solar Slide

The solar slide serves several purposes and is one of the only components that would need to be custom fabricated by professionals. The anatomy consists of metal segments that are dually concave and can be attached both longitudinally and laterally. Laterally connected, the segments become a playground slide and longitudinally they become a solar cooker or water heater. Being dually concave, the segments focus the sun's rays thereby multiplying the intensity in a small location, where food is to be cooked.

Figure 1.93: Example of a solar cooker in Mexico

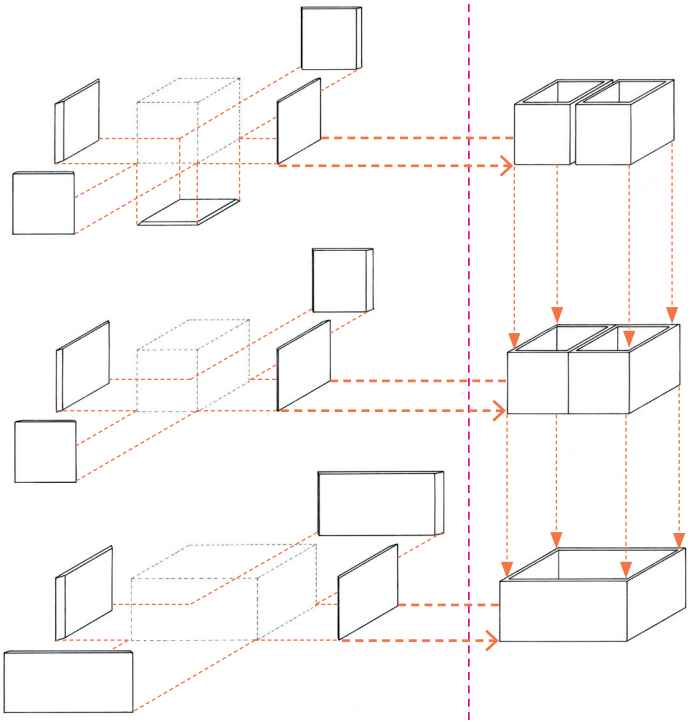
matryoshka boxes

Figure 1.94 (below): Matryoshka boxes assemblage diagram



one set of boxes (5 boxes total) can be created from two sheets of 4' x 8' plywood with very little waste

cutting pieces



assembling pieces

final pieces

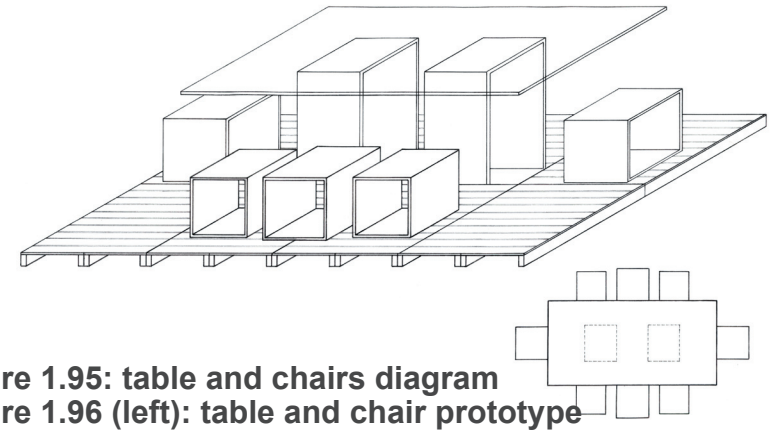


Figure 1.95: table and chairs diagram
Figure 1.96 (left): table and chair prototype

Figure 1.97 (left): agriculture + flower planter prototype assemblage

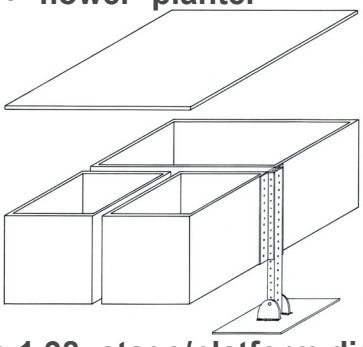


Figure 1.98: stage/platform diagram

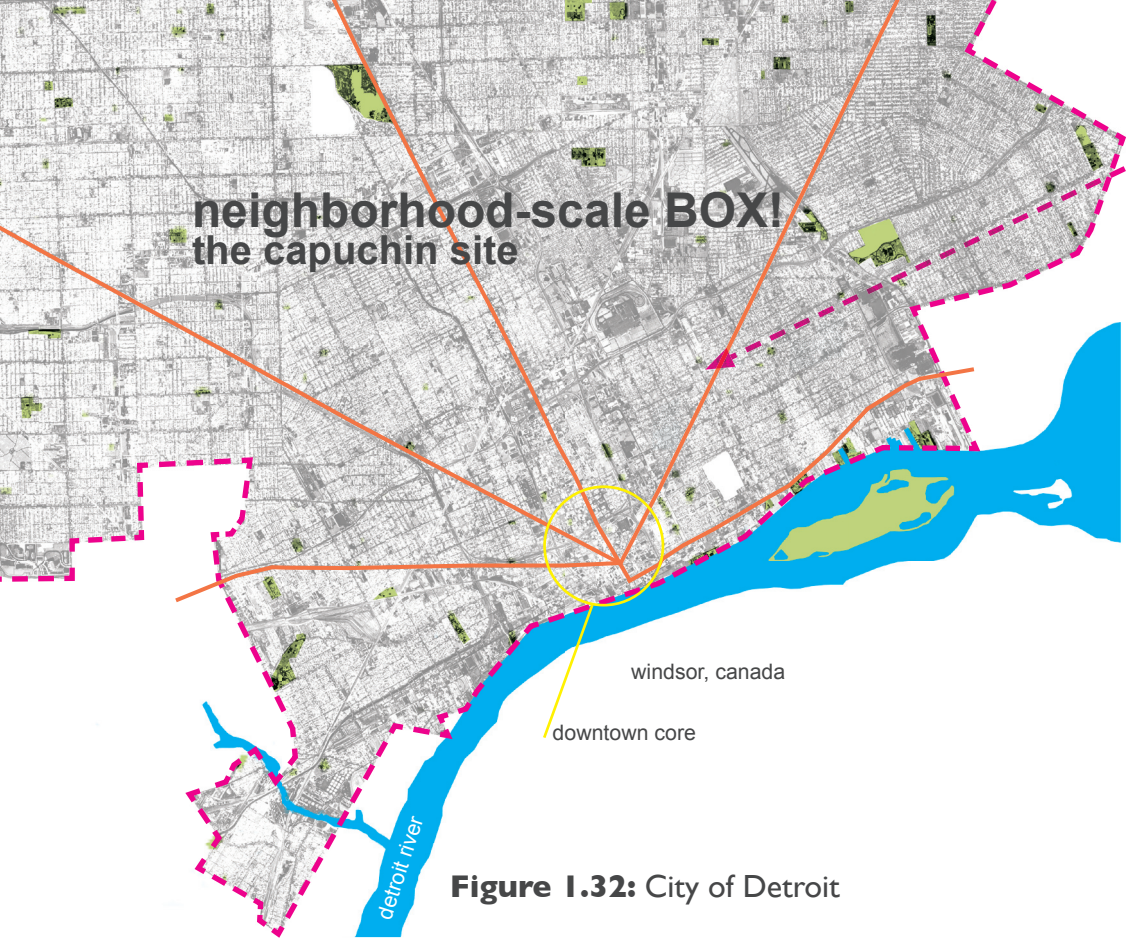


Figure 1.32: City of Detroit

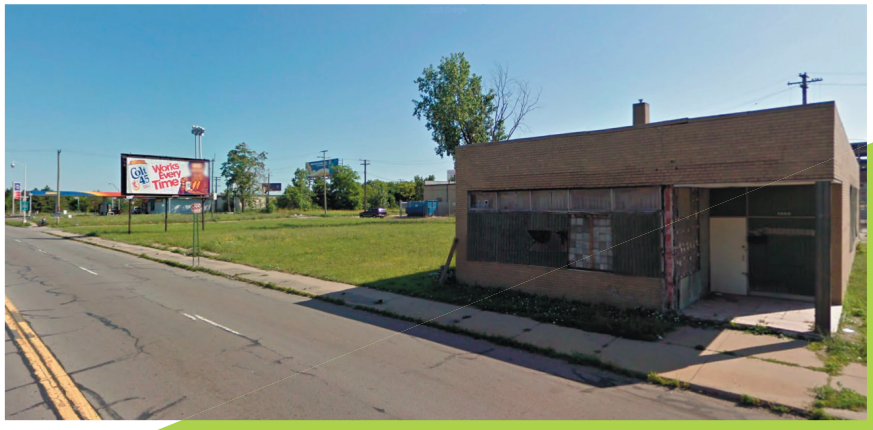


Figure 1.99 (top): view of the capuchin site from the south on Mount Elliott Street
Figure 2.10 (bottom): view of the capuching site from the north on Mount Elliott

+Neighborhood-Scale BOX!: Capuchin Service Center

The Capuchin Service Center, run by the Capuchin Soup Kitchen, is a neighborhood-scale community center providing services for people throughout the Eastside. On this site is an urban farm where food is grown for sale or donations to needy families. Other site amenities include public toilets, laundry facilities, a playground, and a place for market vendors to sell goods. A lamella structure pavilion will be utilized to create a large, covered gathering area to provide the Capuchin Monks with an outdoor area for church services, classes, or potlucks. The lamella pavilion can be easily converted to a greenhouse with the agricultural planters moved to its interior.

A new roof structure utilizing the panel system component is placed overtop the existing adjacent, abandoned building, increasing the amount of surface area that collects rainwater. The long wall that faces the intervention will be the canvas for a community mural. The interior of the building could be utilized by transforming it into a permanent neighborhood market or even a shelter for the homeless.

Figure 1.88: capuchin site

neighborhood-scale BOX!
the capuchin site

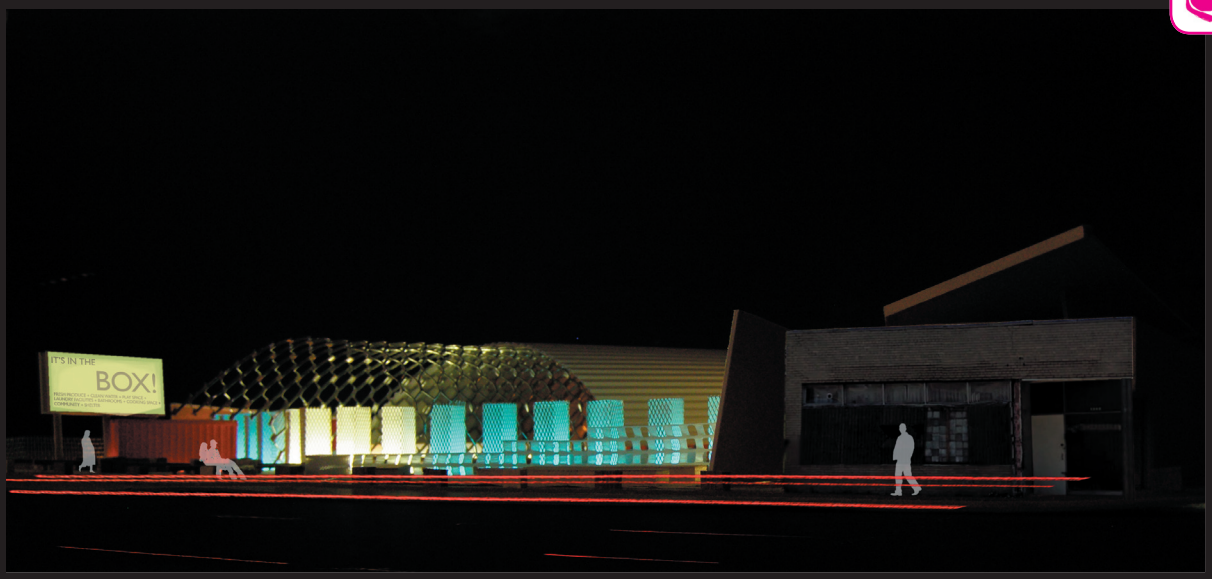


Figure 2.11 (top): Capuchin design in the day from Mount Elliott
Figure 2.12 (bottom): Capuchin design lit at night--viewed from Mount Elliott

Figure 2.13: Capuchin Site Plan

Figure 2.14 (above): Capuchin design model--view from the north
Figure 2.15 (below): Model of the Capuchin design from Mount Elliott

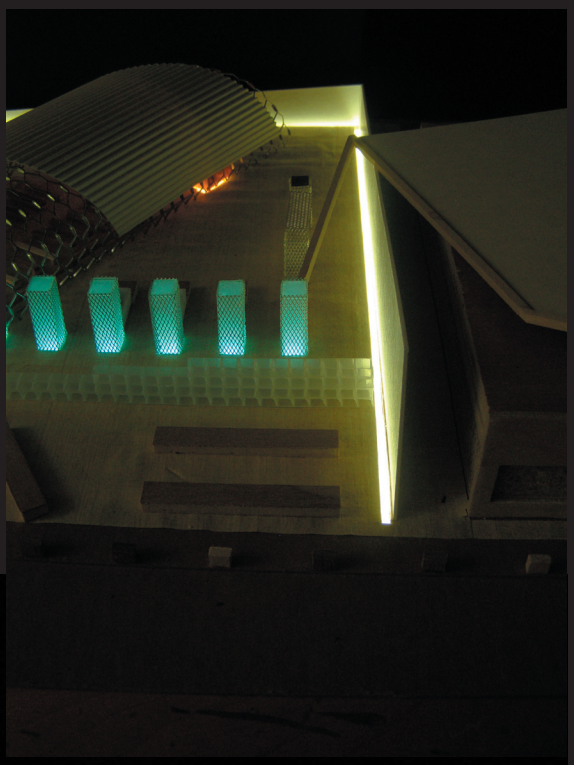


Figure 2.16 (left): Lamella structure pavilion of the Capuchin design
Figure 2.17 (right): Washing stations at the Capuchin design

+Component Profile: Lamella Structure

A Lamella is a unique but infrequently used type of structural system used to span large distances without need of columns while creating rounded and domed shapes. The beauty of the lamella lies in that it uses the same element repeatedly to create curvilinear rooflines. The structure can be covered with any number or combination of sheet materials, from salvaged corrugated metal to canvas to thatching harvested from the urban prairies. Even uncovered, the lamella has a strong aesthetic presence due to its repeating elements and shadow patterns.

A lamella structure serves as the main pavilion structure for each public space. Since it covers a large area, it can significantly add to the volume of rainwater collected for reuse. In the wintertime, the structure can be covered with plastic to create a greenhouse that allows gardeners to continue growing produce year-round. Because of its malleable organic structure, it can be used to create artificial topography, which can add dimension and interest to flat sites. The uniquely shaped, individual boards can be used to create inlays in the pallet floors that break up the monotony of the rectilinear boards.

Figures 2.18 (above) + 2.19 (right) + 2.20 (far right): Example of a lamella structure built by the Coastal Studio

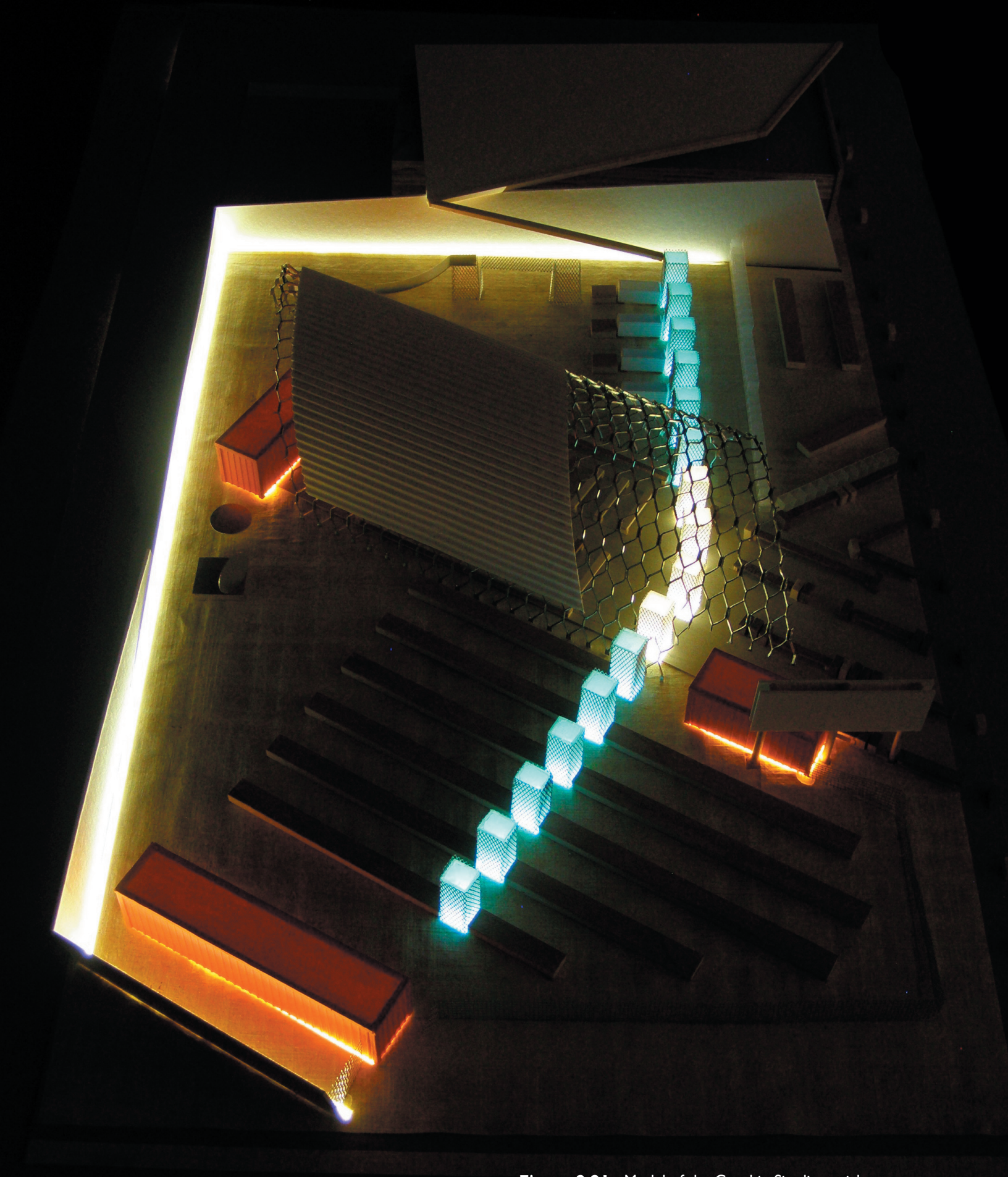


Figure 2.21 : Model of the Capuhin Site lit at night

+Component Profile: Panel System

The panel system is perhaps the most versatile component in the BOX!. The kit of parts for the panel system consists of galvanized steel slotted angles, galvanized hex bolts, and any kind of salvaged or purchased sheet material such as plywood, sheet metal, or fabric. Galvanized metal is used for two reasons: (1) it is rust resistant and (2) it cannot be salvaged for scrap. The slotted angle creates a versatile, basic frame for attaching the sheet material. Metal cables can be used as structural tension supports for each individual panel. Because the system consists of separate orthogonal panels, when combined they can create the appearance of a curvilinear, serpentine wall.

Panels can be used in a wide variety of walling and roofing applications. Wall applications depend on the sheet material chosen. Chain-link fence or welded wire fabric can be inset in the frame to create a fence, a climbing structure for a "green wall", or even gabion baskets. Solid sheet materials like plywood or corrugated metal can provide a canvas for graffiti or mural artists. Covered in fabric or colored plastic and backlit or uplit at night, the panels could serve as a medium for aesthetic and functional lighting effects. The panel system can also be used to make small, light overhead structures for shade and collecting rainwater. They can also be used to piggyback on to an adjacent structure, as the example from the Capuchin Center attempts to demonstrate.

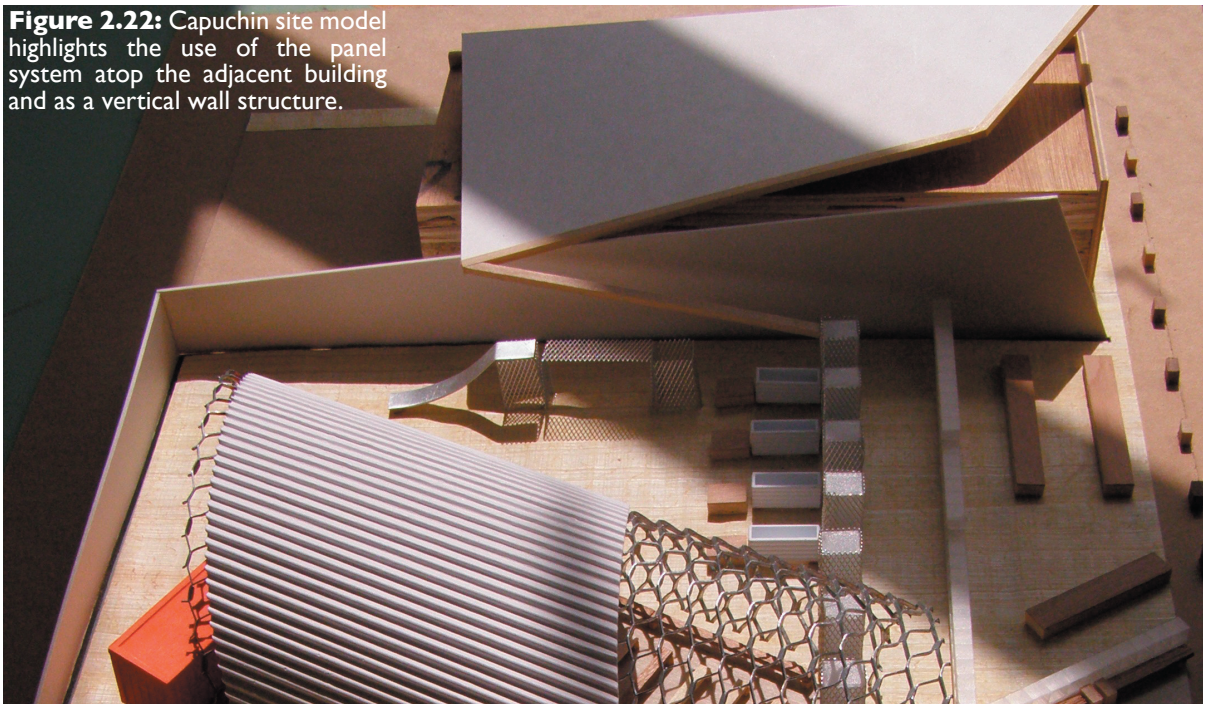


Figure 2.22: Capuchin site model highlights the use of the panel system atop the adjacent building and as a vertical wall structure.

panel system

Figure 2.23 (below): Assembly diagram for a single panel for the panel system. The bottom four pictures show different panel products that can be used for different effects.

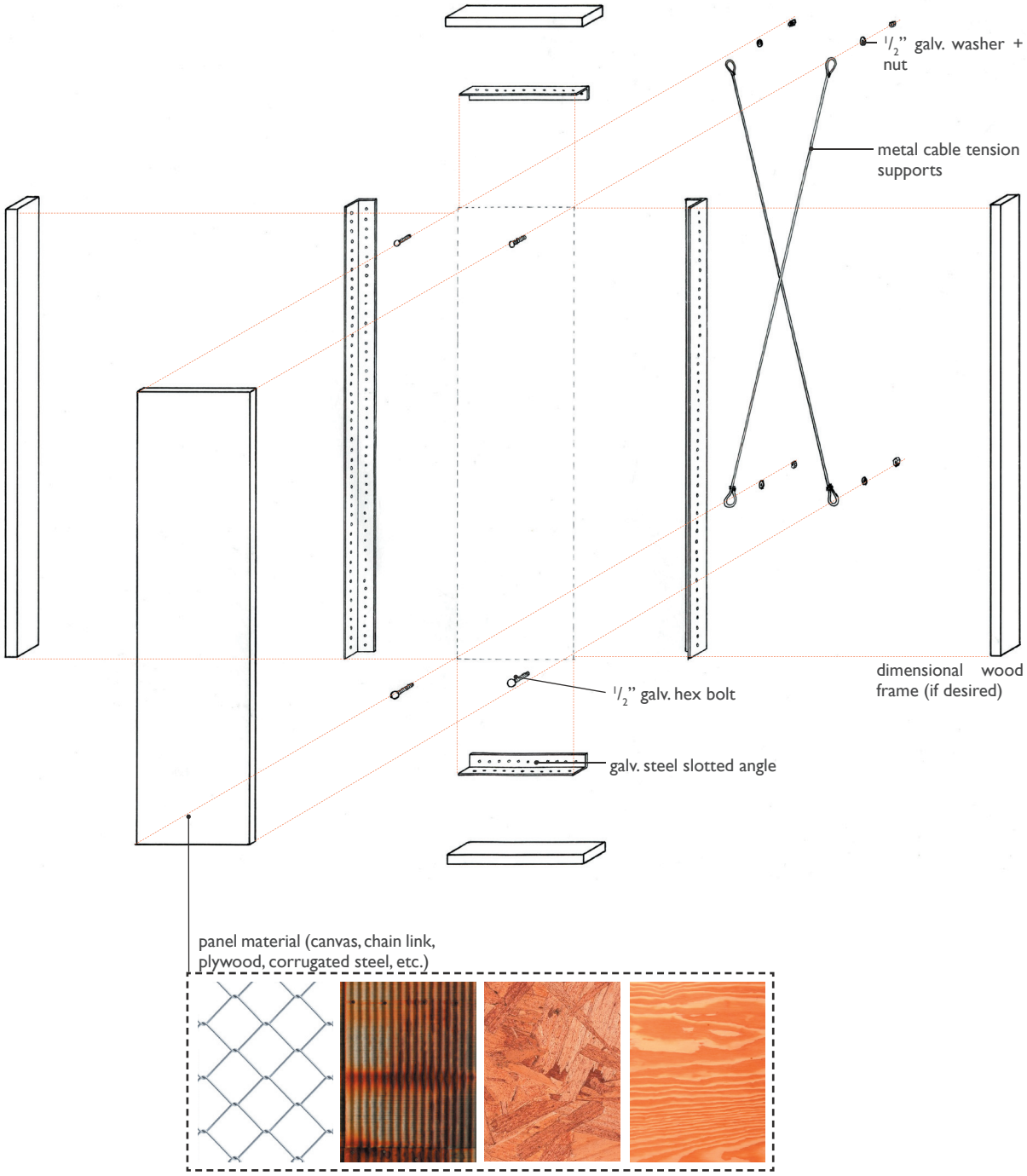


Figure 2.24 (above): rendering depicting how the program of the BOX! mixes functions like urban agriculture coupled with childcare and renewable energy to provide a multifunctional space
Figure 2.25 (below): rendering of how the alternative laundry facilities is dually designed as a playground so single parents can wash clothes and keep an eye on their chinldren at the same time

+Providing Alternative, Community-based Infrastructure

The public spaces created from the BOX! are neither traditional plazas nor conventional tree filled parks; these spaces are meant to serve the everyday urbanism of the Detroit residents. The BOX! provides the opportunity for open spaces that combine typical park functions such as play, recreation, and social gathering with human needs such as basic sanitation (shower and toilet facilities), cooking, cleaning (clothes, dishes, etc.), fresh water, fresh produce, a place to sell goods, and even generate electricity. People fortunate to be living or squatting in a house, may still not have access to water or electricity. The BOX! provides such alternative services, creating a safe place for people to gather together in a social manner, in order to meet their daily needs. People are able to come together in a common spirit without any sort of embarrassment because they are camouflaged as outdoor elements while also being semi-concealed from passersby so as to make those who seek such services feel as comfortable and safe as possible.

The functionality of design components is combinatory, allowing a variety of overlapping needs and desires to be met simultaneously. For example, children's play is embedded in nearly all the functional components so if anyone needs to wash clothes, work in the garden, or even just enjoy the day, he/she can do so while his/her children play in the same vicinity. In terms of the laundry stations, the cisterns that hold the water for washing also function as a jungle gym and the water pump serves as a merry-go-round.

The BOX! takes full advantage of Detroit's vacant open space, turning otherwise unused and unkept lots into functional public space tied to infrastructure. The BOX! utilizes both unused space and abandoned buildings. For the Capuchin Service Center site proposal, a new roof structure is placed overtop the old one to expand rainwater capture while the wall facing the outdoor expansion can be integrated as a mural. By using adjacent abandoned or occupied buildings the BOX! can help blur the boundary between outdoor space and architecture. Adjacent buildings, if vacant, could be reoccupied and repurposed in support of any of the programs associated with the BOX!. The building next to the Capuchin site, for example, could become a shelter utilized in the winter when the rest of the installation would be dormant. The Roosevelt Park proposal interacts with its monolithic neighbor, the Michigan Central Terminal, which is to be fitted with a giant retractable screen for showing movies.

+Component Profile: Merry-go-round

The merry-go-round is inspired by a product known as the Playpump. The Playpump was designed and implemented for undeveloped countries as a mechanism to provide a fun and easy way to pump water from deep wells into storage tanks.The pump is a play accessory for children, and at the same time functions as a water-moving device. "The award-winning Playpump provides a creative alternative to the major infrastructure upgrading that is a standard part of third-world renewal programmes, saving costs and maximizing benefits to the community in ways that conventional programmes never could" (Cumberlidge 2007, 40). The merry-go-round in the BOX! would be used to move water from tank-to-tank or tank-to-crops. Furthermore a generator connected to the merry-go-round could produce electricity while children played.

Figure 2.26 (opposite): rendering depicting how the BOX! can offer the most basic of community-based services in public shower and toilet facilities
Figure 2.27 (above): rendering of how the creation of art can bring life and character to a site through decorating the components. Seen here a series of panel systems is being turned into a community mural
Figure 2.28 (left): the original Playpump in use in Africa

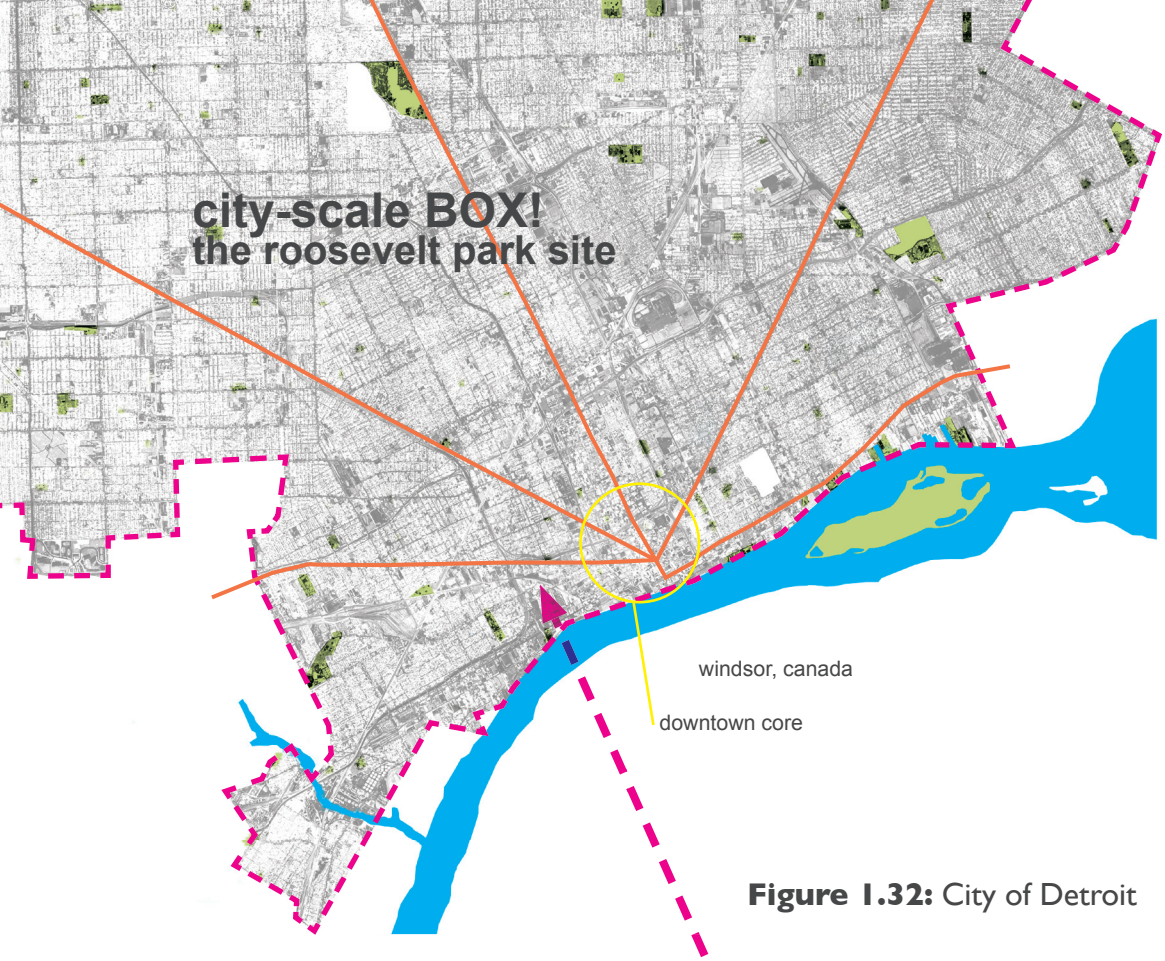


Figure 1.32: City of Detroit

Figure 2.29 (below): the Roosevelt Park site existing conditions from above

+City-Scale BOX!--Roosevelt Park and Michigan Central Train Station

The last and largest intervention is at Roosevelt Park in front of the abandoned, Michigan Central Train Station. It is located in an historic part of Detroit known as Corktown which is rapidly changing with new development. Due to its large size and open expanses, the site can accommodate larger areas of agriculture, recreation fields, a playground, parking for visitors, and a large market. A large retractable screen can be hung on the outside of the building's monumental construction, extended for movies at night and retracted during the day. A large seating area accommodates audiences for concerts or movies with pallets stacked to create tiered seating areas. Lines of water crates tie different sections of the park installation together, visually and structurally and also serve as night lighting.

After BOX! installations have been established they can eventually be evaluated for success. If an intervention has been inhabited, used, and cared for, it can then be decided if the intervention remains, expands, or another permanent space replaces it. If the intervention does not take root and establish itself in the community, it can be packed up and moved to a new site.

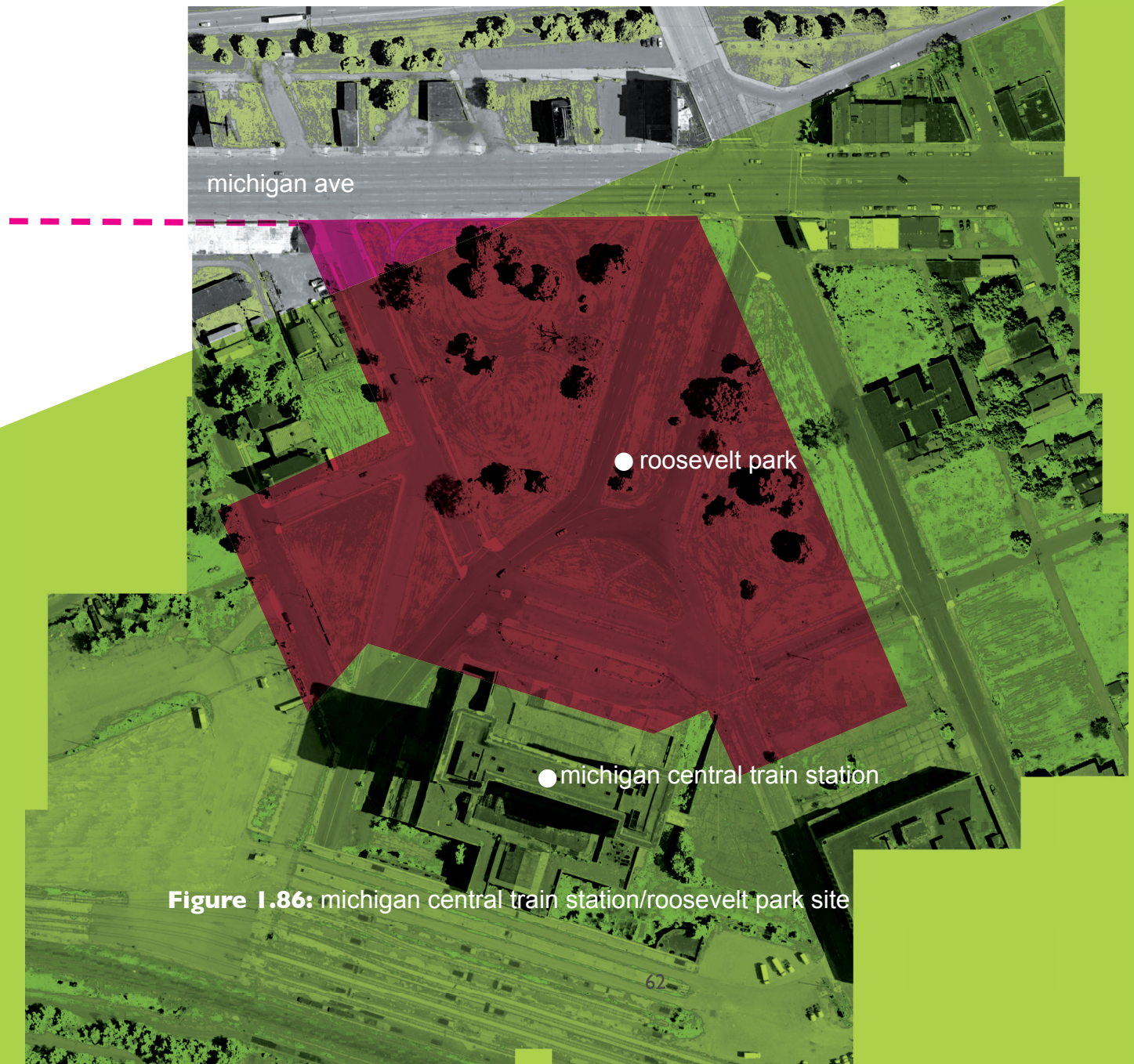
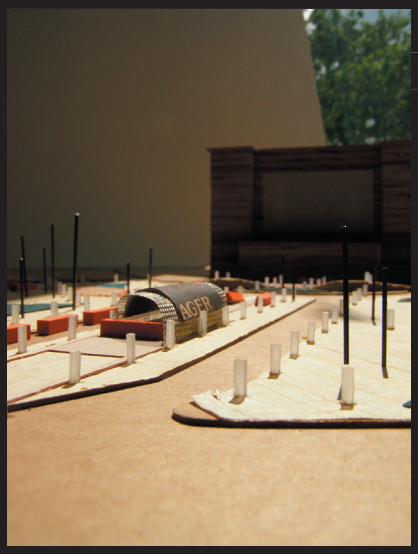


Figure 1.86: michigan central train station/roosevelt park site



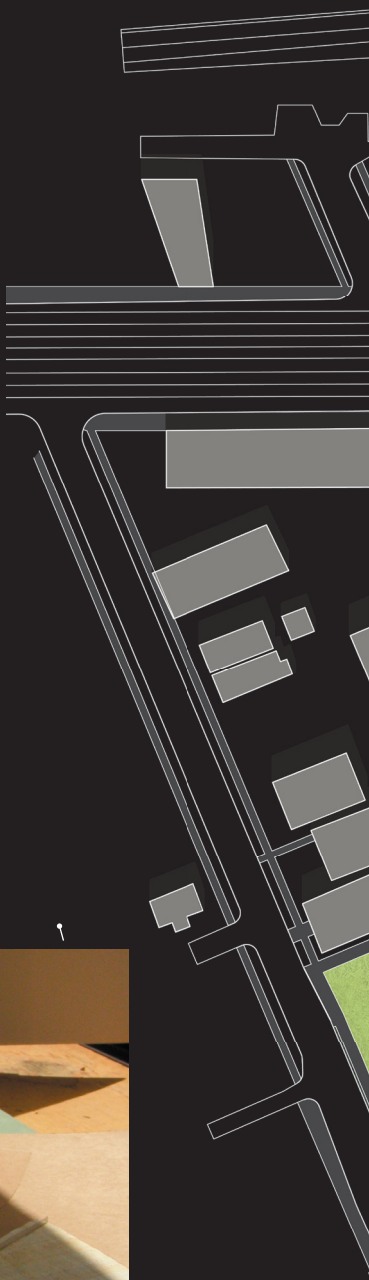


Figure 2.30 (left): photo of site model from Michigan Ave

Figure 2.31 (below left): Roosevelt Park site model highlighting the performance and seating area in front of Michigan Cnetral Terminal

Figure 2.32 (below): Roosevelt Park site model overall shot from above

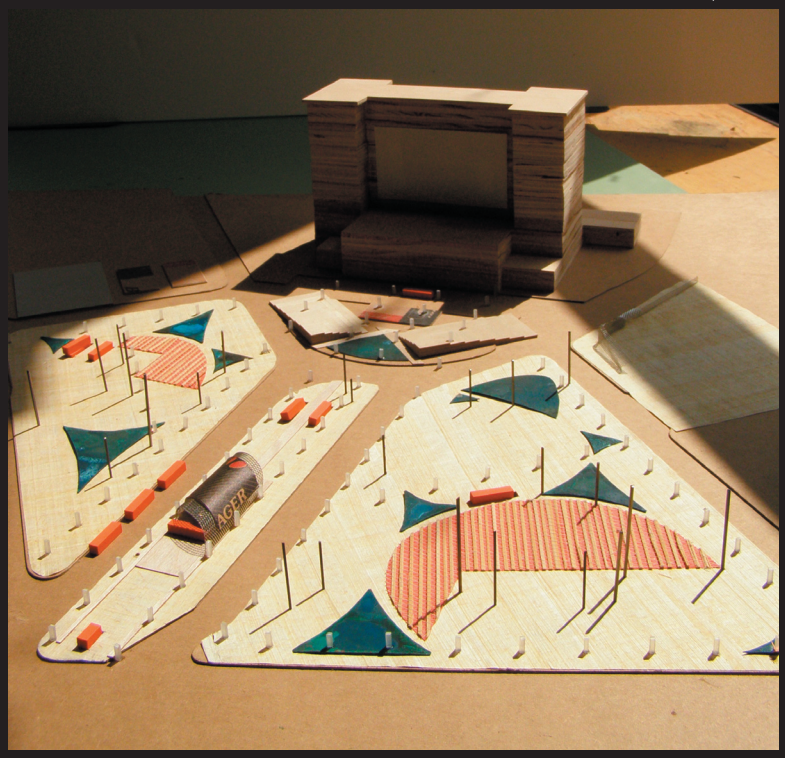
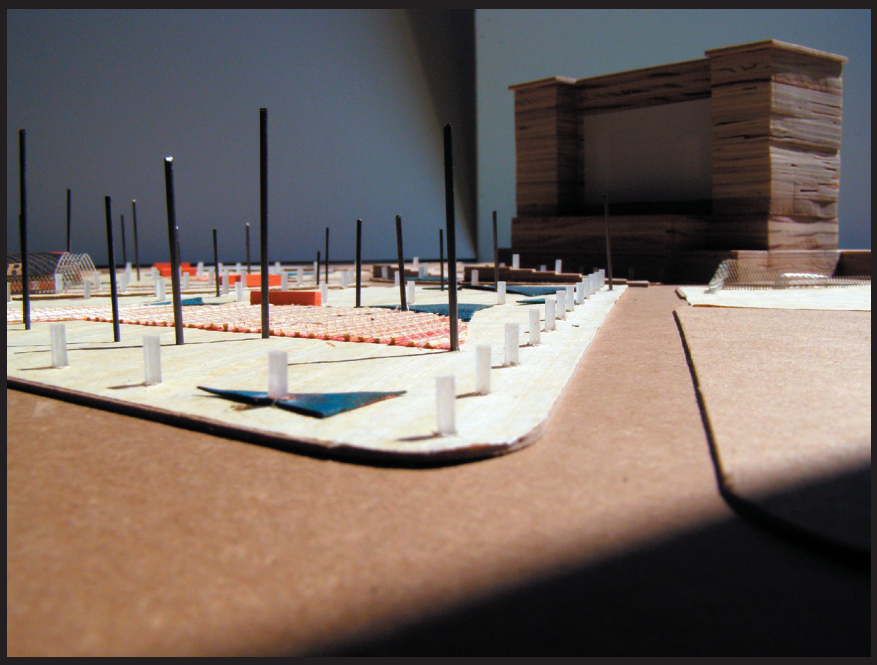


Figure 2.33: Roosevelt Park site plan

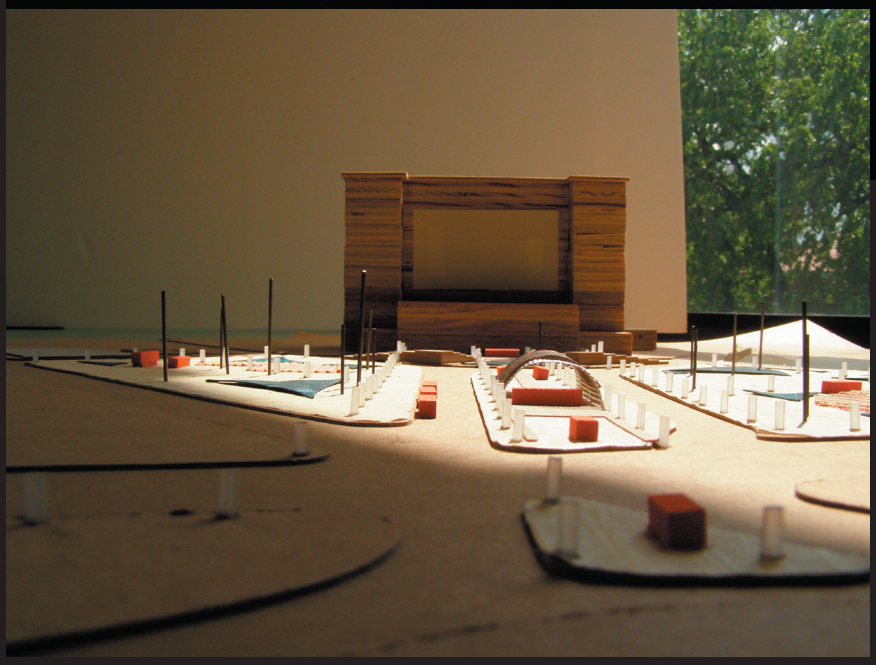
city-scale BOX!
the roosevelt park site

Figure 2.34 (top): site model night shot from the northwest along Michigan Ave
Figure 2.35 (left): site model day shot from the northwest along Michigan Ave
Figure 2.36 (opposite): enlarged Roosevelt Park site plan--western portion



city-scale BOX!
the roosevelt park site

Figure 2.37 (above): Roosevelt Park site model lit for overall night atmosphere simulation. The water crate towers unify the entire, large site
Figure 2.38 (below): Roosevelt site model in daytime setting
Figure 2.39 (opposite): enlarged Roosevelt Park site plan--central + eastern portions



city-scale BOX!
the roosevelt park site

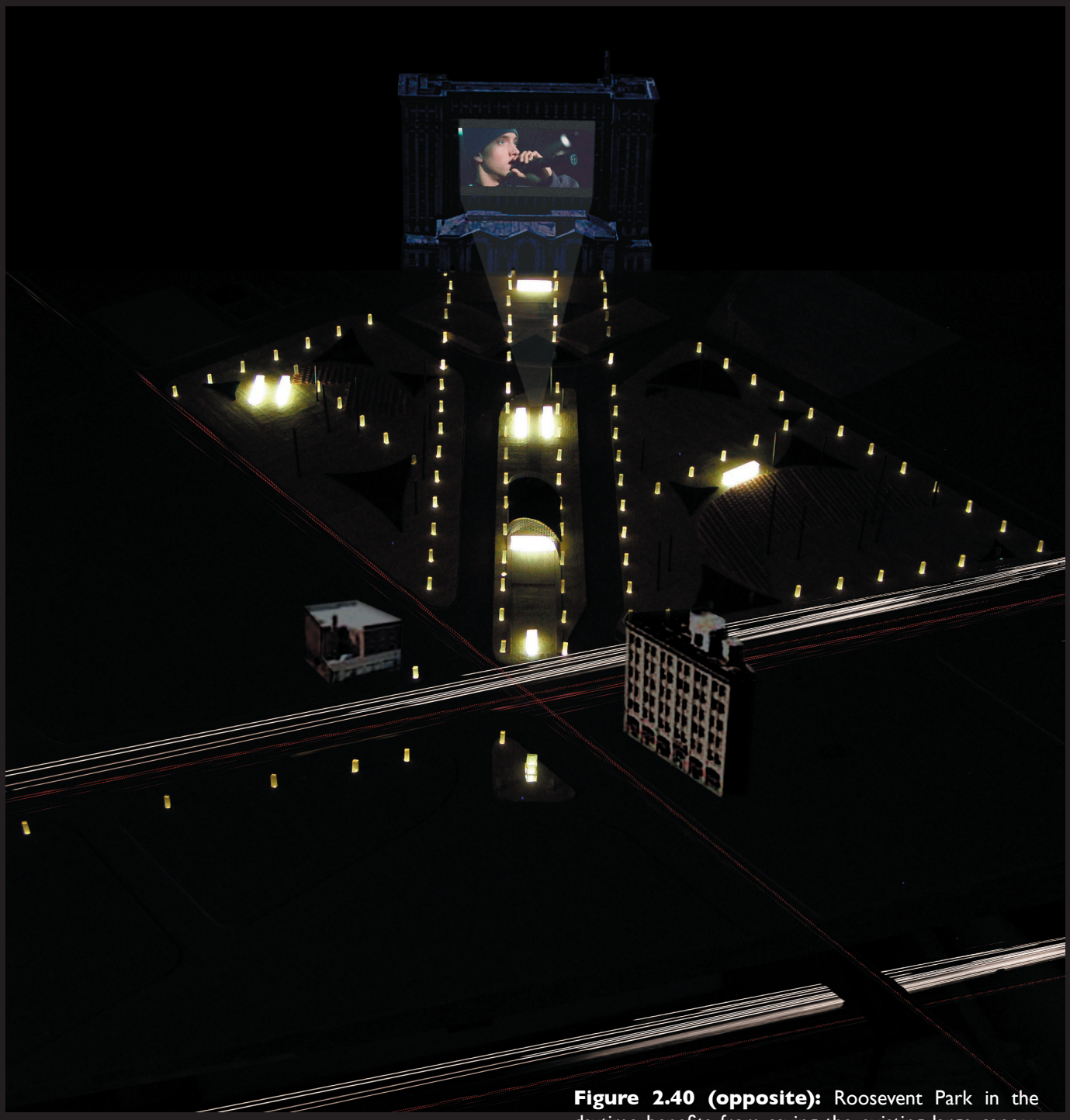


Figure 2.40 (opposite): Roosevent Park in the daytime benefits from saving the existing large canopy trees for plentiful shade.
Figure 2.41: Roosevelt Park site design at night from above. The giant movie screen hung on the train station is the most visible element

+Component Profile: Water Crates

Called water crates due to the cage that surrounds the plastic 250 gallon water storage tanks within, these components are salvaged from the food and chemical industries as they are generally discarded after their usefulness is fulfilled. The anatomy of the water crate consists of three basic pieces: (1) the inner, heavy-duty plastic 250 gallon storage tank and attached hose bib (2) the exterior metal cage that protects the inner storage tank and (3) the pallet that the former two are attached to. The water crate is designed for mobility with its stackable unit size and an integrated pallet. On a functional level, the storage tank holds rainwater for various uses. The integrated hose bibs allow easy hook-up and access to the water. The water crates can also serve as aesthetic lighting elements, a climbing playground structure for children or as a room for shower and toilet facilities. To construct the latter, three water crates are needed. Two, which form the room, are disassembled with the tops and one side of the cage cut out. The two partial cages are then stacked on one another and connected, lining up the open side. The third water crate, which remains unaltered, is placed on the top to provide water storage for the shower. Toilet facilities are made by installing a composting toilet inside the crate structure. Privacy panels are attached to the sides of the cage and then the whole unit can be attached to a shipping container for security and stability.

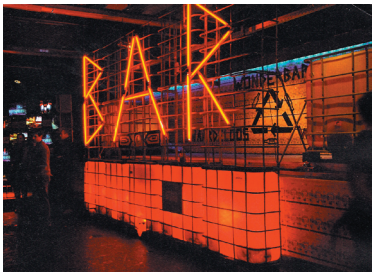
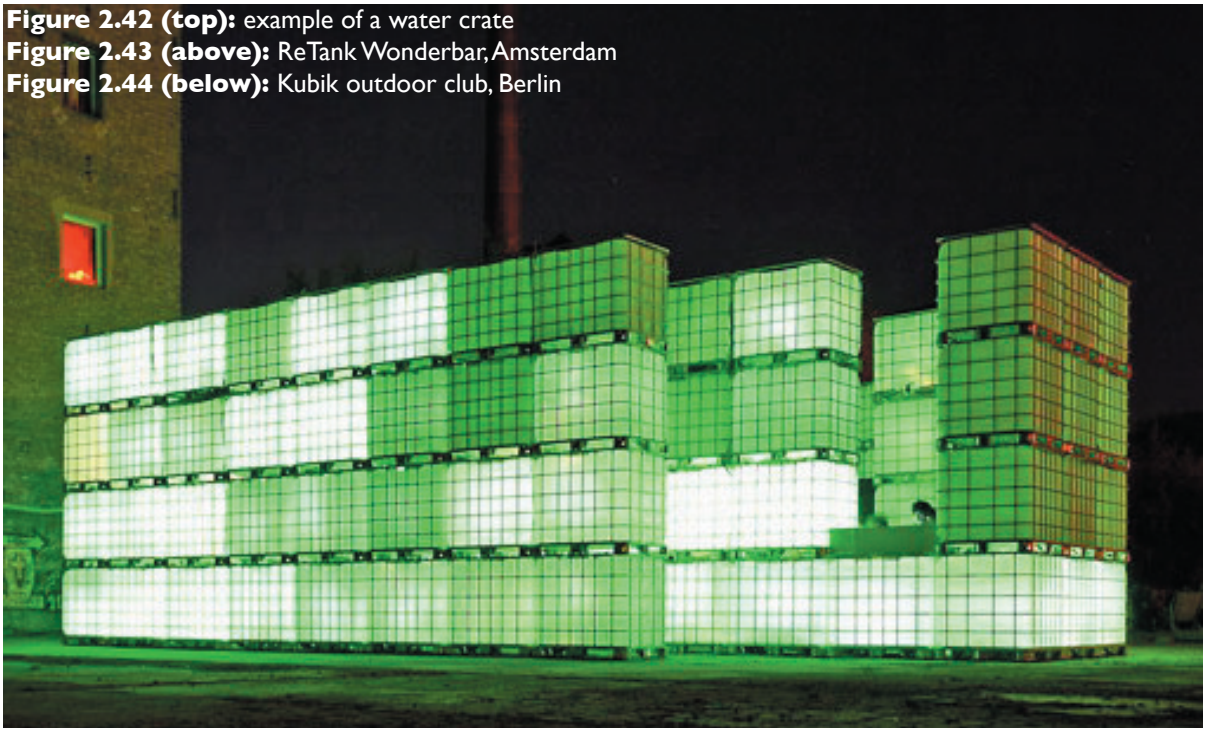


Figure 2.42 (top): example of a water crate
Figure 2.43 (above): ReTank Wonderbar, Amsterdam
Figure 2.44 (below): Kubik outdoor club, Berlin



water crates

250 gallon tank with steel frame repurposed from the food industry

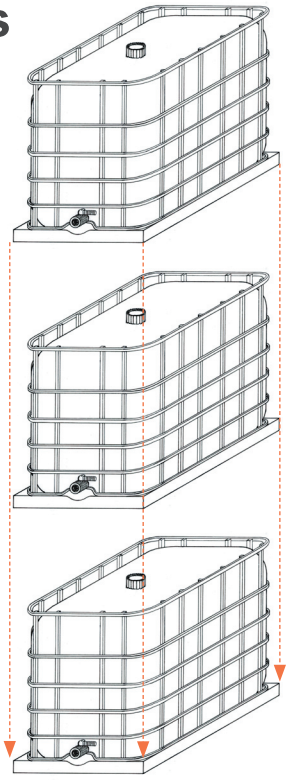


Figure 2.46: rendering of a constructed water column lit as an aesthetic element

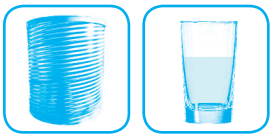


Figure 2.45: water column assembly diagram

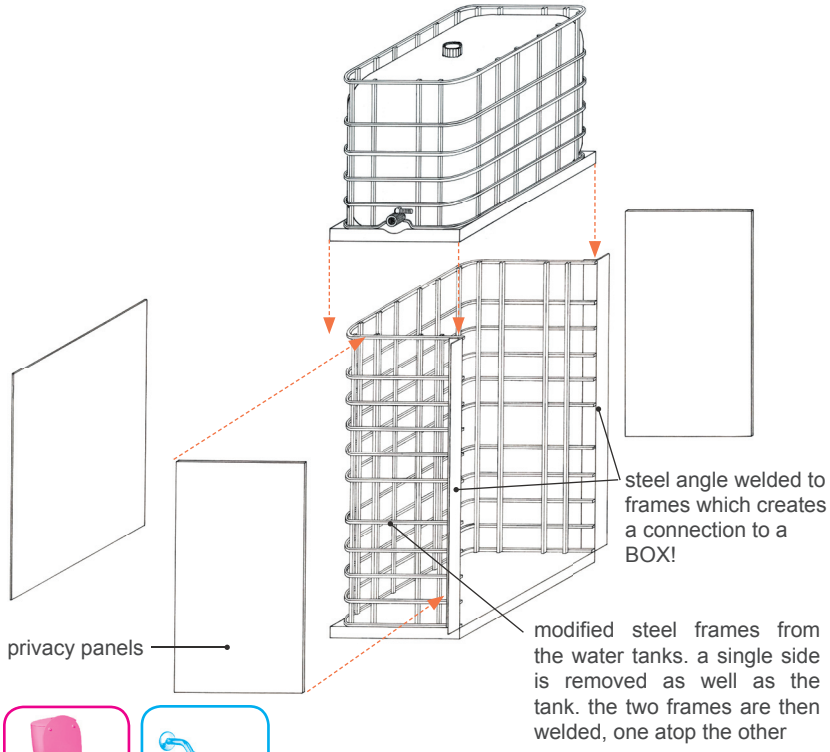


Figure 2.47: toilet/shower stall assembly diagram

Figure 2.48: Rendering of the performance and seating area of the Roosevelt Park site design and the use of water crates as support lighting for events

Figure 2.49 (top): example of metal cable
Figure 2.50 (middle): all-terrain pallet jack
Figure 2.51 (above): rendering depicting a BOX! used as a mobile classroom teaching carpentry and constructing items from pallets as a lesson.

+Component Profile: Metal Cable

The metal cable comes directly off the shelf of any hardware store. These serve an important role as structural support for many of the other components, substituting for more energy intensive measures like concrete footings. Many cables woven together make a climbing net for playground spaces while simultaneously tethering some of the other site components. Cables may also be used as clothesline for the optional laundry service. As a safety factor, the metal cable has a plastic PVC coating on the exterior.

+Component Profile: The Jack

The aforementioned nine components are not a comprehensive list but merely the skeletal building blocks that provide certain key functions for the collective construction of alternative public spaces. One item that is essential for every project is the all-terrain pallet jack. This special pallet jack is included in every BOX!. Special machinery exists for the sole purpose of moving pallets, but most are expensive, oversized, run on fossil fuels and need a trained driver. The pallet jack is small, maneuverable, cost efficient, and runs on pure manpower.

+Building Skills + Providing Economic Opportunities

Since manufacturing jobs left Detroit, unemployment has increased with every decade, reaching a record high in 2009 with over 92,000 people out of work. For the unskilled laborer, it has been difficult to find a decent paying job. The BOX! provides a physical structure that supports skill building, job training and local employment.

The BOX! responds to the high rate of unemployment and the poorly educated with projects that can train people in new skill sets. The mobile classroom has been devised to facilitate this process. These would be separate containers that move from one location to another on a fixed schedule that allows people to sign up for educational sessions and seminars. These containers could easily be transformed into mobile woodshops and machine shops to teach carpentry, welding, or other building trades.

+Sustainability: Embedding its Principles into Everyday Life

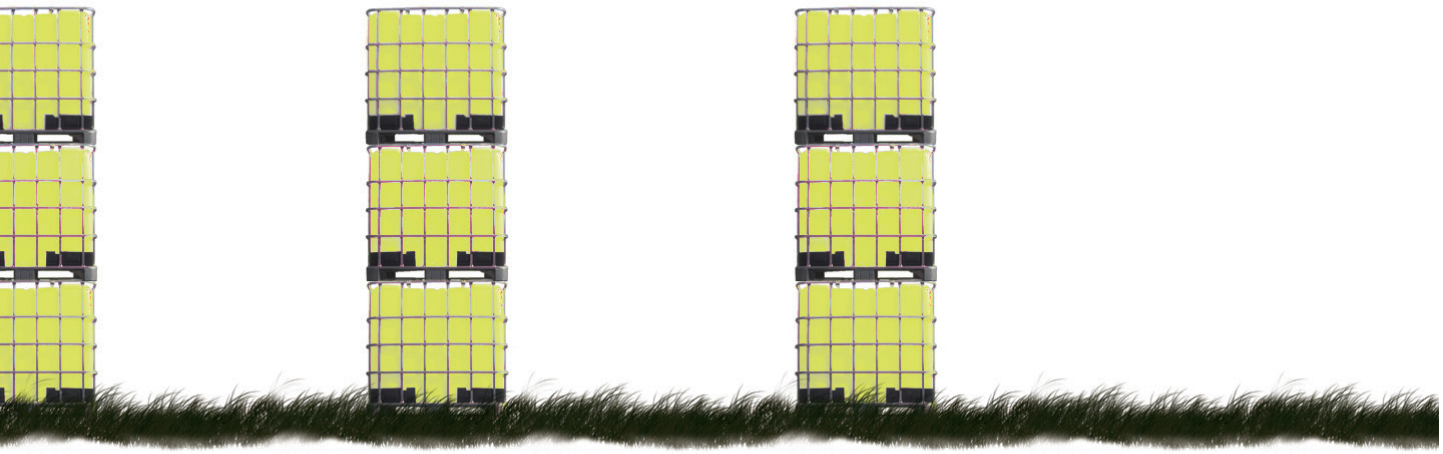
When sustainability is mentioned, it is nearly always talked about in terms of environmental responsibility from recycling plastic bottles to the design and construction of a new, high performance building. In fact, the building rating system known as LEED (Leadership in Energy and Environmental Design) has become synonymous with sustainable design, again solely focusing on the environmental dimensions of this term. Yet, sustainability embraces a wide spectrum of issues beyond the environment.

"Sustainability's original focus has been forgotten. The word 'green' brings to mind trees and streams, not the plight of the poor. We have overlooked this crisis because most of us are not in direct contact with the poor, and empathy often depends on proximity" (Hosey in Bell 2008, 35-36). One of the most commonly referred to definitions comes from Gro Harlem Brundtland in Our Common Future (1987). In this document he describes sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their needs" (Hosey in Bell 2008, 35). Lance Hosey points out that, "The popular Brundtland definition is invariably cited out of context and is rarely, if ever, discussed in terms of economic and social equity" (Hosey in Bell 2008, 35).

Figure 2.52: section depicting how electrical power can be renewably produced on site

The "triple bottom line" coined by John Elkington (Elkington 1994) links the interplay between ecological, economic, and social conditions (Hosey in Bell 2008, 36). Another U.N. report, the Millennium Development Goals places the eradication of poverty and hunger as its first goals even before environmental sustainability -- which is number seven (Hosey in Bell 2008, 36). Sustainability is not just about ecological concerns but socioeconomic ones as well. Sustainability affects all, especially those who are socially and economically disadvantaged.

It's in the BOX! integrates social, economic, and environmental systems to create adaptable public spaces that embrace a comprehensive definition of sustainability. Environmental systems such as rainwater collection and the generation of off-grid electricity utilize and showcase sustainable building technologies yet balance technological sophistication with the "DIY" (do it yourself) mentality. Sustainable technologies used for the BOX! can be easily taught, understood, and then reproduced by the average Detroiter.



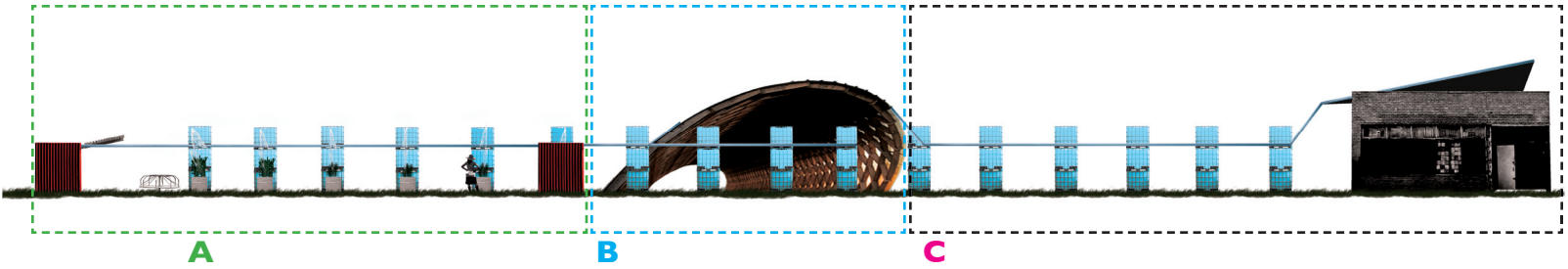


Figure 2.53: overall Capuchin site section depicting stormwater collection and distribution

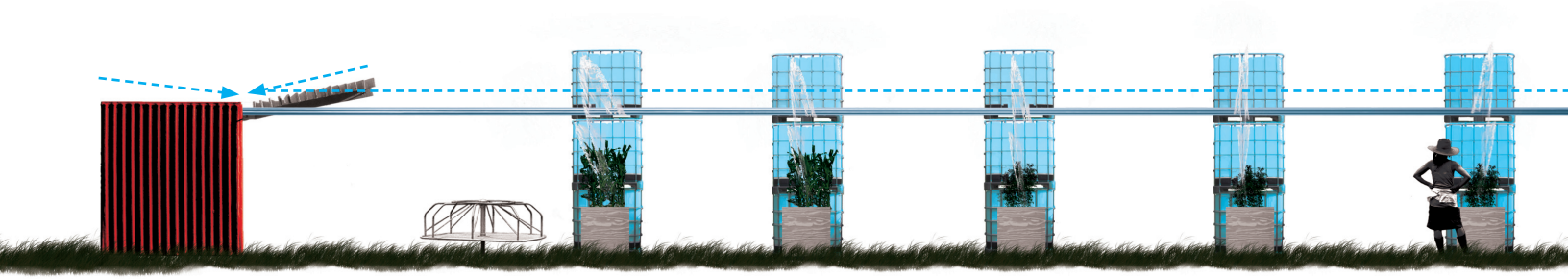


Figure 2.54: enlarged Capuchin site section part A--stormwater collected for the urban agriculture program

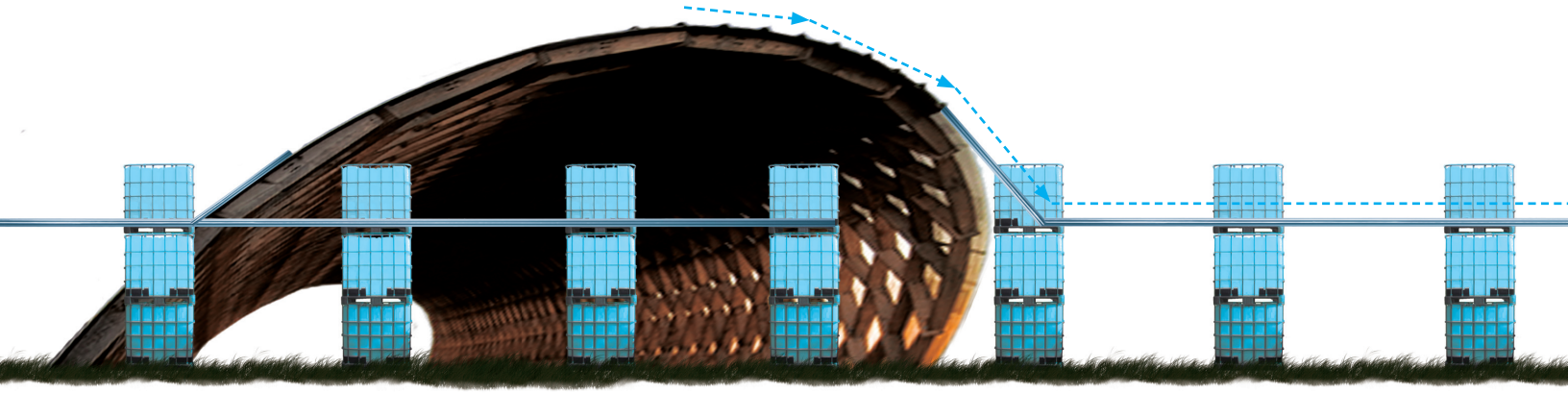


Figure 2.56: enlarged Capuchin site section part C--stormwater captured for alternative laundry use

The BOX! eliminates the need to plug into a permanent water and power supply through self-contained rainwater and electricity harvesting systems, adding to mobility by eliminating the need for time consuming, permit-driven utility hook-ups to the city's water supply and electrical grid. Rainwater is harvested from the lamella pavilions, shipping containers' roofs, and in cases like the Capuchin design, new roof structures placed over top of adjacent, existing buildings. Electrical power is generated either by photovoltaics (solar panels) on the container roofs or using merry-go-round or stationary exercise bikes as electrical generators. Water is pumped via the merry-go-rounds and food is cooked using a solar cooker, fire pit, or grill. Even the pallet jack, the mechanical device that moves the items from the containers to the site, is human-powered.

Materials used in the BOX! are easily accessible, inexpensive, and even free in some cases. Otherwise ordinary or what are considered waste materials are converted and assembled to create usable amenities like benches, pavilions, and light sculptures.

Through the BOX!, people can learn that sustainability is related to one's whole lifestyle, from eating healthy to earning a living. Mobile classroom BOXES! can offer a wide array of educational programs allowing people to boost skill sets for future employment.

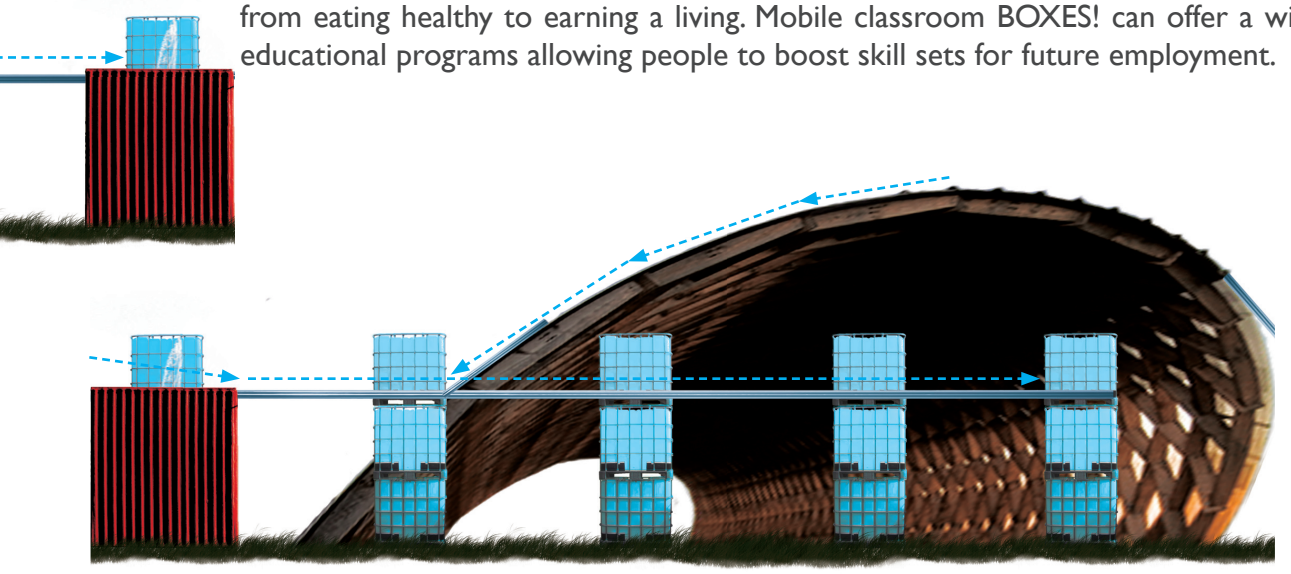
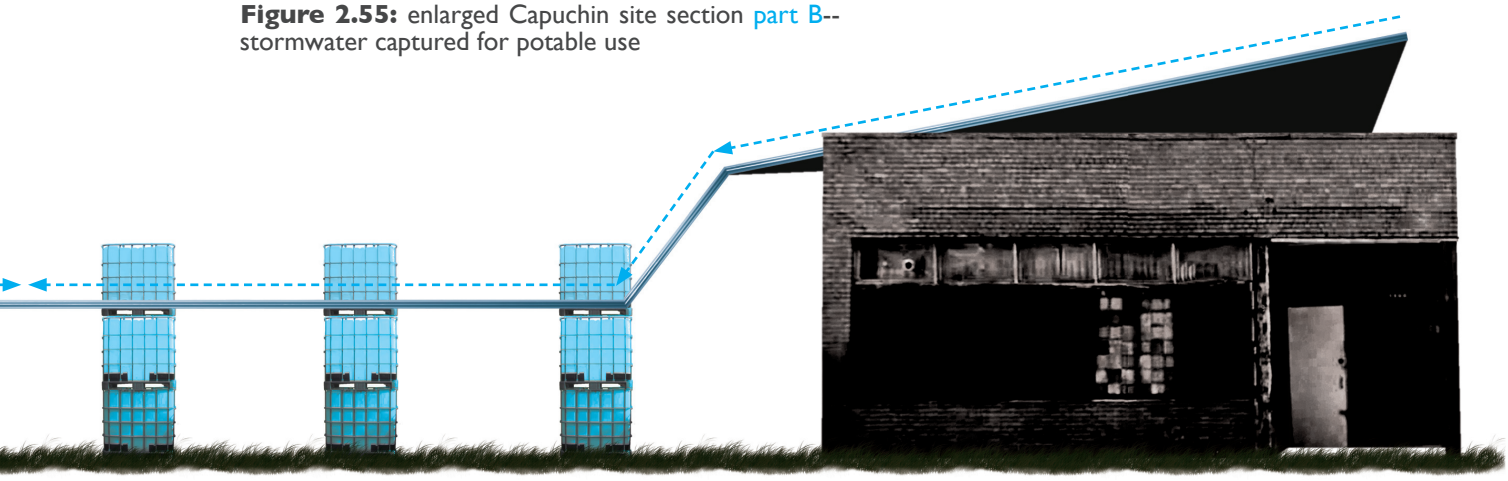


Figure 2.55: enlarged Capuchin site section part B-- stormwater captured for potable use



CONCLUSION

The BOX!, is a real world, real time, social, spatial, artistic and environmental tactical kit of parts created to help bring stability, pride, investment, and self-reliance back to neglected populations. IT'S IN THE BOX!, sends an urgent message to the people of Detroit that change is sitting right there, in an orange shipping container on the site, ready to be unpacked.

The BOX! is a way to reclaim and regenerate the latent energy in the city.

Figure 2.57 (opposite): full-scale prototype matryoshka boxes in an agricultural planter setting, set on a pallet for easy mobility

LIST OF FIGURES

page

Figure 1.10: bench and planter prototypes at Michigan Central Station (credit: Dave Brenner) i
Figure 1.11: bench and planter prototypes at Michigan Central Station (credit: Dave Brenner) iii
Figure 1.12: early sketch of container transformation v
Figure 1.13: early concept sketch of container meetinghouse v
Figure 1.14: model of container meetinghouse v
Figure 1.15: detroit east side--1950s (credit: http://funnelme.wordpress.com/2012/01/23/the-detroit-paradox/) 1
Figure 1.16: east side neighborhood--present day (credit: http://heckeranddecker.files.wordpress.com/2010/04/detroit.jpg) 1
Figure 1.17: Packard Plant when operational (credit: http://nighttraintodetroit.com/2010/01/13/giants/) 3
Figure 1.18: Woodward Ave circa 1960s (credit: http://blog.hemmings.com/index.php/2012/03/15/detroit-1950s/) 3
Figure 1.19: Gratiot Ave circa 1960s (credit: https://www.reuther.wayne.edu/node/4336) 3
Figure 1.20: Michigan Central Train Station during operation (credit: http://michpics.files.wordpress.com/2007/07/michigan-central-station-1921.jpg?w=480) 3
Figure 1.21: Michigan Central Train Station during operation (credit: http://farm6.static.flickr.com/5250/5260170710_e74297490b.jpg) 3
Figure 1.22: Packard Plant--present day (credit: http://1.bp.blogspot.com/-f6rMpg8eDN4/T19P2c1dp_I/AAAAAAAAHU8/eFfRI2b0PVw/s1600/marchy+13+packard+plant.jpg) 4
Figure 1.23: Woodward Ave--present day (credit: http://farm7.static.flickr.com/6194/6081296727_33ecdd7b1c.jpg) 4
Figure 1.24: Gratiot Ave--present day (credit: http://static.panoramio.com/photos/large/44203303.jpg) 4
Figure 1.25: Michigan Central Train Station--present day (credit: http://4.bp.blogspot.com/_ArHnIRw3Br4/TM8AhMEKCFI/AAAAAAAAALc/OHZ0toOgg3k/s1600/IMG_4064.JPG) 4
Figure 1.26: Population change from Detroit's peak in 1950 to its continuing decline in the 2000s 5
Figure 1.27: Population change from Detroit's peak in 1950 to its continuing decline in the 2000s 5
Figure 1.28: Vacant parcels in Detroit in 2010 5
Figure 1.29: 2010 Employment/Unemployment statistics 6
Figure 1.30: It's In the BOX! driving through abandoned buildings in Detroit 7
Figure 1.31: Detroit Metropolitan Area 9
Figure 1.32: City of Detroit 10, 39, 41, 47, 61
Figure 1.33: Model of a BOX!, displaying its name and message at night. The movable doors allow different combinations of words and amounts of light. 11
Figure 1.34: Model of a BOX!, displaying its name and message at night. The movable doors allow different combinations of words and amounts of light. 11
Figure 1.35: free pallets : anywhere USA (credit: http://us.123rf.com/400wm/400/400/slovegrove/slovegrove1009/slovegrove100900005/7759248-stacks-of-wooden-freight-pallets-on-the-footpath-to-be-given-away-for-free.jpg) 13
Figure 1.36: standard shipping container sizes 13
Figure 1.37: container transformation 13
Figure 1.38: packed container 14
Figure 1.39: unpacked container 14
Figure 1.40: Newbern Baseball Field by The Rural Studio utilizes ordinary chain link fence and transforms it into something sculptural (Dean 2005) 15
Figure 1.41: Newbern Baseball Field by The Rural Studio utilizes ordinary chain link fence and transforms it into something sculptural (Dean 2005) 15
Figure 1.42: Mason Bend Chapel by The Rural Studio reuses Chevy Caprice windshields into a glass facade (Dean 2002) 15
Figure 1.43: Mason Bend Chapel by The Rural Studio reuses Chevy Caprice windshields into a glass facade (Dean 2002) 15
Figure 1.44: Avery Vegetable Stand by the Rural Studio reuses found metal and highway signs to create a fence/wall more like a collage (Dean 2002) 15

page
Figure 1.45: Perry Lakes County Park, Thomaston, Alabama by the Rural Studio--These unique restrooms utilize high craft and materials like cedar and stainless steel that engulf the surrounding landscape and trees (Dean 2005) 17
Figure 1.46: Perry Lakes County Park, Thomaston, Alabama by the Rural Studio--View from the tall toilet (Dean 2005) 17
Figure 1.47: Perry Lakes County Park, Thomaston, Alabama by the Rural Studio--View of all the toilet facilities at the park (Dean 2005) 17
Figure 1.48: Yancey Tire Chapel at night by the Rural Studio utilizes old tires for the walls and salvaged corrugated metal to create a sacred space (Dean 2002) 18
Figure 1.49: Mobile City Farm in Chicago, IL (Cumberlidge 2007, 184) 19
Figure 1.50: Mobile City Farm in Chicago, IL (Cumberlidge 2007, 184) 19
Figure 1.51: Mobile City Farm in Chicago, IL (Cumberlidge 2007, 184) 19
Figure 1.52: Mobile City Farm in Chicago, IL (Cumberlidge 2007, 183) 19
Figure 1.53: Container graveyard in Detroit (credit:) 21
Figure 1.54: Shipping container transformed into a forest cabin (Bahamon et. al. 2008) 22
Figure 1.55: Shipping container transformed into a forest cabin (Bahamon et. al. 2008) 22
Figure 1.56: A Starbucks drive-thru in Washington utilizes repurposed shipping containers (credit: Inhabitat. http://inhabitat.com/starbucks-opens-new-reclamation-drive-thru-made-from-recycled-shipping-containers/&usg=__GPjVS-acPwsHewOZs9LLtY_e2Pw=&h=357&w=537&sz=65&hl=en&start=2&zoom=1&tbnid=YRvL2PZ5y7GWCM:&tbnh=88&tbnw=132&ei=3j_8T6fzG-jj0QGhovTOBg&prev=/search%3Fq%3Dstarbucks%2Bdrive-thru,%2Bshipping%2Bcontainer%26um%3D1%26hl%3Den%26client%3Dsafari%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 22
Figure 1.57: Night shot of Palleten Pavilion (credit: Palleten Pavilion. http://www.aml-partner.de/palettenpavillon-bilder.htm) 23
Figure 1.58: Palleten Pavilion uses pallets to create an organic shape (credit: Palleten Pavilion. http://www.aml-partner.de/palettenpavillon-bilder.htm) 23
Figure 1.59: State of Rio de Janeiro Pavilion at the Rio21 Summit (credit: Treehugger. State of Rio de Janeiro Pavilion. http://www.treehugger.com/green-architecture/massive-pavilion-covered-7000-pallets-rio20-exhibition.html&usg=__pNzGeqJwId2UgFY1emufJMdj8Vw=&h=656&w=492&sz=92&hl=en&start=1&zoom=1&tbnid=DYF6DTFvxfiCGM:&tbnh=138&tbnw=104&ei=iD78T73qMuHN0AGUlbnqBg&prev=/search%3Fq%3Drio20,%2Bpallet%26um%3D1%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 23
Figure 1.60: Assemblage series of photos for the planter, bench, and floor prototypes for the BOX! (credit: Dave Brenner) 24
Figure 1.61: Assemblage series of photos for the planter, bench, and floor prototypes for the BOX! (credit: Dave Brenner) 24
Figure 1.62: Assemblage series of photos for the planter, bench, and floor prototypes for the BOX! (credit: Dave Brenner) 24
Figure 1.63: Assemblage series of photos for the planter, bench, and floor prototypes for the BOX! (credit: Dave Brenner) 24
Figure 1.64: Planter, bench, and floor prototypes (credit: Dave Brenner) 25
Figure 1.65: Pallet transformation 25
Figure 1.66: Bench assemblage 25
Figure 1.67: Planter assemblage 25
Figure 1.68: Example of a completed lamella structure (credit: Dal Coastal Studio. http://dalcoastalstudio.blogspot.com/2010/05/lamella-in-chronicle-herald.html&usg=__IETTU-ZWweObU25FSLkQMwCArO8=&h=1243&w=736&sz=312&hl=en&start=25&zoom=1&tbnid=y0ZGQ772wRDz4M:&tbnh=150&tbnw=89&ei=fTj8T-SKGoWV6wHAyNTDBg&prev=/images%3Fq%3Dlamella%2Bstructure%26start%3D21%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&itbs=1) 26
Figure 1.69: Hilltone--an example of a hardened topography made of wood (credit: Raumlabor. http://www.raumlabor.net/%3Fp%3D5170&usg=__d5IL9xYaPO0Hj8PkxY3ktKsX1xs=&h=412&w=620&sz=87&hl=en&start=2&zoom=1&tbnid=s8p3CVpzyJtXKM:&tbnh=90&tbnw=136&ei=8j78T8T3H82I0QGfyISCBw&prev=/search%3Fq%3Dhilltone%2Binstallation%26um%3D1%26hl%3Den%26client%3Dsafari%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 26

LIST OF FIGURES (cont.)

page

Figure 1.70: Hilltone--an example of a hardened topography made of wood (credit: Raumlabor. http://www.raumlabor.net/%3Fp%3D5170&usg=__d5IL9xYaPO0Hj8PkxY3ktKsX1xs=&h=412&w=620&sz=87&hl=en&start=2&zoom=1&tbnid=s8p3CVpzyJtXKM:&tbnh=90&tbnw=136&ei=8j78T8T3H82l0QGfyISCBw&prev=/search%3Fq%3Dhilltone%2Binstallation%26um%3D1%26hl%3Den%26client%3Dsafari%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 26
Figure 1.71: Floor arrangements 26
Figure 1.72: Topography 26
Figure 1.73: Photos of completed pallet prototypes (credit: Dave Brenner) 27
Figure 1.74: Photos of completed pallet prototypes (credit: Dave Brenner) 28
Figure 1.75: Component Master Chart 31-32
Figure 1.76: The BOX! in transit in front of the Renaissance Center, downtown Detroit 33
Figure 1.77: Delivery of the BOX! on the Capuchin site 33
Figure 1.78: The BOX! establishing presence on the Capuchin site 35
Figure 1.79: The BOX! transformed into a community gathering place and meetinghouse 35
Figure 1.80: Delivery of the initial site design components and BOXES! 35
Figure 1.81: Model of the community gathering place and meetinghouse BOX! 36
Figure 1.82: Model of the community meetinghouse at night, lit up to establish a greater sense of safety while displaying its message 37
Figure 1.83: Model of the community meetinghouse at night, lit up to establish a greater sense of safety while displaying its message 37
Figure 1.84: Model of the community meetinghouse and its fold-out shade structure 38
Figure 1.85: Model of the community meetinghouse and its fold-out shade structure 38
Figure 1.86: Michigan Central Train Station/Roosevelt Park site 39, 62
Figure 1.87: Heidelberg Project site 39, 44
Figure 1.88: Capuchin Service Center site 40, 48
Figure 1.89: Heidelberg Street at the Heidelberg Project 42
Figure 1.90: Tyree Guyton face at the Heidelberg Project 42
Figure 1.91: Heidelberg Project site 43
Figure 1.92: Heidelberg Site Plan 43-44
Figure 1.93: Example of a solar cooker in Mexico (Murphy 2006) 45
Figure 1.94: Matryoshka boxes assemblage diagram 46
Figure 1.95: table and chairs diagram 46
Figure 1.96: table and chair prototype (credit: Dave Brenner) 46
Figure 1.97: agriculture + flower planter prototype assemblage (credit: Dave Brenner) 46
Figure 1.98: stage/platform diagram 46
Figure 1.99: view of the capuchin site from the south on Mount Elliott Street (credite: Google Maps) 47
Figure 2.10: view of the capuching site from the north on Mount Elliott (credite: Google Maps) 47
Figure 2.11: Capuchin design in the day from Mount Elliott 49
Figure 2.12: Capuchin design lit at night--viewed from Mount Elliott 49
Figure 2.13: Capuchin Site Plan 50
Figure 2.14: Capuchin design model--view from the north 51
Figure 2.15: Model of the Capuchin design from Mount Elliott 51
Figure 2.16: Lamella structure pavilion of the Capuchin design 52
Figure 2.17: Washing stations at the Capuchin design 52
Figure 2.18: Example of a lamella structure built by the Coastal Studio (credit: Dal Coastal Studio. http://dalcoastalstudio.blogspot.com/2010/05/lamella-in-chronicle-herald.html&usg=__IETTU-ZWweObU25FSLkQMwCArO8=&h=1243&w=736&sz=312&hl=en&start=25&zoom=1&tbnid=y0ZGQ772wRDz4M:&tbnh=150&tbnw=89&ei=fTj8T-SKGoWV6wHAyNTDBg&prev=/images%3Fq%3Dlamella%2Bstructure%26start%3D21%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&itbs=1) 53
Figure 2.19: Example of a lamella structure built by the Coastal Studio (credit: Dal Coastal Studio. http://dalcoastalstudio.blogspot.com/2010/05/lamella-in-chronicle-herald.html&usg=__IETTU-ZWweObU25FSLkQMwCArO8=&h=1243&w=736&sz=312&hl=en&start=25&zoom=1&tbnid=y0ZGQ772wRDz4M:&tbnh=150&tbnw=89&ei=fTj8T-SKGoWV6wHAyNTDBg&prev=/images%3Fq%3Dlamella%2Bstructure%26start%3D21%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&itbs=1) 53

page
Figure 2.20: Example of a lamella structure built by the Coastal Studio (credit: Dal Coastal Studio. http://dalcoastalstudio.blogspot.com/2010/05/lamella-in-chronicle-herald.html&usg=__lETTU-ZWweObU25FSLkQMwCArO8=&h=1243&w=736&sz=312&hl=en&start=25&zoom=1&tbnid=y0ZGQ772wRDz4M:&tbnh=150&tbnw=89&ei=fTj8T-SKGoWV6wHAyNTDBg&prev=/images%3Fq%3Dlamella%2Bstructure%26start%3D21%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&itbs=1) 53
Figure 2.21: Model of the Capuhin Site lit at night 54
Figure 2.22: Capuchin site model highlights the use of the panel system atop the adjacent building and as a vertical wall structure. 55
Figure 2.23: Assembly diagram for a single panel for the panel system. The bottom four pictures show different panel products that can be used for different effects. 56
Figure 2.24: rendering depicting how the program of the BOX! mixes functions like urban agriculture coupled with childcare and renewable energy to provide a multifunctional space 57
Figure 2.25: rendering of how the alternative laundry facilities is dually designed as a playground so single parents can wash clothes and keep an eye on their chinldren at the same time 57
Figure 2.26: rendering depicting how the BOX! can offer the most basic of community-based services in public shower and toilet facilities 59
Figure 2.27: rendering of how the creation of art can bring life and character to a site through decorating the components. Seen here a series of panel systems is being turned into a community mural 60
Figure 2.28: the original Playpump in use in Africa (Cumberlidge 2007, 35) 60
Figure 2.29: the Roosevelt Park site existing conditions from above (credit: Google Maps) 61
Figure 2.30: photo of site model from Michigan Ave 63
Figure 2.31: Roosevelt Park site model highlighting the performance and seating area in front of Michigan Cnetral Terminal 63
Figure 2.32: Roosevelt Park site model overall shot from above 63
Figure 2.33: Roosevelt Park site plan 64
Figure 2.34: site model night shot from the northwest along Michigan Ave 65
Figure 2.35: site model day shot from the northwest along Michigan Ave 65
Figure 2.36: enlarged Roosevelt Park site plan--western portion 66
Figure 2.37: Park site model lit for overall night atmosphere simulation. The water crate towers unify the entire, large site 67
Figure 2.38: Roosevelt site model in daytime setting 67
Figure 2.39: enlarged Roosevelt Park site plan--central + eastern portions 68
Figure 2.40: Roosevent Park in the daytime benefits from saving the existing large canopy trees for plentiful shade. 69
Figure 2.41: Roosevelt Park site design at night from above. The giant movie screen hung on the train station is the most visible element 70
Figure 2.42: example of a water crate (credit: www.atlanticpressurewashers.com/Pressure_Washer_Accessories_275_Gallon_Water_Tote.html&usg=__mgy2XUTxqigfxyGrOoVip7PTUoE=&h=296&w=267&sz=79&hl=en&start=14&zoom=1&tbnid=SS89uqY95tw1dM:&tbnh=116&tbnw=105&ei=UTz8T-3clsfk0QHm8MyKBw&prev=/search%3Fq%3D275%2Bgallon%2Bwater%2Btank%26um%3D1%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 71
Figure 2.43: ReTank Wonderbar, Amsterdam (Bahamon et. al. 2008) 71
Figure 2.44: Kubik outdoor club, Berlin (credit: designboom. http://www.designboom.com/weblog/cat/9/view/6184/modulorbeat-balestra-berlin-kubik-berlin.html&usg=__x6r6F8BKYZm439w9EObwdViFUXc=&h=431&w=550&sz=53&hl=en&start=16&zoom=1&tbnid=Y_hdEi53Hf0MYM:&tbnh=104&tbnw=133&ei=sDz8T4TTLIHo0QGNtfzmBg&prev=/search%3Fq%3Dkubik%26um%3D1%26hl%3Den%26client%3Dsafari%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 71
Figure 2.45: water column assembly diagram 72
Figure 2.46: rendering of a constructed water column lit as an aesthetic element 72
Figure 2.47: toilet/shower stall assembly diagram 72
Figure 2.48: Rendering of the performance and seating area of the Roosevelt Park site design and the use of water crates as support lighting for events 73-74
Figure 2.49: example of metal cable (credit:) 75

LIST OF FIGURES (cont.)

page

Figure 2.50: all-terrain pallet jack (credit: Vestil Manufacturing. http://vestilmfg.com/products/mhequip/pt-all_terrain.htm&usg=__5O1ryCdhQBC8axMayYT3JE5TX34=&h=297&w=300&sz=38&hl=en&start=1&zoom=1&tbnid=16v4M30anqw5LM:&tbnh=115&tbnw=116&ei=MT38T_5NsOTpAfybnd4G&prev=/search%3Fq%3Dall%2Bterrain%2Bpallet%2Bjack%26um%3D1%26hl%3Den%26client%3Dsafari%26sa%3DN%26rls%3Den%26tbm%3Disch&um=1&itbs=1) 75

Figure 2.51: rendering depicting a BOX! used as a mobile classroom teaching carpentry and constructing items from pallets as a lesson. 75

Figure 2.52: section depicting how electrical power can be renewably produced on site 77-78

Figure 2.53: overall Capuchin site section depicting stormwater collection and distribution 79

Figure 2.54: enlarged Capuchin site section part A--stormwater collected for the urban agriculture program 79-80

Figure 2.55: enlarged Capuchin site section part B--stormwater captured for potable use 80

Figure 2.56: enlarged Capuchin site section part C--stormwater captured for alternative laundry use 79-80

Figure 2.57: full-scale prototype matryoshka boxes in an agricultural planter setting, set on a pallet for easy mobility (credit: Dave Brenner) 81

Figure 2.58: Mihel Von Hausfelf's light installation for Invisible Zagreb (Cumberlidge 2007, 167) 96

Figure 2.59: Invisible Zagreb as a performance venue (Cumberlidge 2007, 168) 96

BIBLIOGRAPHY

Bahamon, Alejandro and Camila Sanjines, Maria, 2008. *Rematerial: From Waste to Architecture*. New York, NY: W.W. Norton & Company.

Bell, Bryan and Katie Wakeford, eds., 2008. *Expanding Architecture: Design As Activism*. New York, NY: Metropolis Books.

Peter Aeschbacher and Michael Rios, "Claiming Public Space: The Case for Proactive, Democratic Design" pp. 84-91.

Bryan Bell, "Expanding Design Toward Greater Relevance" pp. 14-17.

Damir Blazevic, "Invisible Zagreb" pp. 104-109.

José L.S. Gámez and Susan Rogers, "An Architecture of Change" pp. 18-25.

Amanda Hendler-Voss and Seth Hendler-Voss, "Designing with an Asset-Based Approach" pp. 123-130.

Lance Hosey, "Toward a Humane Environment: Sustainable Design and Social Justice" pp. 34-41.

Bell, Bryan, ed., 2004. *Good Deeds, Good Design: Community Service Through Architecture*. New York: Princeton Architectural Press.

Bryan Bell, "Finding Clients" pp. 23-30.

Bryan Bell, "Architecture as Artifact" pp. 175-182.

Shannon Criss, "Small Town Center" pp. 209-216.

Andrea Dietz, "Communication" pp. 141-148.

Samuel Mockbee, "The Role of the Citizen Architect" pp. 151-156.

Jason Pearson, "Further Forward: Operative Practices" 231-236.

Brundtland, Gro Harlem, 1987. *Our Common Future*. Oxford University Press: Oxford.

Bukowczyk, John J., and Douglas Aikenhead, with Peter Slavcheff, eds. *Detroit Images: Photographs of the Renaissance City*. Detroit: Wayne State Universtiy Press.

Cary, John, ed., 2010. The *Power of Pro Bono: 40 Stories about Design for the Public Good by Architects and Their Clients*. New York, NY: Metropolis Books.

Cumberlidge, Clare and Lucy Musgrave, 2007. *Design and Landscape for People: New Approaches to Renewal*. New York, NY: Thames & Hudson.

Dean, Andrea Oppenheimer, 2005. *Proceed and be Bold: Rural Studio After Samuel Mockbee*. New York, NY: Princeton Architectural Press.

Dean, Andrea Oppenheimer, 2002. *Rural Studio: Samuel Mockbee and an Architecture of Decency*. New York, NY: Princeton Architectural Press.

Doctorow, E.L., 1975. *Ragtime*. Random House: New York, NY.

DuBois, W.E.B., 1903. *The Souls of Black Folk*. Chicago: A.C. McClurg & Co.

Duggan, Daniel and Sherri Begin Welch, 2009. "Waterfront Improvements Aim to Spur Private Development" in Crain's Detroit Business, August 23, 2009. http://www.crainsdetroit.com/article/20090823/FREE/308239956/

Elkington, John, 1994. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Stony Creek, Conn: New Society Publishers.

Glaeser, Edward L., 2010. "Shrinking Detroit Back to Greatness" in New York Times, March 16, 2010.

Gnatek, Tim, 2003. "Curitiba's Urban Experiment." Public Broadcasting Service, December 2003. http://www.pbs.org/frontlineworld/fellows/brazil1203/social-services.html

Herron, Jerry, 1993. *AfterCulture: Detroit and the Humiliation of History*. Detroit, MI: Wayne State University Press.

Kelbaugh, Douglas, 2002. *Repairing the American Metropolis: Common Place Revisited*. Seattle, WA: University of Washington Press.

Lepik, Andres, 2010. *Small Scale Big Change: New Architectures of Social Engagement*. New York, NY: The Museum of Modern Art.

Berry Bergdoll, "Introduction" pp. 7-11.

Mitchell, Don, 2003. *The Right to the City*. New York, NY: Guilford Press.

Murphy, Diana ed., 2006. *Design Like You Give a Damn*. New York, NY: Distributed Art Publishers.

Rabinovitch, Jonas, 1992. "Curitiba: towards sustainable urban development." Environment and Urbanization. Vol. 4. No. 2, October 1992.

BIBLIOGRAPHY (cont.)

Red Fields to Green Fields, 2011. Detroit Study. www.Redfieldstogreenfields.org.

Rooney, Ben, 2011. "Michigan approves plan to close half of Detroit schools." CNN, February 22, 2011. http://money.cnn.com/2011/02/22/news/economy/detroit_school_ restructuring/index.htm#

Saulny, Susan, 2007. "Detroit Considers Sale of City's Small Parks" in New York Times, December 29, 2007.

Sugrue, Thomas J., 1996. *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit*. Princeton, NJ: Princeton University Press.

University of Washington (UW), "Lavandaria." University of Washington Department of Landscape Architecture. http://larch.be.washington.edu/features/design_build/ursula/ursula.php

UPI 2010. "Detroit Parks may Close in Budget Battle" in United Press International, June 25, 2010. http://www.upi.com/

WXYZ 2010. "City Council and Mayor's Office Reach Deal to Save Detroit's Parks." Channel 7 Action News, Detroit. June 29, 2010. http://www.wxyz.com

APPENDIX 1

+Precedent: Mobile City Farm, Chicago IL
An extremely exciting precedent on a mobile landscape bringing positive change is the Mobile City Farm in Chicago, Illinois. One might question how one picks up and moves a farm, even an urban one, but Resource Center Chicago found a way; it's actually a simple process but it's not the process that's remarkable. Cumberlidge and Musgrave explain:

"The Mobile City Farm presents an exemplary process for using vacant sites in the city during the inevitable urban cycle of demolition and development. It contributes to intensive and efficient use of urban land by ensuring that a site can be used productively even while 'derelict' or awaiting construction. It also demonstrates how temporary projects can benefit the city both economically and socially, raising land values while providing the city with much-needed resources—in this case, green space, healthy food and job opportunities" (Cumberlidge 2007, 182).

It's City Farm's goal to not only employ but educate homeless and surrounding population in healthy eating habits and slow food (Cumberlidge 2007, 184); after two years of employment at the farm it is expected that those working there can start their own independent farm (Cumberlidge 2007, 182). The produce is both sold at lower-than-market prices to the poor and higher prices to expensive restaurants getting organic waste from the latter for composting (Cumberlidge 2007, 184). The financial income creates an economic basis for then employing the homeless. Yet one of the biggest positives merely comes out of the vacant site being productively used. "Having the area occupied and productive makes it more appealing to prospective real-estate developers. When the site is sold, the group literally rolls up the compost and fencing and relocates, leaving a perfectly clean site, ready for development" (Cumberlidge 2007, 182).

It is in its program, mobility, employment model, and economic development strategy that the BOX! looks to with inspiration. Urban agriculture brings so many benefits as shown in City Farm, which is why it is included in the wide program for the BOX! However, the raised planters of the BOX! are more mobile than the loose dirt of City Farm because they lay on pallets. These planters can simply be moved by a pallet jack to another site or even to the lamella structure greenhouse for wintertime production. The BOX! looks to be more mobile due to the fact that it would not have to pick up and haul large amount of loose dirt and compost even with each component designed to be disassembled, stacked, or compacted all fitting inside the shipping containers. Also, using the intervention as a means of community stability not just for the people's sakes but for the potential for feasible economic development resultant from neighborhood stability.

APPENDIX II

+Precedent: The Rural Studio

The Rural Studio, despite the aforementioned problems, has been a successful program not just for teaching the practical side of design to future architects but also for teaching social responsibility. The Rural Studio is a hands on architecture program run through Auburn University founded in 1992 by Mockbee and D.K. Ruth. Upset by the mindset that architecture school were creating in its graduates, Mockbee created the program that sought to instill values of the past. "He believed that architects should take the lead in procuring social and environmental change, but they had lost their moral compass and become 'house pets to the rich'" (Dean 2005, 7).

Mockbee has been both criticized and heralded for his work in the remote places of Alabama. The early studio's year, led by Mockbee until his death in 2001, focused on dwellings for people of one of the most poverty-stricken areas of the country with a special emphasis on creative use of materials. "Transmuting ordinary materials into extraordinary objects" (Dean 2005, 8) is how Andrea Oppenheimer Dean describes the early studio's projects. She goes on to talk about specific vision and examples of material use of the studio:

"The Rural Studio represents a vision of architecture that embraces not only practical architectural education and social welfare but also the use of salvaged, recycled, and curious materials to create an appreciation of place. 'I want to be over the edge, environmentally, aesthetically, and technically'... They employed worn-out tires for the walls of a chapel, discarded Chevy Caprice windshields for the roof of a community center, waste corrugated cardboard for a one-room dwelling, and surplus carpet tiles for a family home" (Dean 2005, 8).

It is in the very idea that stuff that would otherwise be waste is turned into assets not just to reduce cost, but to relate to the people one is designing for. This is one of the biggest principles the BOX! stands for. But the BOX! also looks at the more contemporary works of the studio under the guidance of the new director, Andrew Freear.

Under Freear, materials of choice have changed from wood and tin, under Mockbee, to steel, but more importantly a higher emphasis on details and craft have created a refined set of newer projects such as the Perry Lakes Park Facilities (Dean 2005, 12). This program of this project consists of a raised boardwalk and three restroom. After the project was completed, the Mayor said, What excited me most about this facility is that it's in Perry County, which was considered a third world country. I say to people this is our Walden Pond" (Dean 2005, 105). The restrooms, each a different shape focusing on a different view from inside and set on septic mounds, are the focal points of the design. "An anodized aluminum structure underlies the long and tall toilets, and all are cedar on the inside and stainless steel and cedar on the outside. The contrast between the materials is striking, and the stainless steel, softened by the surrounding woods, reflects the trees" (Dean 2005, 105). This goes to show that high craft is appreciated anywhere and the attention to detail can really make a project go to the next level. It is with the detailing of every component that the BOX! attempts to achieve a high sense of craft not only to look good but to represent and regard the people it seeks to serve in a high, respected manner.

APPENDIX III

+Precedent: TUCCA Community Center

Part experiment, part naivety could describe Andrea Dietz and Lesli Stinger's toggle in working with TUCCA (The United Christian Community Association) in Taylor, Alabama to design a barbeque pavilion and new community center. However, her honest critique of the process after the fact provides valuable insight for redefined possibilities of the process associated with the BOX!. With the pavilion project, problems came in communicating construction instructions with those building the pavilions who were volunteers from the community, relatively unskilled in such trades (Dietz in Bell 2004,144). Stinger's design appeared complex even though construction was relatively simple so instead of relying on drawings, she built large scale models (Dietz in Bell 2004,144). "This proved effective, certainly more effective than traditional construction documents, which communicate between architects and builders in a very technical way" (Dietz in Bell 2004,144). The BOX! also uses models to communicate but in a slightly different manner. Since the idea of plan drawings is relatively abstract and foreign to the normal layperson, a model with movable pieces becomes the "plan." Multiples of each component in each of its different uses are provided and community members are able to move around, add, and replace component with a movement of their hands. All of this is facilitated by the magnetic white board as each model piece is also a magnet. This allows the different iterations to keep their form while also being easy to move around. Another set of magnets would be tied to the functional aspects of each component. Simple, representational icons would somewhat reflect those of "App" phenomena. This would make each one of these functions relatable and almost like a game. Brightly colored and divided into three categories: (1) water (blue), (2) power and vegetation (green), and (3) cultural (pink), these icons would be placed next to each model piece to distinguish what functions each component has. A master list of component functions would always be visible some community member could easily see the limitation of each component.

Dietz faced other problems in her interactions for designing the community center one of which was language. Fresh out of school, she had to change how she described simple items, like building program, in order for the community to follow (Dietz in Bell, 2004,144). Another problem she faced was a lack of participation itself even though attendance was good. She describes her frustration and different attempts for garnering participation:

"By the third meeting, I was desperate for...Before congregating, I mailed TUCCA members a hands-on model consisting of a felt base representing the site and cubes representing the rooms...I set the model in a suggested arrangement but asked the TUCCA members to play with and rearrange the components to their liking. I arrived at the meeting to find the model untouched...My next effort for input was a four-question, anonymous survey asking TUCCA members what they liked about the community center design, what they did not like, what they would change, and what they thought best represented their community. Feedback started to come in, but still reflected some confusion" (Dietz in Bell 2004,146).

APPENDIX III (cont.)

Lack of attendance and participation is also a fear for the BOX!. However, the giant whit board, movable models, and functional icons all hope to make the process somewhat fun. Another unique mechanism for bolstering participation are the prototypes that would come with the initial BOX!. These would be full-scale and totally functioning prototypes so the community could interact with each one as they might in the intervention. This too would hopefully lessen concerns about understanding how this foreign concept would function and look. As for Dietz, she learned a valuable lesson that the BOX! takes with full force: "If architecture truly is to be a social art, then the architect must truly be for the people—speaking for the people, crafting for the people, designing for the people, communicating, connecting, including. Maybe that knowledge is what will make all the difference" (Dietz in Bell 2004, 148).

APPENDIX IV

+Precedent: Now Here

Through participation, the BOX! attempts to create a sense of caring among the residents so that the interventions become widely used and maintained by those who use it and live around nearby. One such project that has achieved this success is Now Here, a project in the village of Las Acenas, Spain. Similar to the BOX! in that it is a small-scale, process-driven intervention utilizing an abandoned factory site (Cumberlidge 2007, 122). The factory site, similar to those in Detroit, was at the heart of the village and provided cultural and social structure so when it disappeared, Las Acenas took a major blow (Cumberlidge 2007, 122). The project is minimal in nature merely transforming a walled plot of land into an open green space; the wall was deconstructed to sitting-height, opening the space while revealing an orange tree. The major success though has come from what happened long after the project was completed: "Other projects have been initiated as a result; the residents seem to have found the confidence to take action about creating other spaces for the community—a social club and a fishing platform, among others. The elderly residents have taken on the responsibility of cleaning and maintaining the park, and have made their own benches and other bits of infrastructure, bypassing the municipal government" (Cumberlidge 2007, 124). Cumberlidge and Musgrave go on about the overall success of the project:

"This project shows how a simple, yet much needed, public space intervention can be conceived and managed inventively by creative practitioners, who can engage the community, articulate their desires and use unconventional methods to achieve their aims. The value of the project lies in its simplicity of process and economy of means, appropriate to the location, culture and scale of the community. It is also an interesting case study of using 'art' as a means to achieve political or structural changes..." (Cumberlidge 2007, 124).

Though somewhat larger in size and program functions, the BOX! seeks to be an intervention of simplicity using the reconfigurable and interactive nature to establish a long-lasting connection and engagement with the community. The BOX! also provides the components in a blank-canvas state, meaning they are in their raw material forms without any decoration or personalization. By providing the components in this state, it is almost asking the community to personalize or add-to it in order to truly make it their space, a space that they will defend and inhabit.

APPENDIX V

+Precedent: Invisible Zagreb

Even the Invisible Zagreb project in Croatia uses abandoned buildings not just for cultural events but in the instance of an old liquor factory, Swedish artist Mihel Von Hausfelf designed a light installation and brought new life to the building (Blazevic in Bell 2008, 114). The Roosevelt Park interacts with its prominent abandoned neighbor, the Michigan Central Terminal, more in the way that Hausfelf used the liquor factory. For the Terminal is fitted with a giant retractable screen for showing movies or performances. Nothing can get much better than the backdrop of a movie being an abandoned building commonly used in movies. Though not ordinarily thought of in terms of infrastructure, using the Terminal for events feeds into the cultural infrastructure of the city for sure.

Figure 2.58 (top): Mihel Von Hausfelf's light installation for Invisible Zagreb
Figure 2.59 (left): Invisible Zagreb as a performance venue

APPENDIX VI

+Precedent: Lavandaria—University of Washington Design/Build Studio

Constructed in 1998 by the University of Washington Landscape Architecture design-build studio, Lavandaria, known as "community washing" in English, was a community-based infrastructure project in the poor town of Santa Ursula, Mexico. Through inquiries with the village, the design-build team were able to learn what was needed, "...the women expressed a desire to capture water and build a lavanderia in the village, a traditional social gathering place in older villages" (UW). By having a place in the village dedicated to these tasks, women, especially pregnant women, didn't have to make the arduous journey to the water supply, or import water at a high cost. Lavandaria also instilled an old social tradition for women to wash their clothes together. The water collection system included a filtration system to assure clean water for these people normally at risk to contaminated water. The BOX! looks for this same cohesion of social, economic, and environmental services through the infrastructure it offers. The BOX! also establishes a communal laundry facilities though may not be as successful since it has not been engrained in recent American culture to hand-wash clothes outside.

APPENDIX VII

+Precedent: Curitiba Mobile Classrooms

Mobile classrooms as a social service is not a new idea and have been used to good measure in the city of Curitiba, Brazil. "Curitiba has a strong tradition of providing extensive social services and aid to its poor" (Gnatek, 2003). Curitiba is best known for its revolutionary rapid bus transportation system which actually plays into the mobile classrooms. The classrooms are actually older city buses remodeled in a fashion to facilitate different activities (Rabinovitch 1992, 9). "They run short courses for adults in the low-income sectors of the community to teach new skills such as hairstyling, mechanics, sewing, carpentry and word-processing. These buses go to different low-income neighborhoods each day of the week" (Rabinovitch 1992, 9). Not all the buses in the social program are classrooms. The Linha da Economica buses are mobile market serving a mini supermarket on wheels, traveling to poorer sections of the city (Gnatek, 2003). Olhos da Agua (eyes of water) is a bus that teaches low income peoples about environmental health especially as it relates to water (Gnatek, 2003). Another bus, Linha do Lazer (leisure bus), offers physical education programs and activities to schools that are not able to afford such programs (Gnatek, 2003). The BOX! picks up on this inspiring social program established by Curitiba. However, some of these initiatives, like sustainability education and awareness of the BOX!, are embedded in the intervention itself instead of being something continuously mobile. As the concept of the BOX! grows throughout the city, the number of available programs and mobile classrooms would be able to expand as well.

SPEED
LIMIT
25
FTMD
STOP