

My proposal for the Barbara King Scholarship began with my discovery of the phrase Continuous Productive Urban Landscape and my personal pursuit to explore and design a potential solution to reducing the impact of urban food systems. Appendixes 1 - 4 are an accumulation of images and ideas developed by the team André Viljoen, Katrin Bohn and Joe Howe in London. Viljoen and Bohn are both senior lectures at the School of Architecture and Design at the University of Brighton, UK. Howe is a senior lecture at the School of Planning and Landscape at the University of Manchester, UK. The images are only concepts and ideas that were developed by their team for their book *Continuous Productive Urban Landscapes: Designing urban agriculture for sustainable cities*. Their concepts primarily thought of the CPULs as a productive landscape for the pedestrian and biker.

Continuous Productive Urban Landscapes

A Sustainable Design Option to Growing Urban Communities in Iowa

Jason Grimm. Barbara King Scholarship Proposal. March 2008

Abstract: *Through history the globe has evolved into an urban population due to our developmental patterns. In the mid-19th century as mechanization grew large numbers of people were no longer needed to produce the food to feed our cities. As a result our cities exploded in all directions with the introduction of such things as the automobile, extensive road networks, and uncontrolled urban growth. As cities grew they continually had to be supported by the distant land outside their boundaries. In the last 200 years this has become a serious problem for the future of our cities as these resources continually disappear. One of these resources is the food that feeds urban cities. In order for cities to be able to sustain themselves, new systems of agriculture will need to become a part of the infrastructure of our cities.*

André Viljoen, Katrin Bohn and Joe Howe have together taken an approach they call Continuous Productive Urban Landscapes (CPULs). CPULs could be part of the leading infrastructure in our communities' plans and in return can provide more than food to our communities. They will be able to provide recreation, social capital, open space, safe pedestrian connections, financial resources, organic waste disposal and important recharge zones. The first step in providing these amenities to our communities will be the master plans that create the framework that communities can use to implement CPULs.

This senior thesis and honors project is the research, analysis, and master plan of a CPUL in an Iowa community. The project will be a new way to think about our infrastructure in our cities and how it can create the resources for Iowa communities to manage growth sustainably. The first step to understanding a CPUL will be a firsthand experience of London's allotment systems. The study of the allotments will allow for the discovery of how agriculture can fit into an existing community infrastructure system. The project will then look at an Iowa community as a case study that begins to think about urban circulation, density, land use, population density and existing infrastructure. This analysis will take the project to a further step than what Viljoen's team did. The accumulation of the research and analysis will be the master plan that incorporates these concepts.

Introduction

What is a Continuous Productive Urban Landscape (CPUL)? A CPUL is a corridor of land that is both productive and recreational, and creates connections between open space and urban centers. A CPUL corridor allows community members to supplement their diet with local produce grown within their neighborhood and at the same time creates social relationships with fellow community members. In addition to community members, urban farmers grow commercial produce to be sold in local markets and restaurants. CPULs are the links between neighborhoods via a productive landscape. CPULs in Iowa communities are able to create more coherent and centered communities, thereby benefiting the entire population. Instead of miles of four lane streets, CPULs incorporate trails, rapid public transit and open spaces that connect the neighborhoods of communities.

In the next 20 years, by 2030 the global population is going to be 60% urban.¹ During the last year the globe became an urban society by passing the rural/urban threshold, while our own country has already been primarily urban since 1910.² As Iowa continues to become a larger urban society and our cities continue to expand, new infrastructure will be needed to direct this growth. In planning, zoning and public capital investment are the most important tools to use when implementing a master plan of a community. Zoning directs what type of land use can happen on parcels; public capital investment (sewers, storm sewers, and streets) can be used to direct development in the areas that a master plan appoints for growth. As infrastructure CPULs could be implemented to direct growth. The CPULs will also have the potential to reduce the impact that is placed on the hinterland surrounding our communities along with creating social, nutritional and financial capital for community members.

My project is structured around two phases that are an honors project and a senior thesis in landscape architecture. My project is a development of a master plan with detailed plans of CPULs in an Iowa community. The objective of the project and thesis will be research and analysis of an Iowa community to create a community master plan incorporating a system of CPULs that will help direct sustainable growth. I am requesting Barbara King funding to support this research/design of a CPUL in an Iowa community in addition to my own personal funding that will support my honors project and senior thesis in landscape architecture. I am pursuing CPULs because of the importance of reducing cities' footprints on the global resources and the importance of regional planning and urban design. The Barbara King Scholarship will provide funding for my studies of London's allotment systems and the second phase of my proposal, my senior thesis. My honors project will be primarily based on my personal funding and a research grant from the honors department.

¹ Herbert Girardet, *Cities People Planet*, (Chichester, West Sussex: John Wiley and Sons Ltd., 2004), 3.

² Dr. Ron Wimberley and Mick Kulikowski, "Mayday 23: World Population Becomes More Urban Than Rural," *NC State University News Service*, 22 May 2007.

Process

Phase 1 (Fall 2008)

The first phase, my honors project, will be research of London's allotments and Iowa communities to choose the appropriate case study community. While acquiring research materials about London I will be meeting with CSAs and urban farmers to observe their local agriculture system. I will observe their systems of planting, harvesting, and market. This will allow me to understand how to design the CPUL to meet farmers' needs along with those of the community.

My research of London's allotment systems will entail a trip to London where I will personally observe and interview users. On site interviews will help me better understand the infrastructure of urban agriculture, placement of allotments, and different systems of acquiring land for urban agriculture. London's allotment system constitutes approximately 30,000 allotment holders and covers 831 hectares (approx. 2,050 acres).³ An allotment by definition means a piece of land in a city or town that is provided by local authorities where plot holders grow their own food.⁴ In London I plan to visit allotments in the Lea Valley and also some of the 77 community gardens and 18 city farms.⁵ The visits and interviews will allow me to observe and record common production and planning issues.

The final production of the first phase will be a set of alternatives that I create for the chosen Iowa case study community. The alternatives will be a set of CPUL corridors that I would further develop into greater detail during the second phase of the project.

Phase 2 (Spring 2009)

During the second phase I will develop a more detailed master plan of a CPUL in the chosen Iowa community. In addition to developing the detailed master plan I will interview community gardening organizations and local urban farmers in the community. These interviews and those in London will help me discover cultural differences such as ways of cooking and diets. These observations will help me design urban agriculture plots based on the needs and abilities of the users. Plots that would be managed by an individual and or family would need to be smaller than an urban farmer's because of the ability and time that it takes to manage a plot. Interviews with potential renters/owners would assist in developing a list of needed infrastructure and a system of acquiring plots. Composting and storage of tools are two great examples of infrastructure that would be part of a CPUL. Since it is important to understand how zoning would work with the CPUL I also want to interview the local city and county planning agencies and any local universities or school districts. These interviews are important because a CPUL will cross many jurisdictions and will traverse wide expanses of a city.

The CPUL master plan will be city wide, meaning it will entail peri-urban agriculture and urban agriculture. Figure one below represents the difference between peri-urban and urban agriculture. A CPUL is a corridor and connection from the periphery of the community to the core. A CPUL will create the framework that guides new growth management. Development can be restricted to along these corridors. This creates dense development

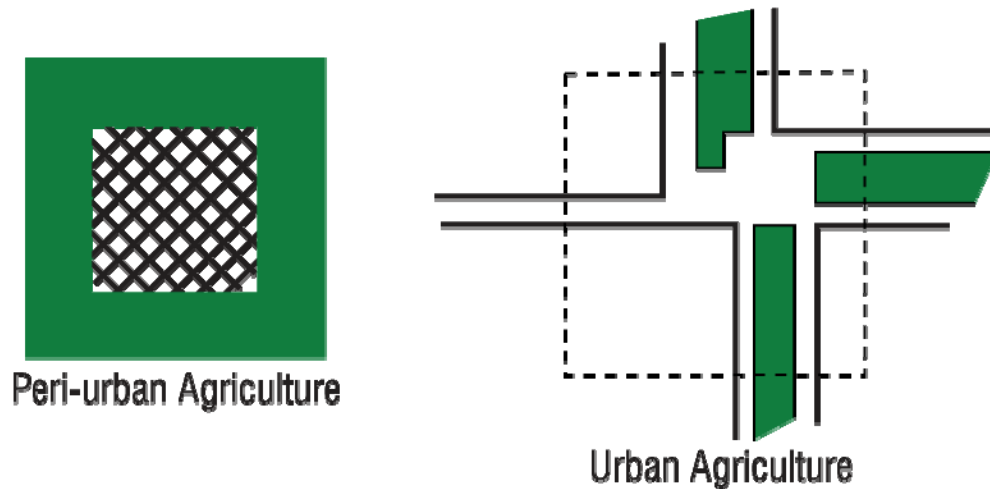
³ André Viljoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, (Oxford: Elsevier, 2005), 208.

⁴ Viljoen, 207.

⁵ Viljoen, 208.

and reduces sprawl by supplying community members with close access to their daily amenities by increasing mobility in a low impact approach.

Figure 1

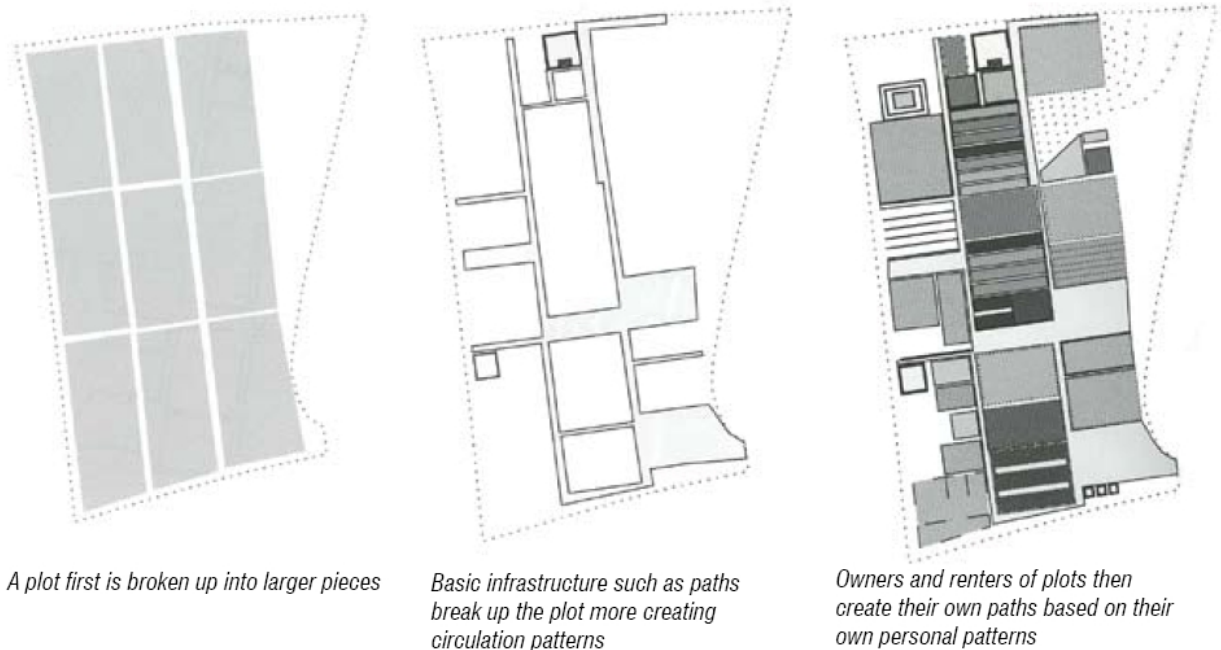


André Viljoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, (Oxford: Elsevier, 2005), 264.

Along with a master plan I will develop a detail section of the CPUL that will be represented in scales of 1" = 8' or larger. The detail will represent how the CPUL will fit into existing infrastructure and will also show the physical construction and materiality of the CPUL. An example of a detail of an individual plot will show the design of the appropriate infrastructure, such as the rain harvesting/watering system. The detail will also include the farm-market-consumer network that would be needed for the urban farmers. This creates places for urban farmers to sell commercial produce and allow for participates in a CSA to pick up their product. Smaller plans, such as figure two will represent how a larger open space could be broken up with main paths and, later, secondary paths created by the users based on their own needs.

Along with the master plan and detail plan of the CPUL the senior thesis will define the system of acquiring an individual plot for a community member or urban farmer. My observations in London will introduce me to their local government's system of gaining ownership of land. This will help as I try to think about how a local county or municipality or even a private company would rent or sell plots as part of a CPUL. The ability to own or rent some land for an individual would give them better reasons to take care of the plot and make it their own. The capital collected then would help in sustaining a program as more demand is present.

Figure 2



André Viljoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, (Oxford: Elsevier, 2005), 201-202.

As Iowa communities grow, the basic needs of communities (e.g., water and food) will continue to come from farther distances from the urban centers. For Iowa communities to grow sustainably CPULs could be a piece of infrastructure that takes the place of existing infrastructure or becomes a part of the current system. CPULs not only would be able to provide produce to communities but would be able to reduce congestion and increase social, nutritional, and financial capital at the same time as safe guarding the environment. A CPUL would enhance the wide and extensive networks of roads with a green attractive commute to the park, hardware store, or work.

Detailed Work Plan and Schedule

May - August 2008

- Continue research on permaculture, urban agriculture techniques, and urban soils.
- Create a list of possible Iowa communities to research and analyze during phase one
- Locate aerials of London to use for analysis during travels
- Purchase airline ticket and arrange housing in London
- Meet with local CSAs and urban farmers in my area observing their local agriculture system
- Register for a soils class at ISU that will further introduce me to limitations of urban soils and ways of rehabilitation
- **Outcome:** Have a greater understanding of possible limitations and restrictions that urban agriculture is faced with along with possible solutions to these problems.

Phase 1

August 2008

- Travel to London
- Locate and organize GIS data and arials of communities to use for analysis
- Create a set of images of a CPUL to illustrate to community organizations and institutions
- **Outcome:** Have an understanding of Iowa communities that I will be researching and analyzing and have a draft of a letter to send to community organizations and institutions.

September 2008

- Analyze London observations based on what is common with each application, and how they coordinate planting, harvesting, land organization, selling of crops, infrastructure, watering
- Early September choose my (Iowa) case study community
- Schedule an interview with community garden associations to incorporate their ideas into my master planning process
- Interview planning and city officials to utilize their knowledge in my master planning process
- Interview university and school district staff to utilize their responses in my master planning process
- Begin GIS site analysis of urban and peri-urban areas based on open space, infrastructure, vacant lots, existing community gardens, soils, land ownership, population, density
- **Outcome:** Have my findings from London organized and processed. Met with community organizations and institutions. Start of GIS analysis working alongside my project advisor and other landscape architecture faculty.

October 2008

- First concept plan showing a rough representation of possible alternatives of CPULs in the community
- Continue to analyze alternatives to make them more precise through site observations and GIS analysis
- **Outcome:** The first concept plan will be the first drawings noting the limitations of the concepts. The second concept plan will have answered the restrictions to the earlier concept and will be supported by more detailed GIS analysis and site observations.

November 2008

- Third concept plan showing representation of possible alternatives of CPULs in the community
- Presentation of my current findings and stage of my project to my advisor and other landscape architecture faculty
- **Outcome:** The third concept plan will be digitally produced using the maps created through GIS and site observations of the community. I will present this to my honors project advisor, landscape architecture faculty and the community members that I have been working with.

December 2008 and LA Day

- Honors presentation: Present phase 1 including observations in London and my framework plan of the chosen community showing a variety of alternatives of a CPUL system
- **Outcome:** The presentation will be of my concept master plan that will have revisions made based on feedback that I received in November. The concept master plan will prepare me to move into the second phase, my senior thesis, when I will develop a master plan and detail section of the plan.

Phase 2

January 2009

- Interview community gardening organizations, university/school district staff and city planning officials again and present my work from my honors project. Based on responses and comments from the groups begin to develop a more detailed CPUL system based on the set of alternatives created in the fall.
- **Outcome:** At the end of January I will have an understanding of the focus of the detail plan that will be part of the master plan. I will have a concept of how I will present this work in May.

February 2009

- End of month: completion of master plan representing CPUL corridor
- **Outcome:** The master plan will be completed but will allow for small changes that will be adjusted as the detail plan is completed. The master plan will incorporate circulation of transit, pedestrians, bicyclists, the personal automobile, and existing neighborhood connections in the community.

March 2009

- Adjust master plan based on feedback
- Begin to further develop a detail section of the corridor
- Continue to meet with community organizations, urban farmers, and officials to see if my detail plan meets their requirements of a CPUL
- **Outcome:** A strong development of a detailed section of the corridor based primarily on rough concept drawings. The detail plan will begin to look at how the CPUL will fit into existing infrastructure above and below ground.

April 2009

- Mid month: review master plan and detail section to make final adjustments
- Create a short thesis/summary explaining my process, findings, problems, solutions, and my process of acquiring plots within the CPUL
- Create final presentation for LA day
- **Outcome:** A final draft of the detail plan will be completed and needed adjustments will be made to the master plan. As part of the detail plan a few small construction details will take a look at the connections of existing infrastructure and materiality.

May 2009 LA day

Present my senior thesis: The thesis will be a final master plan of a CPUL in the selected (Iowa) case study community connecting the peri-urban area and the center of the community. Within the CPUL a detailed master plan of a section of the system will be presented. The detailed master plan will represent the design of the urban agriculture plots and define the system of acquiring an individual plot for community members to use themselves. The master plan will define the location of the appropriate infrastructure, rain harvesting and watering system, and the infrastructure that creates a farm-market-consumer network for urban farmers.

Presentation will be to LA faculty, city officials, community gardening organizations, and members of the community.

Budget

| Item/Funding Source | Barbara King Scholarship | University Honors Program Grant | Personal Funding |
|--|---------------------------------|--|-------------------------|
| Travel | | | |
| Passport | \$100.00 | | |
| Airfare roundtrip to London | \$1,500.00 | | |
| Travel cost in London | \$80.00 | | \$50.00 |
| Travel cost to (Iowa) case study community \$.43/mile x 5 trips | | \$100.00 | \$100.00 |
| Room/Board | | | |
| Housing in London \$80/night x 5 nights | \$400.00 | | |
| Food in London \$15/meal | \$300.00 | | |
| Supplies/Services | | | |
| Letter Postage | | \$10.00 | |
| Research literature/books | \$20.00 | \$400.00 | \$180.00 |
| Printing (final plans and images) | \$100.00 | \$100.00 | \$100.00 |
| Total | \$2,500.00 | \$610.00 | \$430.00 |
| | | Project Budget | \$3,540.00 |

I am writing this proposal for the Barbara King Scholarship because funding will enhance and improve the outcome of both my honors project and senior thesis. Without the \$2500 funding from the Barbara King Scholarship I will not be able to observe London's allotments and interview users. A larger exposure to urban agriculture outside of the small local food network in Iowa has the potential of introducing new innovations to my design of a CPUL in Iowa. The research/design that I will be performing has the possibility of defining a new system of bringing open space back into the city. The study has the chance of creating a green carpet in a city with an impact similar to a grand park system. This carpet will create a quilt of productive open space throughout a community. The research and experiences will be beneficial in constructing the framework that will guide urban development at solving the urban sustainability conundrum.

appendix 1

legend

— continuous landscape discussed here

— other continuous landscapes

— continuous landscape dispersing into countryside beyond the Greater London Boundary

— Thames Paths - partly continuous existing path to one or both sides of the River Thames

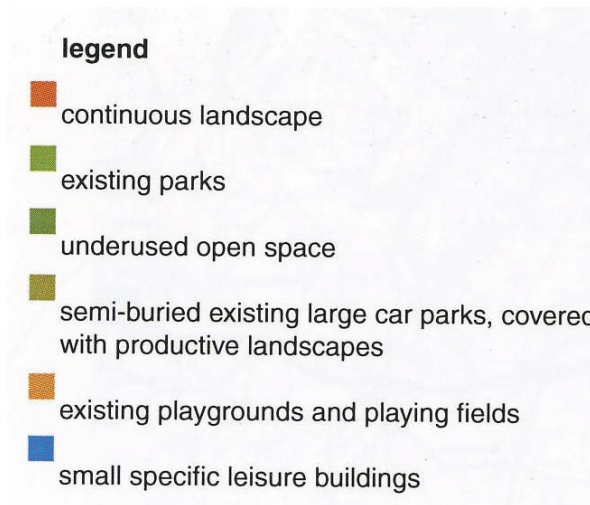
• junction points



André Viljoen, Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities, (Burlington, MA: Architectural Press, 2005), 251.

The team created a variety of plans representing different scales of a Continuous Productive Urban Landscape (CPUL) in London. The plan represents how their concept creates linkages throughout the metropolitan area.

appendix 2



André Viljoen, Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities, (Burlington, MA: Architectural Press, 2005), 252.

This is only one of the CPUL corridors in greater detail representing the connection of open spaces. My focus will be on a Iowa community where CPULs will become a new piece of infrastructure that will create a framework for future growth.

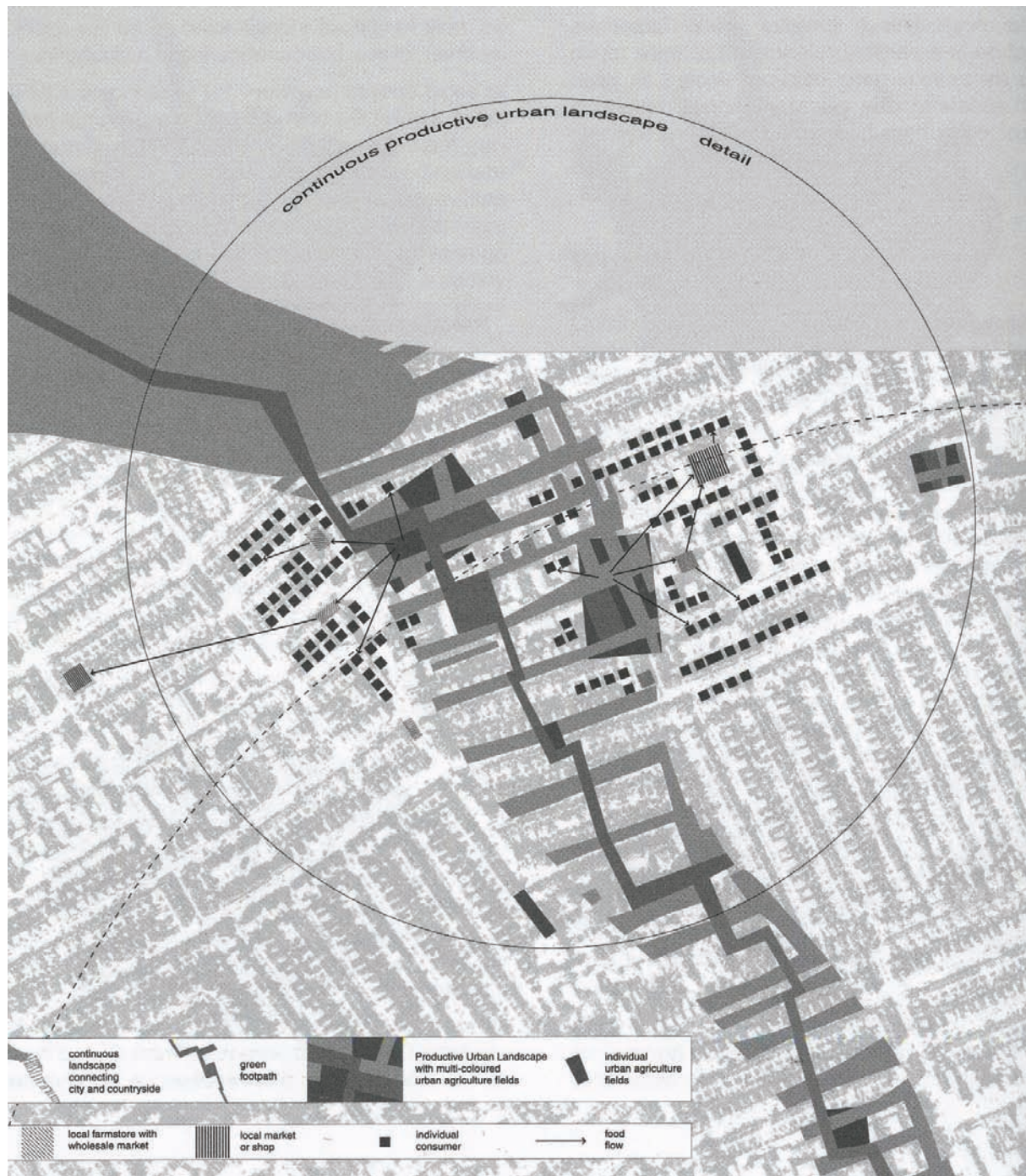
appendix 3



André Viljoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, (Burlington, MA: Architectural Press, 2005), 253.

In greater detail of the corridor this image represents how unutilized open space can be converted to urban agriculture. Aside from adapting pieces of open space for urban agriculture how can CPULs be implemented into the city's existing infrastructure along with transit, bicyclists, and pedestrians?

appendix 4



André Vlijoen, *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*, (Burlington, MA: Architectural Press, 2005), 255.

CPULs in a well designed and constructed community will create the backbones for communities. Along with these resources will come community centers, food co-ops, and strong local oriented business.