

Edible Ecologies : An Architecture for the Social Life of Food

by

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ABSTRACT

People have become disconnected from the producing, preparing, sharing, and celebrating of food that is such a fundamental element of identity and culture.

The global industrial food system has reduced the social connections surrounding food as well as our connection to the natural ecologies that sustain us. Indeed, rather than sustaining us, this wasteful system is actively working against our wellbeing. It has become essential to reconnect cities to food by reimagining where and how it is produced, prepared and shared.

By creating a new urban food system as a layer within the city of Edmonton, this thesis aims to transform urban waste into the productive and experiential framework of a complete local food culture. In this way, architecture can help to reconnect people with food so that they can once again enjoy the social, economic, and environmental wellbeing of a city shaped by an engaging relationship with food.

ACKNOWLEDGEMENTS

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CHAPTER 1: INTRODUCTION

Food Culture

Food is not just what we eat. It is a social and ecological phenomenon shaping our physical and cultural landscapes and feeding the development of identity. The process of producing, preparing, sharing, and celebrating food has traditionally been at the core of how people around the world structure their lives.

In *Hungry City*, Carolyn Steel discusses how our relationship with food shapes not only cultural identity but is the “great forger of social life and the public spaces that shape our cities.”¹ Indeed, throughout history the food cycle has been integral to the development of architecture and cities, from early dwellings that were essentially “kitchens in which people lived” to some of the most iconic public spaces in the world, such as the Greek Agora

1 Carolyn Steel, *Hungry City: How Food Shapes our Lives*. (London: Vintage Books, 2013), 152.



Life structured around food; from Library and Archives Canada.

and Turkish Grand Bazaar.²

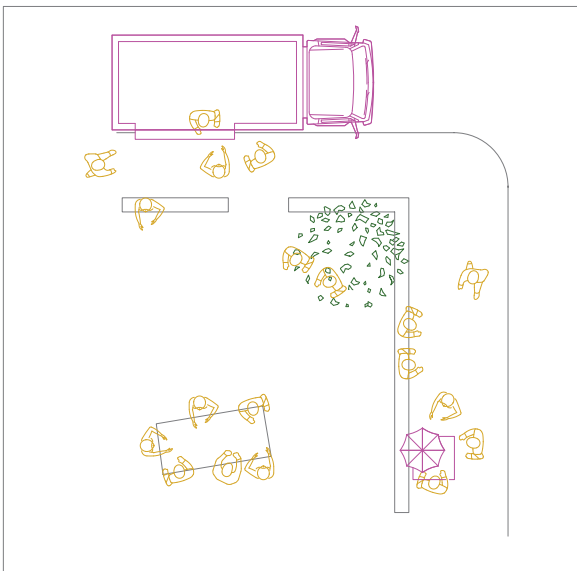
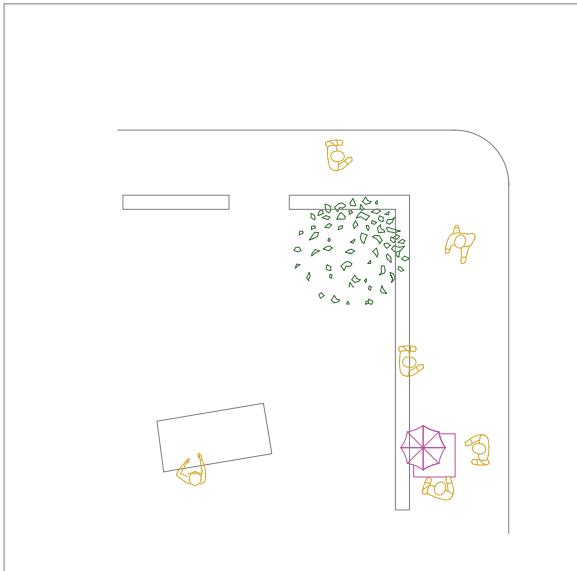
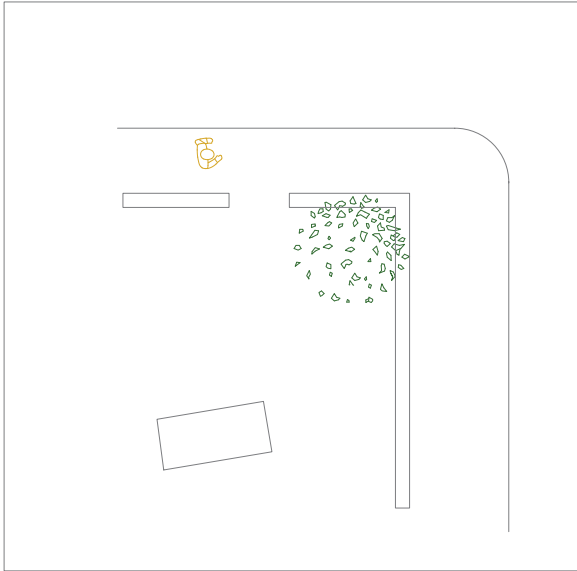
Within these traditional spaces, a wide variety of social activities were structured around food, leading to greater interconnections between people. People developed and shared cultural knowledge of the local cycles of food, encompassing what could be gathered or grown seasonally and how it should be best prepared, shared, celebrated, and returned to the land. People were intimately connected to the effects their eating habits had on their health, environment, and social relationships.

Sitopia

Food continues to have an important 'placemaking' quality within the city. The presence of food within public spaces provides a draw which supports the other functions of the city and bolsters the social life of public spaces.

In *Hungry City*, Carolyn Steel describes this idea of placemaking through food as *Sitopia*. Sitopia is a combination of the Greek words 'Sitos,' meaning food, and 'Topos,' meaning place. Sitopia is a deliberate re-thinking of cities and the way we live in them through food. It is based on the idea that the combined components of an urban food system, be they markets, gardens, street vendors, or any part of the food cycle, in addition to feeding us, play an important role in creating vibrant, engaging, and unique places. Such places enhance the local food culture, but also serve a larger social function- animating,

² Ibid., 122.



Sitopia : Food as a place-making device that draws people, and so enlivens the public realm.

enlivening, and generally improving the urban fabric. “Food is the great place-maker [it] draws people to plazas and streetscapes, and people draw more people, and so on, until a space that might normally be quiet and underutilized is suddenly full of life.”³ Urban ‘food places’ attract people to them, strengthening the cities social framework.

Industrial Food

Despite the importance of ‘food places’ to the quality of our lives and cities, the industrialization of food has increasingly separated it from our lives. Food has been uprooted from place, becoming the product of a globalized system that is “seasonless and regionless.”⁴ With the average ingredient in an industrial meal travelling 1500 ‘food miles’ to reach us, we are experiencing a cultural disconnect from the social life of food and from the natural systems that sustain us.⁵

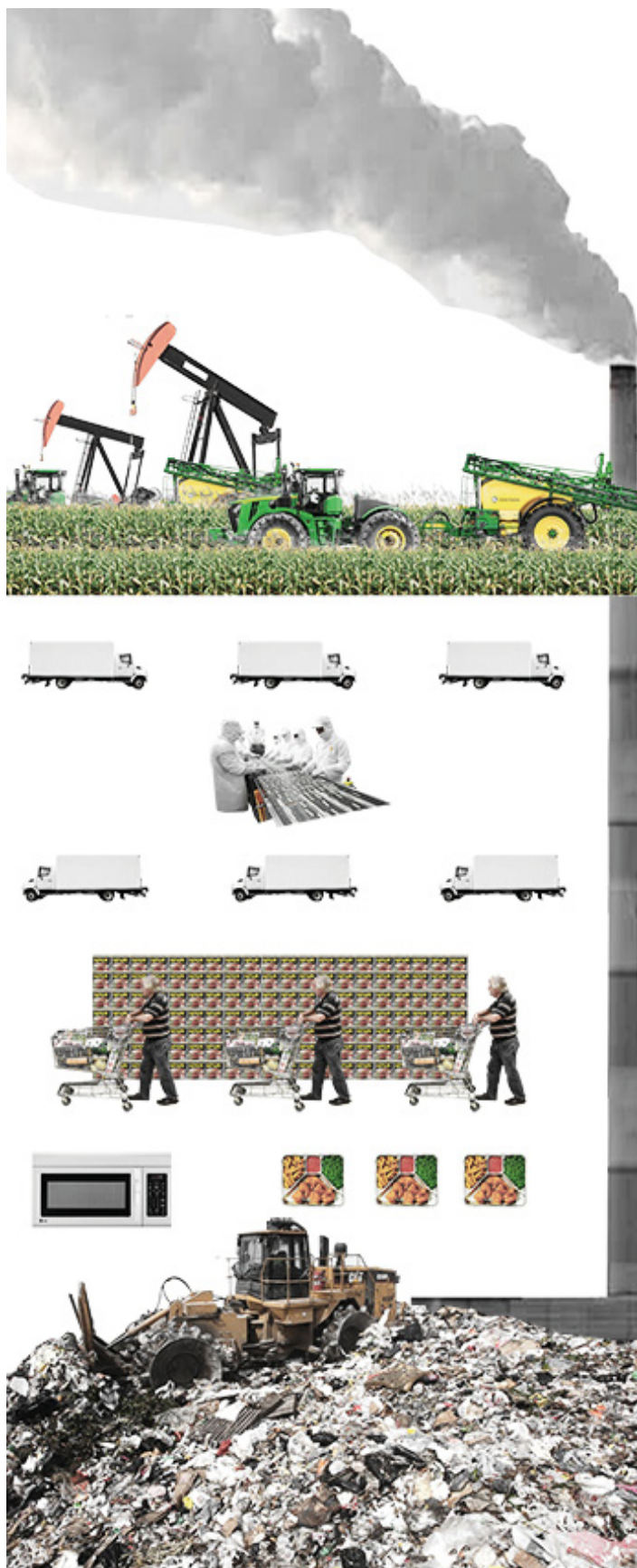
The food we produce and eat is determined “not by local culture but by economies of scale.”⁶ The cross-cultural social institutions of the local farm, the marketplace, the street vendor, the kitchen, and the shared meal have been replaced with fossil fuels and mechanization, standardization, monocrops,

3 City of Edmonton, *FRESH - Edmonton’s Food and Urban Agriculture Strategy* (Edmonton: City of Edmonton, 2013), 42.

4 Marion Nestle, *Food Politics: How the Food Industry Influences Nutrition and Health* (Berkeley: University of California Press, 2007), 363.

5 Greater Edmonton Alliance, *The Way We Eat* (Edmonton: Greater Edmonton Alliance, 2013), 4.

6 Steel, *Hungry City*, 59.



Industrial food is a one way process that is completely socially and ecologically disengaged.

food processing, global transportation, supermarkets, and ready-made meals.⁷



Industrial food is characterised both ecologically and socially by the monocrops lack of diversity and place specificity. *Wheat*. Frankfurt, 2009; photography by Martin Espinar, from Flickr.

Supermarket

The Supermarket and Fast Food chain are where many encounter food's "industrial supply chain" for the first time.⁸ Unlike traditional 'food places', these institutions are physically and culturally disconnected, and detract from, rather than improving the quality of the city.

Whereas the Agora and Bazaar were central public spaces within the city and encouraged social interactions between producer and consumer, supermarkets are "impersonal filling stations" that "support individual lifestyles, not sociability."⁹ Generic super-

⁷ H. Norberg-Hodge, T. Merrifield and S. Gorelick, *Bringing the Food Economy Home: Local Alternatives to Global Agribusiness* (Halifax: Fernwood Publishing Co. Ltd., 2002), 36.

⁸ Steel, *Hungry City*, 111.

⁹ *Ibid.*, 114.

markets have usurped these culturally defined public spaces but fulfill only a small portion of their role, leaving a social void that is “at odds not just with local culture but with the very concept of what a city is.”¹⁰ In a traditional market, the social interaction between consumer and producer allowed the consumer to learn about how the food was produced, how best to prepare it, and about local environmental and seasonal factors contributing to the dietary variety. The supermarket in contrast, obscures all of this behind its shelves lined with packaged products, doing its best to hide the industrial processes which generate its selection of seasonless, generic products.



Social connections between producers and consumers in a historic market, *Produce Market*, United States, 1922; Photograph by Harris & Ewing, from Library of Congress.



Transformation of the market from a social place to a sterile filling station; from Pixabay.

¹⁰ Ibid., 112.

Moreover, the pre-made processed foods offered by supermarkets and fast food chains encourage a culture of poor health and isolation. More than half the meals we eat are eaten alone resulting in lifestyles that are increasingly “fuelled by food, not structured around it.”¹¹

Up to 80% of the cost of food goes to factors such as marketing, processing and packaging. This increases demand for high profit, “resource intensive, high-calorie, low-nutrient food products,” by a population that is both overweight and undernourished.¹² Diet-related diseases, including diabetes, cancer, and coronary heart disease, are now some of the leading causes of death in Canada, making the food industry one of the nation’s biggest killers.¹³



Industrial food contributes to unhealthy lifestyles and social isolation, *Dinner theater*. 2010; photograph by John Atomic, from Flickr.

¹¹ Ibid., 207.

¹² Nestle, *Food Politics*, 362.

¹³ CFC Canada, *Diet-related Diseases and Healthy Eating* (Toronto: CFC Canada), 1.

Due to the cultural disconnect of processed food and the supermarket, North American urban populations have only a marginal conception of where and how food is actually grown, how it can be healthfully prepared, and how it once created lively public spaces. We are increasingly “disconnected both from the production of our food and from the joy of eating it,” resulting in a very limited understanding of the impact of food choices on health and the natural and built environment.¹⁴

Waste

In 1940, one calorie of fossil fuel produced almost 2.5 calories of food energy. Today’s industrial system takes 10 calories of fossil fuel to produce a single calorie of modern supermarket food.¹⁵ In addition to this unprecedented embodied energy, transportation of food accounts for 10% of global CO₂ emissions. Despite this high environmental cost, almost 40% of food within Canada is wasted annually. Such reckless waste is only possible because of the cultural disconnect in which we “no longer value food.”¹⁶ In undervaluing and wasting food, we fail to acknowledge the fact that our cities are part of an “organic continuum” with nature.¹⁷

14 Raj Patel, *Stuffed and Starved: The Hidden Battle for the World Food System* (New York: Melville House, 2012), 293.

15 Darrin Nordahl, *Public Produce: The New Urban Agriculture* (Washington: Island Press, 2009), 16.

16 Steel, *Hungry City*, 261.

17 *Ibid.*, 278.

A Social and Ecological Disconnect

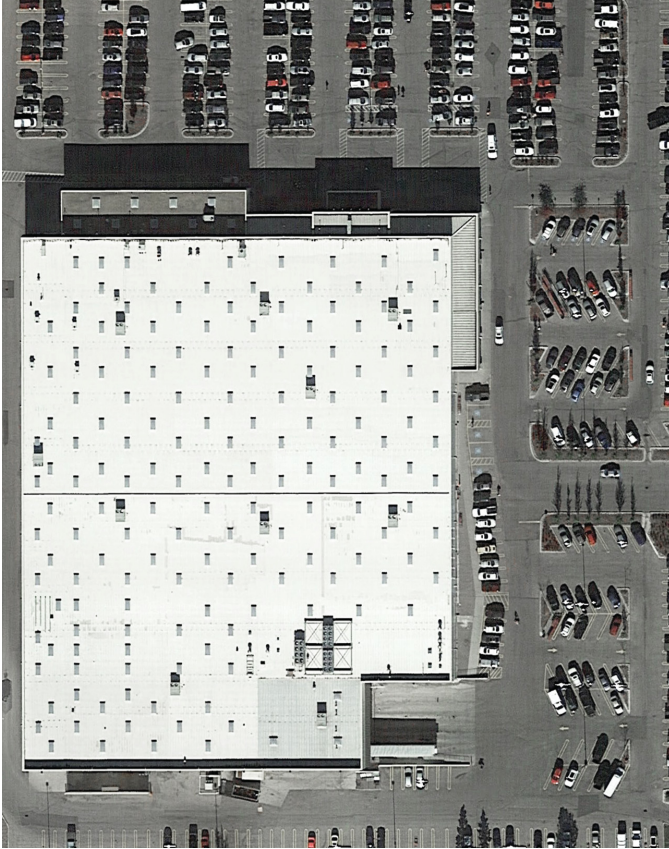
The industrial meal is fundamentally disconnected. It separates us from one another socially, as well as from our natural and built environment at every stage of the food chain. It has contributed to the misconception that “we do not belong to the natural world; as if we were somehow distinct from the environment,” and obscures the social and ecological narrative behind the products we consume daily.¹⁸

The industrial food system has corrupted the power of food to shape the city with social spaces that foster interconnection, regeneration, and the acknowledgement of people as a part of nature. Instead, it generates anti-social spaces that embody social isolation, waste, and the illusion that we are set apart from nature.

It has disconnected our cities from the diverse cultures of food which once enlivened public spaces with smells, tastes, social connections, and experiences, altering them “from their physical appearance to their social marrow.”¹⁹ By redefining our relationship with food we also redefine our relationship to nature and to each other, fundamentally reshaping the life, culture, and social spaces of our cities.

18 Ibid., 51.

19 Ibid., 321.



Disconnected landscapes of the industrial food system; base map from Google Earth.

Thesis Question

Given the social and environmental problems inherent in the current industrial food system, how can architecture help reconnect people to food in the urban environment? How can a food system become a dynamic and socially engaging layer within the city?

CHAPTER 2: DESIGN PRINCIPLES

Local Reconnection

Our food system, which should sustain us physically and socially, is instead actively working against our wellbeing. There is a growing need to fundamentally re-imagine this socially and ecologically disconnected system. Our cities require public spaces for “renewing people’s culinary roots within a specific location, eating meaningfully, and cultivating a cuisine that is distinct from the industrial.”²⁰ Through this renewal, we can foster social interconnections and an appreciation for the natural systems of which we are a part. Achieving this starts close to home, with the re-establishment of diverse local food cultures.

Learning from Cuba’s Organopónicos

Following the collapse of the Soviet Union, Cuba was left without economic support and fossil fuel imports. Its industrial agricultural system was no longer able to function without fossil fuel inputs for machinery, fertilizer, and pesticides. The country was thrown into a food security crisis. The Cubans adapted to their situation by establishing decentralized, organic agricultural practices based on natural methods, environmental stewardship, and regeneration, rather than the intensive inputs and monocultures of industrial agriculture. A significant portion of Cuban agricultural reform involved maximizing the productive potential of every patch of unused and wasted urban

20 Gillian Crowther, *Eating Culture: An Anthropological Guide to Food* (Toronto: University of Toronto Press, 2013), 255.

land. This urban production was based on principles of organic methods which renew rather than contaminate the environment, the responsible use of local resources, and direct marketing of local produce to consumers.²¹ All of these elements come together in 'organopónicos,' intensive market gardens which are able to locally provide for the food needs of the country, while restoring soil fertility, strengthening communities, and improving their urban environments.



Food production within the urban fabric of Havana, Cuba; base map from Google Earth.

21 Fernando Funes, *Sustainable Agriculture and Resistance: Transforming Food Production in Cuba* (Oakland: Food First Books, 2002), 220.

Victory Gardens

During the second world war, North American cities went through a similar productive revolution. 'Victory' Gardens, were planted both on private and public land, not only to reduce the pressure on the food supply brought on by the war, but as a means of empowerment, morale boosting, and community strengthening. It's estimated that by 1944, victory gardens were being grown by twenty million families and provided over 40 percent of the total American vegetable supply.²²



Victory Gardens utilized local agriculture as a means of community strengthening during the second world war. *New York, New York. Children's school victory gardens on First Avenue between Thirty-fifth and Thirty-sixth Streets, New York, 1944; photograph by Edward Meyers, from Library of Congress.*

²² Laura Lawson, *City Bountiful: A Century of Community Gardening in America* (University of California Press, 2005), 171.

Defining Local

The United States Farm Act of 2008 defined 'local' as anything produced up to a 600 kilometer radius.²³ However, local is a concept that encompasses much more than distance. It entails the specificity of region, season, and culture. Essentially local is about establishing a rich cultural relationship with a specific place and environment, through food.

Local Food and Community Wellbeing

Locally based food systems have many benefits for overall community wellbeing within cities, including:

1.) Social connections

Food production brings people together across a diverse range of ethnicities, ages, gender, and economic statuses with a common purpose. By providing a "link between people who might otherwise have little or no connection,"²⁴ it creates greater diversity of interaction in a community. A community approach to agriculture also contributes to cultural development of regional cuisines and the establishment of a shared knowledge base for techniques of food production and preparation that are healthy and place-specific.

23 Food, Conservation, and Energy Act of 2008, P.L. 110-246.

24 Norberg-Hodge, et al., *Bringing the Food Economy Home*, 81.

2.) Health

A large reason people make unhealthy food choices is due to poor food literacy. The easily preventable nature of diet-related diseases emphasizes that by simply increasing the proximity, accessibility, and awareness of healthy food production and preparation in people's daily lives, local food can have an enormous health impact. One of the most important groups that can benefit from improved food literacy is children as "food and dietary choices taught early in life set lifelong patterns" of healthy or unhealthy living.²⁵ Proximity to natural systems, and productive places also encourages more active lifestyles and outdoor activities.

3.) Environment

Local food promotes better agricultural practices. When producers are providing for all the dietary needs of a community rather than a single cash crop for a global market, they can utilize diverse and ecological production methods. Food also has to travel fewer miles, uses less packaging, and the waste can be redirected as an input in the form of compost, closing the loop on the food cycle.

4.) Local Economy

Due to the community multiplier effect, money spent in a local food economy stays within the community and triggers further local growth. "When the web of economic links among small farmers, processors,

²⁵ Nordahl, *Public Produce*, 115.

retailers and consumers is strong, both the economy and the sense of interdependence characteristic of real community are strengthened as well.”²⁶

In order to maximize these many social benefits, a ‘local’ food system should be based where there is the widest exposure of the various aspects of the food chain to the highest concentration of people. With 80% of Canadians - and 50% of the global population - living in urban environments, and urbanization continuing to increase, this public engagement is best explored through the definition of local as within the dense urban core.²⁷ Since proximity and access are essential for food culture to take root, there is a need to define a new type of food system within the urban environment.

26 Norberg-Hodge, et al., *Bringing the Food Economy Home*, 81

27 Statistics Canada, “*The Urbanization of Canada*”
<https://www.ic.gc.ca/eic/site/028.nsf/eng/00391.html>.



An Urban Food Ecology of inter-connected social, economic and environmental systems.

Urban Food Ecology

Urban Food Ecology is the conceptual counterpoint to the industrial food system. It is based on the idea of a participatory food system that is diverse, highly visible, and local both in a geographic and cultural sense. An Urban Food Ecology functions as an interconnected web, made up of the economic, social, and environmental systems involved in the food cycle. Development of this ecology within the urban core allows communities to participate in and learn about the complete food cycle. As a result, the locally produced food of an urban food ecology, besides providing a host of environmental and health benefits, acts as a trigger for cultural and community development tied to place and the seasons. An Urban Food Ecology bolsters the social life that exists around the food cycle and works with other urban systems to generate improvement across the full range of community wellbeing.

Permaculture

Like Cuban agricultural reform, Urban Food Ecology is grounded in principles of participation, direct local marketing, and permaculture. Permaculture emphasizes diversity, participation in natural cycles, interconnectivity, resource maximization, and relation to the “particular ecology of specific regions according to an ethic of social and environmental sustainability.”²⁸ Permaculture refers to both perma-

28 Eugenie Birch and Susan Wachter, *Growing Greener Cities Urban Sustainability in the Twenty-First Century* (Philadelphia: University of Pennsylvania Press, 2011), 261.

nent agriculture and permanent culture, acknowledging the intrinsic link between the two.

Urban Food Ecology takes place around the food cycle of Production (*Nurture*), Processing and Distribution (*Share*), and Waste and Resource Management (*Steward*).

Nurture

Agro-forestry and Organic Gardening

Food production follows one of two natural cycles—perennial plants and annual plants. These cycles lend themselves to either Agro-forestry or more formal agricultural practices such as organic gardening.

Agro-forestry is a technique in which a natural landscape is imitated, but in such a way as to be beneficially productive. Agro-forestry relies on low-maintenance perennial plantings of berries, fruit trees, and other edible regional plants, in tandem with pollinator gardens and bioswales. These components mimic a natural, self-sufficient ecosystem.

Organic gardening of annual plants relies on companion planting, succession planting, greenhouses, compost, and water collection. It is more labour-intensive but also more highly productive and controlled.

Knowledge

Urban food production also nurtures knowledge and education, encouraging the public to interact with

and learn about the way food is produced through a didactic environment.

Share

Sharing is the process through which food is prepared, sold, consumed, celebrated, and generally dispersed throughout a community. Its architectural typologies include the market, the kitchen, the food hall, the meal, the street vendor, and the festival. These programmatic elements act as social condensers where producer and consumer can connect over the preparation and eating of food. Markthal in Rotterdam by MVRDV encapsulates this notion of a highly public mixing ground centered around the sharing of food.



Markthal by MVRDV : a highly public space for sharing food. *MVRDV Markthal*; photograph by Daria Scagliola, from Designboom.

The intermingling of cooking, eating, tasting, and selling create a highly convivial and celebratory atmosphere. This part of the system provides an

opportunity for people to become reacquainted with the preparation of healthy local foods, and has great potential to generate engaging public spaces around 'the meal.'

In *Eating Culture*, Gillian Crowther defines the meal as an event "through which the social life of food becomes instrumental in defining people's social relationships and their identity."²⁹ She also explains that "food can work to [...] lessen the differences between people by increasing intimacy, equality, or solidarity."³⁰



Table for 1200. Meal as event and complex social phenomenon. *Table for 1200*, photograph by Jacqueline Young, from *Table for 1200 More*.

The meal as an event which brings people together can be seen in 5468796 Architecture's *Table for 1200*, which utilized the architectural expression of

²⁹ Crowther. *Eating Culture*, 162.

³⁰ *Ibid.*, 163.

a meal to create a temporary and engaging celebration of local food. The Table for 1200 struck a continuous line through the city, bringing public spaces dramatically to life, and raising the question of what role food plays in shaping the public spaces of the city. The project illustrates that the “shared meal is mankind’s most complex social phenomenon [...] in which, more than anywhere else, we define ourselves as social beings.”³¹

Steward

Stewardship is about working as a part of nature by optimizing resource use and establishing closed loop regenerative systems. This includes water management, aquaponics, composting, and renewable sources of energy. The primary environmental benefits of organic urban agriculture include “preserving biodiversity, tackling waste, and reducing the amount of energy used to produce and distribute food.”³²

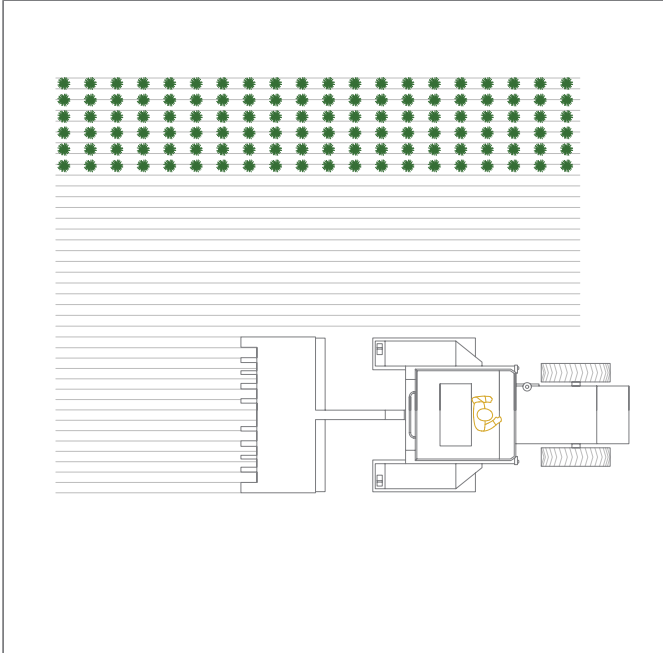
Architectural Typologies

The architectural typologies which make up Urban Food Ecology are the landscape and garden, the kitchen and street vendor, the market, and the table. The goal of Urban Food Ecology is to reclaim these typologies from the industrial food system, and reconnect them socially and ecologically within the city.

31 Steel, *Hungry City*, 246.

32 Andre Viljoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities* (Burlington: Architectural Press, 2005), 21.

Landscape / Garden

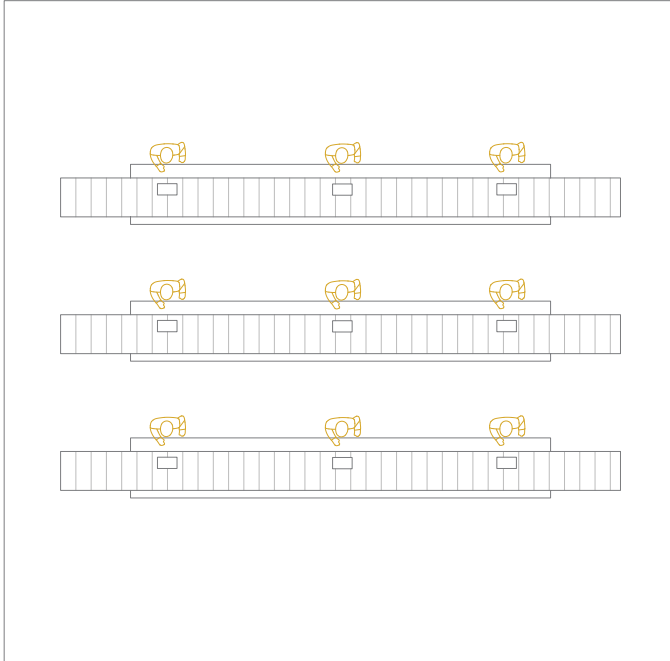


Food Industry

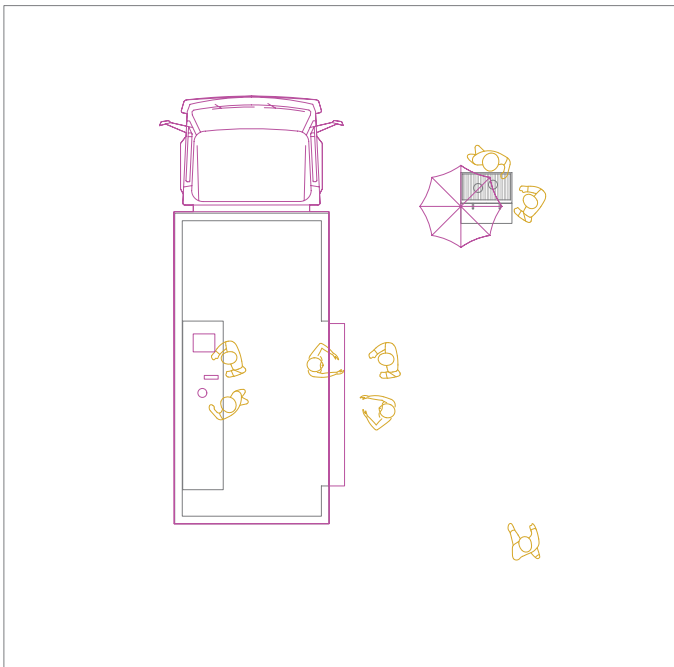


Food Ecology

Kitchen / Street Vendor

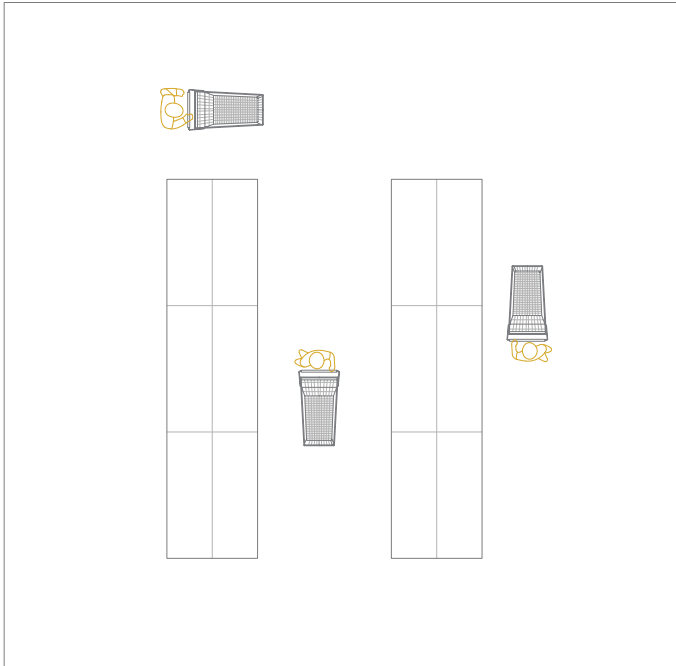


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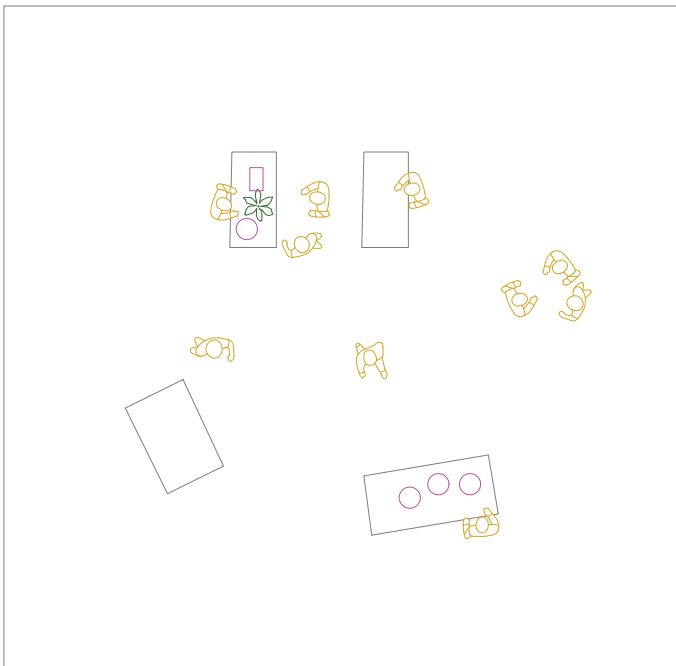


Food Ecology

Market



Food Industry

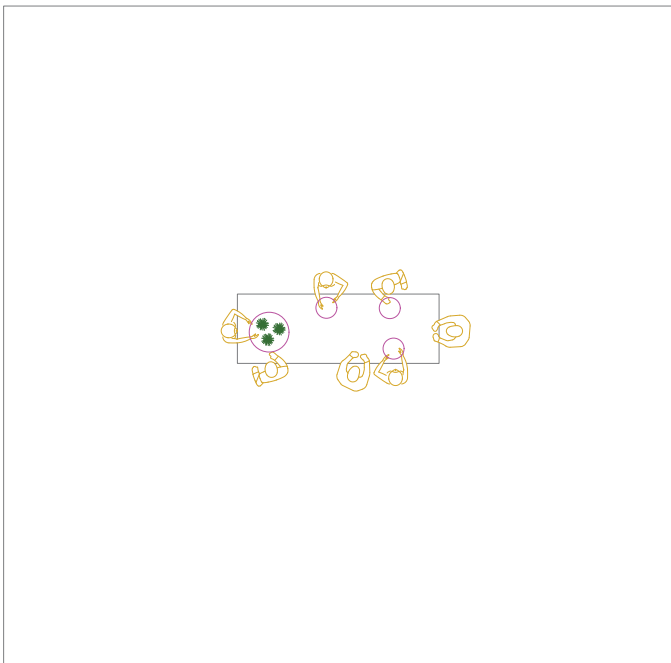


Food Ecology

Table



Food Industry



Food Ecology

Closing the Loop

Compost

One of the greatest failures of the industrial food chain is that it is non-cyclical. Because of this it relies on extensive use of unsustainable inputs such as chemical fertilizers, and produces large volumes of food waste in landfills. Filling landfills with food scraps squanders their nutrients and produces the potent greenhouse gas methane in the process. Natural ecologies on the other hand, utilize 'waste' as inputs to begin the cyclical process again. An Urban Food Ecology must therefore address the issue of the broken nutrient cycle.

Through composting, cities can be transformed into organic recycling machines, providing an important link which reinforces people as a part of nature, rather than apart from nature. By confronting waste, we are able to establish a cycle in which the food supply is fuelled by the waste it generates. Rather than treating urban food waste as a problem, composting allows for an opportunity to regenerate fertile soils.



Closing the nutrient cycle with compost; from Pixabay.

Proper composting technique is essential to minimize smell and maximise efficiency of the natural composting process. This includes the correct levels of moisture, aeration, presence of microbial cultures or worms, and the proper mixture of high carbon content 'brown' ingredients and high nitrogen content 'green' ingredients. Brown ingredients include leaves, shredded paper, cardboard, and wood and decompose slowly. Green ingredients include eggshells, tea bags, coffee grounds, hair, grass clippings, and fruit and vegetable scraps which decompose quickly. The layering of a brown layer on top of a green layer helps to control moisture and scent, and maintains porosity for airflow, creating the ideal conditions for the composting process. These ingredients are all plentifully found within an urban context.

Vermicomposting

The most effective method for composting is exactly the way nature does it. A mixture of green and brown ingredients, together with worms. This is the fastest method for composting, and the worms 'castings' add to the compost to create an extremely fertile soil.

'Hot' Compost

If worms are not added and decomposition takes place through a microbial process, the average temperature of compost can reach 60 - 70 ° C during its warmest period, Compost therefore has potential to generate heat for winter greenhouses as well.³³

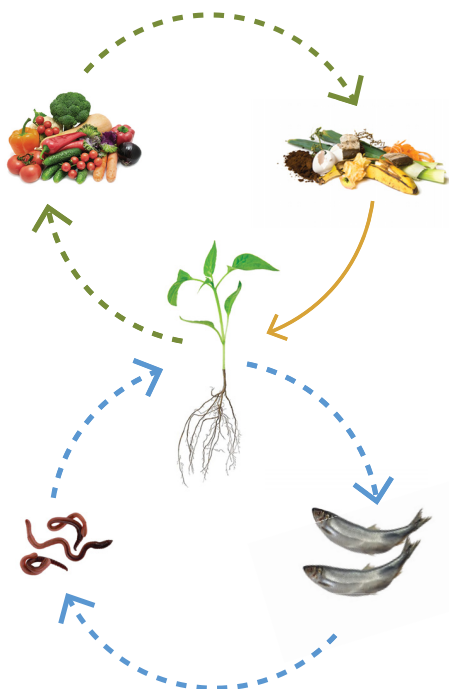
33 G. Irvine, E. Lamont, and B. Antizar-Ladislao, "Energy from Waste: Reuse of Compost Heat as a

Compost Tea

Finally, as compost breaks down and moisture filters through the pile, it generates a highly concentrated nutrient solution which can be used as an effective fertilizer.

Aquaponics

Aquaponics operate on the principle of synergies between our needs and natural cycles. In an aquaponic system, the nurturing of food is combined with the raising of fish to create a cycle where effluent from the fish, broken down by worms and microbes, provides nutrients to the plants, which in turn filter and clean the aquatic environment. Combined with other systems, such as composting, the waste from the food produced can produce worms which can then be fed to the fish.



Synergistic interconnections between aquaponics, composting, and food production.

This synergistic system produces multiple types of food efficiently and effectively, and establishes a paradigm for agricultural/architectural design that works with nature.

Access and Opportunity

Informal Economy

For a local food culture to develop, it requires an economic framework. The most important part of establishing this framework is to provide access and opportunity for local entrepreneurial activity. The production, processing, and selling of produce and value added products is what empowers communities. Cottage foods and the informal food economy contribute a great deal of cultural and community value and are an important part of an Urban Food Ecology. In Canada however, the informal food economy is highly regulated and only certain products, such as preserves and pickles can be sold in farmer's markets when produced in the home. Many baked goods and other products require an expensive commercial grade kitchen which is something that severely limits most people.³⁴ It is therefore important to provide access to a community kitchen which can be rented to help stimulate this portion of the food economy. In addition, there should be access to classes where people can learn about food processing, and a marketplace to sell locally produced goods.

³⁴ Holly Moore, "Complex rules for home-based food spark need for commercial kitchens," *CBC News*.

Food Deserts

Many cities have areas classified as food deserts, which have a combination of demographic and geographic factors that severely limit their population's access to fresh healthy food. It is critical for a food system to address these areas and provide both access to fresh food and education about food, as well as opportunity to take part in the food economy. Many people within food deserts are low income, elderly, or minority groups, and could benefit greatly from the economic opportunities of the local food system.

Cross-Pollination

A thriving Urban Food Ecology requires all parts of the system to be linked, interconnected, and beneficially combined. Each element is reinforced by the others to produce didactic, engaging spaces that are essential for improving food literacy and generating local food culture.

For example, the *Urban Coffee Farm and Brew Bar* by HASSELL uncovers the coffee supply chain, encouraging people to think about its origins, production, and transport. The project uses coffee trees, transport pallets, and a cafe to create an engaging urban intervention that combines production and distribution in one space.



Urban Coffee Farm & Brew Bar - HASSELL, *Urban Coffee Farm*; photograph by Bonnie Savage, from Archdaily.

Greenhouse by Joost Bakker is another example of architectural cross pollination. In this project, food production and waste management are combined with an eco-restaurant that grows food on its rooftop and in its facade. In the facade, production becomes part of the architectural assembly. All organic waste is fed back into the system as compost, while the entire building is designed to be easily dismantled and recycled. This edible building synthesizes production and waste management, with architecture and program.



Greenhouse productive facade by Joost Bakker. *Greenhouse by Joost - Exterior*, photograph by Christian Tan, from Flickr.

These examples illustrate how the different elements of an urban food system, in addition to providing healthy, local food can be combined as a placemaking device within cities. Workac's *Public Farm 1* project for the Museum of Modern Art exemplifies the idea of Sitopia. The project is a productive and experiential landscape, inserted obliquely into the urban fabric to create a variety of spaces above and below. Its diverse production system is a closed loop which generates its own power and collects water. Structure, shelter, food production, and other programming are all combined in a single unified expression, around which a new and unique urban experience can take place.



Work-ac's Public Farm 1. *Public Farm 1*, photograph by Raymond Adams, from Work-ac.

Growing the In-between

Urban Food Ecology requires space to grow. Our cities are full of underutilized 'in-between' spaces that exist alongside a cities normal functional elements and have enormous potential to be productively re-integrated into the urban fabric. These include wasteful or neglected spaces such as medians, parking lots, rooftops, and abandoned buildings, but also infrastructure such as bridges, industrial zones, unused railways, and ornamental parks.

Paper Island food market in Copenhagen exemplifies this idea of productive reintegration. The project injected new life into vacant industrial halls that previously served as paper storage warehouses. It now functions as an urban hub with gathering spaces to enjoy street food, art galleries, and more, attracting people from all over the city.

An urban food system provides the opportunity to grow the in-between spaces of our cities into something much more vital. The production of food can easily be adapted to the abundant networks of the in-between. These transformed spaces become "small-scale [networks of] farms that generate communities around the production of food."³⁵ Such a dispersed, productive network ensures high accessibility, participation, and agricultural proximity to the experiences of everyday urban life. In exploiting the potential of an urban food system as a placemaking

35 Amale Andraos, *Above the Pavement, the Farm: Architectural Agriculture at Public Farm 1* (New York: Princeton Architectural Press, 2010), 188.

device, food transforms urban waste into vital and thriving productive spaces, “salvaging an in-between landscape” fully reconnected to the city.³⁶



Paper Island food market, Copenhagen, *Food Market*; photograph by Jaclyn, from Bumpkin Betty.

³⁶ Alan Berger, *Drosscape: Wasting Land in Urban America* (New York: Princeton Architectural Press, 2007), 265.

CHAPTER 3: SITE

Edmonton



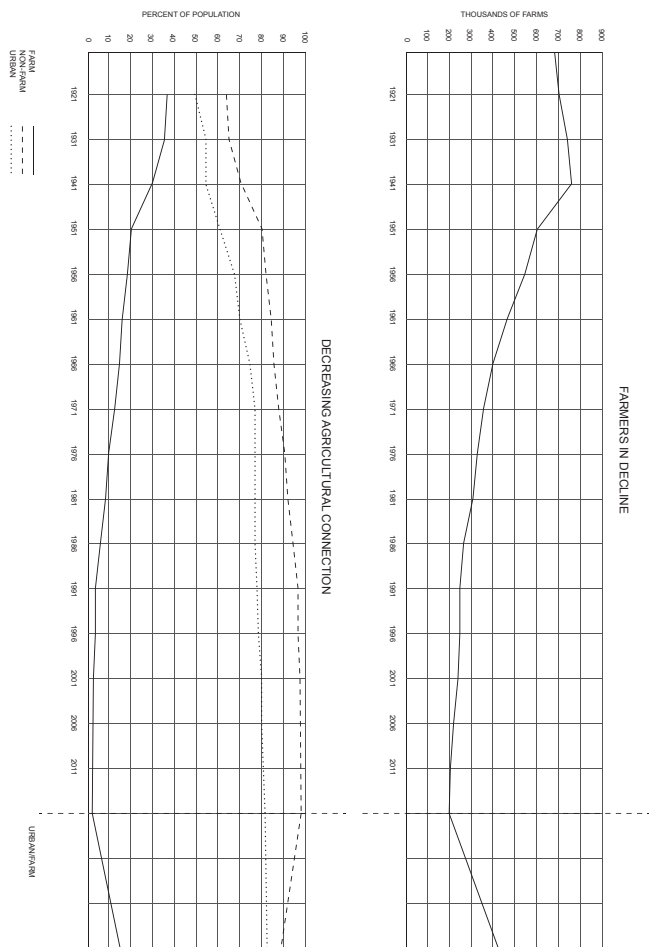
Edmonton has lost much of its agrarian identity; base map from Google Earth.

Once an agrarian based community, for over sixty years Edmonton has flourished around the temporary prosperity of a fleeting industry. After the discovery of the Leduc No. 1 oil well in 1947, Edmonton shifted trajectory from an agricultural community to an oil town. However, climate change and economic instability in the oil industry have now become very real threats to Edmonton's future.

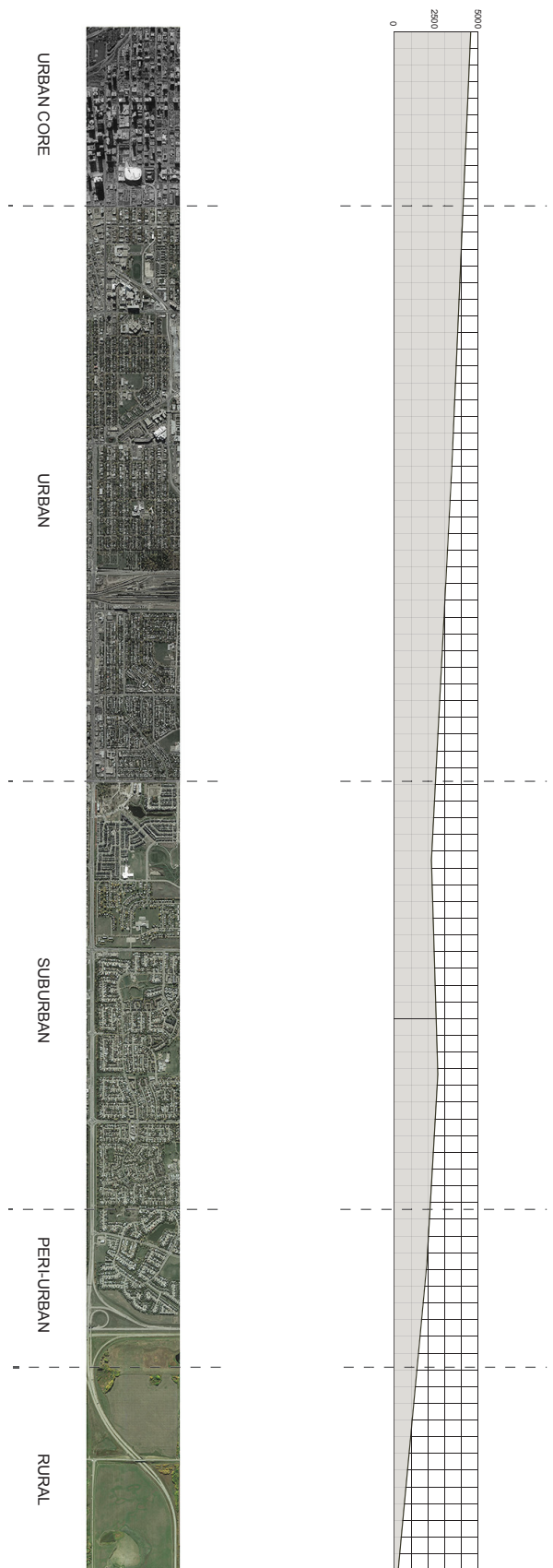
In this context of uncertainty, on November 13, 2008 a civic protest took place at Edmonton's city hall over the new Municipal Development Plan. People wanted to know why the plan dealt with a wide variety of urban issues, but lacked any kind of strategy for food or urban agriculture. Since then, the city has changed zoning laws to encourage urban agriculture

and generated a local food strategy. As such, Edmonton is well situated socially and politically for the development of a local food culture and urban food system.

Like many prairie cities, a significant part of Edmonton's agrarian identity has been lost and it has become dependent on the industrial food system. By rediscovering its roots, Edmonton can begin to address some of the uncertainty of the current era of oil instability, and rebuild a local food culture.



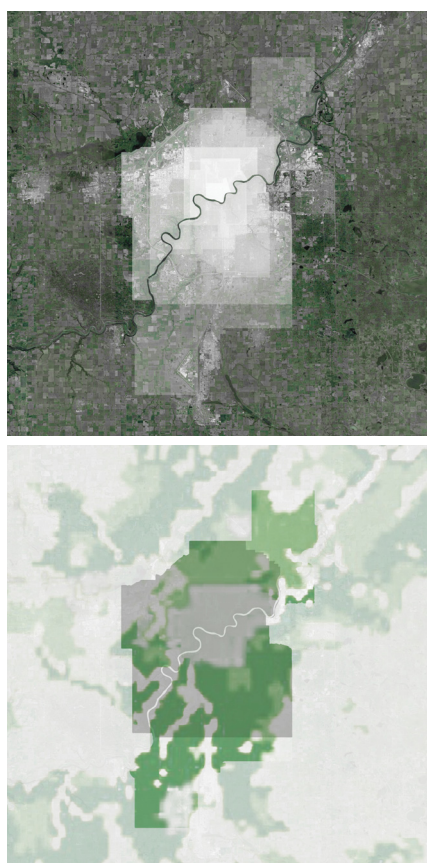
Declining Rural farm population and loss of connection to agrarian identity.



Edmonton's population density from the urban core through to rural agricultural land; base map from Google Earth.

Disappearing Farmland

Edmonton physically occupies some of the highest quality of the limited amount of agricultural soil in the country. Despite Canada's significant land area, only 6% is considered suitable for farming, with only 0.5% of this considered highly productive class-1 agricultural land. Due to ever-expanding urbanization, and ecologically damaging industrial farming practices, this finite resource of viable farmland is becoming ever more limited.³⁷ Indeed, over the past 25 years, sixty percent of urban expansion within Alberta occurred on agricultural land.



Urban expansion over prime agricultural land; base map from Google Earth.

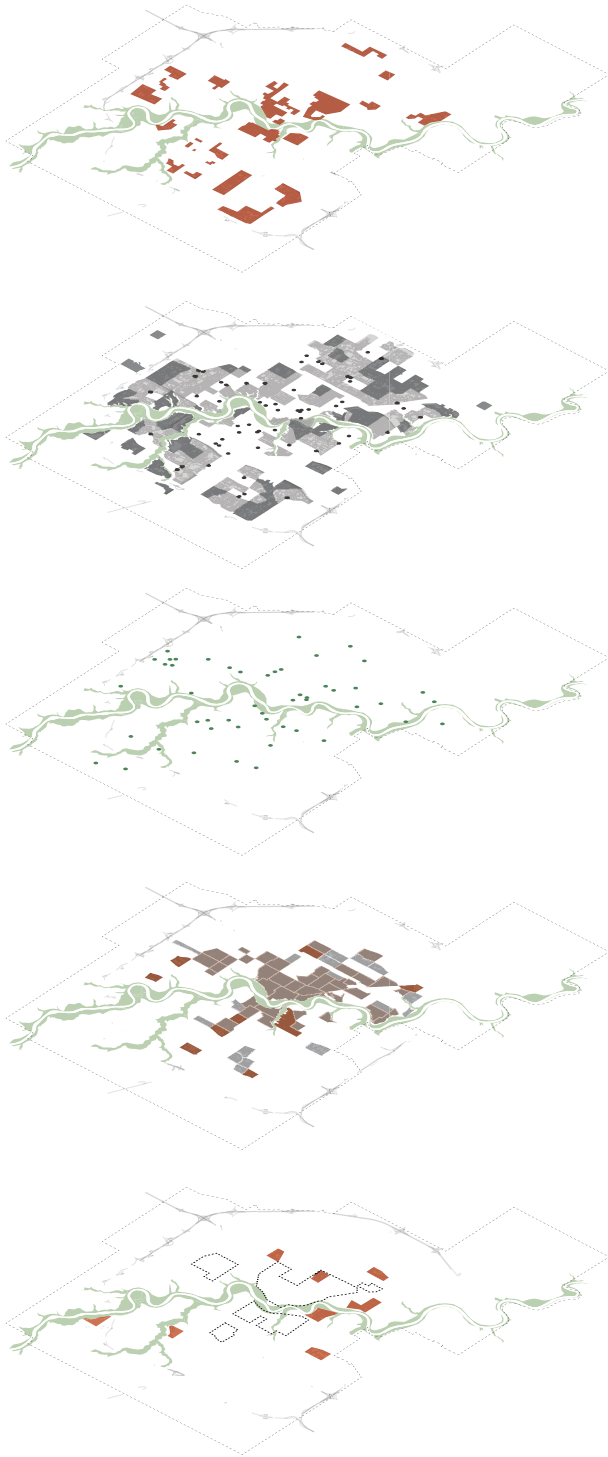
³⁷ Tanya Browsers, *Canada's Disappearing Farmland*. Organic Agriculture Centre of Canada.

Based on projections of population growth, it is estimated that urban areas could expand by a further 40–75 percent in the next 20 years, causing the loss of 1000 to 2000 square kilometres of prime agricultural land.³⁸ Ultimately, what this means is that Canadians are squandering their ability to feed themselves, and in so doing generating increased dependence on the fragile and unsustainable global food system. The re-introduction of food production in the urban core, which was once such a highly productive landscape, becomes a means of acknowledging this loss and increasing independence. By reconnecting the public to food through Urban Food Ecology, people can develop a greater appreciation of the resources they depend on. In the future this would lead to better stewardship of this finite resource and a process of restoring rather than destroying our soils.

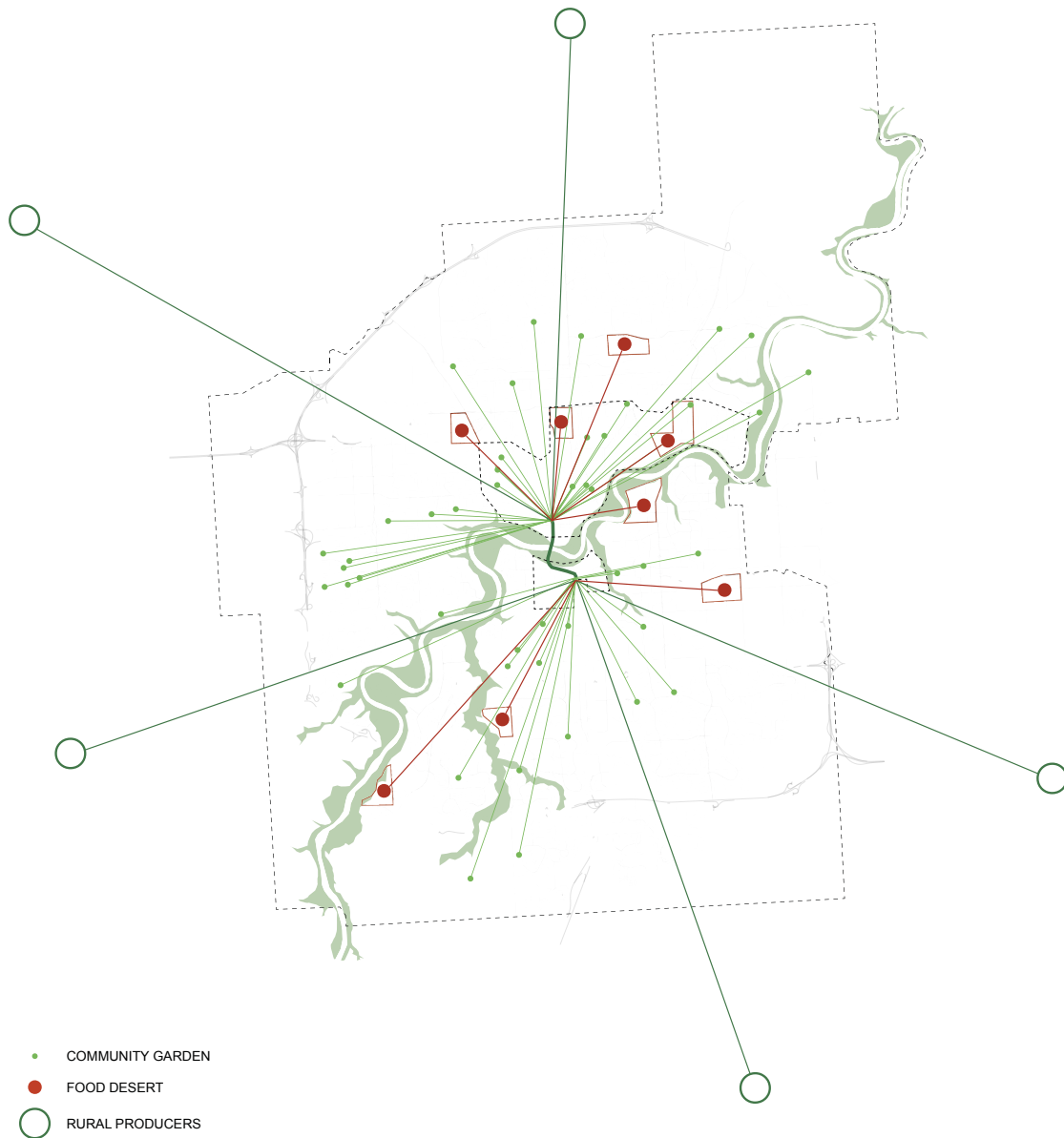
Food Demographics

Urban analysis of food demographics helps to locate the site that most needs intervention within Edmonton. These demographics include : population density, concentrations of low income or elderly populations, mobility and access to fresh healthy foods, distance to markets, and locations of community gardens. Together these social and geographic determiners show that an Urban Food Ecology needs to address both the downtown core, and the

38 F. Martellozzo, N. Ramankutty, and R. Hall, *Urbanization and the Loss of Prime Farmland: A Case Study in the Calgary–Edmonton Corridor of Alberta*.



Mapping Edmonton's food demographics to determine areas most in need of improvements to the food system.



A system of Urban Food Ecology serving Edmonton's downtown core and food deserts. Addressing the whole city, by focusing on areas of greatest need.

city's food deserts.

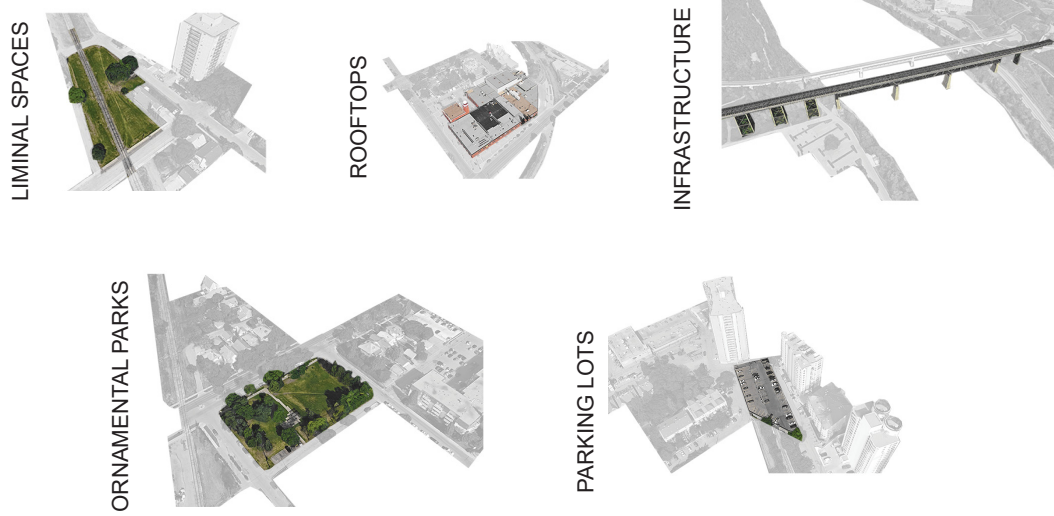
Continuous Urban Landscape

In Edmonton's urban core, the High Level Bridge, a massive 100 year old piece of infrastructure, and its decommissioned railway line, create a connected network of diverse in-between spaces. This continuous line passes through the urban environment, connecting a wide range of existing inner city spaces. It cuts obliquely from the heart of downtown, across the river valley, through residential areas, and culminates in the city's only year-round farmer's market in Old Strathcona.

Despite the High Level's immense presence and the thousands of people that pass over it daily, it is paradoxically underutilized beyond its use as a path for movement. The bridge and railway are a major line of convergence; connecting Edmonton's downtown, historic old Strathcona, the River Valley, and the University areas.

Monument and Infrastructure

The High Level Bridge fits with Aldo Rossi's conception of an urban artifact. It is a monument so powerful, it has maintained its meaning to the city after its original function has changed. "One is struck by the multiplicity of functions that a building of this type can contain over time and how these functions are entirely independent of form. At the same time it is precisely the form that impresses us; we live it and



Typologies of 'in-between', wasted urban spaces present in Edmonton's urban core; base map from Google Earth.



Connected network of underutilized spaces along High Level bridge and railway line; base map from Google Earth.



The network of spaces cuts obliquely across the urban grid; base map from Google Earth.



The High Level's Urban Presence.

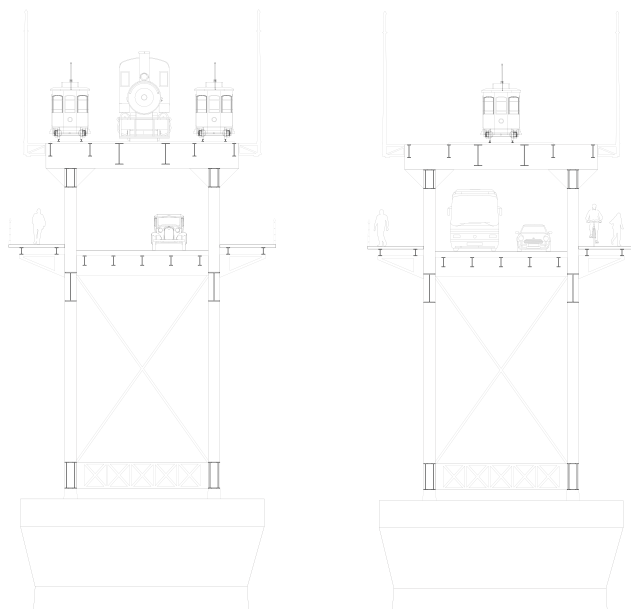


As found neglected conditions along railway line.

experience it, and in turn it structures the city.”³⁹

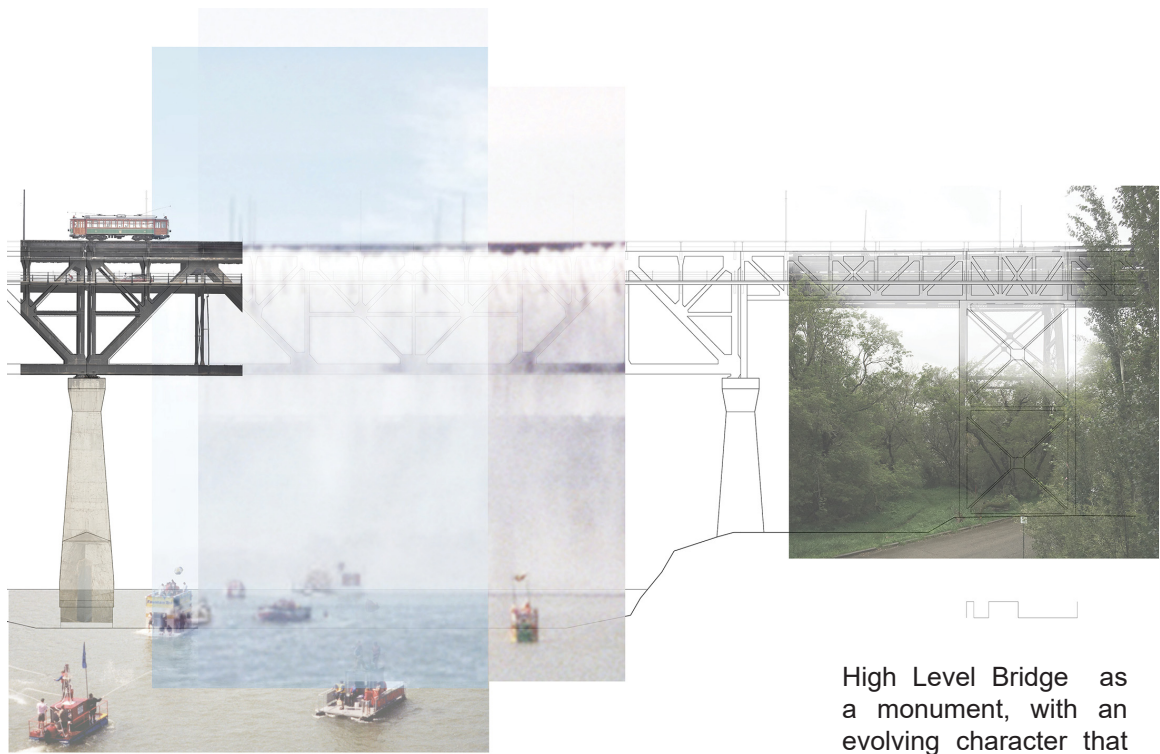
Indeed, the High Level Bridge has already gone through multiple transformations. At its construction in 1912, the 2,549 ft bridge linked the two separate communities of Edmonton and Strathcona into a single city. It served as an essential freight railway bridge for the Canadian Pacific, as well as for the streetcars which originally made up Edmonton’s primary transportation system. It now transfers thousands of pedestrians and vehicular traffic across the river every day. The High Level has been utilized in several art projects, including the *Great Divide*, which added plumbing to the bridge to create a giant waterfall.

The High Level’s monumentality, centrality, and accessibility make it an ideal place to begin to reconnect people to food as it presents an opportunity to engage with the daily life of the city.



High Level Bridge Cross-Sections, showing evolving functions from 1910 to present day.

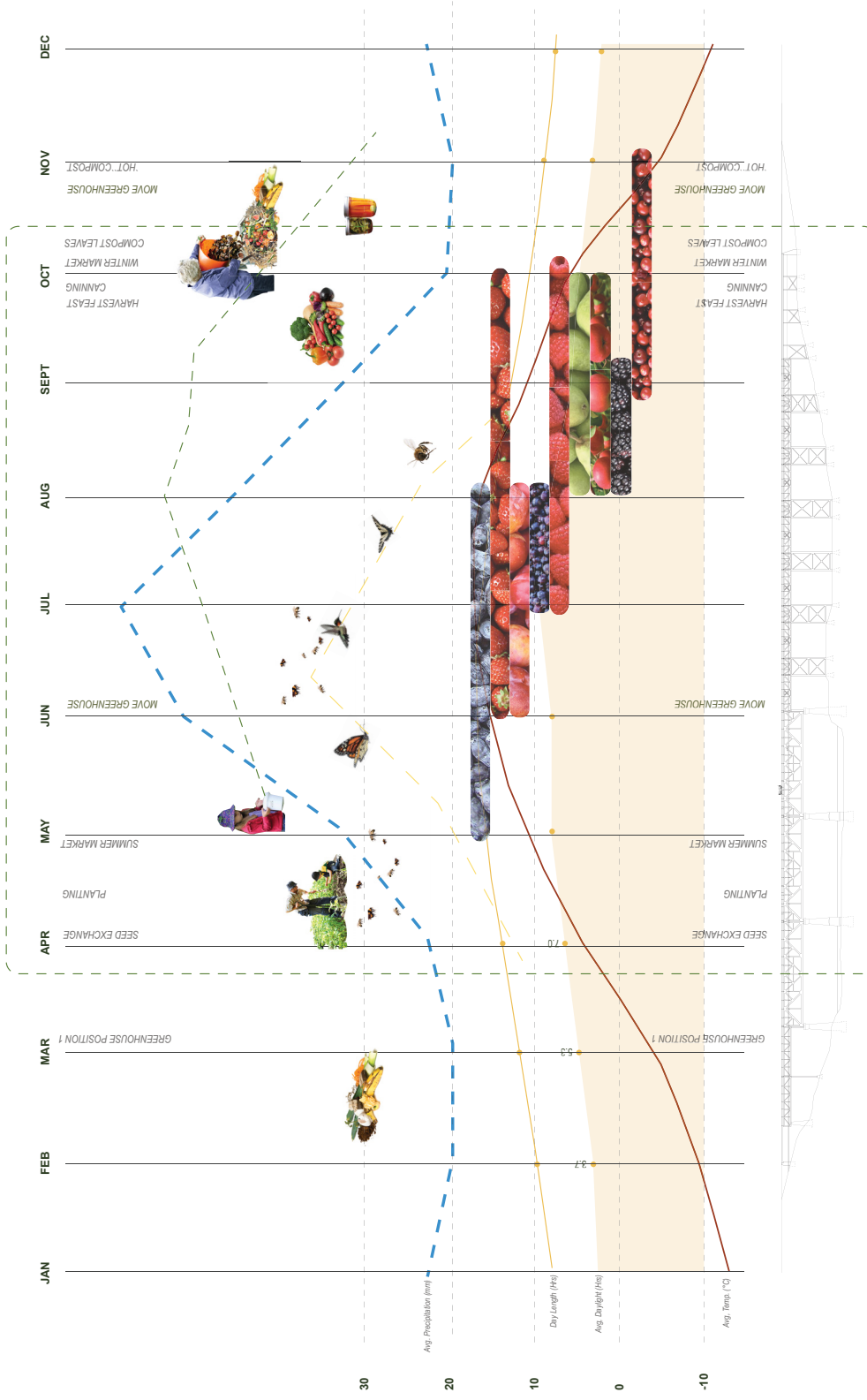
³⁹ Aldo Rossi, *The Architecture of the City* (Cambridge: MIT Press, 1982), 29.



High Level Bridge as a monument, with an evolving character that structures the city.

Urban Almanac

By developing an almanac of data on native perennial plants and their growing seasons, pollinator activity, food economy activity, and the climactic conditions over the year, one can start to understand how the local conditions support and shape the human cultural activities related to the food cycle. This 'Urban Almanac' starts to structure the food system and tie it to the specific conditions of Edmonton, defining an architectural program, and the overarching system of the Urban Ecology. The Urban Almanac looks at both natural factors and human activities which influence the food system, and how they interrelate and reinforce one another.



Edmonton's Urban Almanac, showing natural factors and human activities related to food throughout the year.

CHAPTER 4 : DESIGN METHODS

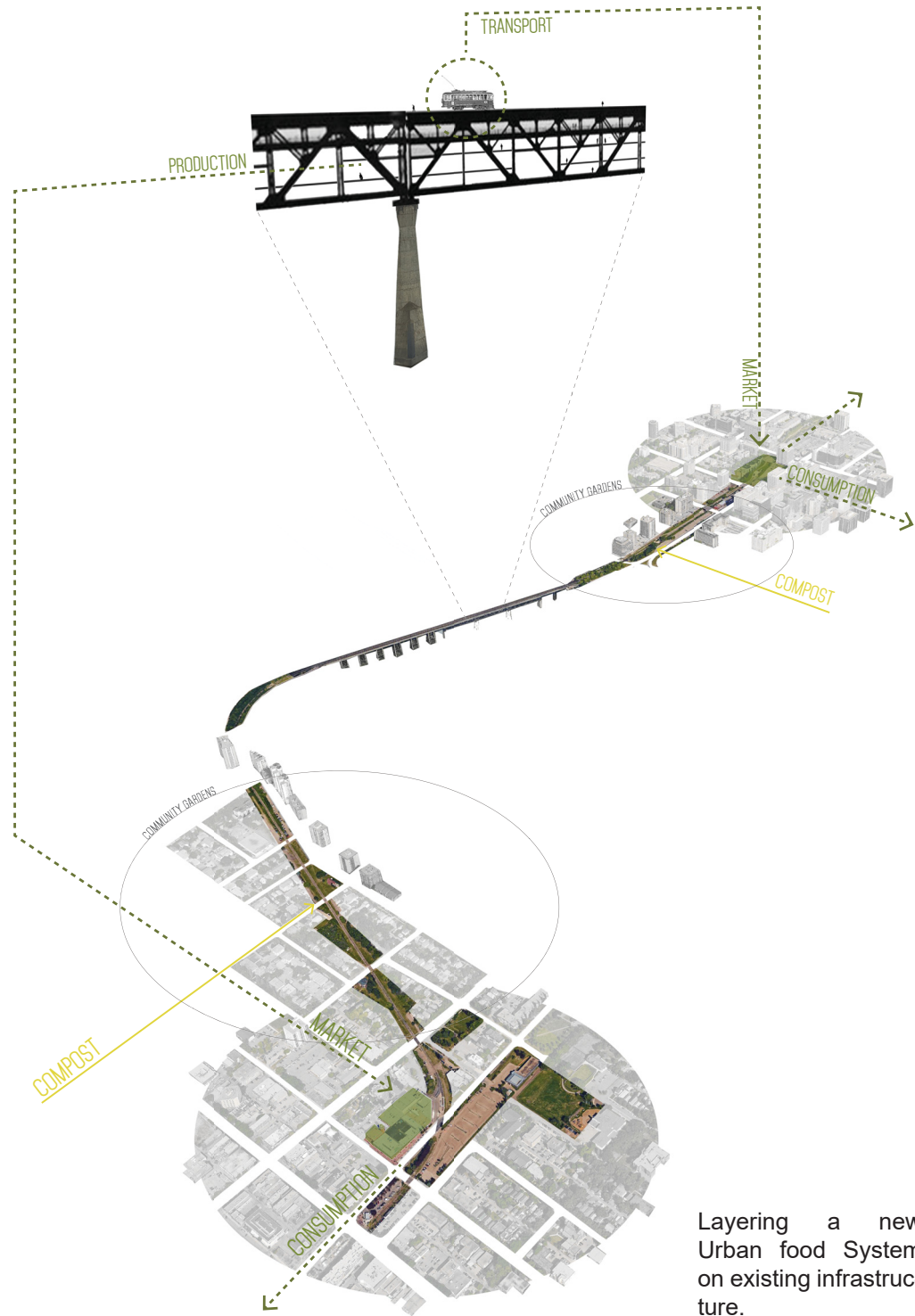
The top of the High Level, its steel structure, and the unused spaces along the train tracks will serve as various points for urban intervention. The High Level's monumental and connective nature will provide the ideal framework for an urban food system.

Urban Food System

The interventions overlayed on the existing infrastructure of the railway line and bridge will function together as a complete urban food system. This urban food system, based on the cycles defined in the urban almanac, will encompass the complete economic, social, and ecological principles of Urban Food Ecology.



Layering a new urban food System on existing infrastructure.

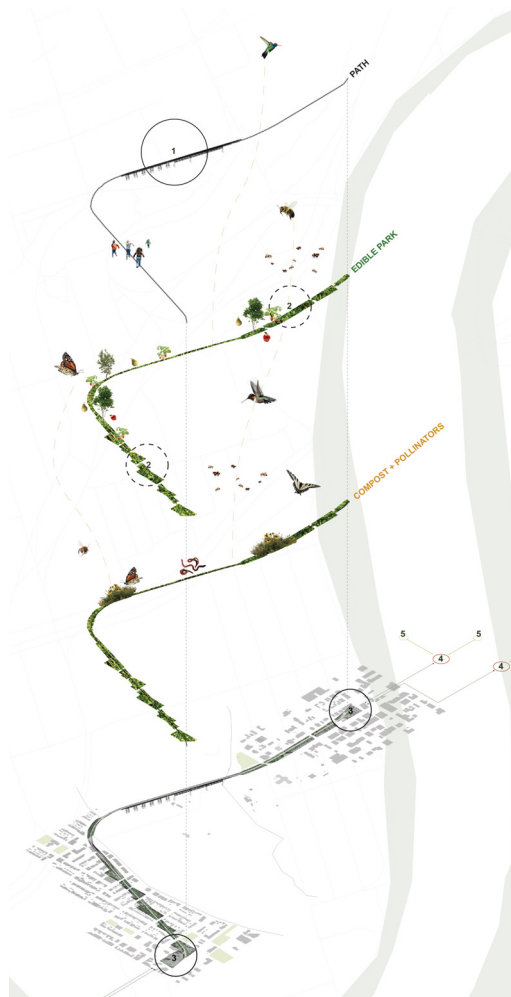


Layering a new Urban food System on existing infrastructure.

Mapping the Almanac

By mapping the elements of the almanac onto the site, the architectural program can be situated and defined.

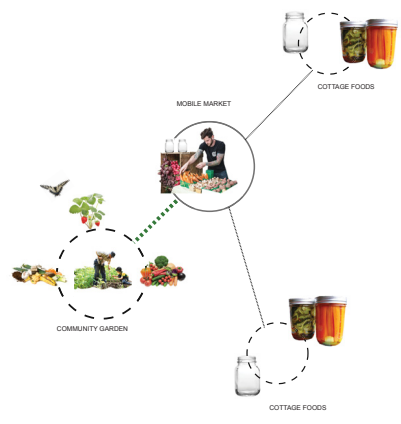
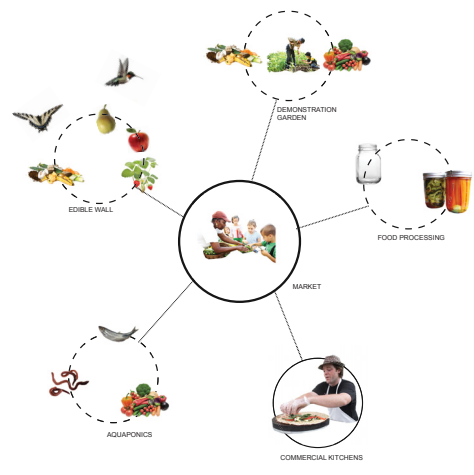
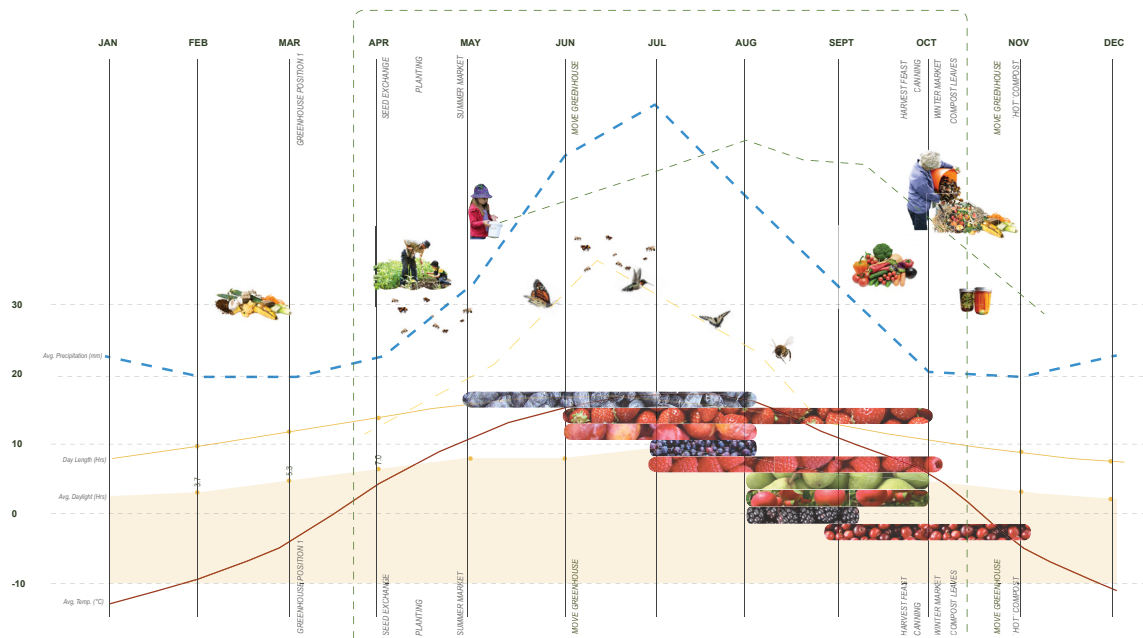
The system will work in tandem with other urban systems to optimize resource use such as water and compost, as well as tie into existing pedestrian circulation. The centrality and accessibility of this system will help to generate a local food culture by encouraging people to be involved in its various components. In this way the system is productive in multiple senses, both in the nurturing of food, as well as social connection.



Mapping the social, economic, and ecological elements of the Urban Almanac onto the continuous landscape.



Together the layers of the Urban Almanac map onto the site to create the framework for a complete urban food system.



Defining the cycles of the almanac as distinct architectural programs: Edible Park, Market Cooperative, and Mobile Market.

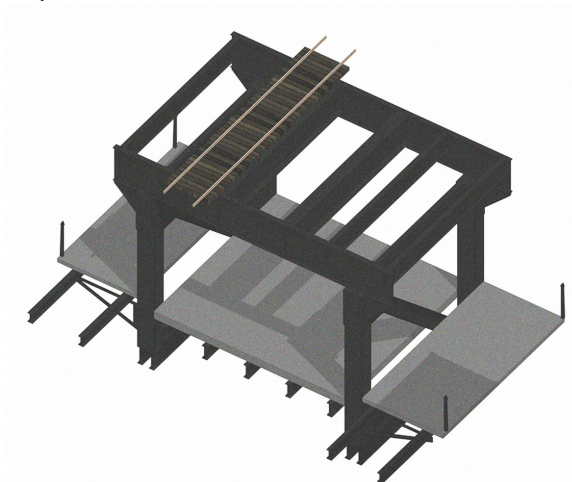
The architectural interventions of the urban food system include:

1. Edible Urban Park



Edible Park program: a natural ecology including pollinator gardens, compost bins, and edible perennials plantings to allow for urban foraging.

The first element of the urban food system, the Edible Park, engages the perennial idea of production. It is conceived as a low-maintenance natural ecological system, that seamlessly integrates compost, bioswales, pollinators, and native edible plants. The Edible Park will transform the existing underutilized spaces along the railway line into a continuous park and path.



The Edible Park will be integrated into the existing steel structure of the top of the bridge, as well as the underutilized spaces along the tracks.

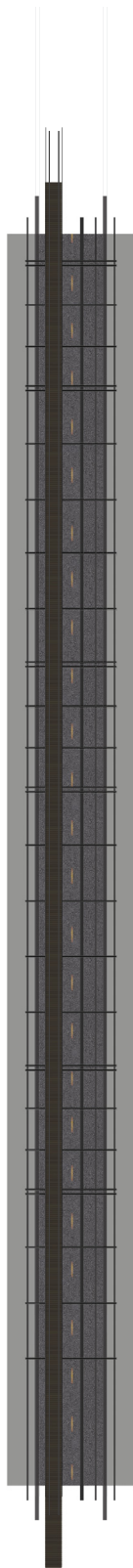
The Edible Park contains architectural elements to support pollinators, foraging, as well as food vendors and tables along its length. As a continuous productive urban landscape, it will tie together the network of neglected urban spaces, transforming them into a new unified experience.



Urban foraging- free public food produced by natural ecology.

Seasonal Foraging

The perennial plantings along the path will be determined by the seasonal cycles of the urban almanac. They will be made up of fruit trees, berry bushes, and other edible plants that are native to the region, or perform well in Edmonton's climate zone. These include apples, pears, saskatoons, haskap berries, blueberries, raspberries, strawberries, and many more. Staggering of early, mid, and late season plants, ensures that there will always be something edible that people can forage throughout the year. These fruits and berries can then be enjoyed, shared, or transformed into pies, jams, and other



Edible planting scheme, seasonally staggered, and fitting to the existing structural scheme of the bridge.

value added products that can contribute to the local food economy.



Natural ecologies integrated into the park.

Pollinators, Bioswales, and Compost

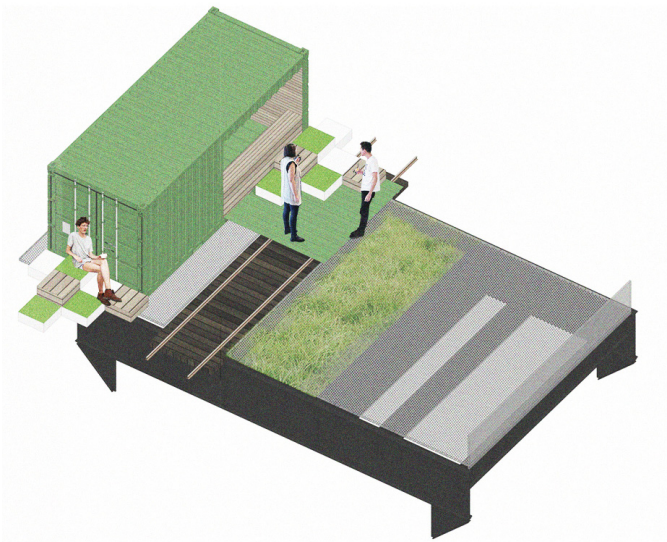
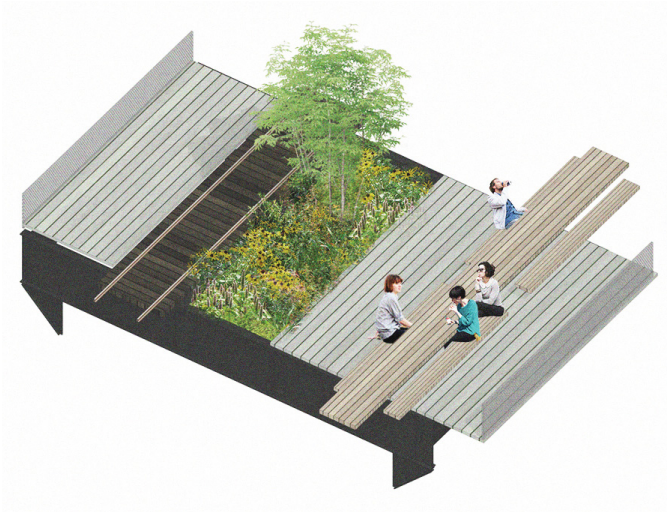
The park will integrate perennial plants with blooming flowers throughout the year to support pollinator activity. This will attract pollinators into the urban core and help provide pollination to other productive places throughout the city.

The path will also integrate bioswales which absorb and store excess moisture, helping to water the plantings along the path, as well as to reduce urban runoff.

The railing and seating will incorporate compost bins, so that the park forms a closed-loop system, in which food can be grown, picked, eaten, and disposed of all in the same place. As the compost breaks down, it releases compost tea which will be drained through covered gutters across the path to fertilize the plants.



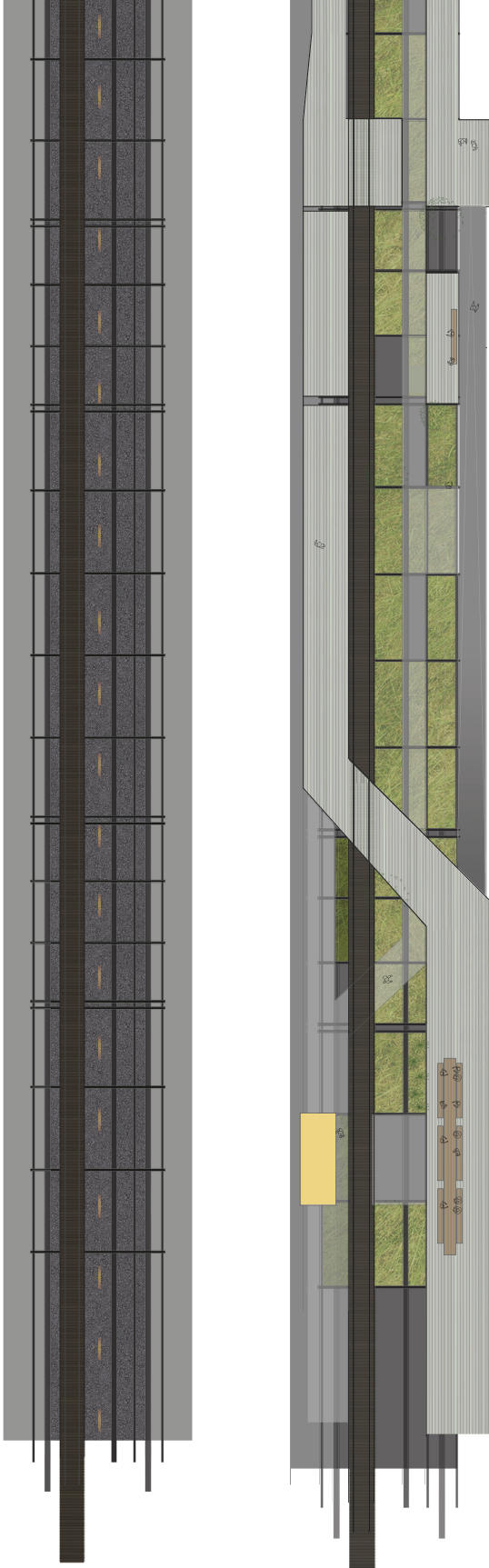
The 'forage path' of the edible park incorporates bioswales which absorb excess moisture and slowly release it to nearby plantings, for a low maintenance system.



Picnic tables and mobile food vendors provide elements of Sitopia along the path.

Sitopia

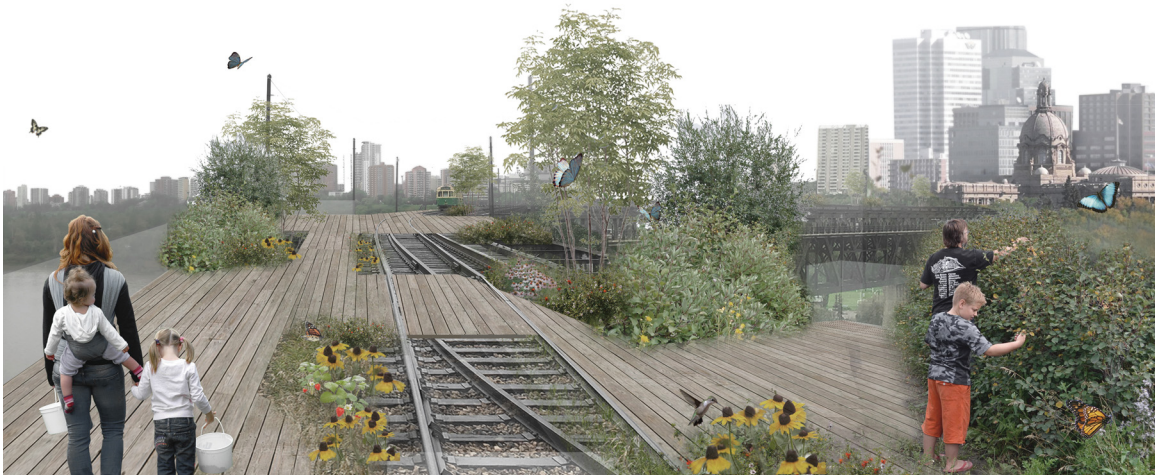
Finally a series of mobile food programming will occur along the park. This includes tables and seating, as well as mobile food vendors. This ensures the park has multiple attractor points along its length so it is both path and destination.



The combined elements of the edible park create a unified path and experience throughout the city.



Transforming underutilized spaces along the edible park path. Old Strathcona neighbourhood.

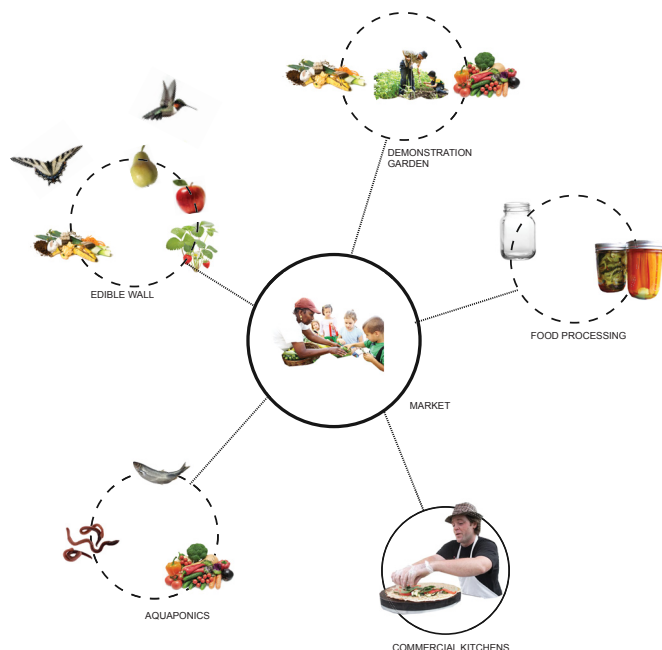


Transforming underutilized spaces along the edible park path. Top of the High Level Bridge.



Transforming underutilized spaces along the edible park path. Downtown Edmonton.

2. Market Co-operative



The Market Co-operative encompasses the complete food cycle. A didactic environment where people can participate and learn about production, processing, commerce, and stewardship in one place.

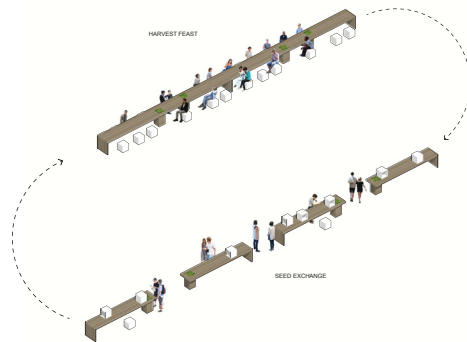
Situated along the path of the edible park, the Market Co-operative is the physical and conceptual center of the urban food system. It is the place where the exchange of goods and knowledge takes place, and the functional needs of the local food economy are accommodated. The Market Co-operative provides essential programming for the urban food system including a demonstration garden, classroom spaces, commercial grade community kitchens, processing and storage facilities, a productive aquaponic facade, a market hall, and composting. The Co-operative is where people can come to learn about, and participate in, any part of the food system.

Seed Exchange + Harvest Feast

The threshold to the Market Co-operative is a semi-enclosed space, that envelopes the Edible Park. It hosts two important events in the almanac cycle- the Seed Exchange in the spring, and the Harvest Feast in the fall.

During these two cultural events a great exchange and social gathering takes place on the bridge. The Seed Exchange brings people together at the beginning of the planting season to share seeds, as well as new ideas and plans for planting. The Harvest Feast brings people together again at the end of the season to celebrate the years produce and begin the process of canning and preserving food for the winter. Together these two events structure the activities of the urban food system throughout the year, and ensure its engagement with the people of the city.

The Seed Exchange and Harvest Feast are facilitated by a series of tables which pull apart in the spring to create market stands for the Seed Exchange, and come together in the fall as a long communal feasting table. For the rest of the year they can be distributed throughout the park as picnic tables.



Seed exchange and Harvest feast: two events that help structure the yearly activities of the urban food system.

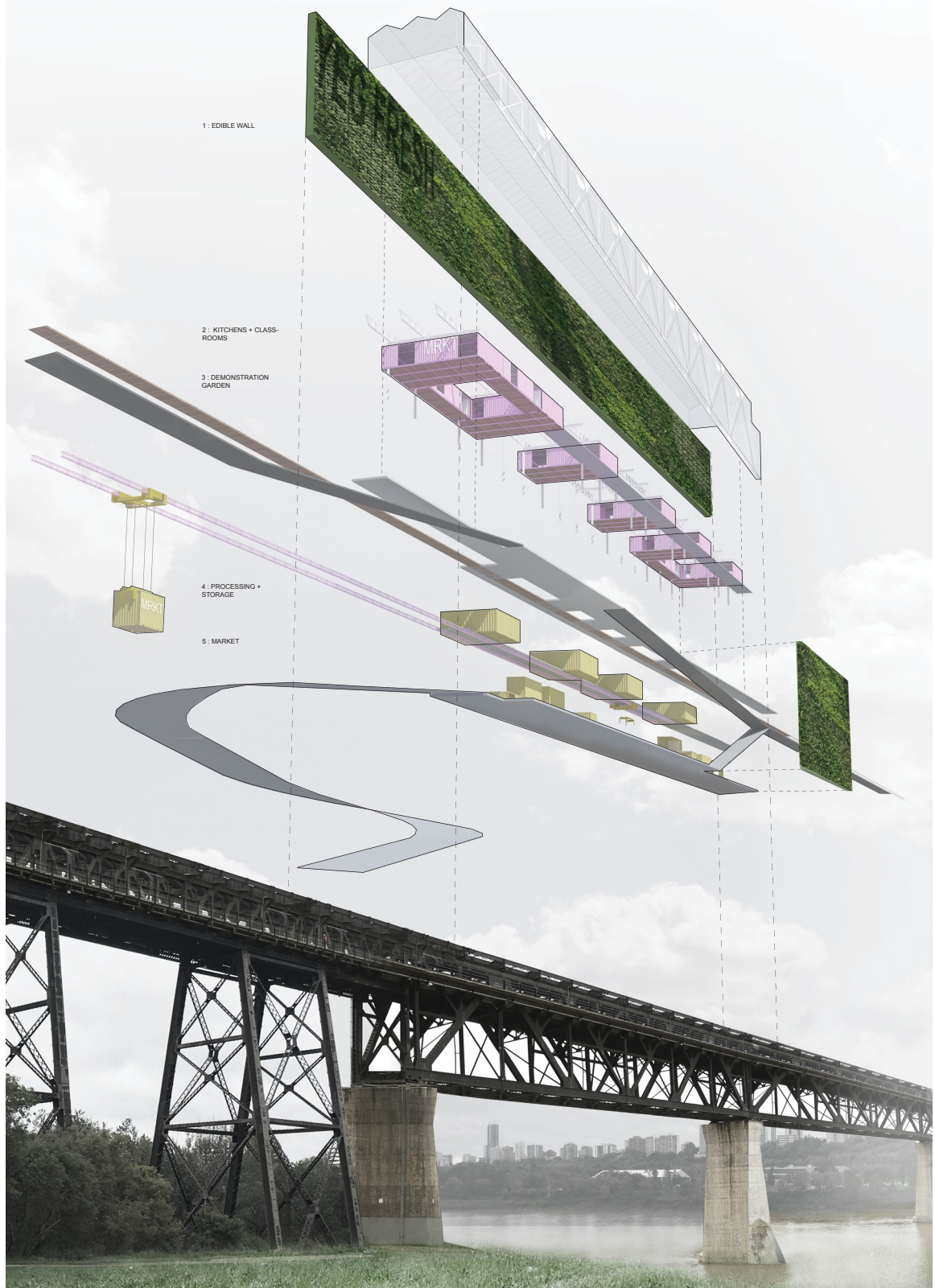
Revealing the Process

To engage the principles of access, education, and opportunity, the Co-operative operates as a didactic and participatory environment. Its programming encompasses the complete food cycle through production, commerce, consumption, and waste management. Whereas the industrial food system obscures the food cycle, the Market Co-operative reveals it completely, encouraging people to take part and to learn. As the edible park passes through the cooperative greenhouse, it becomes a demonstration garden with raised planters embedded in the structure of the bridge.

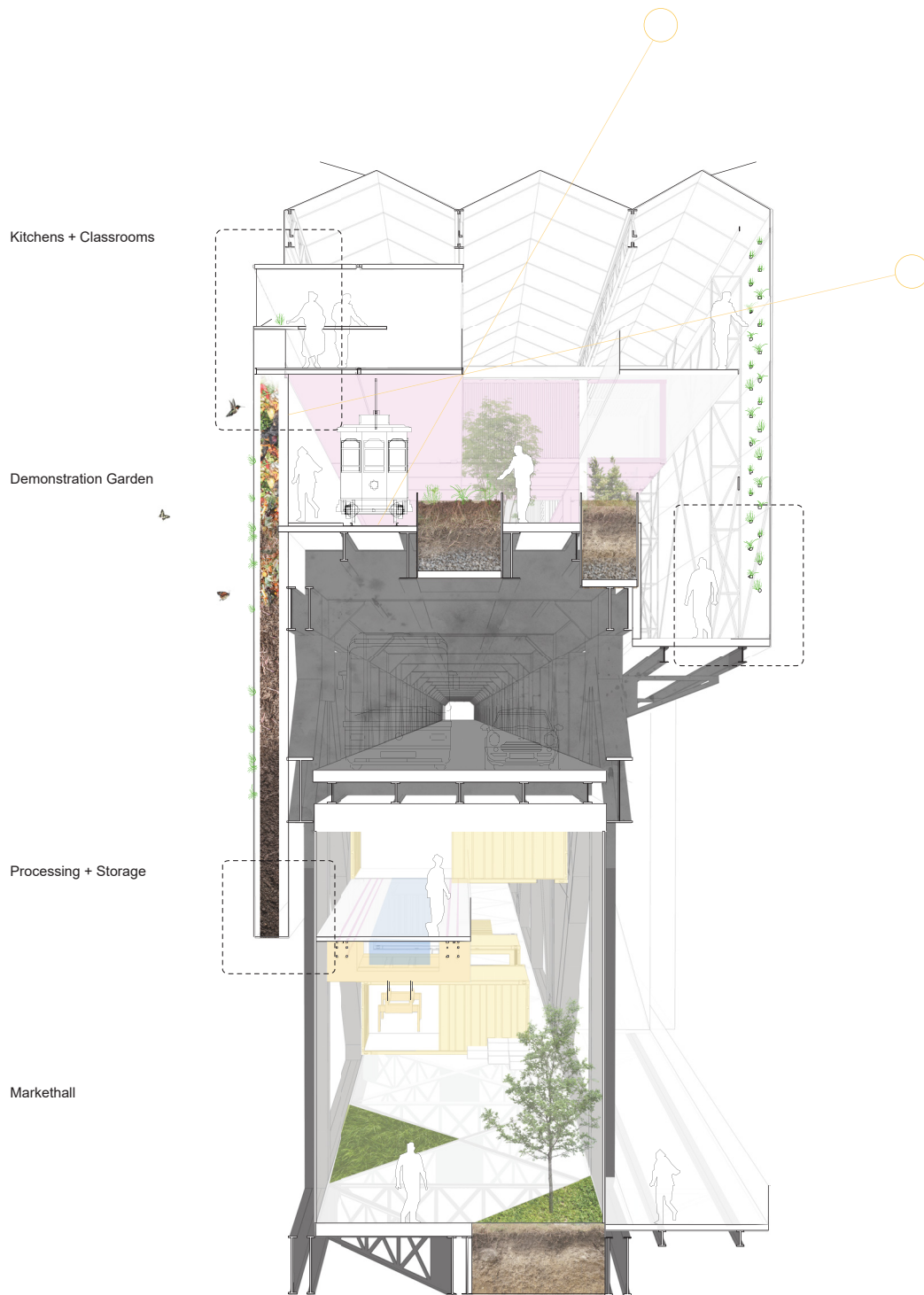


Raised educational beds in the demonstration garden, embedded in the bridges existing steel structure.

These deep bed planters can be used to teach intensive organic gardening techniques. Classrooms and community kitchens span above the demonstration farm. To enter the market within the truss of the bridge, a visitor can walk down the ramp enclosed between the old structure of the bridge, and the new



The Market Co-operative in the heart of the food system, a layered infrastructure on the high level bridge.

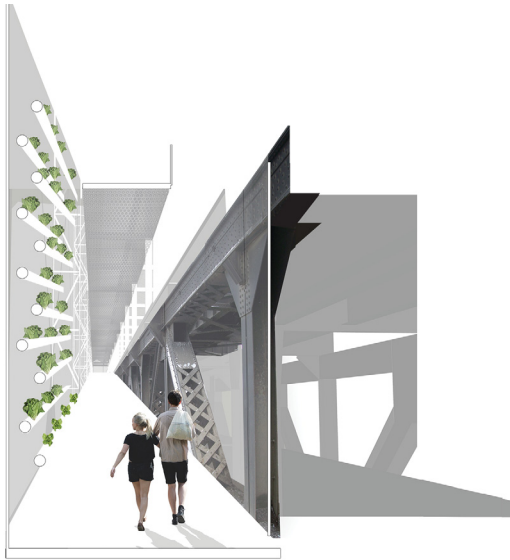


The Market Co-operative reveals the complete food cycle, encouraging people to learn and take part.



The Market Co-operative reveals the complete food cycle, encouraging people to learn and take part.

productive facade of the cooperative. In this way, the circulation through the building becomes an experiential journey through the food cycle.



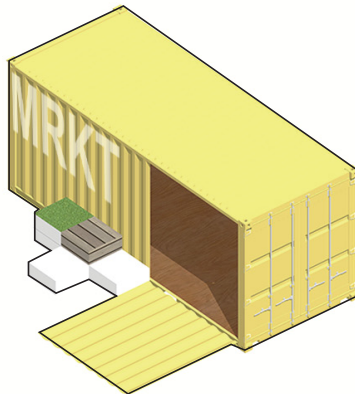
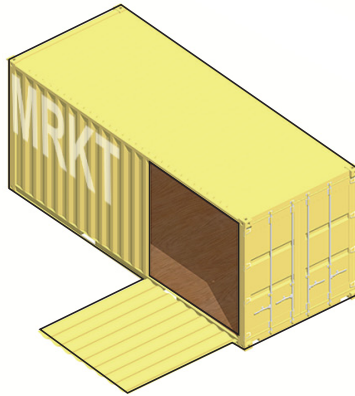
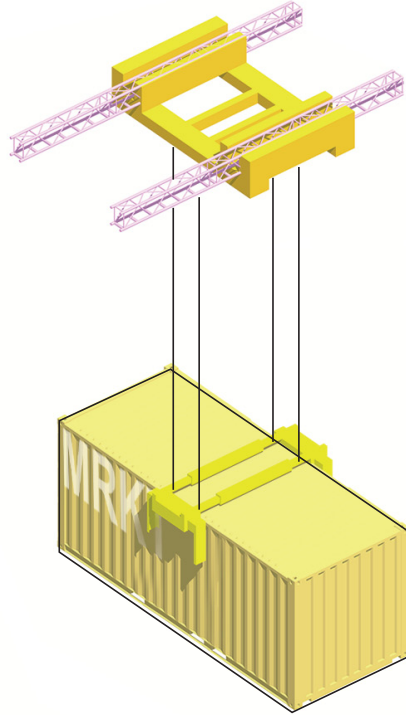
A ramp between the old structure and new productive facade.

Agora

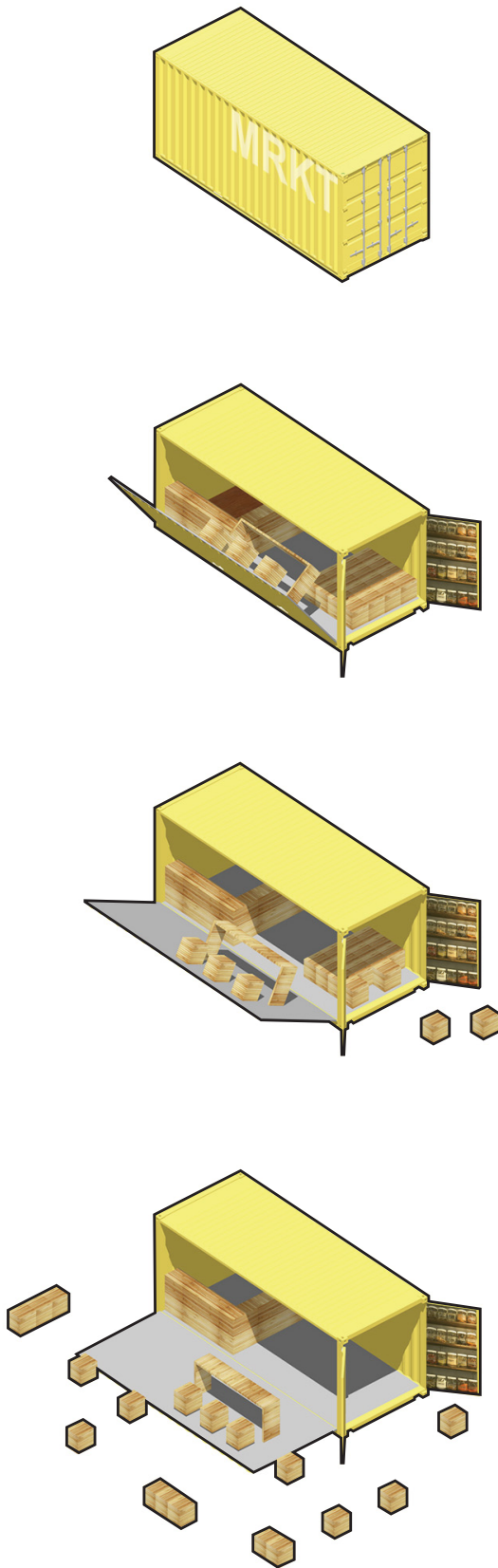
The Co-operative's Market hall acts as a central agora space where a variety of social activities can take place around food. The interior of the High Level Bridge's steel box truss is enclosed with glass to create a 300 foot market hall. Within this hall, repurposed shipping containers are used as market vendor stalls.

Shipping containers are used for the stalls because they are recycled, flexible, easily adapted, and mobile. Furthermore, they conceptually represent the reclaiming of the food system from the current industrial system, by occupying and subverting the very elements of the infrastructure which allows for a global and placeless food economy.

The overhead crane which runs through the market, is used to move the containers, which are then trans-

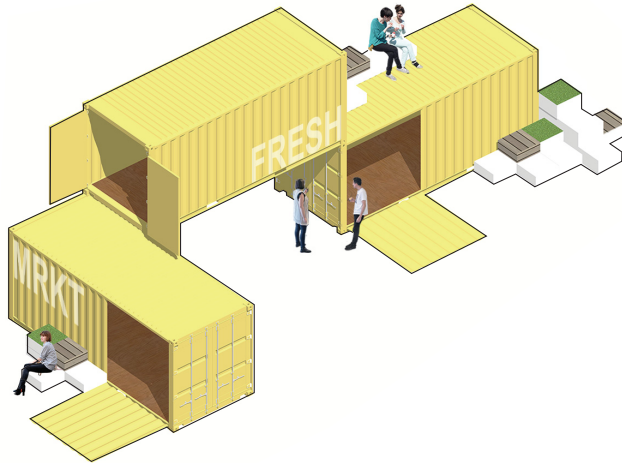


Move, transform, and extend to transform shipping containers into market stalls.



Move, transform, and extend to transform shipping containers into market stalls.

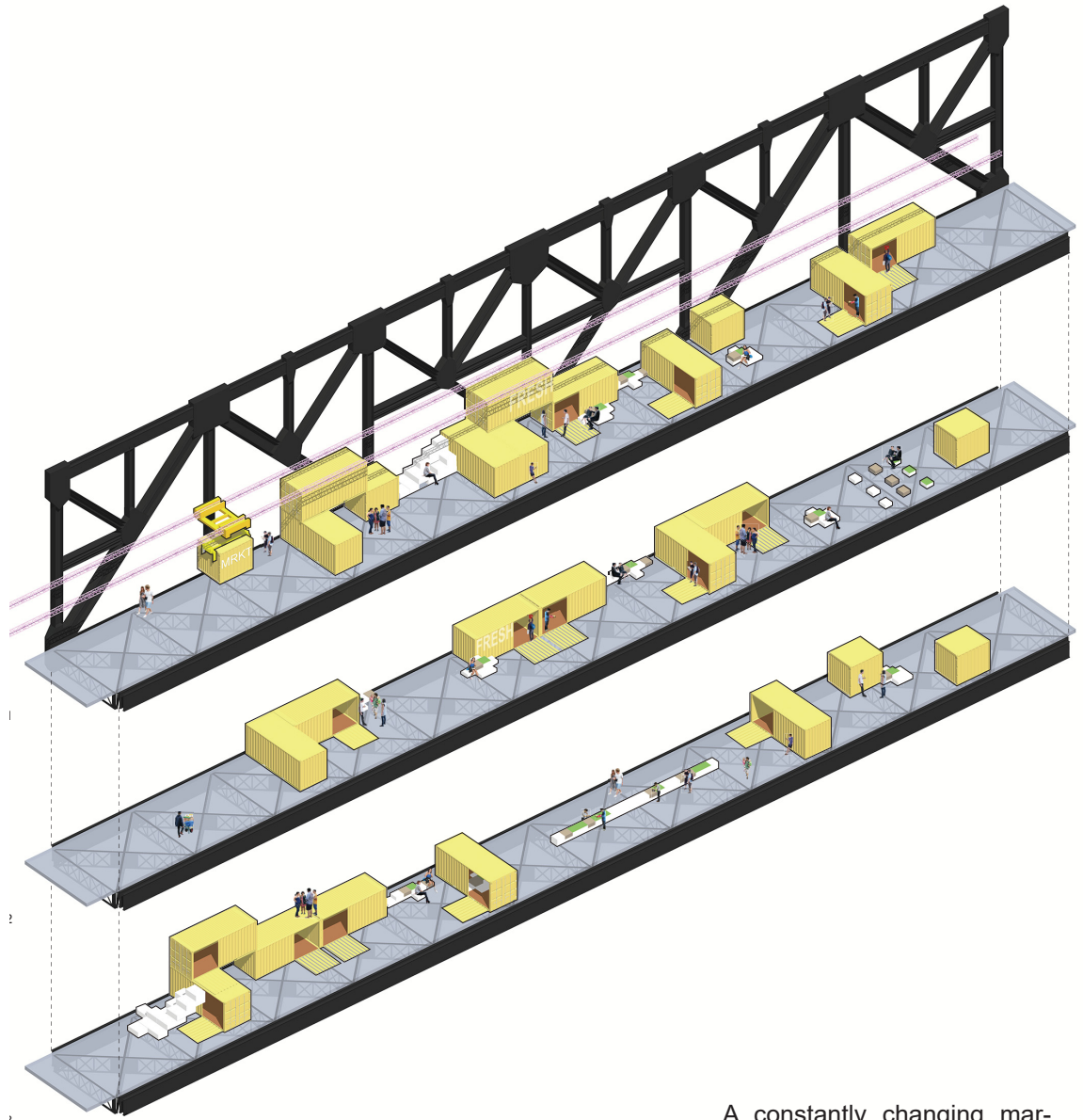
formed through a process of folding and opening of sides, and finally extended with furnishings to become market stalls.



Configuring the market vendors.

These individual stalls can then be configured and reconfigured into larger arrangements which support different activities, from gathering and market, to classes and tastings. In this way, the market can constantly change and respond to the different needs of the seasonal nature of local food. Each stall can be rented as either a merchant or a food vendor, creating a mixture of goods and fresh food within the market.

Overhead, processing facilities and aquaponic tanks can be viewed, revealing further components of the food system. Below, translucent floors show the river ecosystem below. The market occupies the space in between the river and the aquaponics, uniting systems of natural ecology and human ecology.



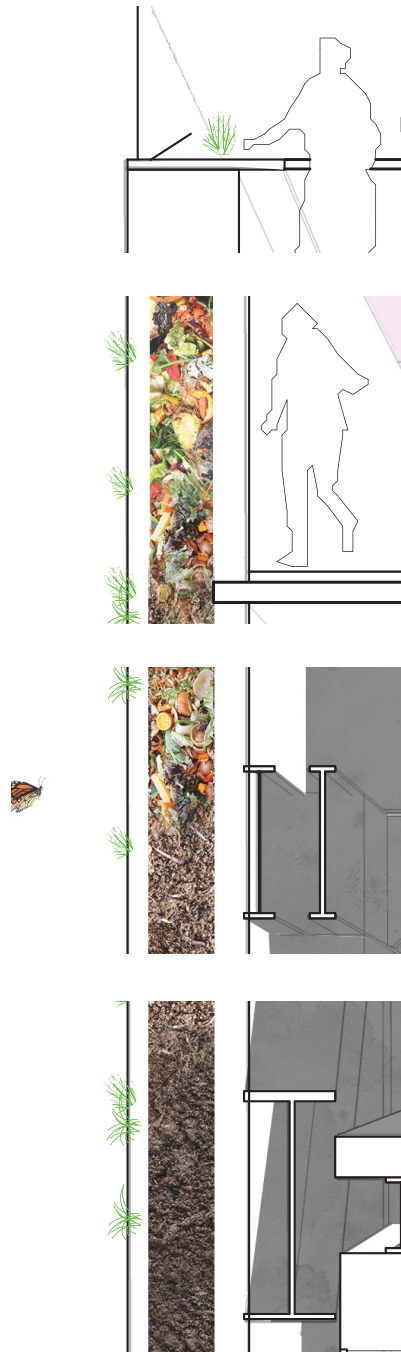
A constantly changing market.



Interior of the Market Hall.

Systems: Synergy and Stewardship

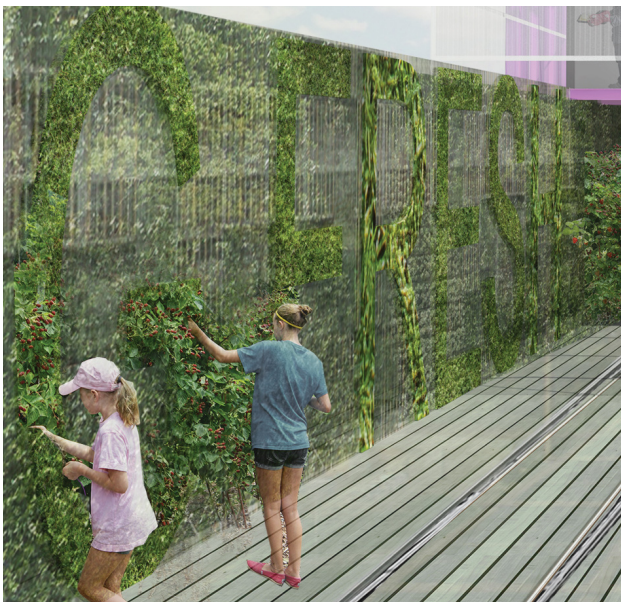
The Market Co-operative is also a living machine that produces clean water, vegetables, fertilizer, and fish. This machine synthesizes the different parts of the food cycle while integrating principles of production and stewardship.



Composting wall section, showing kitchen scraps transforming into fertile soil.

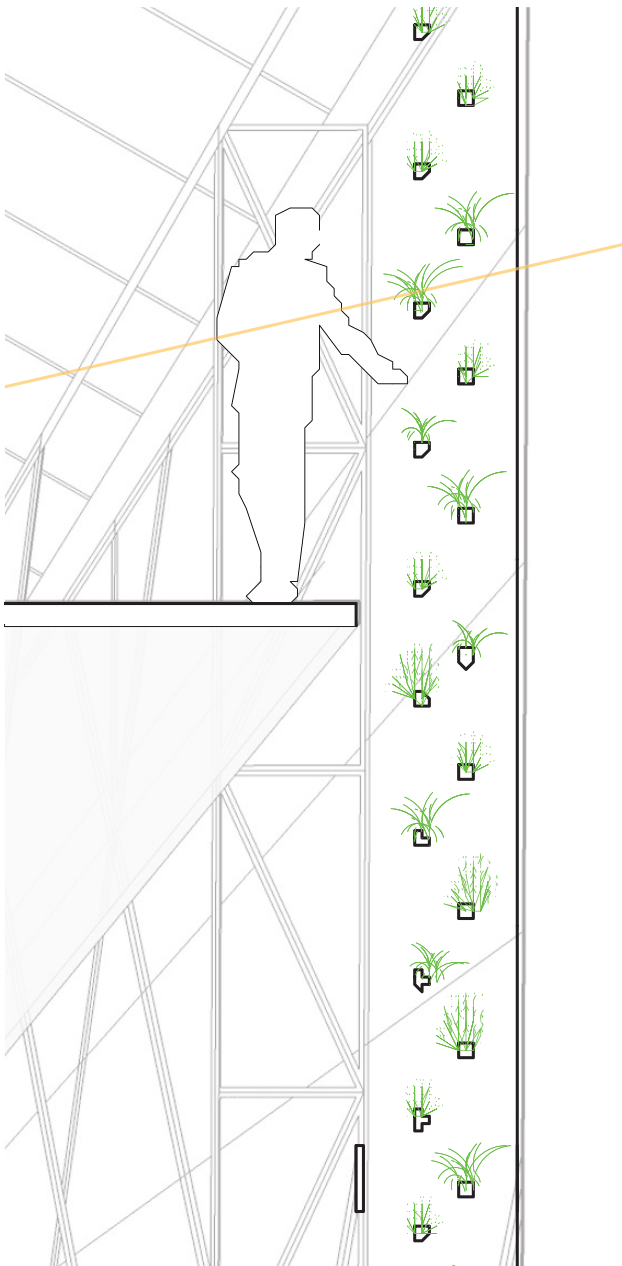
The proximity of the kitchens, market, and greenhouse allow for beneficial interactions to take place. For example, along the Northwest side of the greenhouse, a vermicomposting wall assembly takes food scraps from the community kitchens and transforms them into rich fertilizer.

This composting wall also provides thermal mass for the greenhouse, helping to extend the interior growing season. Air exchange of excess heat from the inhabited market below can further help to extend the growing season into the early winter and spring. As compost tea is released through the composting wall assembly, it fertilizes a vertical pollinator garden on the exterior and a vertical foraging garden on the interior. In this way, the wall supports both human and natural activities simultaneously. This living wall assembly can be planted by artists to become a constantly changing, living billboard for the Co-operative.



Vertical foraging gardens fertilized by the composting wall.

The building also produces food through an aquaponic system. Rainwater is collected from the roof of the greenhouse and enriched with nutrients in the aquaponic tank below. The nutrient enriched water is pumped through the hydroponic facade of the greenhouse, filtered by the growing plants, then returned to the aquaponic tank.



Hydroponic facade.

This cycle continues, with a periodic flushing of the system, in which water filtered by the plants is released into the river below. The release of the clean water becomes a major event, as the bridge's waterfall is restarted. Historically, operation of the waterfall was discontinued because it utilized chlorinated water which was polluting the river ecosystem. The filtered water released by the co-operative will not damage the ecosystem, and the spectacle will help increase awareness of the resources we depend on, and the natural systems of which we are a part.



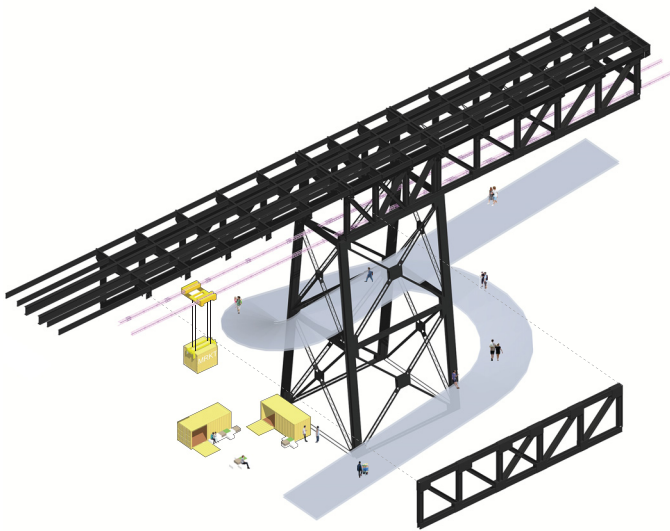
An urban spectacle of our reliance on natural systems and resources; base image *Edmonton High Level Bridge - Great Divide Waterfall*, photograph by Edmonton Economic Development Corporation, from Flickr.



Integrated systems.

Outreach

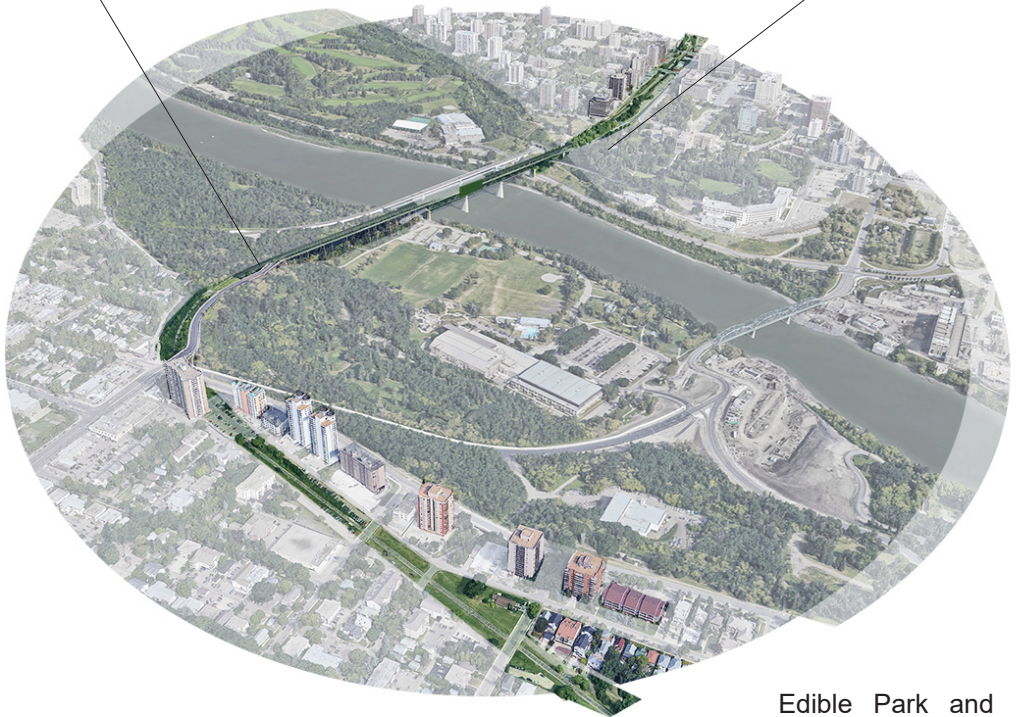
In the summer, the market expands out of the Bridge into the River valley parklands below. This adds an element of sitopia to the park, and provides another connection between the park and the city. A ramp access to the Market weaves around the existing steel column to create a new experience and threshold in the park. This also becomes a loading and distribution point, where vendors can bring their wares up to the market hall. This threshold is where the final element of the urban food system, the mobile outreach, can interface with the market.



Summer market expanding out into the parklands.



Summer market and connection to the river valley.

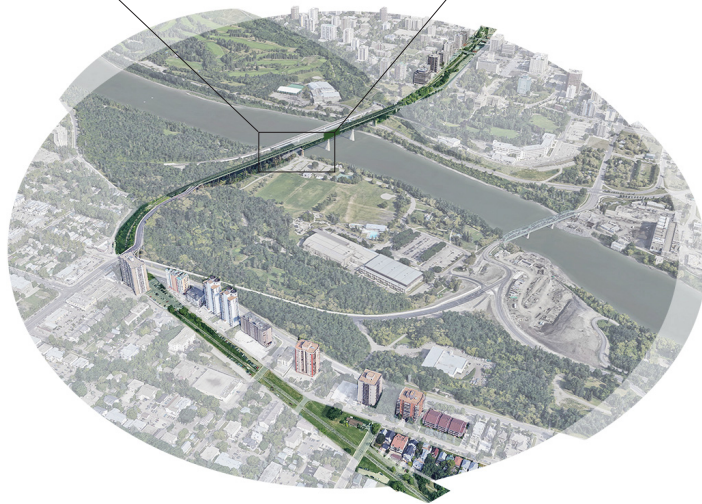


Edible Park and Market Co-operative urban context; base map from Google Earth.

EXISTING



PROPOSED

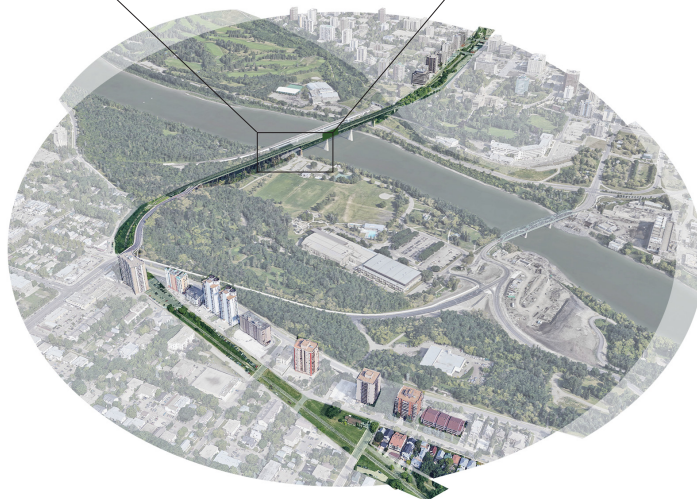


Edible Park and Market Co-operative urban context: connection to downtown; base map from Google Earth.

EXISTING



PROPOSED



Edible Park and Market Co-operative urban context: connection to river valley; base map from Google Earth.

3. Mobile Market



From the central Market Co-operative, an outreach to Edmonton's food deserts will take place through means of mobile food markets. These markets will bring not only food, but will provide an economic link back to the co-operative to support cottage foods and the informal food economy.

Access

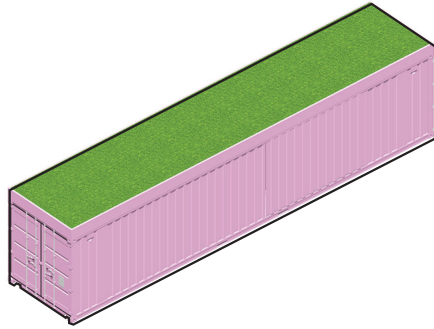
The Mobile Market provides the essential connection between the central urban hub of the Market Co-operative and the city's food deserts. As an envoy from the co-operative, the mobile market brings fresh, healthy food, to at risk communities. These communities are generally made up of elderly populations, minority groups, and low-income households, which otherwise have very limited options for healthy food.

Empowerment

Beyond providing access to healthy food, the mobile markets are also the setting for workshops and classes. These classes can help low food literacy communities learn how they can start to improve their own food wellbeing. The goal of the mobile outreach is not simply to bring temporary access to healthy food, but to empower these communities so that eventually, they too can become a vibrant, productive part of the urban food system. To accomplish this, the mobile outreach first sends out a permanent fixture, a conceptual seed, which will create an imprint on the site that the mobile market can interface with. This imprint, will develop over time into a small-scale community food hub, transforming food deserts into food oases. In these community food hubs, the populations of the food deserts can grow their own fresh food, build community, process food, and gain the opportunity to participate in the larger food economy.

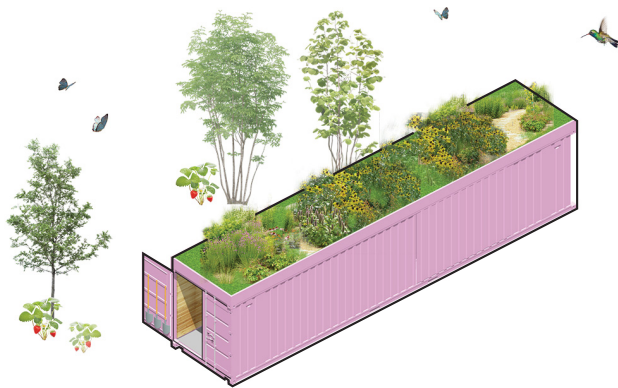
Seed

The mobile outreach begins by growing an imprint on a site within a food desert. The site is chosen on public land, either a school or a park, near a population that can support it. The seed is essentially a shipping container kit of parts which comes packed with everything needed to grow a food desert into a food oasis, including clippings of perennial plants, a seed bank, planter beds, a kitchen, and garden tools. The seed grows over time through several stages of succession into a self-supporting community food hub.



Stage 1: Seed.

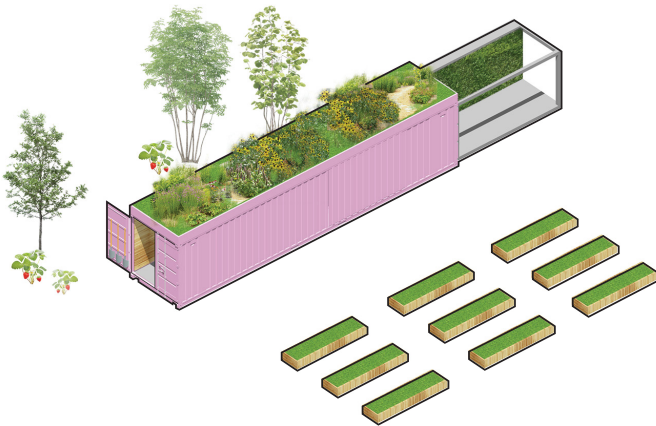
The first stage is the creation of a natural ecology like the edible park, which helps support food activities on site. This includes a pollinator garden which comes planted on the roof of the seed, and the planting of edible landscaping to form a bio-swale and foraging park on site.



Stage 2: Natural ecologies.

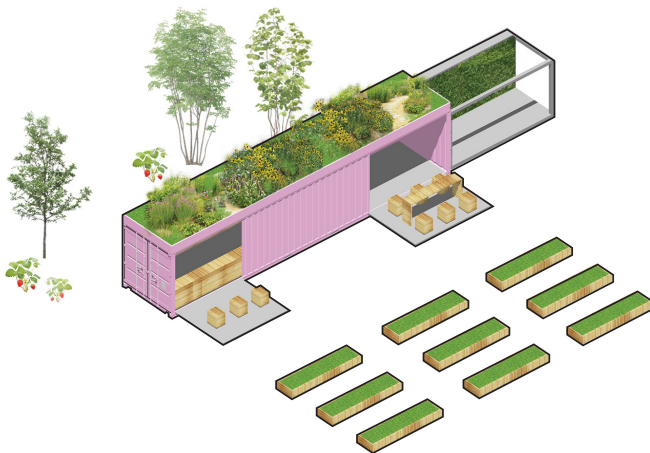
The second stage is the establishment of the community garden. In this stage, raised beds are unpacked from the seed container, as well as a greenhouse with a composting wall which is pulled out, extending the container. At this stage the imprint is

able to both nurture and steward.



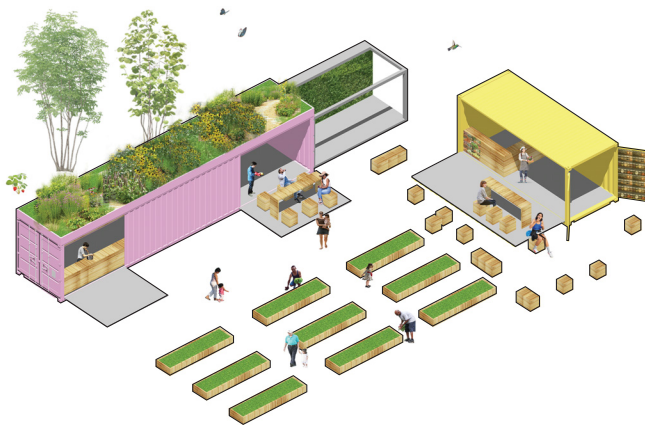
Stage 3: Community Garden.

In the final stage of succession, the now vacated container becomes a commercial grade community kitchen, allowing the transformation of the food produced on site into value added products that can be sold to and exchanged with the Market Co-operative. This stage reinforces the idea of cottage foods and economic participation within the community.

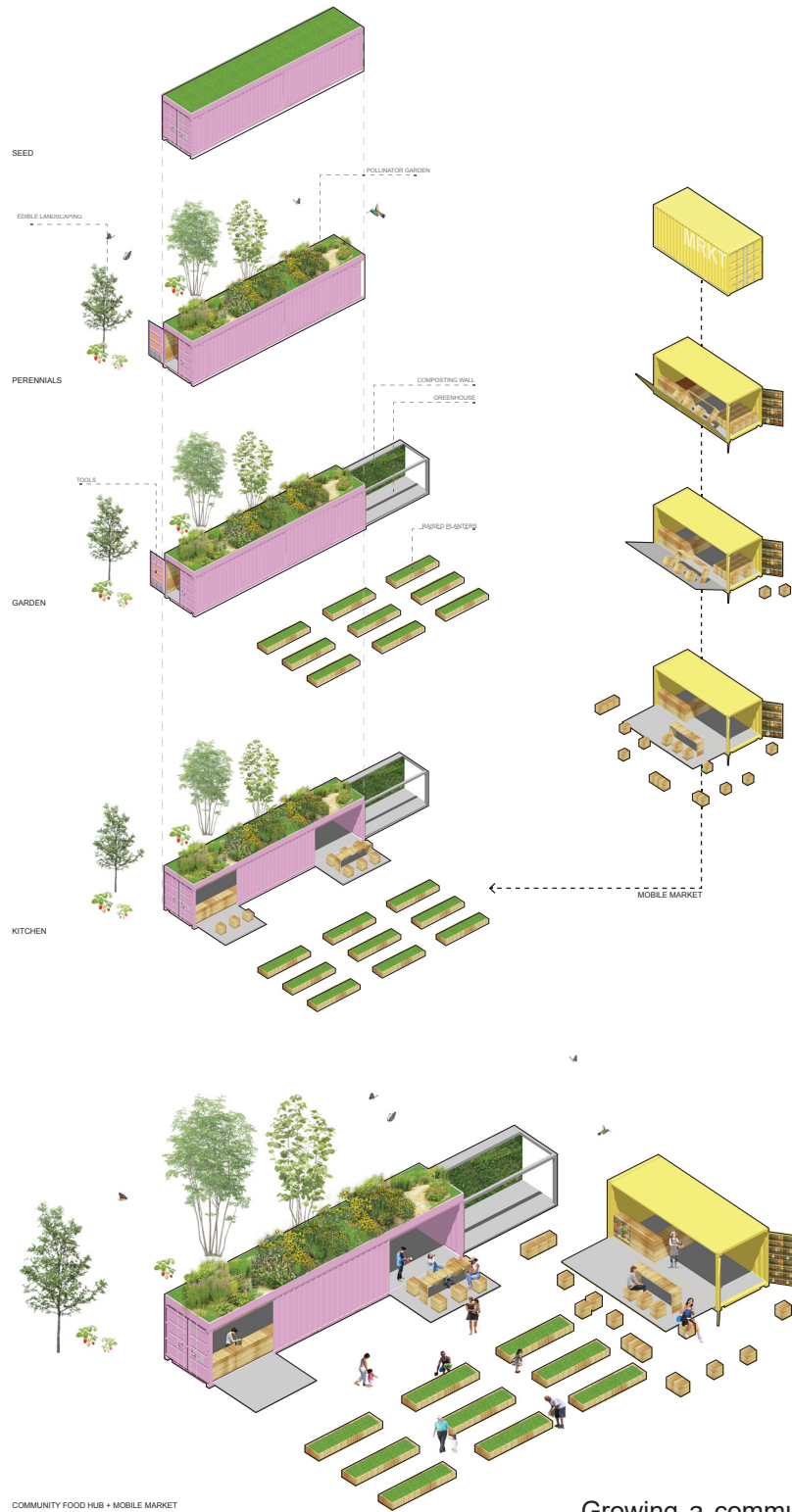


Stage 4: Community Kitchen.

The mobile market is distributed from the Market Cooperative and interfaces with this fully-fledged community food hub, setting up an exchange of goods and ideas. At this critical point, the food deserts become active participants in the food system and begin to give back to the cooperative. Each community food hub now has a presence in the market co-operative in the form of the flows of material that are exchanged, unique to each site. This economic and knowledge transfer is the tipping point where the urban food system truly can become self sufficient and a local food culture is established within the city.

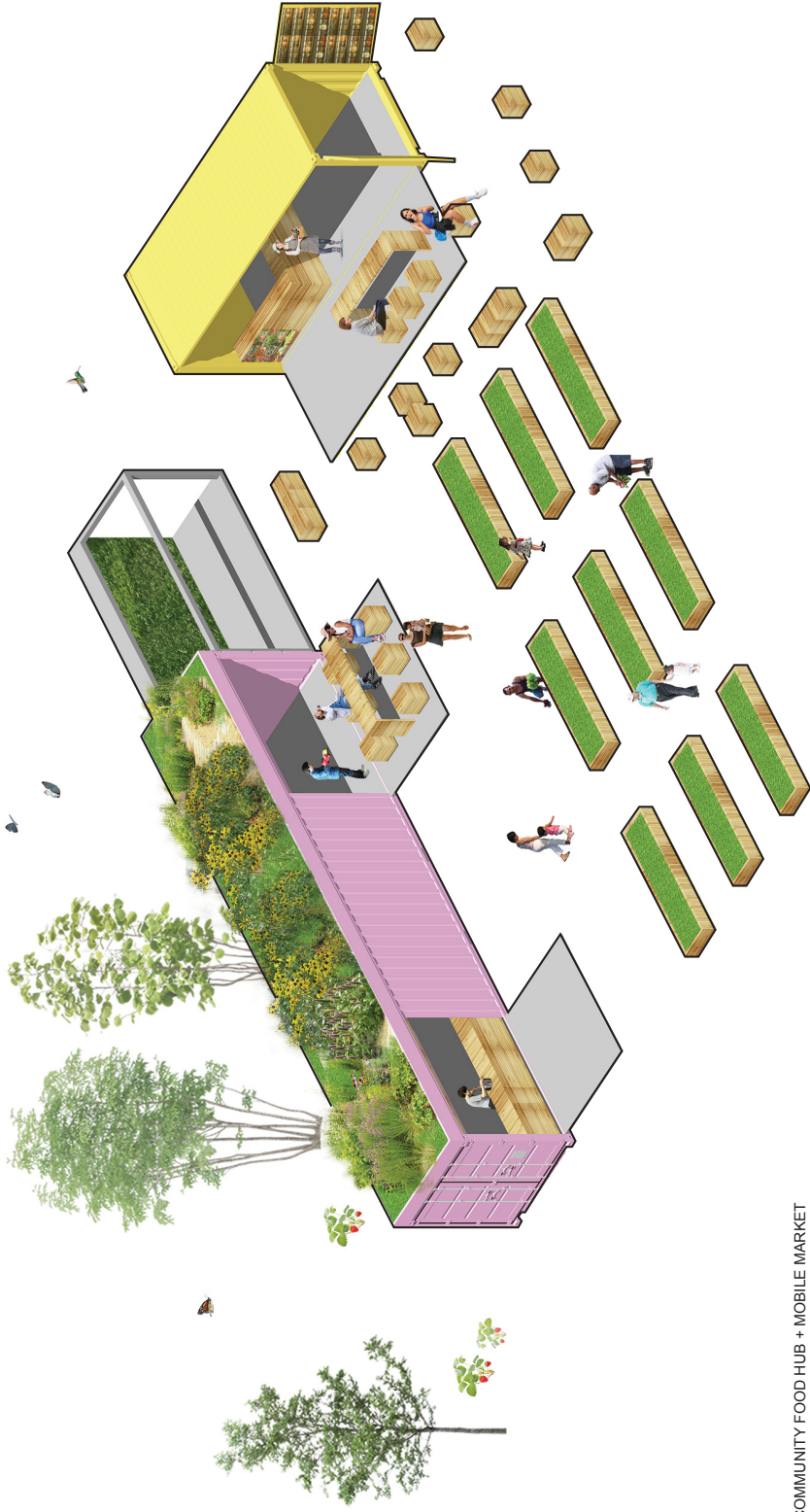


Stage 5: Established community food hub and Market Co-operative interface.



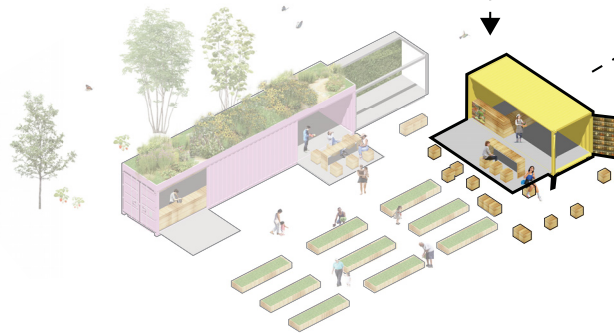
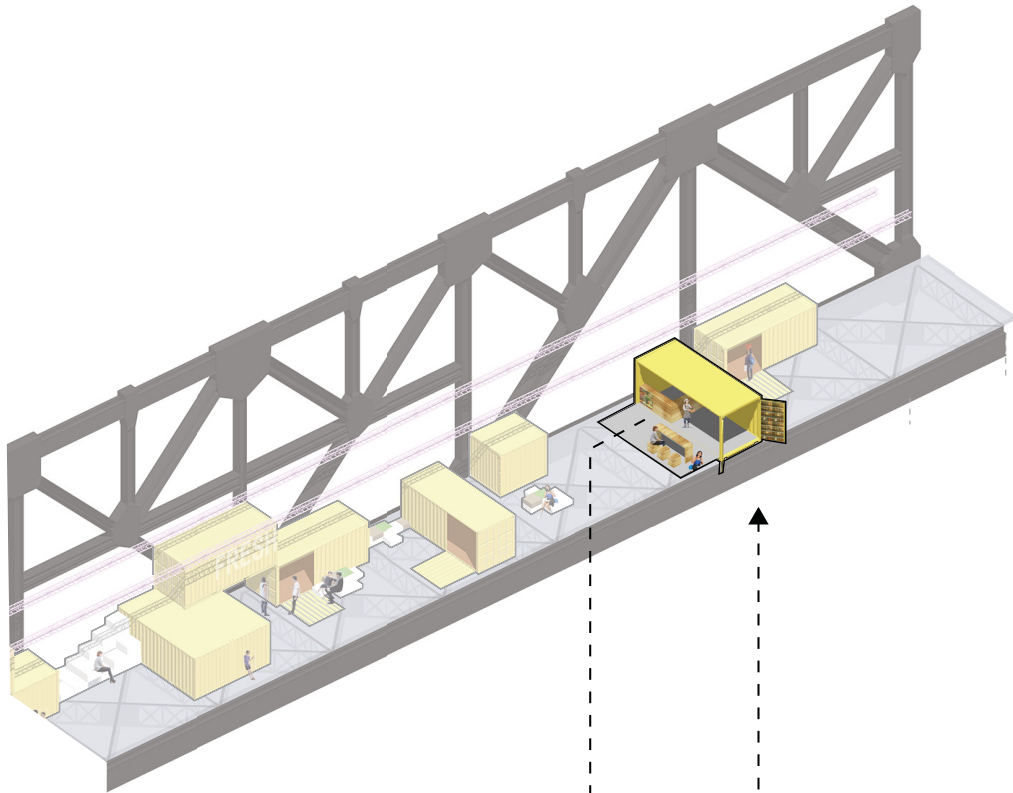
COMMUNITY FOOD HUB + MOBILE MARKET

Growing a community food hub.



COMMUNITY FOOD HUB + MOBILE MARKET

Established community food hub and Market Co-operative interface.



Link and exchange
between commu-
nities and Market Co-
operative.

CHAPTER 5 : CONCLUSION

An integral goal for the urban food system is restoring cultural connection to place. By participating in the urban food system, through a public food landscape that encompasses community gardens, greenhouses, kitchens, and eating spaces, people can “cultivate an interest in food and appreciation for the unique environment in which they live.”⁴⁰

“Better food choices need to be taught throughout our communities, and public space could become educational in this regard.”⁴¹ Through the development of an urban food system as a didactic urban landscape, people can learn better food choices, not only in terms of nutrition, but in transforming urban waste into resources, engaging communities, stimulating the local economy, and contributing to an emerging local food culture.

Growth and Evolution

Like the community food hubs grow over time, take root, and become established as a productive part of the system, so too is the larger infrastructure conceived to go through stages of succession over the years. The complete Urban Food System becomes a dynamic layer within the city that allows a local food culture to evolve over time. By providing places that facilitate learning about the processes of food, experiencing and participating in natural ecologies, and contributing to the local food economy, this sys-

40 Nordahl, *Public Produce*, 115.

41 Ibid.

tem can reconnect people to food, to their environment, and to one another, and so provide the basis for a sustainable local food culture to develop.

The urban food system will evolve throughout the year with the agricultural cycle, at different times accommodating planting, harvesting, and different species and varieties of plants. It will adapt to and change with the seasons, and go through stages of succession. "Vegetation will appear ever new and exciting: it will get harvested, grow back, get harvested again, grow again, grow differently, grow less or more, grow earlier, later, it will seasonally change size, colour, texture and smell."⁴² In this same way, the culture of the city and the communities within will become richer and more vibrant through participation in the urban food system.

Social Enterprise

In creating this connected web of diverse community groups through the Market Co-operative, the Urban Food Ecology also functions as a social infrastructure. From grassroots, community driven food hubs, to the governmental, non-profit, and institutional involvement necessary for a large-scale urban undertaking, it provides a point of connection. As a new infrastructural layer in the city, Urban Food Ecology fosters a new level of interaction, cohesion, and collaboration between these distinct groups.

42 Andre Viljoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities* (Burlington: Architectural Press, 2005), 11.

The Very Many

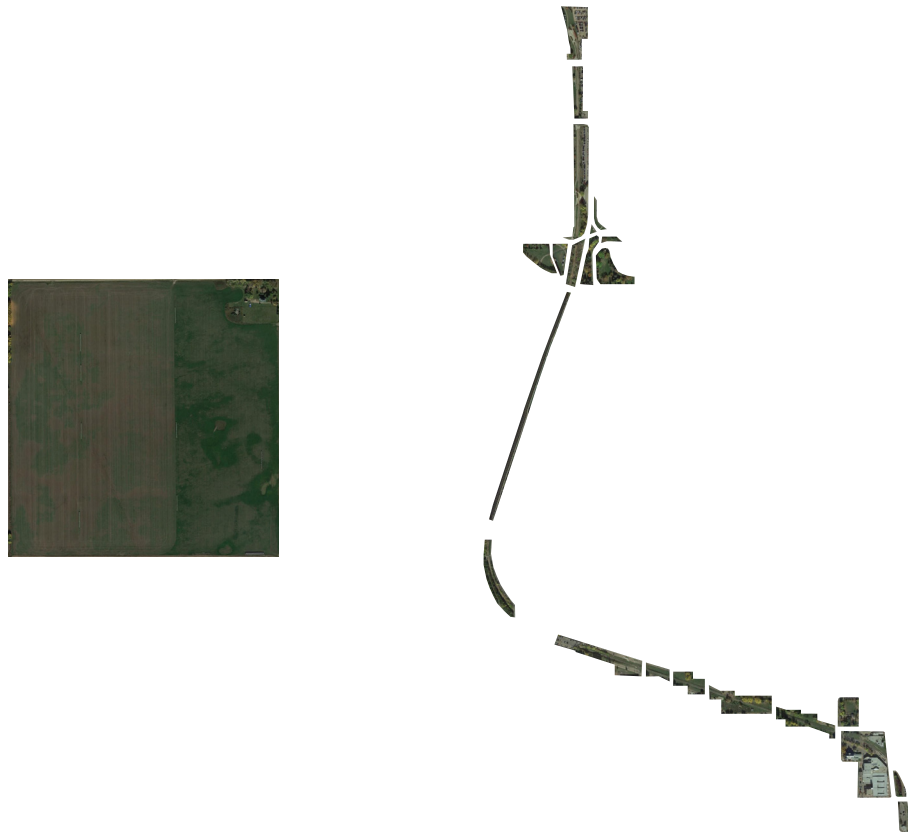
This thesis is not an endpoint, but a starting point. It doesn't propose by itself to feed an entire city, but rather to begin the process of reconnecting people to food. Reconnection to food means livelier public spaces, increased social interconnection, reduced waste, improved health, and an acknowledgement that we are a part of natural systems. By fostering this reconnection, we can improve our health and environment, both natural and built.

The transformation of the High Level bridge and its railway into a continuous productive urban landscape will function as the physical framework which will then catalyze further reconnection to food throughout the city.

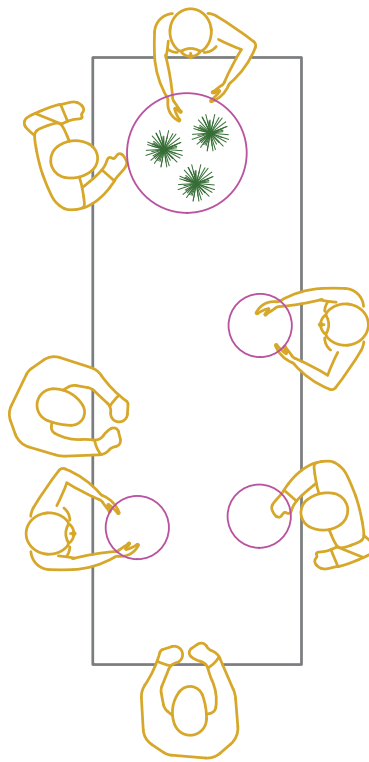
Above all the urban food system is about restoring diversity, and increasing accessibility and visibility of the food chain. In this way it returns control over food and wellbeing from the very few, back to the very many.

Local food culture enables people to have the freedom to make their own choices by establishing the framework for a "diversity of solutions, not a monoculture, and not an approach owned and patented by a single corporation."⁴³ This paradigm shift is what ensures that wellbeing regarding food becomes a fundamental reality within our cities, for all people who inhabit them.

43 Patel, *Stuffed and Starved: The Hidden Battle for the World Food System*, 317.



Shifting scale: Returning control of food and wellbeing from the very few to the very many.



The shared meal.

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