

CARROT CITY

DESIGNING FOR URBAN AGRICULTURE



TRAVELING EXHIBITION

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<http://www.ryerson.ca/carrotcity>

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OVERVIEW

This traveling exhibition was first mounted from February to April 2009 at the Design Exchange in Toronto (www.dx.org), sponsored by Loblaw's (presenting sponsor) The Big Carrot, Carrot Cache, Hellmann's, Parc Downsview Park, and Toronto Region and Conservation. It shows how the design of buildings and towns is enabling the production of food in the city. It explores the relationship of design and urban food systems as well as the impact that agricultural issues have on the design of urban spaces and buildings as society addresses the issues of a more sustainable pattern of living.

The focus is on how the increasing interest in growing food within the city, supplying food locally, and food security in general, is changing urban design and built form. Carrot City showcases projects in Toronto and other Canadian cities, illustrating how such concerns are changing both the urban landscape and architecture. It also includes relevant international examples to show how ideas from other countries can be integrated into the Canadian experience. The exhibition contains a mix of realised projects and speculative design proposals that illustrate the potential for design that responds to food issues.

The exhibition explores a variety of issues related to designing for urban agriculture, through a series of case studies, products and systems. It includes a balance between selected projects that were recently completed or are currently under way, and visionary, speculative projects by professional designers as well as students. These projects are presented through three main sections, representing three scales of analysis: City; Community; and Home & Work. In addition to the projects, a fourth section, Products, illustrates technologies and systems that are innovating food production approaches in urban contexts. Some of the main themes featured include:

- What is the place of food in the city?
- How are "waste" spaces being transformed by food projects?
- What are the implications on materials, technologies and structures?

The content includes boards with images and explanatory text, models, installations, videos, and a display of related publications.



#35 Urban Barn (Edmonds)

BACKGROUND

Food is one of our most basic needs. It is an integral part of culture and has been a driving force in the creation of human settlements. Originally, food was closely linked with urban form since most food came from local or regional sources. However, with the rise of agribusiness, cheap transport, and food preservation technology, the distance between farm and market has dramatically increased. The separation of cities from their food sources and other aspects of modern food production are being questioned because of the damage caused to the natural environment, the high energy consumption involved in transporting food and the contribution of such practices to climate change. At the same time, the quality of the food available to urban residents is subject to increasing concern. Furthermore, the question of how to feed the urban population, particularly during crisis, must be confronted. These issues are becoming more urgent every day as neighbourhoods evolve into “food deserts.” Their lack of access to affordable food, food banks and soup kitchens, demonstrates the urgent need to enable access to healthy food, and food security for everyone.

Reconnecting cities to their food systems is emerging not only as one of the core components of more sustainable urban settlements but also as a way to increase access to food. Movements such as community-supported agriculture, farmers’ markets, the 100-mile diet and Slow Food put the local food supply at the heart of urban sustainability. They encourage us to consider ourselves co-producers, not consumers, and in this way engage us in the many aspects of the food system. Local food production and processing (growing, selling and cooking) can also act as a focus for community participation and engagement, empowering people through learning about their food system and its cultural dimensions.

In a world where food is becoming more expensive to produce and unsustainable to ship, local food is seen as part of sustainable living, and food production is becoming an integral part of sustainable urban design. The history of the potager, kitchen gardens, and of course, victory gardens during World War II, shows that

the reintroduction of urban food production is a viable and sustainable alternative to shipping food from far away. Furthermore, food production in urban spaces allows us to reimagine both buildings and spaces within the city. This empowers designers to develop exciting and imaginative new proposals for what a future “Productive City” may be like.

The role of architecture in food production, distribution and related issues is a new area of study, despite the historical importance of food in cities. The emerging alternative food movement has only just begun to engage with the possible contributions that designers and the design process can provide. The built environment and food policy meet at the point where architects and landscape architects incorporate farmers’ markets, greenhouses, edible landscapes, living walls, permeable paving, green roofs, and community gardens into architectural programs. Such examples of the connections between food issues and built form have the potential to transform not only food production and distribution, but basic assumptions about the programming required in the design of buildings and urban spaces.

Recently, urban agriculture and food security have attracted considerable interest in Toronto and many other cities. Lectures, presentations, exhibits and publications on these subjects have increased significantly in the last few years – including ones spearheaded by built environment professionals. These activities include the Edible City exhibit at the Netherlands Architecture Institute, a focus on food within the London Architecture Festival, and several books such as *Hungry City: How Food Shapes Our Lives* and *Continuous Productive Urban Landscapes*. In addition, the “Actions” exhibit, displayed at the Canadian Centre for Architecture, featured gardening as one of its four focus areas. In 2008, the curators of *Carrot City* organized a symposium entitled “The Role of Food and Agriculture in the Design and Planning of Buildings and Cities,” held at Ryerson University in Toronto. This laid the ground for the present exhibition.

CONTENT

Carrot City is a collection of ideas, both conceptual and realized, that use design to enable sustainable food production, helping to reintroduce urban agriculture to our cities. This exhibition considers how the design of cities, urban landscapes, buildings, and gardens can facilitate the production of food in the city. It explores the role that design professionals can play in strengthening the links between urban environments and food, and the impact that agricultural issues have on the design of urban spaces and buildings. It also explores the relationships between designing sustainably and enabling the production and supply of food from local sources.

Because urban food production is sometimes rejected on aesthetic grounds, the design of garden spaces incorporating edible plants is crucial to their acceptance. Featured here are designs that have responded to this challenge with visually striking and artistically engaging spaces.

This exhibit includes works by design professionals, artists and students, conceiving architecture, urban design, landscape

architecture, industrial design, sculpture, and urban planning projects. They begin to answer difficult design questions, including: How does a modern city address food production? How will the integration of food production into the city affect our buildings and urban spaces? How are we to reconcile increased urban populations and densities with land use for food production? How can we integrate food production into dense urban areas and into tight buildings and spaces?

The projects include a mix of realized design work and speculative concepts that illustrate the exciting potential for urban projects that focus on food issues. The work is from both Canada and abroad.

The exhibition is divided into four sections: City; Community; Home and Work; and Products that enable food production in the city. These categories relate to four different scales of design, showcasing projects that illustrate a variety of approaches that designers from across the world have used to address agriculture and the urban experience.



Design Exchange, Toronto



Design Exchange, Toronto



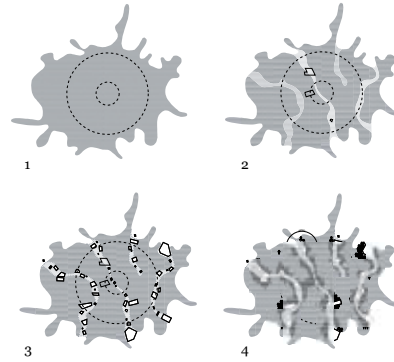
Design Exchange, Toronto

BOARDS

1. CITY

These projects envision urban food production at a large scale, sometimes incorporating whole cities or regions. They point to new ways of imagining urban areas. One of the influential concepts explored here is the idea of “Continuous Productive Urban Landscapes” which re-purpose under-used spaces such as riverbanks, median strips, public park areas, schoolyards, and boulevards as linked sites of production. Large-scaled public planning initiatives that include urban agriculture within a larger master plan are also included here, such as Toronto’s Tower Renewal Project and Vancouver’s Olympic Village of South East False Creek.

The ambitious thinking reflected in visionary concepts such as Vertical Farms and Pig City are purposely provocative. Several ongoing initiatives shown in this section, including the “Making of the Edible Landscape” projects, demonstrate that these are not merely speculative but can be realized.



How to make a CPUL

- (1) Bring your own city.
- (2) Map all your existing open spaces, and connect them through green infrastructures.
- (3) Insert agriculturally productive land.
- (4) Feed your city! [d]

#8 Continuous Productive Urban Landscape Board 1

| CITY - panels | |
|---------------|---|
| 1. | Proposed Downsview Park polot project |
| 2. | Downsview Park (general board) |
| 3. | Student Work at Downsview Park |
| 4. | South East False Creek, Vancouver |
| 5. | White Bay Eco City 2050 (U. of Sydney) |
| 6. | Tower Renewal Project |
| 7. | Cuba - Laboratory for UA |
| 8. | CPULs - Board 1 |
| 9. | CPUL's - Board 2 |
| 10. | Ravine City / Farm City |
| 11. | Post Carbon Don Mills (Blois) |
| 12. | Making the Edible Landscape: Rosario |
| 13. | Making the Edible Landscape: Colombo |
| 14. | Ouro Preto project: Designing for Food (Brazil) |
| 15. | Detroit Studio - Balduck Park Study |
| 16. | Edible Ecologies (Potteiger - Syracuse) |
| 17. | Greenhouse Village (Netherlands) |
| 18. | Agroparks (Netherlands) |
| 19. | Pig City (MVRVD Architects) |
| 20. | Vertical Farms (Chicago, Dubai) |



#19 Pig City (MVRVD Architects)



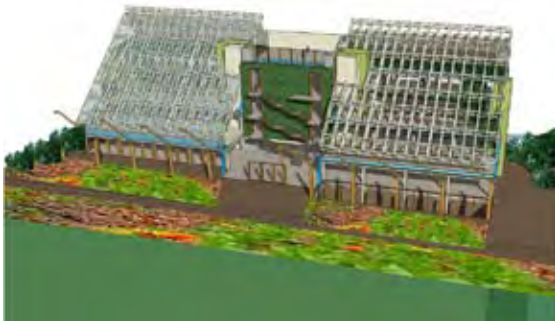
#11 Post Carbon Don Mills (Blois)



#23 Inuvik Community Greenhouse



#25 50 Cent Curtis Jackson garden (NY Restoration Project)



#37 Ryerson Thesis: Teaching About Growing

2. COMMUNITY

This section looks at buildings and spaces that strengthen communities. The work ranges from community greenhouses to community food centres that house various initiatives that teach people to grow food, help to develop and manage allotment and community gardens, assist in developing micro-enterprises that are food centered, and supply food banks and soup kitchens with fresh produce they otherwise lack. Featured are neighbourhood-scaled initiatives such as Growing Home in Chicago and Growing Power in Milwaukee. These projects have demonstrated the transformative power of urban gardening through educational initiatives, back-to-work programs, improved access to affordable and healthy food, and the creation of a focal point for the community. The examples here show the relationships between urban agriculture, design, and community building.

COMMUNITY - panels

- | | |
|-----|--|
| 21. | Wood Street Urban Farm (Chicago) |
| 22. | Growing Power (Millwaukee) |
| 23. | Inuvik Community Greenhouse |
| 24. | South End Roxbury Community Garden |
| 25. | 50 Cent Curtis Jackson garden (NY Restoration Project) |
| 26. | Hellmann's Urban Gardens Program (Evergreen) |
| 27. | RISC's Rooftop Forest (Reading International Solidarity Centre, UK) |
| 28. | Trent University (Peterbrough) |
| 29. | The Edible Campus (McGill) |
| 30. | NutriCentre (McGill) |
| 31. | Artscape Wychwood Barns |
| 32. | Evergreen Brick Works in Toronto |
| 33. | Toronto Urban Farm (Black Creek) |
| 34. | The Living City (Kortright Farm/McVean Farm) |
| 35. | Urban Barn Thesis (Jordan Edmonds) |
| 36. | Community Groundworks at Troy Gardens (Madison, WI) |
| 37. | Ryerson Thesis: Teaching about Growing (Dmitrieva, Augustine, Goymour) |
| 38. | LARC 501 Introductory studio - UBC |
| 39. | Urban Agriculture Hub (Guiry) |



#43 Fritz Haeg's Edible Estates



#49 60 Richmond Street West (Teeple Architects)



3. HOME & WORK

From restaurants to hotels, from condominium complexes to row houses, these projects illustrate the possibilities of linking food production to workplaces and the home. While providing a source for local food, such strategies can provide other benefits such as thermal performance improvements from productive green roofs and green walls. The work shown here makes clear that many home and work environments can be potentially productive.

In this section, compelling ideas include food production as an integral part of alternative housing types such as co-housing, orchards, allotment gardens on rooftops, and community gardens in laneways. Examples here include chefs who are able to offer fresh herbs from their own restaurant gardens and families who can have vegetables from their yard or rooftop that taste better than anything store-bought.

| HOME & WORK - panels | |
|----------------------|---|
| 40 | Mole Hill (Vancouver) |
| 41 | City Farmer (Vancouver) |
| 42 | Curran House (San Francisco, David Baker Architect) |
| 43 | Fritz Haeg's Edible Estates |
| 44 | Rooftop gardens at Fairmont Hotels (Toronto & Vancouver) |
| 45 | Carrot Common |
| 46 | 2nd Street Residence, NYC - Jeff Heehs (designer/owner) |
| 47 | 2 Chicago rooftops (Uncommon Ground Restaurant / True Nature Foods) |
| 48 | The Freesia (Vancouver) |
| 49 | 60 Richmond Street (Teeple Architects) |
| 50 | Vertical Farm Arcology (Graff) |
| 51 | Ryerson theses: Food & communal housing (Seed, Vernon, Winkler) |



#62 ELT Living Wall



#64 Amphorae



#65 Eglu

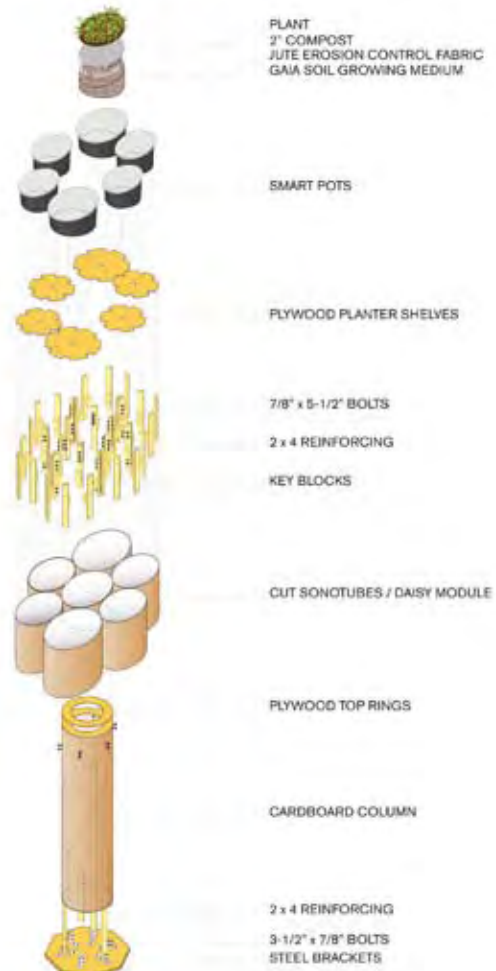
| | PRODUCTS - panels |
|----|--------------------------------------|
| 52 | Beehives (Holcim Competition) |
| 53 | Rooftop containers (Alternatives) |
| 54 | Bagriculture |
| 55 | Public Farm 1 (NYC) |
| 56 | Solar Bubble Greenhouse |
| 57 | Vertically intergrated greenhouses |
| 58 | Science Barge (NYC) |
| 59 | Molecular Kitchen (Blackwell) |
| 60 | Green roof systems |
| 61 | Biotope (container roof system) |
| 62 | Green Walls (ELT living wall system) |
| 63 | Tomato plant stands |
| 64 | Amphorae |
| 65 | Eglu chicken coops |

4. PRODUCTS

Urban agriculture requires a toolbox of objects, technologies, systems and components to enable food production. Shown in this section are designs from around the world, both prototypes and currently implemented products that foster urban food production. The term “products” was used to describe ideas that are not site specific, but can be applied in various locations and situations. These include technologies such as living wall systems, green roof modules, planter systems, chicken coops, beehives, vertically integrated greenhouses and mobile support structures. Some designs tackle the problem of the prohibitive cost of soil remediation, solved by a wide range of container garden ideas. Other designs solve the problem of small growing spaces, still others deal with existing roofscapes that cannot support heavy planters. While some of these items are based on sophisticated principles and state-of-the-art techniques and materials, many products consist of off-the-shelf components that provide creative urban agriculture solutions for a variety of challenges.

OBJECTS

| | |
|-----|---|
| 1. | Hedgegrow Proposal (Downsview Park) |
| 2. | Chicago vertical farm |
| 3. | Centre for the Urban Gardener model (Victoria Dmitrieva thesis) |
| 4. | Urban Agriculture Hub model (Andy Guiry thesis) |
| 5. | Landsdowne Cohousing model (Micah Vernon thesis) |
| 6. | Alternatives containers |
| 7. | Bag planters (Topher Delaney & What if) |
| 8. | P.F.1 Sonotubes |
| 9. | BIOTOP roof container system |
| 10. | ELT living wall |
| 11. | Plant-pot stand |
| 12. | Amphorae |
| 13. | Eglu chicken coop |
| 14. | Mini-greenhouse of recycled windows |



#8 Public Farm 1 (Board #55)



#3 Victoria Dmitrieva thesis (board #37)



Containers for Urban Agriculture



#14 Mini Greenhouse of recycled windows

CREDITS FOR THE EXHIBITION AT THE DESIGN EXCHANGE

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Alternatives (Montreal)
BIOTOP
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Victoria Dmitrieva
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FoodShare
Andy Guiry
Natvik Ecological
Omlet, USA
The Hedgerow Project
The Stop Community Food Centre
Urban Harvest
Micah Vernon
Joanne Weber (Eastcliff Farm)
What If

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Thanks to all the architects, artists and other designers who provided content and materials, and in some cases drafted boards. This exhibit intentionally relied on the inputs and creative energies of students and professionals who were asked to take the lead on the preparation of the majority of the boards, under the guidance of the curators. Thus, it served as a collaborative exercise for over a dozen architecture students at Ryerson, and allowed a number of other designers to convey their visions in their own voice.