"you are where you eat."
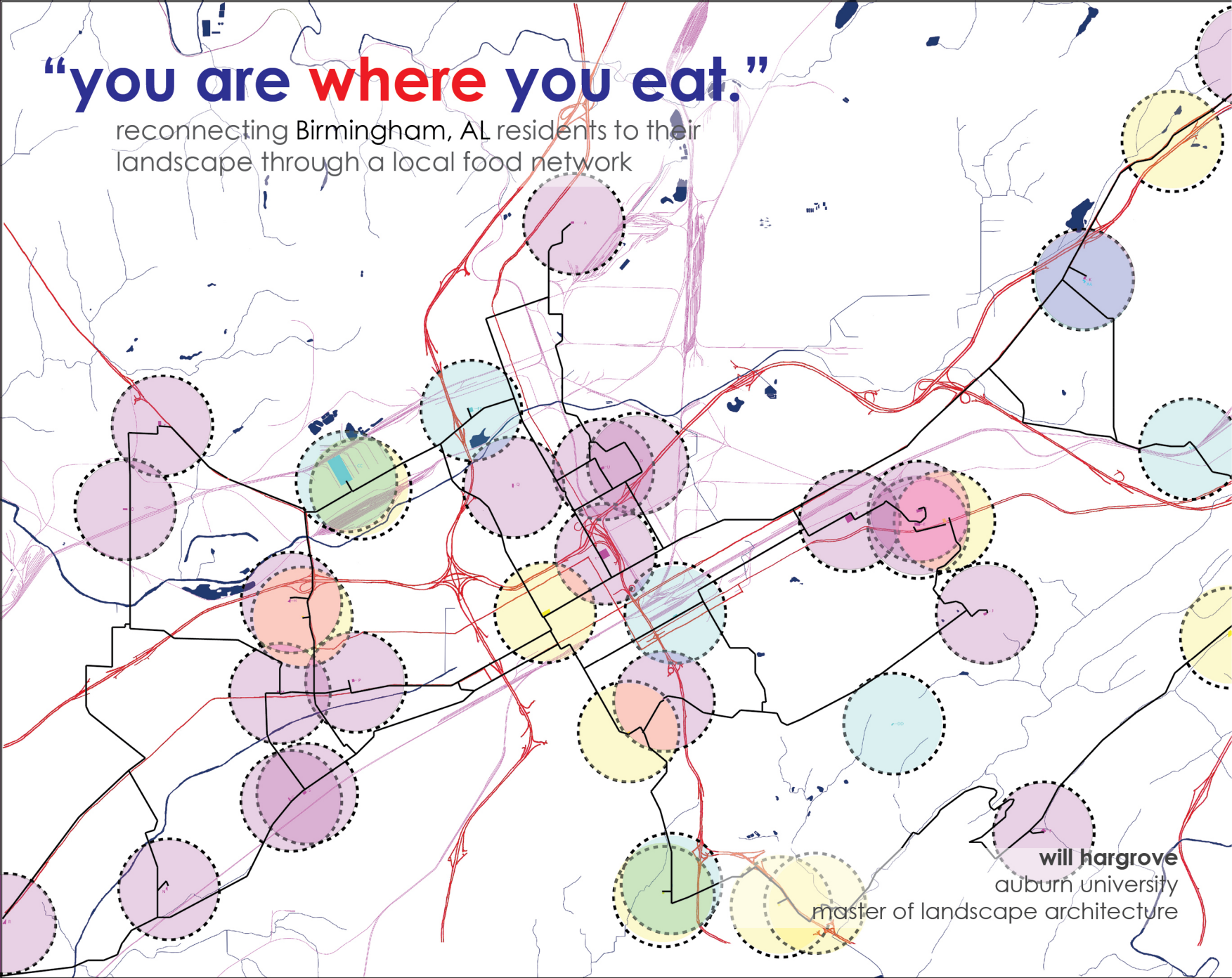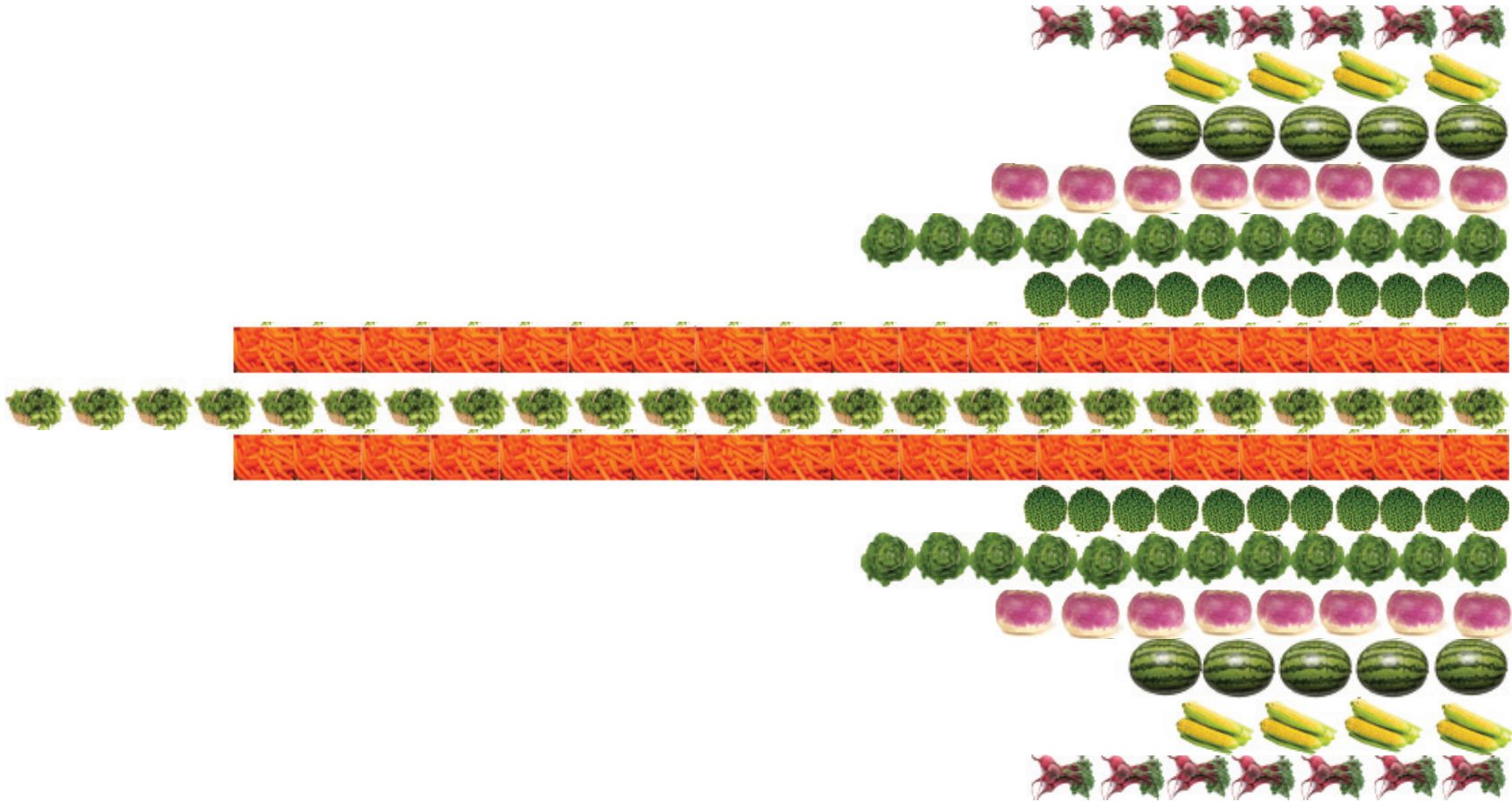
reconnecting Birmingham, AL residents to their
landscape through a local food network

will hargrove
auburn university
master of landscape architecture

"you are where you eat."

re-connecting Birmingham, AL residents to their landscape through a local food network

will hargrove. mla thesis. 2011
auburn university
college of architecture, design and construction
school of architecture
master of landscape architecture
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dedication

This book and the project it contains are dedicated to the memory of my grandfather, William Donald Richardson, who taught me the importance of a strong physical and mental connection to the land via food production. His tireless efforts in his backyard garden gave me an early understanding of the satisfaction gained by working hard and seeing a project from seed to harvest.

acknowledgements

table of contents

key words

local food movement
urban food network
urban agriculture
emergent systems
comprehensive food planning

abstract

In an age of increasing globalization and expanding food distribution networks the distance between food sources and consumers is growing at an alarming rate. With this growing gap comes the increased separation of ties between citizens and the land on which they live. Several Birmingham, AL groups and residents have recently begun efforts to re-emphasize the importance of food that comes from where it will be eaten. The existing food network of Birmingham has the beginnings of a potentially successful venture, but without a comprehensive and cohesive food network the system will be piecemeal and ineffective. The food infrastructure of Birmingham must be seen as a system of both production **and** distribution of small scale, quality agriculture rather than the existing infrastructure of interstates, tractor-trailers, and mega-agricultural operations. This research investigates the kinds of productive and distributive spaces that need to be integrated in order to implement a local food system for Birmingham, AL. It does this by means of design experimentation and layered mapping. Selected urban sites will be designed to begin the phased implementation of an interconnected, cohesive food network that both changes the way citizens relate to the land on which they live and surrounds them with fresh, quality food.

theoretical framework

"You are where you eat."

The idea that where one's food comes from effects the person that he / she is or can be.

It also effects one's sense of connection to the land on which one lives.

The design exploration of a selected urban site can allow a local food network to **emerge** over time into a living, breathing, productive and distributive food infrastructure.

the theory of emergence

Emergence is a theoretical frame through which to view the world. Rather than seeing the world as a cause-effect scenario, emergence allows one to think of the vastness and infiniteness of the universe and its parts in a much more elaborate way that enables the complexities of everything to be understood as a part of a series of interactions within various systems. It is important to consider the dynamic nature of every single "thing" in the world (both built and natural) and how each "thing" particularly interacts in support of the systems that allow and support this "thing's" very existence.

This idea of emergence becomes of particular importance to landscape architects, urban designers, and other designers of the built environment because of the infinite complexities and intricacies of the interactions between individual components of the natural and man-made systems, interactions between these components with people, and people's interaction with one another. Emergence is the open-ended framework through which the world in its entirety can be viewed, reviewed, and modified based on an understanding of individual components of complex systems based only upon the relationship to the system itself. Emergence can only be understood when it is understood that systems are not the result of individual components' actions – they are unique happenings based on how these individual components come together to create the system at hand.

It can be said that nothing in the world exists apart from context. That is, everything is extremely and necessarily dependant on its surroundings and the other components of the systems that allow both the component and the system itself to exist. This significance of context places emergence in an even more important place within landscape architecture since the field is all about the interactions and relationships between the environment (both built and natural) and beings (plant, animal, and human).

The design exploration of a selected urban site can allow a local food network to emerge over time into a living, breathing, productive and distributive food infrastructure.

research question(s)

What productive and distributive spaces need to be integrated in order to implement a local food network for Birmingham, AL?

How does an urban food network impact people's imagination of the urban landscape?

What social and physical networks should be integrated in order to implement a local food system in Birmingham, AL?
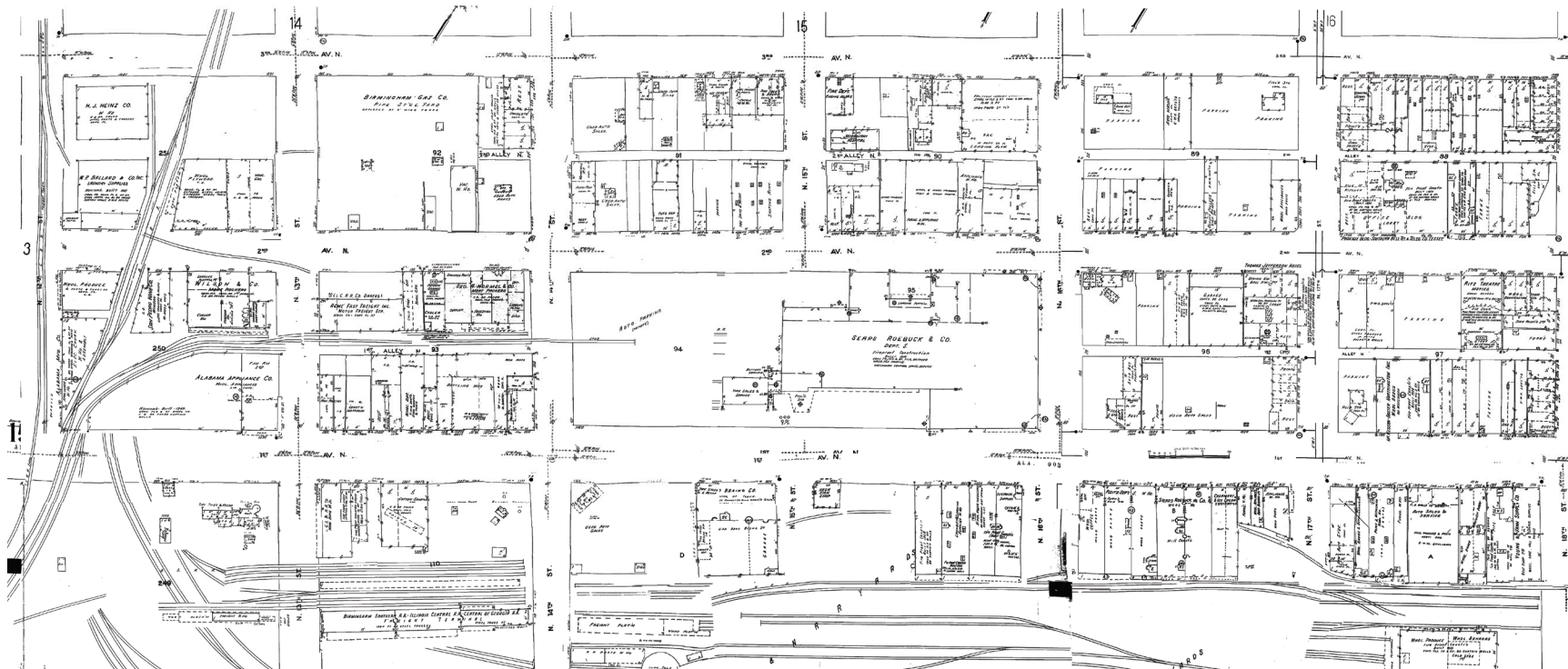
methodology

chapter 1
introduction

Sanborn Map (1911-1951)

Birmingham - steel to health

In 1871, Birmingham, Alabama began as an industrial force of the Deep South at the intersection of two railway lines. It was especially well situated geologically, with deposits of coal, iron ore, and limestone all readily available for the production of steel and also geographically, situating itself squarely between Jackson, MS, Memphis and Nashville, TN, Atlanta, GA, and Mobile, AL (www.birminghamal.org). Although Birmingham is no longer considered "The Pittsburgh of the South," ideas of production and distribution have driven the growth of the city since it's conception.

The city has now taken a turn towards a more research and knowledge oriented economy. This new economy is supported by a number of colleges and universities in the city with the University of Alabama at Birmingham (UAB) as it's backbone. UAB has an extremely well renowed medical program and the health industry created by this university is the city's new steel. This emphasis situates the city in an especially good position to emphasize a new type of pro-

duction and distribution of locally grown and cultivated foods. With health as a top priority of the city - fresh, quality foods become extremely important as the city claims its stake as a cultural and economic hub of the state.

Food is an especially important part of southern culture and is evident in Birmingham with an estimated 1,200 restaurants in the metropolitan area, at least 500 of which are within the city boundaries (www.bhamonline.com). According to the Greater Birmingham Convention and Visitors Bureau the city's restaurant scene is one of high diversity: "One can enjoy asparagus salad with roasted pecan dressing at an elegant salon for lunch, and look forward to supper at a cafe serving country-fried steak and butter beans." Immigrant populations have also introduced new cuisines to the area including Greek, Mexican, and Italian. This variety and emphasis of food makes Birmingham a prime candidate to develop a local network of production and distribution of fresh, quality food.

the local food movement

"...is a collaborative effort to build more locally based, self-reliant food economies. This sustainable food production, processing, distribution, and consumption are integrated to enhance the economic, environmental, and social health of a particular place." - Bloomberg BusinessExchange

    Although the local food movement has only become a "movement" in the past quarter century or so, the concept dates to the beginning of agricultural civilization. When humankind discovered / developed agriculture, the idea of "place" was truly born - for with this development came the need for organization, the need for cities. Cultivation of land, rather than hunting and gathering, allowed humans to truly settle into a place - developing it as their own. Local cultivation has the same effect today - connecting residents to the land on which they live. This increasing interest in growing food where it will be consumed has especially taken root within urban areas. According to Harvard urban design professor, Margaret Crawford,

"Across metropolitan regions, derelict and underused urban land, agricultural land held in trust, community gardens, school and university campuses, and even suburban back and front yards are now producing food. New channels of distribution have also emerged."

    With this resurgence of place-based agriculture comes an increasing need for comprehensive networks to emerge within urban areas to organize, inform, and em-power parties interested in developing places to cultivate, harvest, and distribute food that will be consumed in the same city in which it was grown. This project proposes just that - a comprehensive network of productive and distributive spaces designed to enable community participation and interaction and be expandable at the urban scale.

    The popularity of place-based agriculture has developed Birmingham, Alabama into a burgeoning city for local food nodes such as urban farms, community gardens, community supported agriculture (CSA), and farmer's markets (Birmingham Magazine). These nodes are a good beginning for a network of local food players, however without a comprehensive network strategy - the existing nodes run the risk of failure due to competing interests or a lack of support.

    Landscape architecture is especially well poised as a profession to examine, research and design the nodes, systems, and networks necessary to maximize impact on residents' perception of the land on which they live and this project takes perspective from the body of knowledge encompassed within landscape architectural education. Although landscape architecture professionals and students have long been involved in the development of community gardens and urban farms, no projects explore the breadth of the network at the urban scale as an emergent system that develops through cooperation of multiple stakeholder groups... until now.
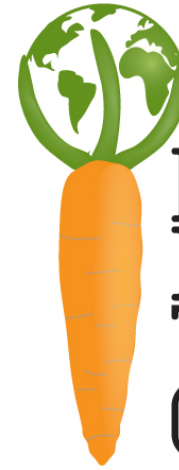
Various Local Food Movements
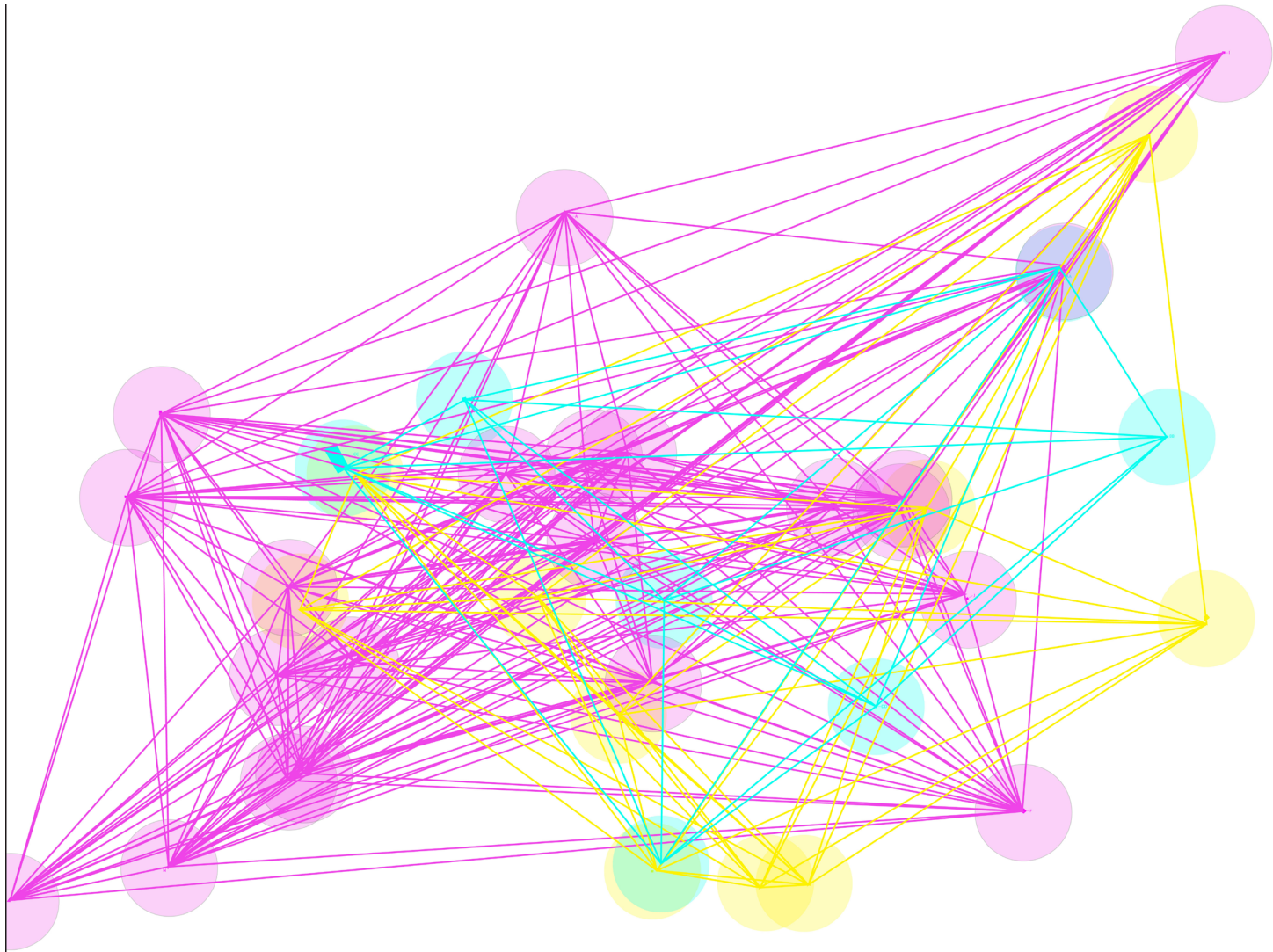
Birmingham Existing Food Node Connections Mapping

food network as infrastructure

This project is concerned with the delivery of fresh local food to residents of Birmingham, AL. It proposes a comprehensive network that will act as a local food infrastructure, weaving its way in and out of the public landscape of Birmingham. Within this network, infrastructures of irrigation, nutrient delivery, and support structures for productive landscapes will deliver necessary elements to plants to ensure the system's survival.

Currently, most of the food consumed by Birmingham residents is being imported from other regions and other countries. The proposed food infrastructure will bring food production back to the forefront of residents' minds, reconnecting them to the physical land that they occupy. This network will be a constant reminder of the infrastructure necessary to support the most basic need of life, and residents can once again hold pride in the productive capacity of their city.

The project will change thinking on food infrastructure by transferring the focus from transportation networks for food delivery to a network of food production in the city itself. Currently, the only thought behind food infrastructure is how to get it into the city. This project will beg thought to the production system itself and how people move through the system.

In the current system of importing the majority of food into the city, enormous amounts of fossil fuels are being burned in the production and especially in the transportation of foods. Within the new local food system, foods will have to travel little if at all and production will be on a smaller scale.

Lowering travel distances and producing food at a local scale will drastically reduce the city's dependence on fossil fuels to provide citizens with the most basic of needs. Systems of exchange of food for used vegetable oil can be set up between the production system and restaurants to provide inexpensive biofuel to power any necessary equipment.

This system will deliver fresh, locally produced food to Birmingham residents by being present throughout the city. Rather than moving food through the city, the city begins to move through the food production. This turns the traditional concept of agriculture on the edge of the city on its head, suggesting that a food system could become an integral part of the city's infrastructure, rather than assuming that the road system will take care of the city's food needs.

This system will relate urbanism to infrastructure by proving that a city can be a productive landscape in the sense of food rather than being productive only in industrial ways. Birmingham boomed in the production of steel and this project will show that it can be just as productive through local food production at a broad, city-wide scale.

Infrastructure systems deliver the needs of the city to its residents and this local food system will deliver the most basic of those needs. This infrastructural network will reconnect residents to their place and to the quality of their food by becoming an omnipresent, living, breathing delivery system of high quality, fresh foods produced from the land on which the city stands.
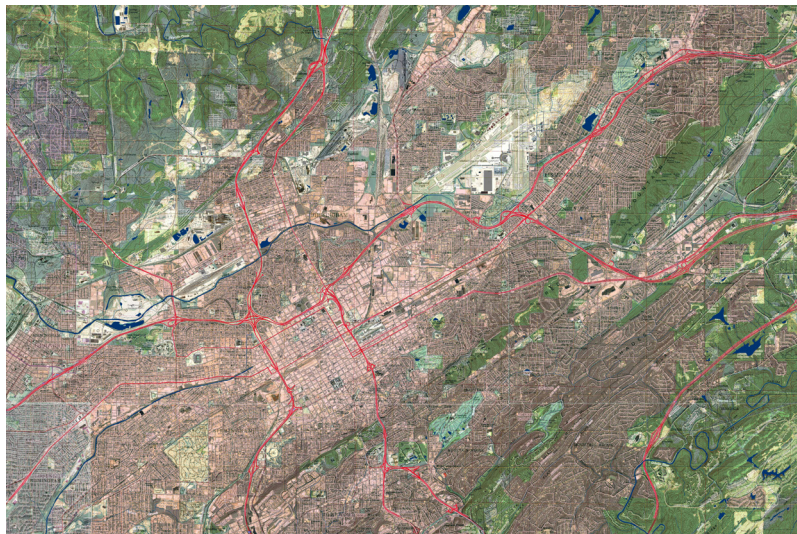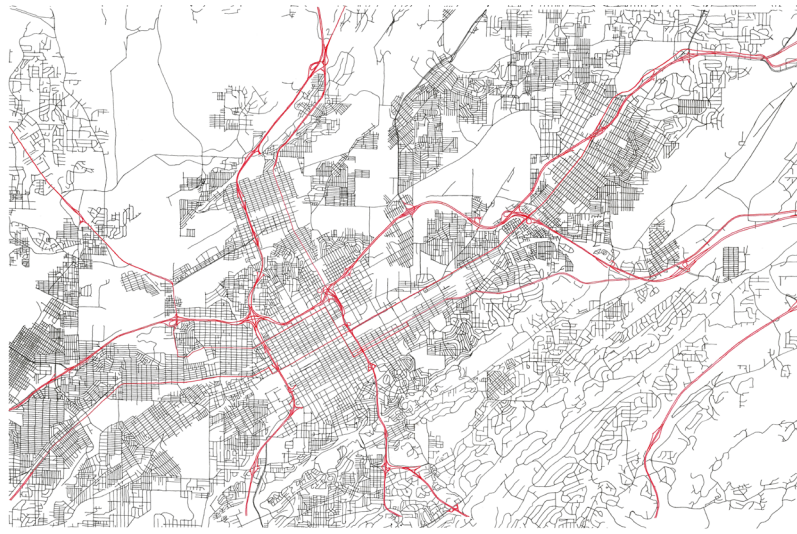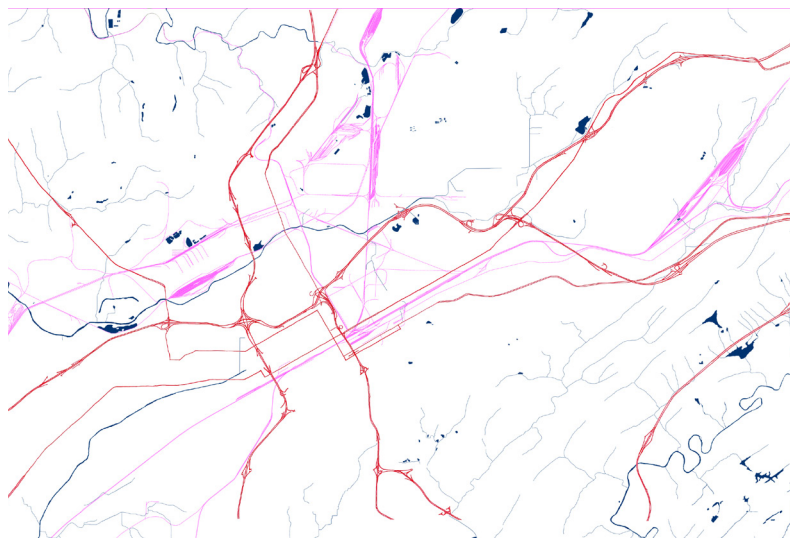
chapter 2
mapping

USGS / Aerial

Roads

Major Thoroughfares, Rail, & Water
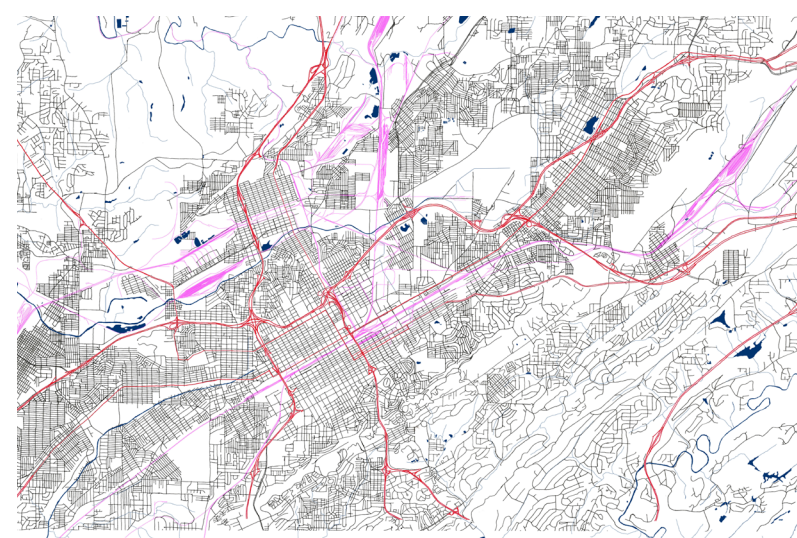
Roads, Rail, & Water

existing infrastructure

The research process began with mapping to understand the existing infrastructural systems within the city. In addition to the crossing railways that created what is now Birmingham, the city lies at the intersection of Interstate 65 (Mobile, Alabama to Gary, Indiana), Interstate 20 (Kent, Texas to Florence, South Carolina), and Interstate 59 (New Orleans, Louisiana to Chattanooga, Tennessee).

Birmingham is nestled into the foothills of the Appalachian mountain range which has limited the expansion of downtown to essentially its current boundaries. This geographical circumstance, along with the orientation of the rail lines, has driven the development of the street grid within the city. As noted in the maps to the left, the downtown grid runs parallel and perpindicular to the main railway that bisects the avenues into north and south distinctions.

The bisecting nature of the railway has long divided northside from southside and has become somewhat of a gentrifying boundary in the city. The railways also serve to outline industrial areas, cutting the city away from its economy - encouraging further marginalization of lands within the urban core.

This mapping gives a base from which to begin to understand the nature of the urban fabric in order to be able to select sites on which to propose design interventions. Since the project is looking at the urban scale - a thorough mapping of the urban condition was necessary.

settlement mapping

The mapping to the right was completed in order to understand current settlement patterns within Birmingham based on topography and soils conditions. The maps indicate extremely low population density within the low, flat, downtown area that lies within urban soils (indicated by yellow on the soils map). These maps show the tendency of Birmingham residents to concentrate themselves in suburban, hilly areas on the periphery of the city.

These mapping exercises demonstrate the city's scarcity of resident's downtown. Birmingham is in dire need of an increase population density within the downtown core; without such an increase in density, Birmingham will continue to face problems with poltical dissent and disagreements in the planning and governance of the city.

By focusing the local food network's growth within the urban core, Birmingham residents would have a newfound reasoning for relocating downtown. A local food network will help re-emphasize the importance of a vibrant, energetic, and dense urban core from which the city can grow.
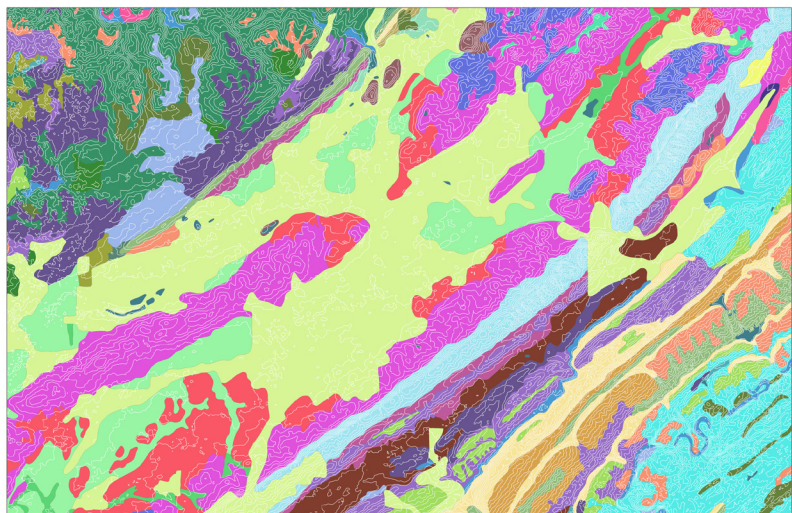
Soils & Topography
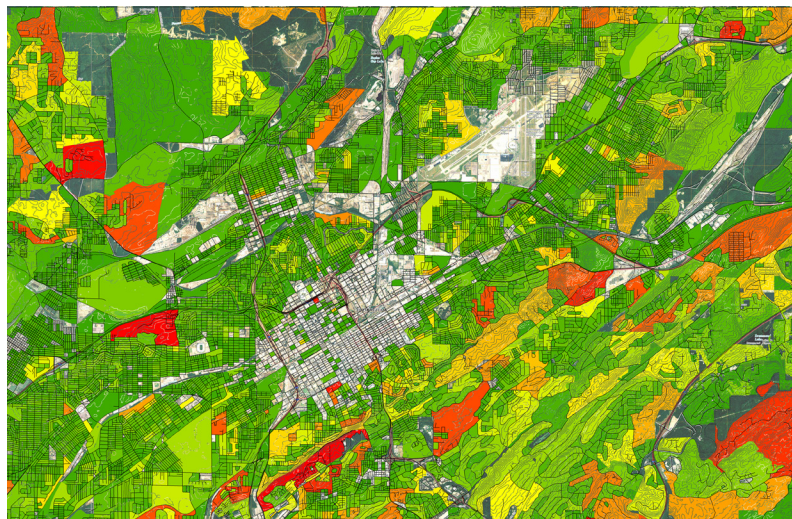
Population Density (by census block) & Aerial

Existing Gardens

Existing Markets

Existing Grow Alabama Drop-Offs

Existing Gardens, Markets, & Drop-Offs

existing food nodes

The next necessary mapping step was to locate the existing food nodes within the urban fabric of Birmingham. These were broken into categories of Gardens (including community gardens, urban farms, etc.), Markets, and Drop-Off Locations for subscribers to Grow Alabama, a state-wide Community Supported Agriculture.

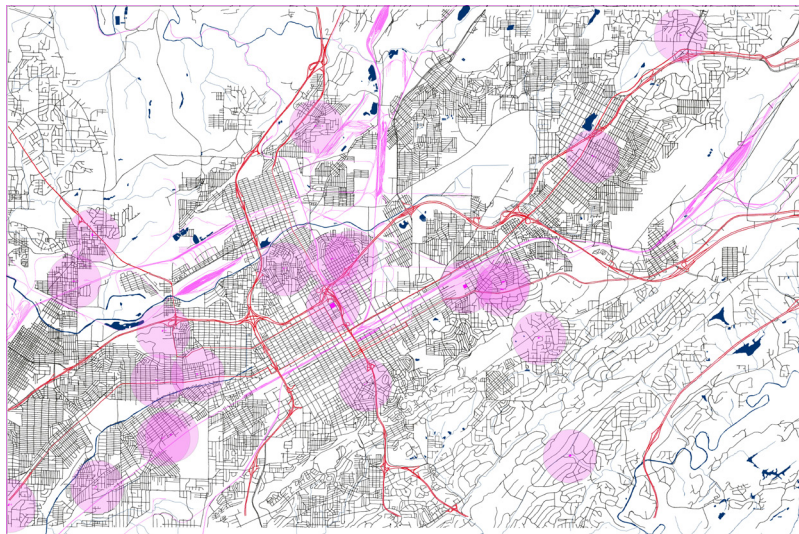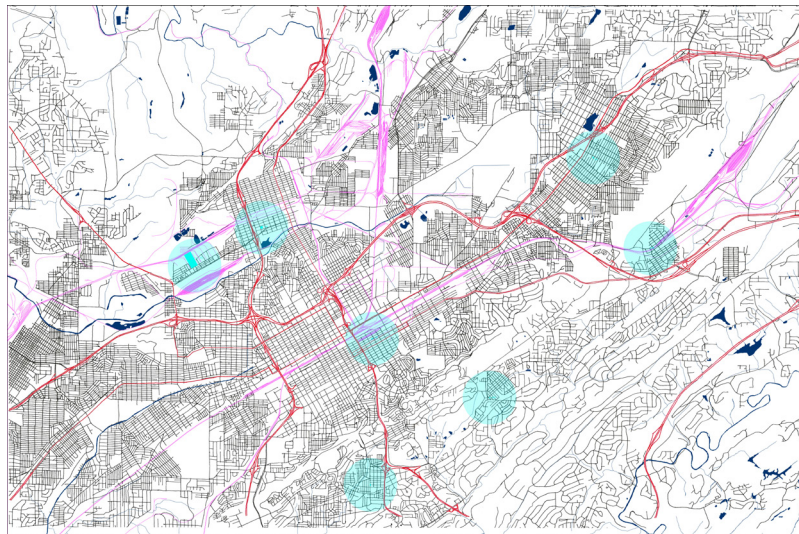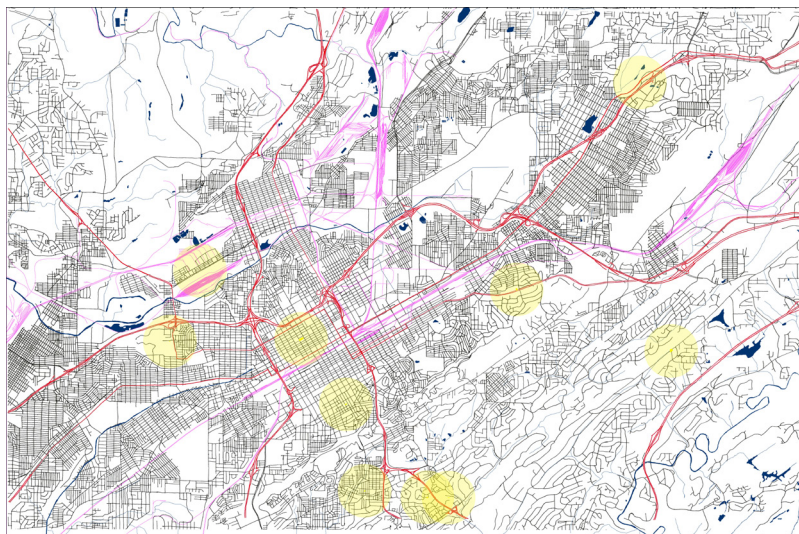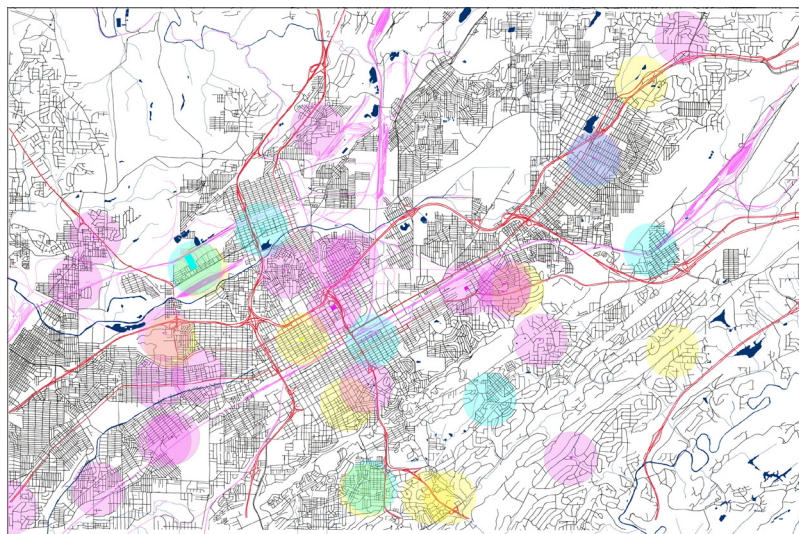Birmingham has several existing gardens throughout the city with a number of community gardens and a central urban farm (Jones Valley Urban Farm). These productive spaces are good steps towards the integration of a local food network but they all currently operate as completely seperate entities, only interacting occasionally at market. Each individual production entity operates with its own set of goals and objectives, only holding an interest in local food in common. If these nodes were integrated into a comprehensive network with a shared set of network goals, overlaps in purpose and production would be eliminated and a much more integrated approach to local agriculture would be developed.

Although there are relatively few markets in comparision to gardens within the city, the existing markets seem to be becoming increasingly popular with Pepper Place Saturday Market as the hub, offering weekly markets for fresh goods, baked goods, and cultural activities (pepperplacemarket.com). This low number of markets indicates both market desires to convene at a centralized location and the need for addtional distributive spaces within the proposed network.

Grow Alabama falls into the category of Community Supported Agriculture (CSA). These entities are, according to Suzanne DeMuth of the USDA,

"a community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community's farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production(."

These shared risks and benefits make the CSA model a good idea for farmers since they do not bear all the burden of a failed crop; however it makes the CSA model impractical for people of low socio-economic standing due to the risk of not receiving food. This impracticality of affordability and risk is the reason for the situation of drop-off locations mostly within more affluent suburban situations of the metropolitan region and the reason that other types of local agricultural practices should be explored to ensure availability and affordability to all socio-economic groups of the city.

jones valley urban farm case study

Jones Valley Urban Farm (JVUF) is currently the only node of its kind within the city of Birmingham. The farm occupies over 3 acres of property within the urban core growing organic produce and flowers and educating the city on sustainable agricultural practices. According to their website, their vision is to be, *"a model sustainable urban farm that teaches youth and the Birmingham community about sustainable agriculture and nutrition through outdoor experiential education (jvuf.org)."*

This urban farm provides a good example of many techniques that should be employed when implementing a network of local food such as greenhouses, raised beds, row plantings, and integration into the urban fabric (described in more detail on the following pages). They operate as a non-profit entity, paying only workers salaries and investing back into the farm. This is an excellent way of operating a commu-

nity-focused agricultural initiative, as it assures residents of the reasoning for operating such an entity.

JVUF also offers several community garden plots allowing downtown residents to have the opportunity to cultivate and harvest their own food, which is an essential part of a successful local food network. By growing their own food, residents of the city can truly begin to reattach the connection between humans and the land on which we live.

Although JVUF represents a good component of a local food network, not every part of the city contains access to sizable plots of land with such a capacity for production. It does, however, show that a scale larger than the backyard garden is possible and feasible for food production within the city of Birmingham.

greenhouses   *keyhole planters*

raised beds   *row plantings*

row plantings

row plantings   *fence*   *sidewalk*

Community Gardens

Cisterns

Herb Gardens

Compost Bins

Keyhole Planters

Storage Sheds

Fence Plantings

Raised Planters

urban farm components

community gardens

Community gardens are an essential part of a successful food network. They give residents of the city the opportunity to participate in their own food production. They are often rented for reasonable fees, sometimes based on ability to pay (Folse 1). There are a number of community gardens around the city of Birmingham and the network will help to preserve and foster these entities.

cisterns

Cisterns are used to capture rainwater to be used to irrigate plantings. They are cost effective, ecologically conscious, and relatively easy to install. Jones Valley Urban Farm illustrates examples of a custom, artistic cistern and a pre-fabricated, ready-to-install cistern. Cisterns are a valuable tool in water capture, however larger urban agricultural operations will require much more retention.

raised planters

"Raised Beds = Less Compacted Soil" - According to gardener and author, Edward C. Smith, traditional narrow-row gardens use over half of the soil space for walkways, compacting most of the soil within a site. He goes on to say that "wide, deep, raised beds" put the emphasis back on the plants, giving them room for the roots to occupy "the spaces between soil particles."

keyhole planters

Keyhole planters are constructed, raised planter beds arranged radially to both provide room for the plants and the gardener. Keyhole planters are built high enough to allow gardeners to plant and harvest without having to bend over. These are especially useful in disabled and elderly gardens to allow everyone to participate without fear of injury or lack of capability.

herb gardens

Herb gardens are a good addition to and fruit / vegetable garden because fresh herbs often bring high prices at market but are relatively easy to cultivate and often extremely easy to harvest. Herb gardens are good space-fillers in awkward garden spots, as they take up little space and can add incredible aromas to the garden. Certain herbs also complement vegetables by deterring pests.

fence plantings

Many food species grow in the form of vines or can be espaliered on sides of walls, fences or structures. These types of plantings are especially useful in urban situations where space can be limited. Fence plantings of edible plants can also bring freshness and life to otherwise underappreciated edge conditions. Fence plantings will be utilized as infrastructural connectors within the network.
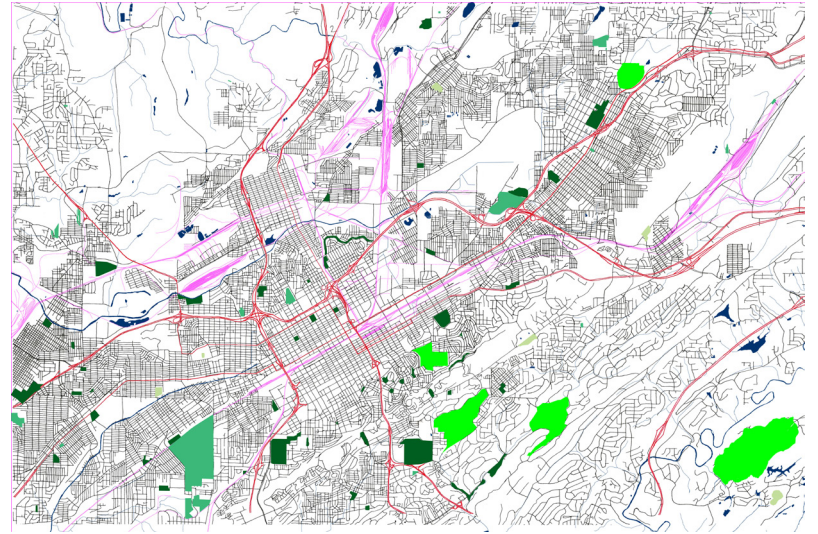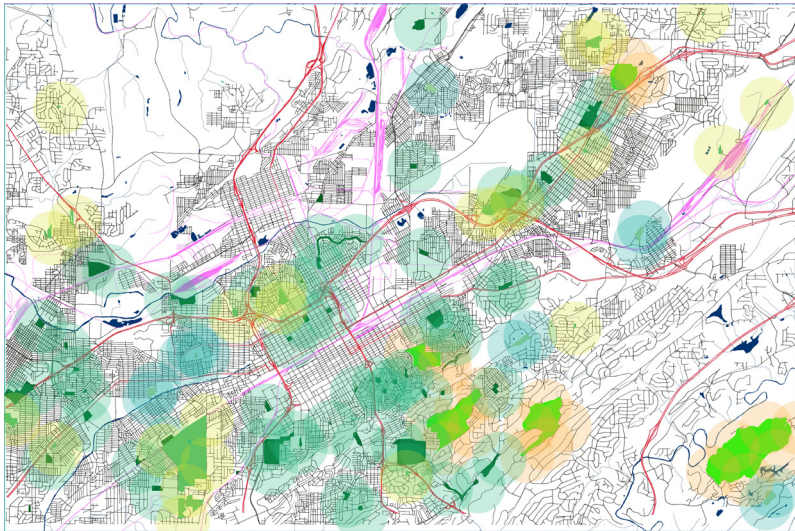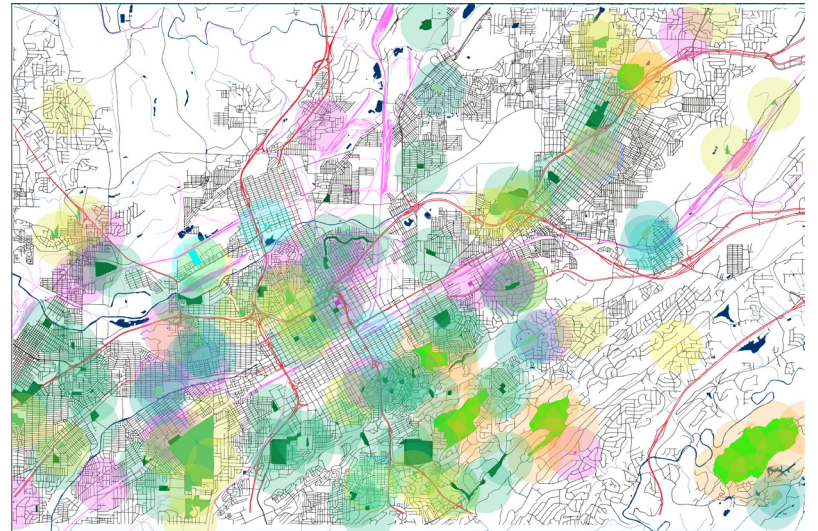
chapter 3
initial scenarios

Parks, Athletic Fields, Golf Courses, & Cemeteries

Green Spaces in Context

1/2 mile Pedestrian Shed

How would this effect the existing collection of nodes?

green spaces

After a thorough evaluation of the existing infrastructure, settlement and food nodes, an investigation was undertaken of potential sites on which additional nodes could be explored and designed. First, the green spaces within the city (i.e. parks, athletic fields, and golf courses) were mapped to begin to understand how a local food network could begin to connect more Birmingham residents to local food throughout the urban fabric. If these spaces became either spaces of production or distribution of local food, they could bring additional support to the parks system and diversify the green spaces within the city. Although there are a large number of these spaces in Birmingham, all of them may not be available for any additional uses than they already provide. Parking lots adjacent to these existing attractions can easily provide space for temporary markets to gather. This mapping also brought to mind that the maintenance staffs of these existing spaces could be utilized for the maintenance of a food node within those spaces.

PROS:

- Existing open space becomes productive AND recreational
- Broad distribution across the urban fabric
- Marginalized spaces within cemeteries could be used for production - bringing new life to them.
- Athletic field and golf course parking lots can be used for weekly markets - during sport seasons this would be especially effective

CONS:

- Not all spaces can be used (Golf course superintendents would be extremely resistent to production for example)
- Minimal coverage of downtown core
- Cultural and social issues with cemetery use
- Potential for food production and distribution to be lumped into the "parks" category rather than being valued for its real importance

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schools

Next, mapping of all existing schools was completed to understand how school sites could begin to emerge as productive or distributive food nodes across the city. Schools were explored because they are often situated within prominent, centralized parts of communities and they can reach a large percentage of the population through a relatively small area. Different aspects of food production and distribution can be taught within schools from Kindergarten to University level to educate city residents on the importance of connection to the land on which they live.

Although schools offer a broad distribution across the city and access to large numbers of people, they can not be relied upon to provide ample quantity of food. Schools' strength lies within their ability to reach the masses and begin to truly change the way people think about the food they eat, the city they live in, and the land they live upon.

PROS:
- Educational Opportunities from Kindergarten to University level
- Centralized Locations - often one or more per community
- Many are near water and/or rail for irrigation and transportation potential
- Schools become more of a focus in the community providing the seed for mindset change on how food is perceived

CONS:
- Some schools are private and may not be willing to participate
- Teacher / administrator participation would need to be high
- Food Quality may be undervalued if students are growing the produce
- Some parents may perceive program as more of a burden than a benefit
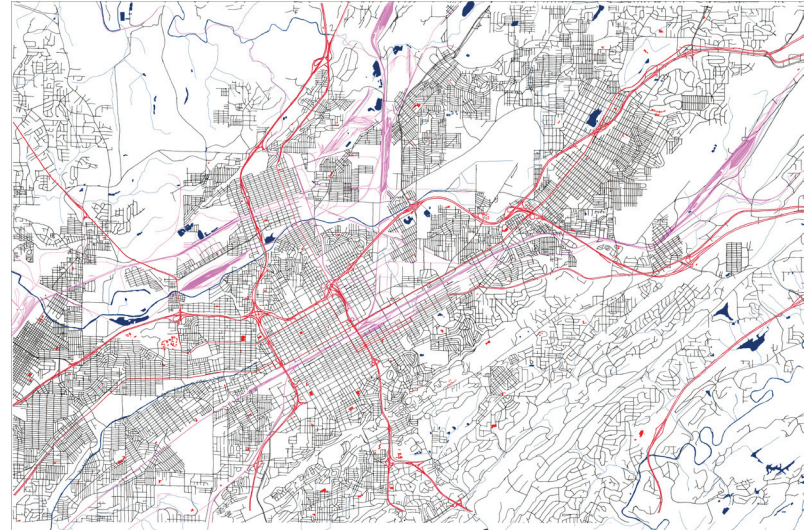
Schools

Schools in Context
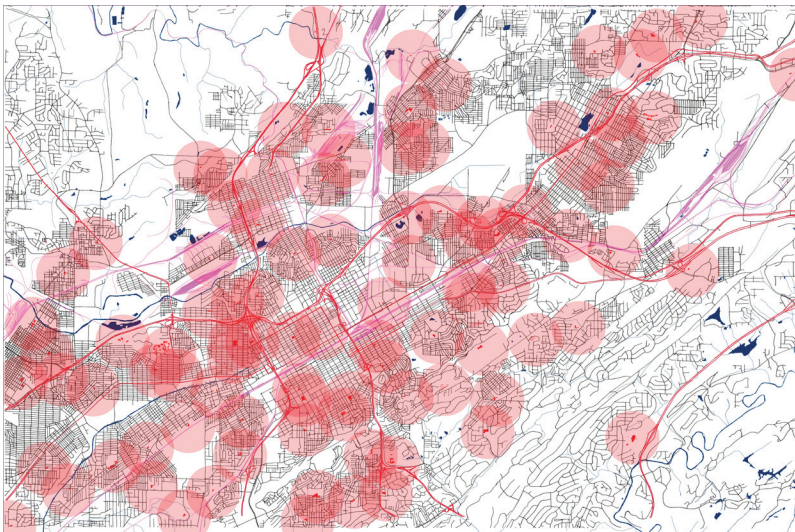
1/2 mile Pedestrian Shed
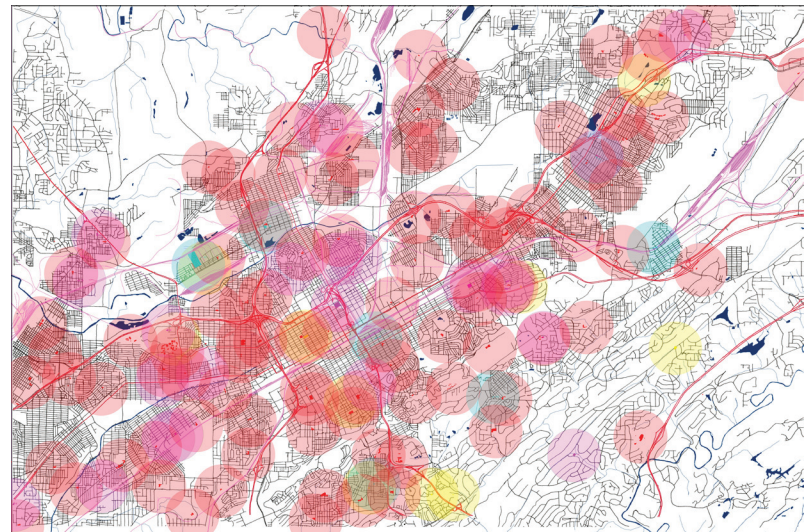
How would this effect the existing collection of nodes?
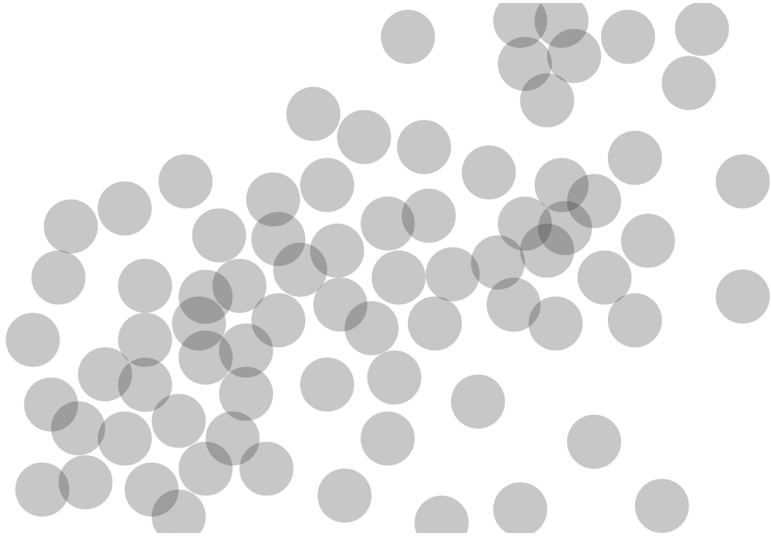
Neighborhood Centers 1/2 mile Pedestrian Shed
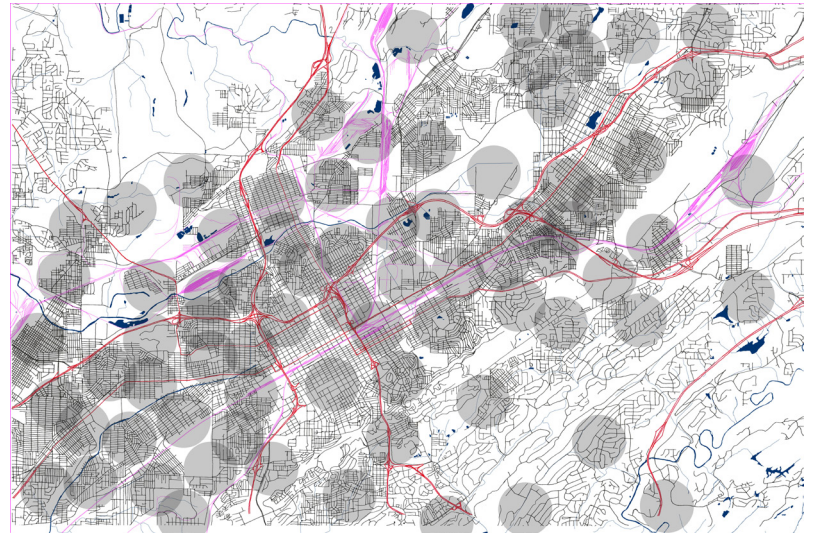
Neighborhood Centers in Context
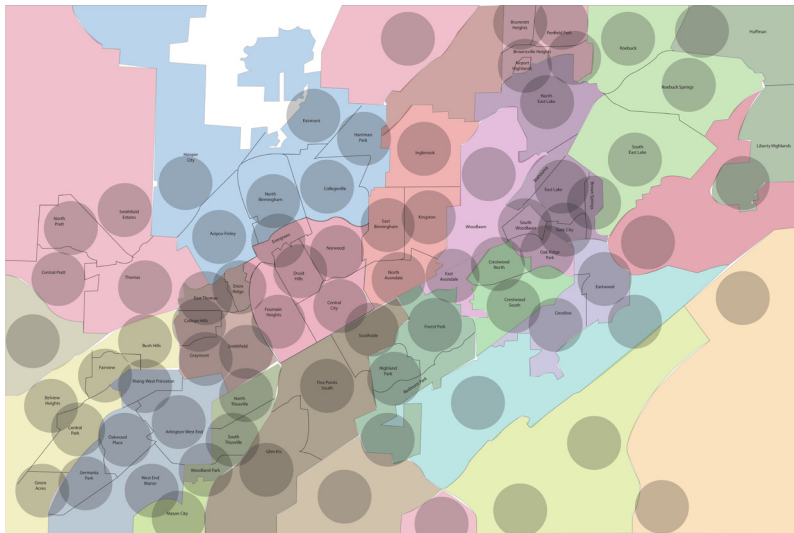
Neighborhood Map
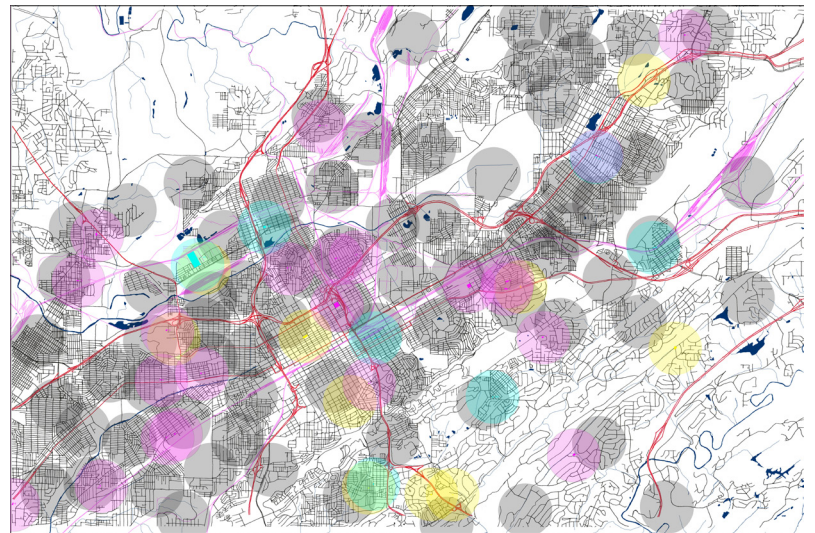
How would this effect the existing collection of nodes?

neighborhood centers

For the third scenario, neighborhood centers were mapped to understand their impact potential impact as emergent food nodes within the network. The city of Birmingham is divided into 17 communities that are further broken into 76 neighborhoods. These neighborhood designations are encompassed by a 0.5 mile (10 minute) pedestrian shed, making them broadly distributed with very little overlap.

Neighborhoods are a good way to measure the people that are effected by emergent nodes, but not all neighborhoods contain the lands necessary to facilitate development of food nodes. Also, some neighborhood designations are most likely fairly arbitrary to the way residents view their neighborhood and multiple neighborhoods are often linked through both spacial and cultural ties. Several existing food nodes are already located at neighborhood centers, indicating that this is a common way of attempting to reach entire communities. According to Birmingham resident, Allison H. Bains, "Birmingham residents hold strong ties to their neighborhoods - it's a way for people in the city to relate to one another." The network focuses on intensifying these ties while bringing the city together on a much larger level.

PROS:
- Broad distribution with little overlap
- Strengthens sense of community
- Opportunity for specialization of food types within neighborhoods
- Consumer choice easily drives production and distribution practices - allowing residents to eat based on choice rather than whatever they can get

CONS:
- There may not be open spaces within every neighborhood sufficient for a local food node
- Larger and more dense neighborhoods could need more than one node
- Chance that some neighborhoods are not interested
- Some neighborhoods may not be dense enough to support such a node
- May compete with existing community gardens' success

combined scenarios

Combined, these scenarios of green spaces, schools, and neighborhood centers represent a thorough and varied distribution of spaces with food production or distribution potential. Although not each of these mapped spaces can be used for a food node immediately, they can all be modified to allow for such a network to emerge while retaining their integrity of their current uses.

Neighborhood centers, despite their seeming potential, will be kept in mind as places of interest to the expansion of the network. However, since there is not available lands within each of these centers, they will not be considered as actual nodes, but rather places the network should intersect with and through.

Although the mapping illustrated on the page to the right is an impractical example of the network's emergence, it begins to indicate that most of the city could be easily impacted through strategic selection of some of these sites. The following chapter investigates some of these, attempting to understand the components necessary for the design of productive and distributive spaces.
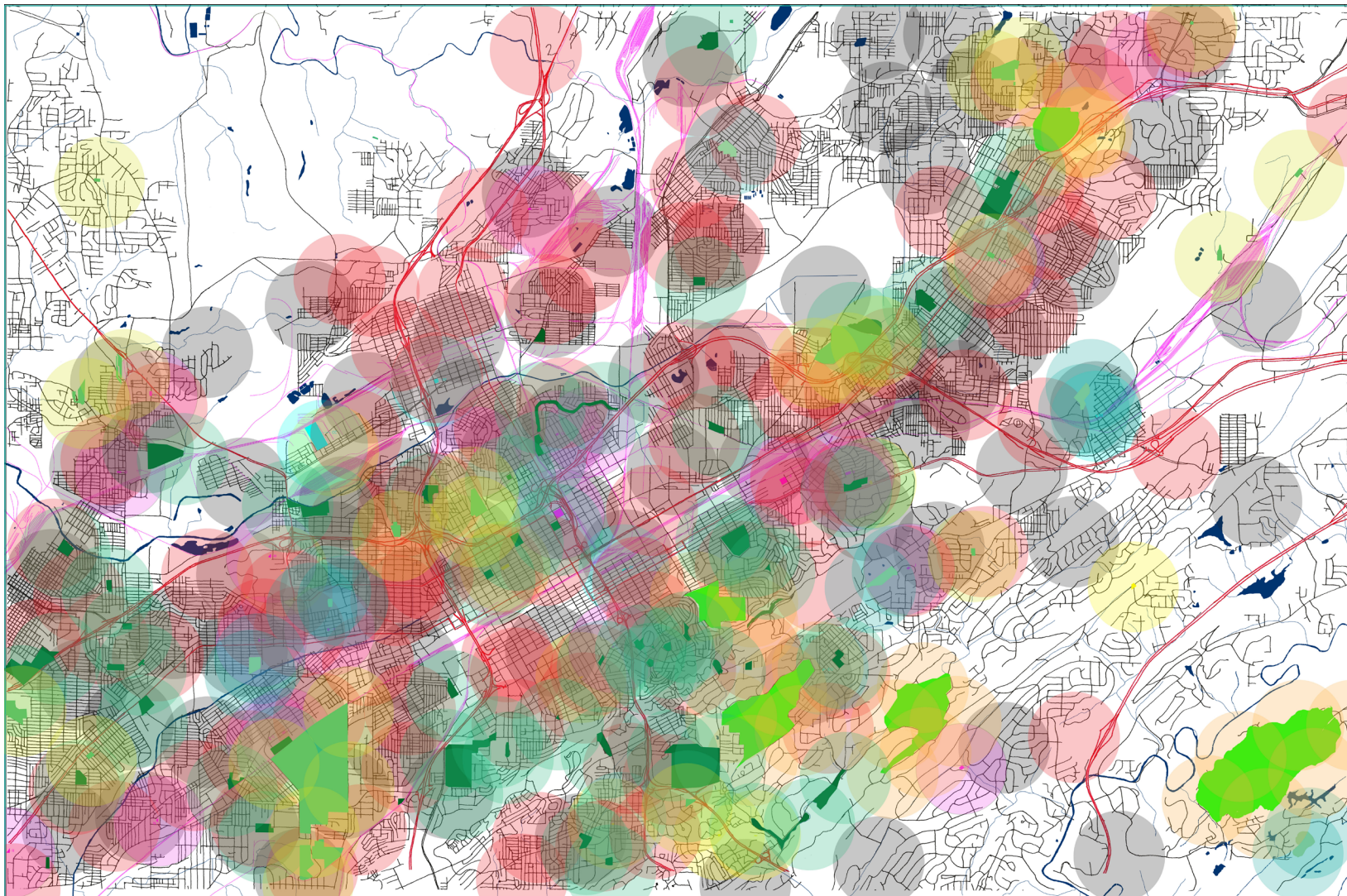
*Green Spaces, Schools, Neighborhood Centers, &
Existing Food Nodes*

chapter 4
district separation
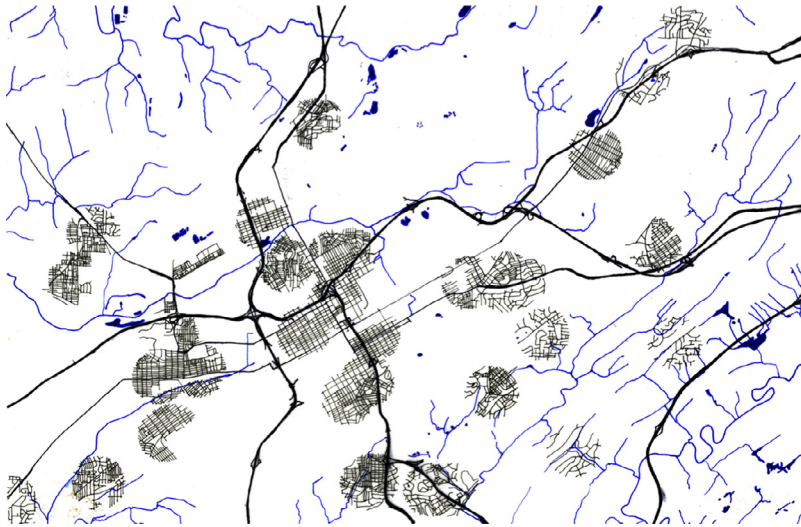
Road Network of Existing Food Nodes
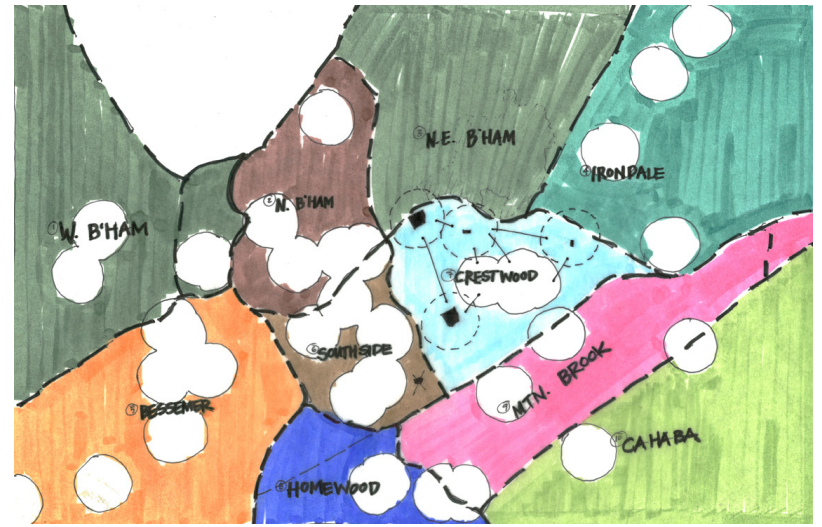
Food District Seperation

food districts

After mapping the existing conditions of infrastructure, settlement, and food nodes, it became immediately evident that the city should be divided into a manageable number of districts to organize the network of food production and distribution. It was therefore partitioned into 10 districts, determined by major roads, existing food nodes, and topographical features. These 10 districts are West Birmingham, North Birmingham, Northeast Birmingham, Irondale, Bessemer, Southside, Crestwood, Homewood, Mountain Brook, and Cahaba.

These districts contain multiple neighborhoods and communities that will be linked through the formation of the district. Each district will operate within the broad goals and objectives of the network and will strive to connect to adjacent districts, providing opportunity for food type specialization within districts and sharing of cultural foods across districts.

combined school & park scenario

After the creation of food districts, specific sites were selected that contained a school, park, body of water and major thoroughfare within a 0.5 mile pedestrian shed. The combination of a school and a park within a small area provides opportunity for both production and distribution of food and a new strategy for the way food is grown. While the school can reach a large population, parks contain adequate space to actually produce and properly distribute food throughout the urban fabric. Since these two selected sites both exist within the designated Crestwood food district, it became increasingly evident that a smaller scale investigation of the district and these sites as potential nodes was necessary. The remaining portion of this chapter will explore these two nodes and the spaces within the district that will contribute to the emergence of the local food network.

Selected Schools
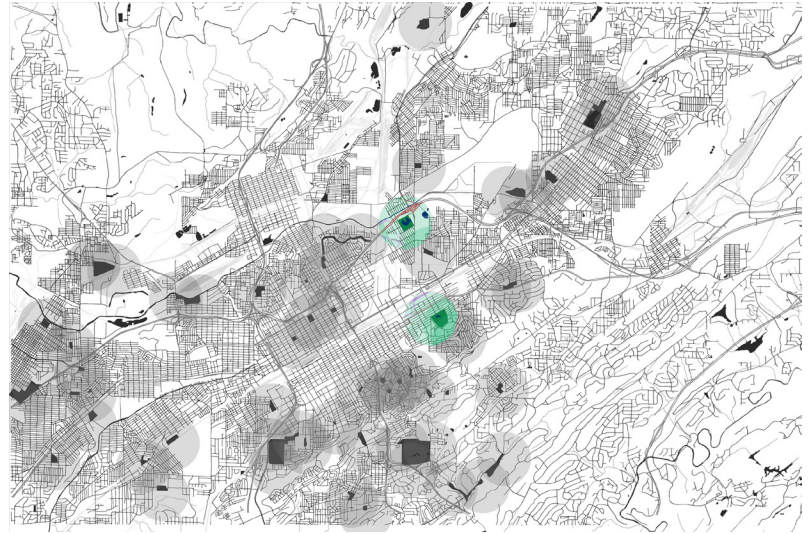
Selected Parks
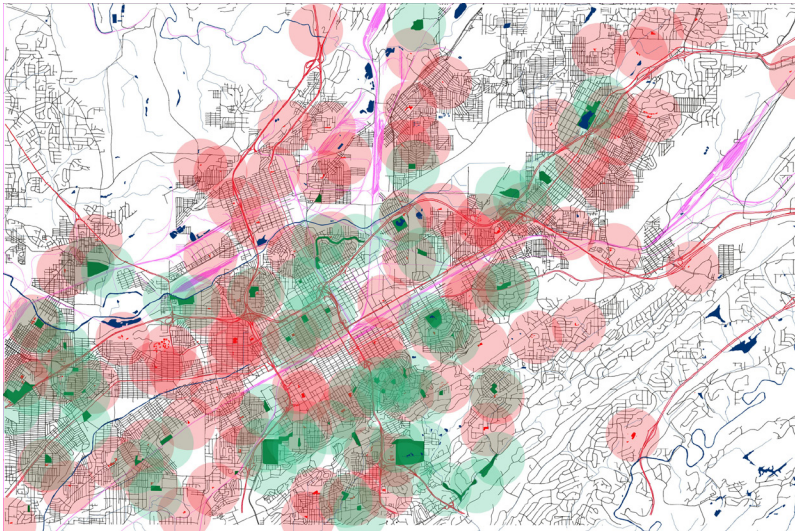
Combined Park & School Scenarios
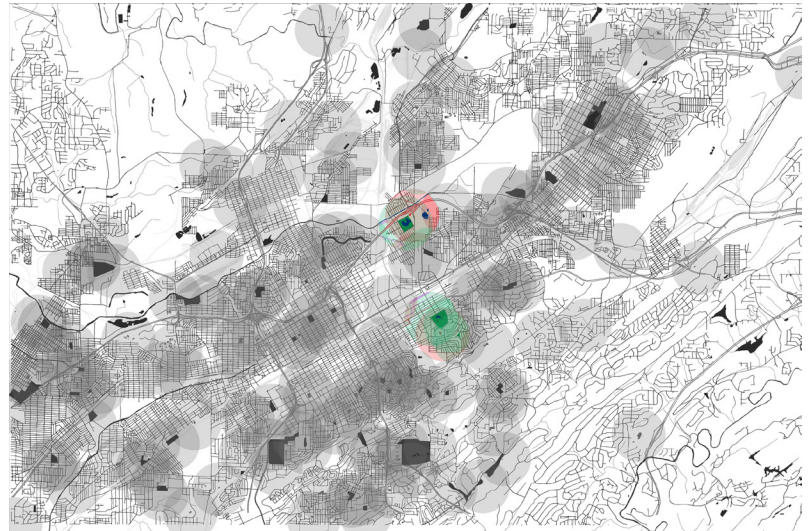
Parks and Schools at Same Site
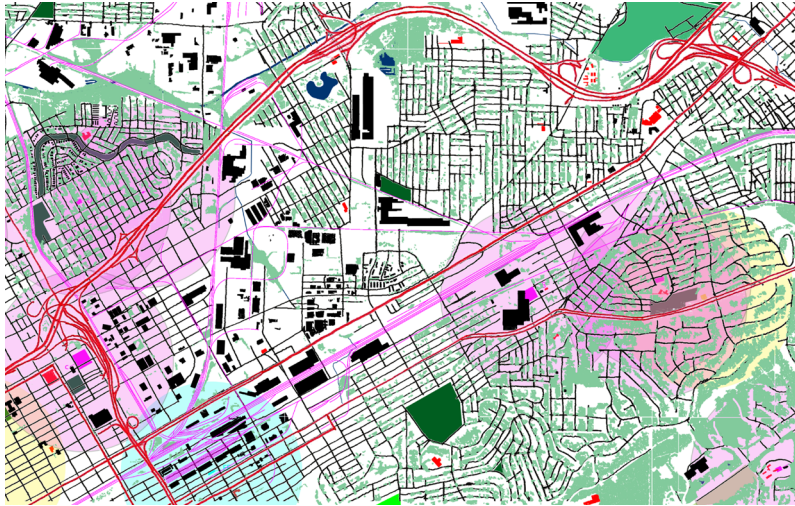
Crestwood District Existing Food Nodes
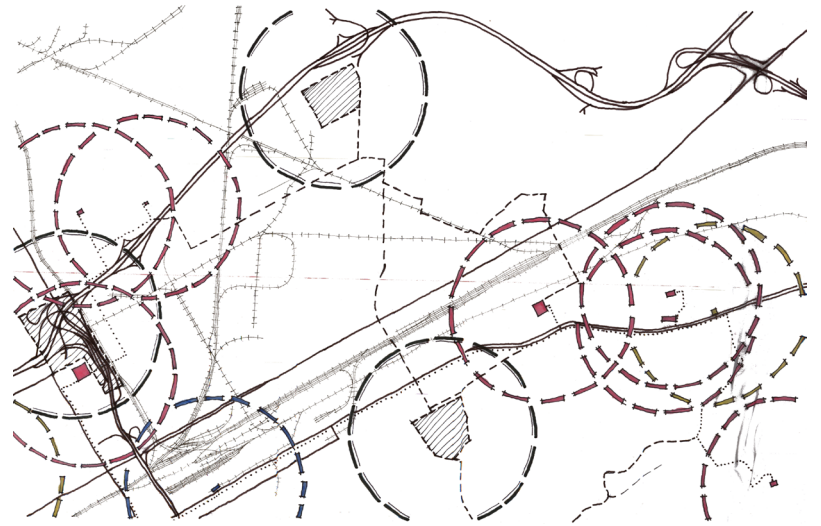
Crestwood District Concept Plan
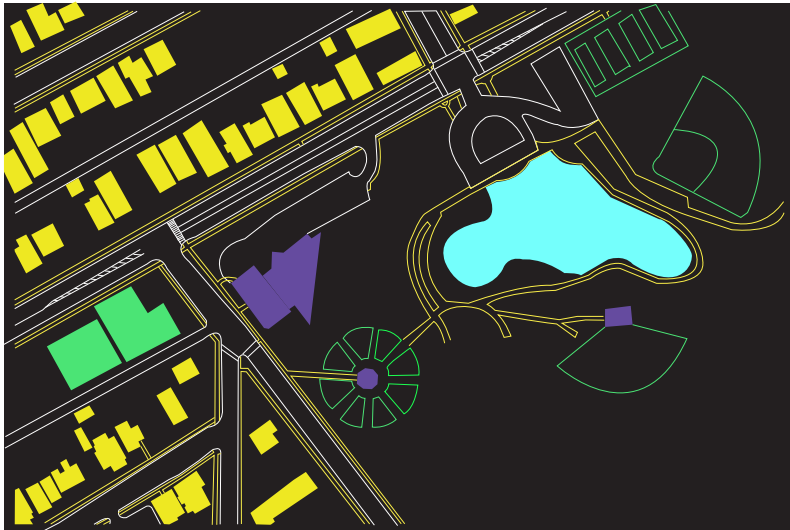
Avondale Park Existing Conditions

Patton Park Existing Conditions

crestwood district

The Crestwood Food District was selected to be further explored based on the fact that it already contains a number of food nodes that can contribute to the development of the network. This district envelopes everal community gardens and one of the city's most prominent markets, Pepper Place. Grow Alabama offers a drop-off location in the area as well. The two sites highlighted on the previous page will begin to reach people within the district that must currently travel much farther to interact with locally-grown foods (illustrated in the Crestwood District Concept Plan). These sites bound an industrial zone that lies between the rail lines, allowing for a productive and distributive armature to develop across the industrial swath. Both of these sites contain substantial water bodies that could be used for irrigation, and both are located along major roads. Each contains ample open space that could easily be adapted to production or distribution of local foods. Avondale Park and the interchange were then examined for their existing potential. Patton Park was then selected to further explore necessary components of productive and distributive nodes.

avondale park

Avondale Park was visited and documented through photographs to begin to understand the potential for it to develop as a food node within the Crestwood District. This park is directly adjacent to Avondale School and Avondale Library, providing ample opportunity for reaching a large population. The pond in the center of the park will provide plenty of irrigation water collected from the park and its surrounding areas. Radial garden plots adjacent to the library provide an excellent opportunity for retrofit into community gardens for nearby residences and a large amount of open lands exist within the park, giving plenty of room for additional production spaces to emerge. The library parking lot could easily be used for market space, making better use of a space that the community already centers around. Avondale Park also contains an amphitheatre area that is ideal for gathering large groups op people - a good opportunity for the community to convene over local food production and distribution.

Radial Garden Panorama

Radial Garden Plots

Pond with Walking Paths

Looking Northeast

Looking East

Looking Southwest

I 20-59 & US 280-31 interchange

Another opportunity for network development exists under the interchange of Hwy 280 / 31 and Interstate 20-59. This space will be utilized for a large expansive market space that could easily accomodate the Jefferson County Truck Growers Farmer's Market, the city's largest market space. The move of this market would bring the focus of food into the urban core, and highway passers-by will able to see the interaction. This market's current location is located in far west Birmingham, far away from any concentration of social and cultural activity. Bringing the market into the mix of downtown urban activities will bring food production back to the forefront of the city's mind - placing a much bigger emphasis on place-based agricultural practices throughout the urban fabric. As the site exists, it undergoes more maintenance than it does use - an open space that's uninviting, despite its lawn-like quality. This lack of attraction is due to a lack of investment in the areas immediately adjacent because of the overpass. If the farmer's market were to move to this location the surrounding areas would be more likely to be developed - further encouraging the vibrant downtown core that Birmingham's urban center could, should, and will become.

fence plantings

use existing structures for storage and processing

retain existing walking paths

retain existing shade trees

student gardens and greenhouse

pecan orchard

permanent market space

pond for irrigation

community gardens

flexible market space

permanent production

flexible market space

proposed multi-family residential

proposed permeable parking

urban forestry potential

proposed multi-family residential with potential for ground-floor retail

proposed permeable parking

proposed single family residential

Patton Park Conceptual Plan

patton park design exploration

Patton Park was chosen to be explored more in depth due to its placement within the Crestwood District, combination of school and park in one site, and proximity to a water body (the pond in the park) and major thoroughfare (I-20/59). This proximity to water and transportation infrastructure provides potential for the park to become both productive and distributive. This conceptual design investigation was completed to consider the components and layout potential for a proposed food node with both productive and distributive capacity.

This investigation further brought to mind the need for additional residential near the downtown core. The addition of a local food node within this park and school would bring additional draw to the neighborhood, with the residents enjoying fresh food grown in their front yard. Across from these residential units a flexible market space is proposed, utilizing the street and/or sidewalk as the organizing datum. Keeping pedestrian energy on the street and sidewalk is important to achieve a truly unified community experience and to encourage the urban affect.

The space directly inside the flexible market space ring will contain community garden plots, giving nearby residents the opportunity to participate in their food futures by cultivating and harvesting their own food. Since most families would not be able to supply themselves with all of their food needs, permanent productive spaces will be cultivated within the interior of the park and distributed via the flexible market spaces and permanent covered market space adjacent to the parking lot.

In the lawn area between the school and Patton Park, student greenhouses and outdoor planter beds will be built. Educating children from an early age about the importance of place-based agriculture will ensure the proper emergence of the network for generations to come. Also children tend to tell their parents what they learned at school - further expanding the impact of the network.

Within the triangular patch of land to the east of Patton Park, a pecan orchard will be planted. Students can plant the trees and subsequent classes can tend to them until they produce pecans and can be harvested. Each year, the progress and maintenance would be documented so that the children see regularly that they are making a difference. When the pecans are finally harvested they will be sold at an annual harvest festival.

Existing walking paths, shade trees, and buildings will all be preserved and utilized as organizing structure for the food node. Also, fences around the site will be planted with muscadine vines to maximize productive capacity of the site.

This investigation reveals a number of valuable components necessary for a site to become a productive and distributive food node within the Crestwood District of the urban scale local food network.
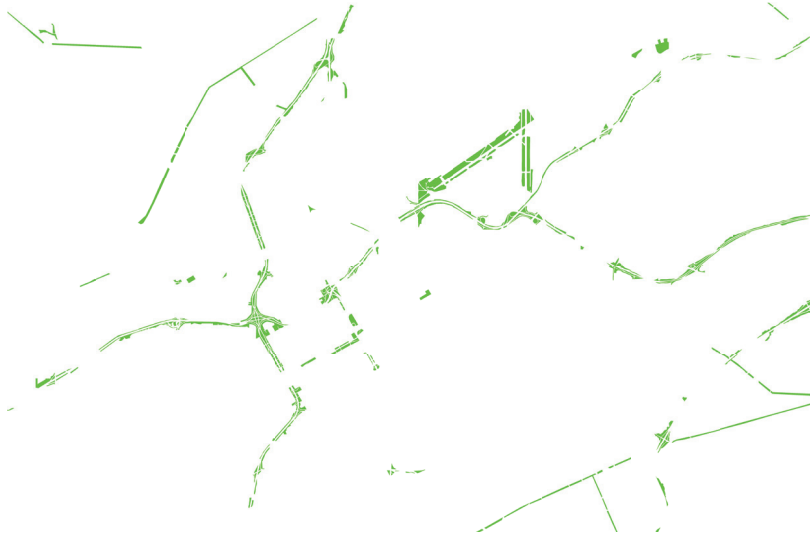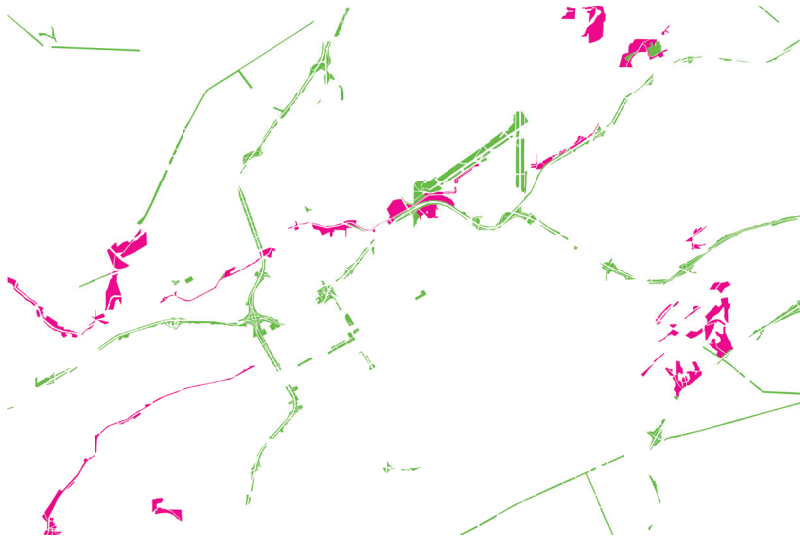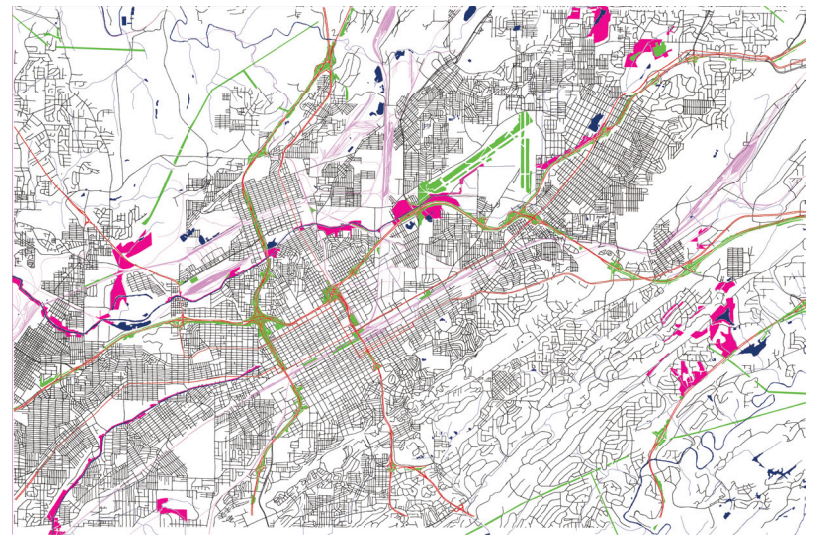
chapter 5
design site selection

Marginalized Spaces

Riparian Zones

Marginalized Spaces & Riparian Zones

Marginalized Spaces & Riparian Zones in Context

marginalized spaces / riparian zones

After the Patton Park design exploration, it was suggested that site selection for further nodes be based upon sites selected in a different way. Rather than choosing sites based on spaces that are currently used by the public for other purposes, further explored spaces will be selected because of their relative lack of current use such as marginalized spaces and riparian zones.

Marginalized spaces are spaces that have been forgotten about because of their existence within the infrastructural edge conditions of roads, rails, and airports. The Hwy 280 / 31 and Interstate 20 / 59 interchange explored earlier is an example of such a site. Sites such as these offer open space that is often maintained as lawn, despite their lack of use. If these spaces are already maintained, they should be maintained as productive spaces within a food network rather than being off-limits, undervalued, and overmaintained. Marginalized spaces were therefore determined to be especially useful as productive nodes that lie along paths of distribution.

Riparian zones are the areas immediately surrounding streams and other water bodies. These areas are crucial for urban wildlife and stream health. Although their distribution connects disparate parts of the city, the fragile ecologies of riparian zones prevent the expansion of the food network into these types of spaces. The addition of nutrients necessary to sustain food production would be more harmful to the ecosystem than the expansion of the food network into these spaces would be beneficial.

This mapping investigation revealed the necessary integration of marginalized spaces into the emergence of the local food network and the limitation of keeping food production out of riparian zones. It also revealed a new approach to site selection and further ensured the comprehensive nature of the distribution of local food nodes throughout the city.

marginalized spaces in context

The mapping to the right was completed to understand how the marginalized spaces within the city move through, connect, and fill the gaps between existing food nodes. Although the marginalized spaces serve to connect existing nodes as much as their infrastructural counterparts, most of the spaces exist within highway margins and the airport, making them hard to utlize because of regulatory issues associated with transportation right-of-ways and airport landscapes. Power line corridors are also a regulatory grey area that this project did not have the time or resources necessary to solve. The marginalized spaces along the railway within the urban core, however, provide excellent opportunities for drawing residents to the very thing that separates them today and is the reason for Birmingham's existence. With the development of food nodes along these margins and the newfound interest in the area spawned by newly built Railroad Park, the focus of development in Birmingham will have more and more reason to shift back to the urban core. The largest and most centralized of these railroad margins will be further explored in the next two chapters. Landscape architectural, horticultural, and urban design techniques will all be employed.
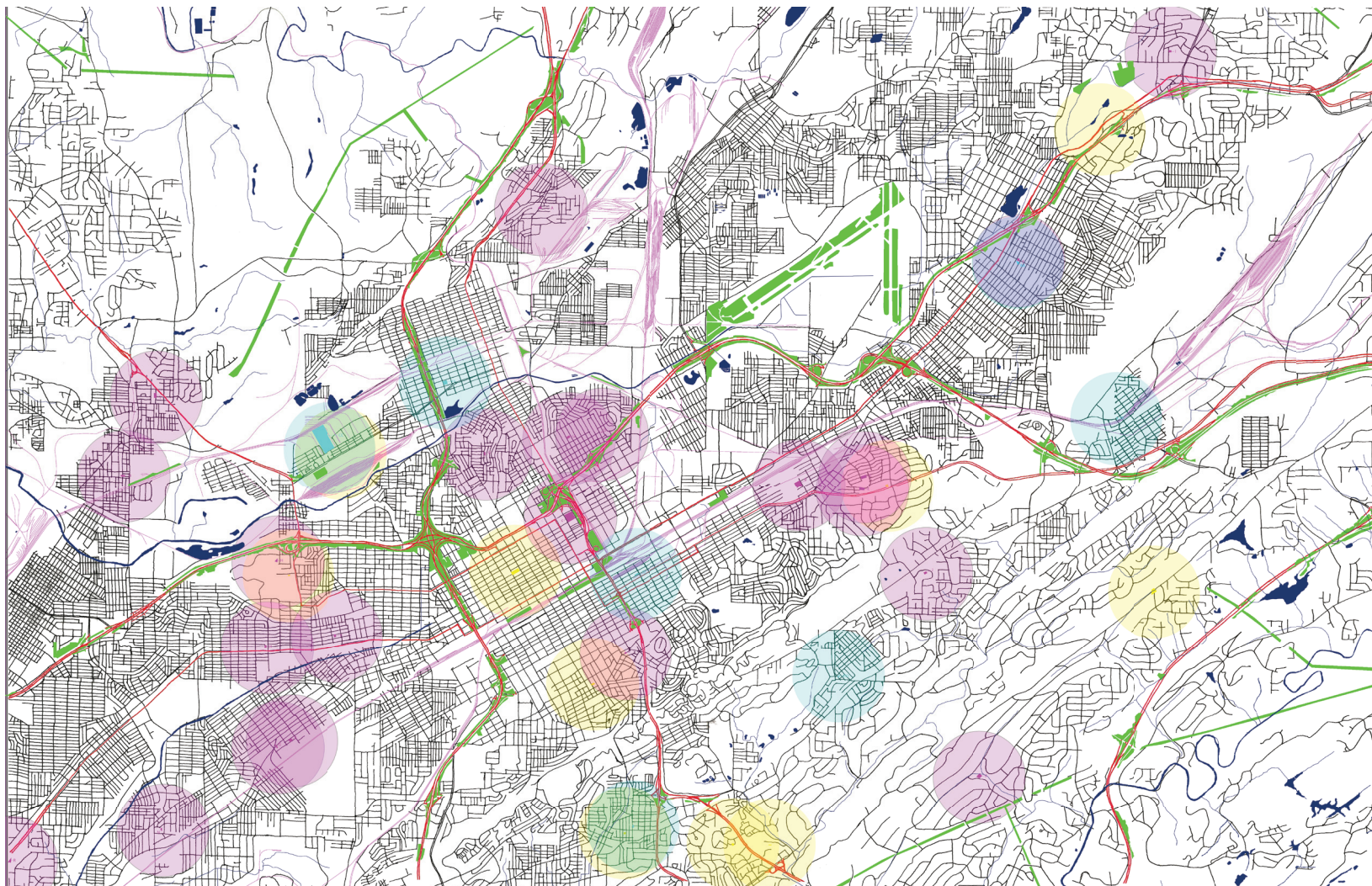
Marginalized Spaces with Existing Food Nodes
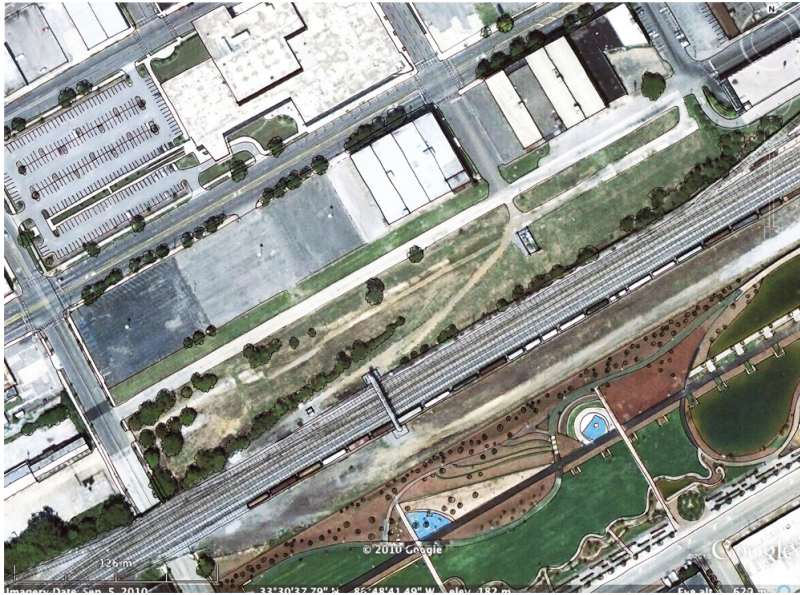
Railroad Site Aerial

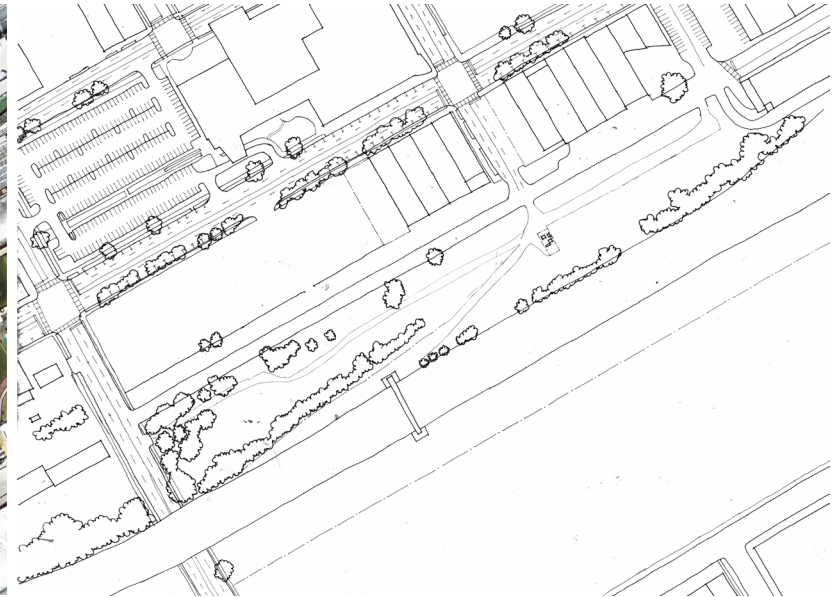*Railroad Site Existing Conditions*

railroad site selection

From all marginalized spaces within the city, one was chosen to be fully investigated through design experimentation. This particular site was chosen because of its central location within downtown and its adjacency to the newly constructed downtown park, Railroad Park. The maps to the left reveal the site's existing condition of parking and marginalized former railroad yards (the Sanborn map in Chapter 1 illustrates the site's historic use of a railyard and surrounding commercial uses).

The buildings on the north of the site are in fairly good condition and represent quality building practices of the early 20th century. These buildings are currently vacant, providing ample opportunity for new uses complimentary to a local food node.

To the east of the site sits the Jefferson County Transit Authority, the city's public transportation department. This connection provides opportunity for widespread distribution of foods produced at this node and additional opportunity in easily transporting people to and from the site.

The large building to the north of the site houses the Innovation Depot - UAB's entrepreneurial center that serves as a business incubator for the district, providing new business owners with a place to set up an office, labratory, or other workspace. The patio directly across from the marginalized site serves as a cafe space for a restaurant for training entry level chefs called Culinard Cafe. This connection gives further reasoning for exploring this site as an in depth design experimentation for a productive and distributive node to emerge within the proposed local food initiative.

The railroad terrain provides good opportunities for further exploration through site design. The next two chapters go in depth into the design of this marginalized site to act as a prototype for additional food nodes to emerge within rail margins.

potential stakeholders

The diagram to the right explores the entities and individuals in the downtown area that would have varying interests in the emergence of a local food node at the railroad site. These stakeholders are listed by their interests and [the action that interest is concerned with]. The variety of interests and actions illustrated here indicate the richness such a project will develop when it is allowed to emerge based on the needs of the people it will be affecting. This also illustrates the large number of potentially willing participants in the planning and implementation of a local food node and a comprehensive local food system. Even if these particular groups are not all interested, the network and nodes should be allowed to emerge based on the needs of groups and individuals affected.

recreation [play]

Railroad Park Foundation
Metropolitan Birmingham YMCA

transportation [move]

Jefferson County Transit Authority
AMTRAK

design [form]

Auburn University Urban Studio
Architecture Works
Kinetic Communications
Creative Minds, Inc.

business [earn]

Innovation Depot

education [learn]

Alabama School of Fine Arts
Auburn University
University of Alabama at Birmingham
McWane Science Center

social work [help]

Firehouse Shelter
Ronald McDonald House Charities

nutrition [feed]

restaurants
Green Acres Cafe
Culinard Cafe
Nelson Brothers Cafe
Yehman Caribbean Restaurant
Magic City Grill
Grump's
Taste & See Catering
Marylin's Deli & Dogs

hospitals
Children's Hospital of Alabama
Cooper Green Hospital
Callahan Eye Foundation Hospital
Veterans Affairs Medical Center
Baptist Health System

**railroad site
local food network
participants**
key: **interest** [action]
Participant

chapter 6
initial site design
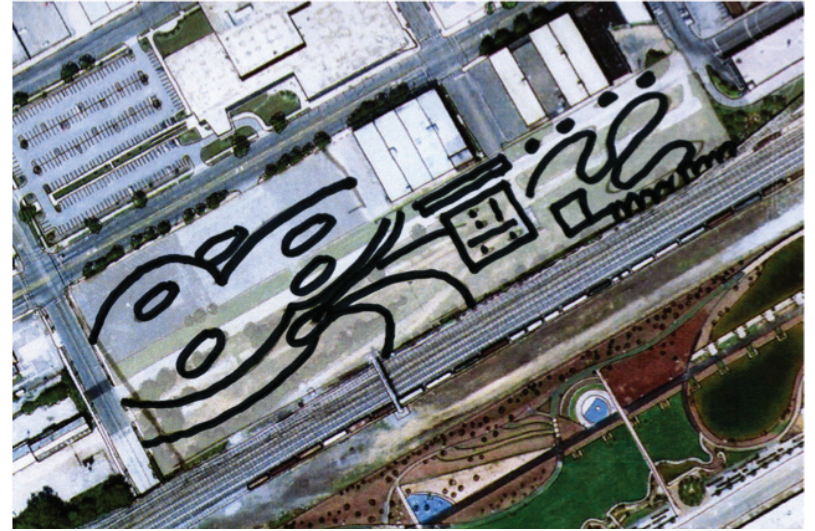
Design Exploration Sketches

design sketches

The sketches to the left are part of a set of 30 design exploration sketches done as an automatic process to generate ideas for the layout of the site. They were completed automatically, without consideration of necessary components or surroundings - a simple, composition generating process. Although none of the sketches were taken as literal layout patterns, the variety of patterns and compositions were analyzed and mentally filed as the process of research by design continued.

initial site design

phased design approach

The phased section drawings to the right are illustrate the emergent process necessary to be able to develop a food node capable of production and distribution. Since many marginalized sites within the urban core are at least partially post-industrial and often abandoned, issues with soil quality are almost a guarantee.
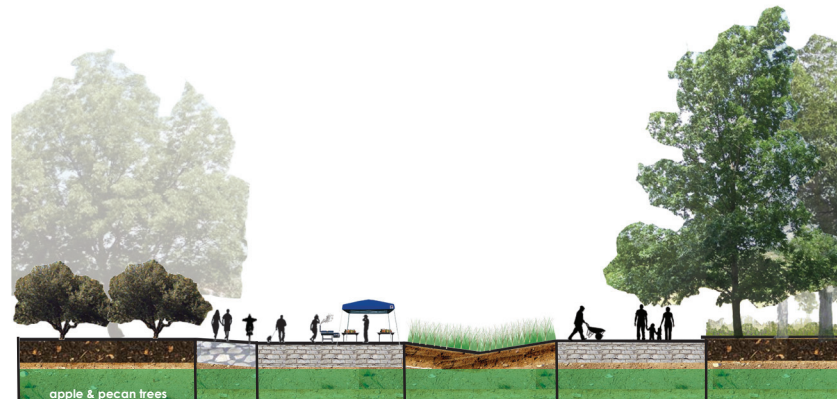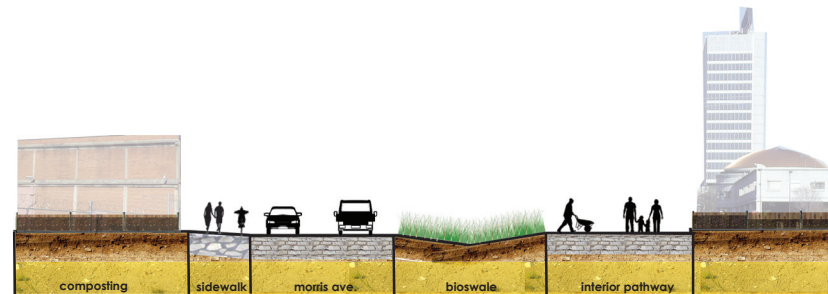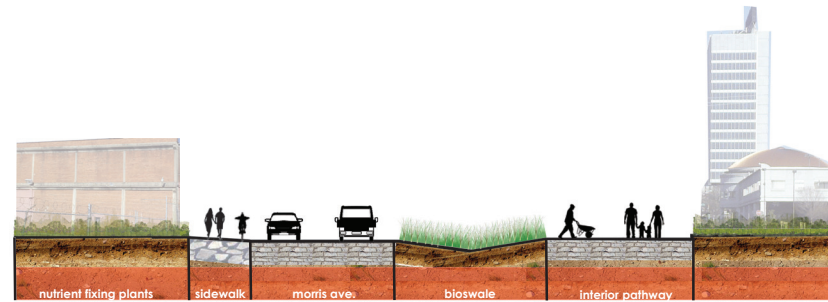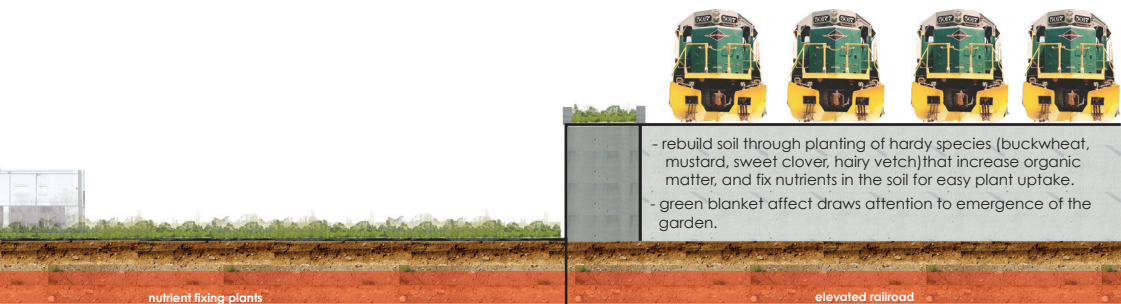
This project focuses on the development of nutrient rich soil that has the ability to produce high quality foods. Although there is the possibility of soil contamination, this project is concerned with a network of foods and does not have the time to fully reclaim a brownfield site before establishment of the food node. (Note: Before any food production can occur on this site, a soil test must be completed to ensure that no contaminants exist that can be passed into sources of food.)

The phased sections describe a three part process of 1. planting "green manure" plants that fix nutrients in the soil for plant uptake, 2. establishing a rural-urban composting network of landscapers, farmers, and restaurants to donate food scraps, grass/leaf litter, and manure to be made into compost and integrated into the soil, and 3. planting this urban farm in two parts, a year-round garden and a "blue plate garden," focused on a specific dish of a different culinary style each year.

nutrient fixing plants | sidewalk | morris ave. | bioswale | interior pathway

composting | sidewalk | morris ave. | bioswale | interior pathway

apple & pecan trees

- rebuild soil through planting of hardy species (buckwheat, mustard, sweet clover, hairy vetch)that increase organic matter, and fix nutrients in the soil for easy plant uptake.
- green blanket affect draws attention to emergence of the garden.

nutrient fixing plants

elevated railroad

1. green manure phase

- local restaurants and landscape companies become aware of the project and begin to donate food scraps & landscape debris to be composted.
- compost creeps across the site until all soil has been fully amended

composting

elevated railroad

2. composting phase

- fruit trees are planted around the site as street trees, to be foraged by passers by.
- as the garden begins to produce food, the harvest can be sold along morris ave. through a weekly market.
- a hickory woodland is planted nearest the railway to promote urban ecologies and to produce wood for meat smoking.

hickory woodland

tea

3. planting phase

nutrient fixing plants   sidewalk   morris ave.   bioswale   interior pathway   nutrient fixing plants
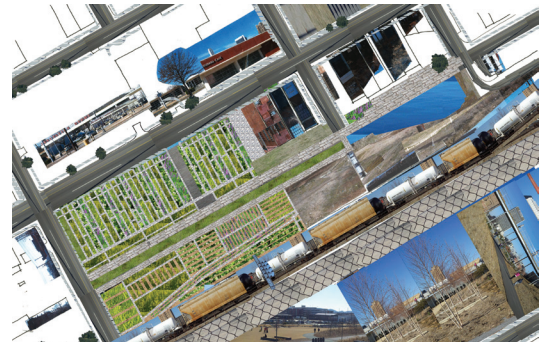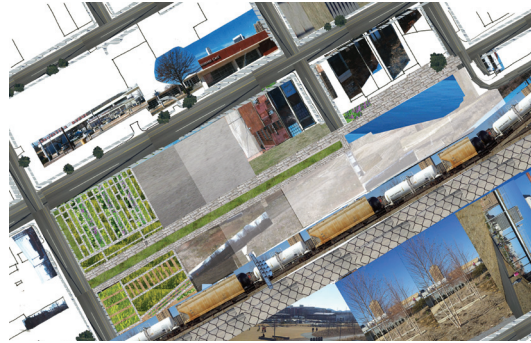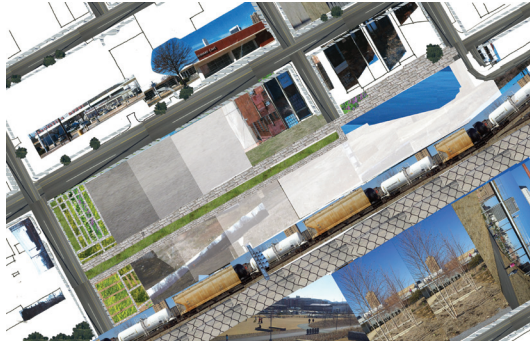
green manure phase

The green manure phase of design implementation on the railroad site entails the planting of nutrient fixing plants that convert nutrients to be available for plant uptake. This planting is a mix of hardy species (buckwheat, mustard, sweet clover, and hairy vetch) that increase soil organic matter, fix nutrients in the soil for easy plant uptake, and some of which can be used for food sources.

Mustard can be used for multiple food sources, as well as nutrient fixation. The seeds are ground into a powder that is used as a spice and the greens can be cooked as roughage. Mustard seeds and greens will be harvested and the rest of the plants will be tilled back into the ground to increase organic matter and produce a better-draining soil. The plant matter that is tilled is broken down in the soil and converted to organic matter, hence the name "green manure." Buckwheat is also a nutrient-fixing plant that can be harvested as a grain as well. The buckwheat grains could be harvested in a simliar fashion to the mustard seeds, leaving behind the stalks and roots of the plant to be tilled in as green manure.

This phase of the design implementation would begin with the parks and recreation maintenance department planting the first phase (upper left on left page). Signage will be utilized to explain the process and give residents contact information for the non-profit local food network group that organizes and structures all entities involved with the network. As maintenance workers and residents complete the blanket planting of green manure plants, additional residents will notice the site and become interested and active in the development of both the node and network.
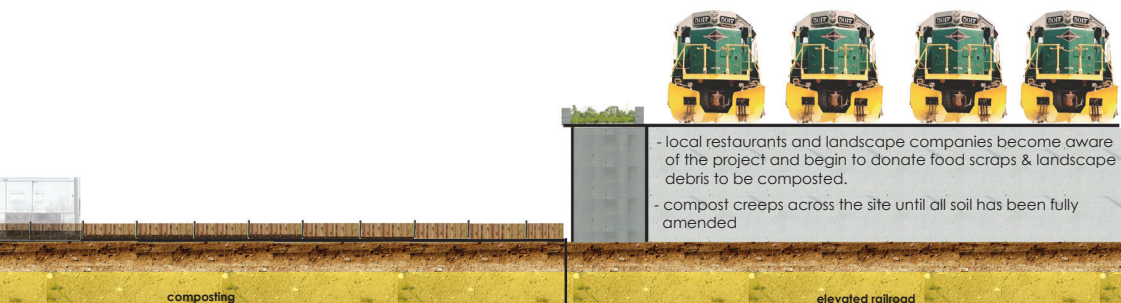
- rebuild soil through planting of hardy species (buckwheat, mustard, sweet clover, hairy vetch)that increase organic matter, and fix nutrients in the soil for easy plant uptake.
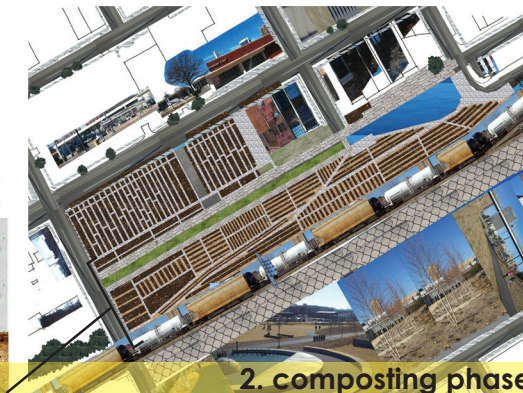- green blanket affect draws attention to emergence of the garden.

elevated railroad

composting | sidewalk | morris ave. | bioswale | interior pathway | composting
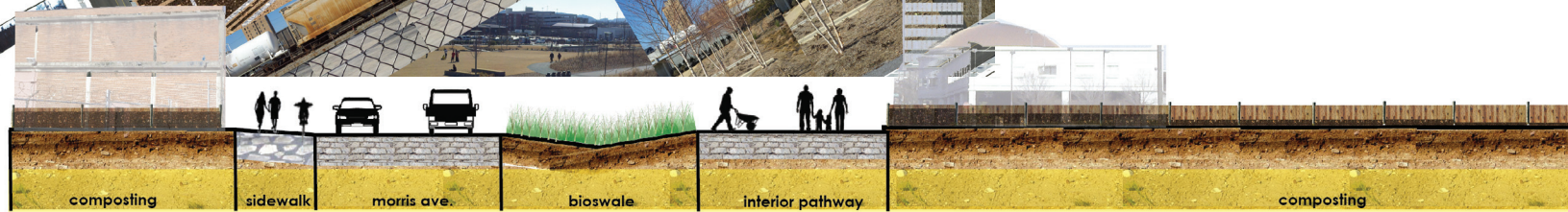
composting phase

This phase of the design relies on the development of a composting hub to spur the beginning of a network of compost collection from the urban core into the rural fringes. As more and more residents become aware of the network project and its initiator node, local landscape companies and restaurants will begin to donate leaf and grass litter and food scraps to be converted into compost. The city sanitation department will begin to pick up compostable materials from residential locations as well, spreading awareness to the resident level.
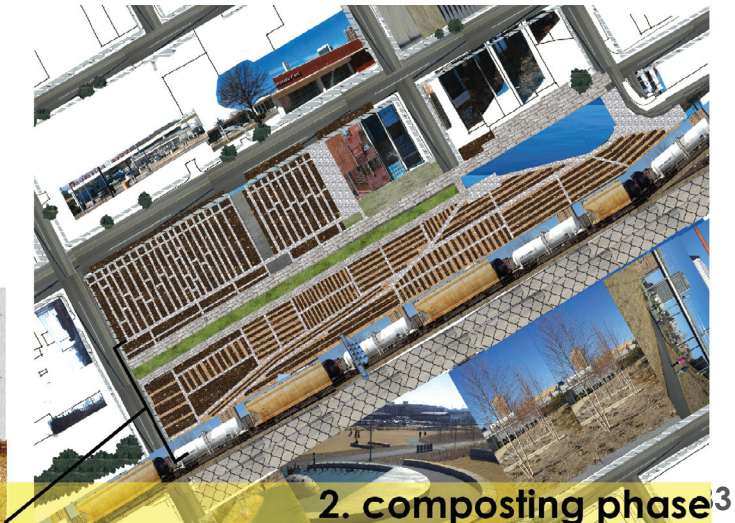
This site will develop composting across the entire site, integrating half of the compost produced into the soil on site and distributing the other half to other food nodes across the city. When the railroad site has been fully composted, the composting node will move to another emergent node.

This notion of a travelling composting node will spread awareness of the network across the urban fabric and continue to rebuild soils to allow additional productive food nodes to emerge.

The rural fringes of the city will be utilized in the composting phase as well by the development of cooperational relationships with horse, cow, and chicken farmers. Manure is a necessary element in compost and these farmers would be investing in the future of farming and food distribution practices in the city of Birmingham. These farmers will be offered reduced rates on market spaces for their investment of their own waste, further closing the production - distribution loop.

After the composting has been completed on the site, it can be planted with a variety of foods to contribute to residents' understanding that "You Are Where You Eat."

- local restaurants and landscape companies become aware of the project and begin to donate food scraps & landscape debris to be composted.

- compost creeps across the site until all soil has been fully amended

elevated railroad

2. composting phase

apple & pecan trees

hickory woodland
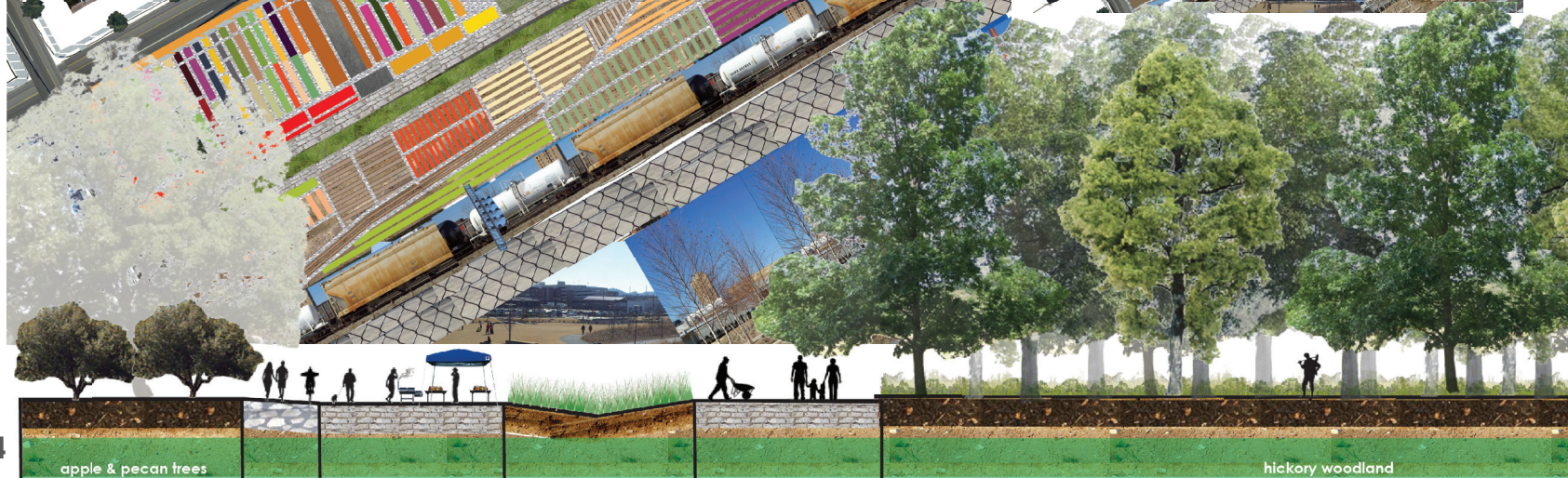
planting phase

The planting phase will consist of two sections (further explored on the following two spreads). These sections consist of a year-round garden that produces a different set of foods each month of the year and a blue plate garden that focuses annually on a specific dish within a specific culinary style common to the city.
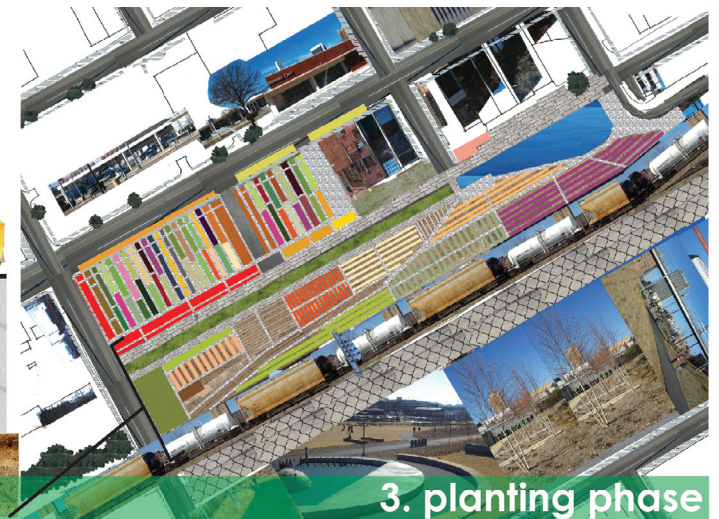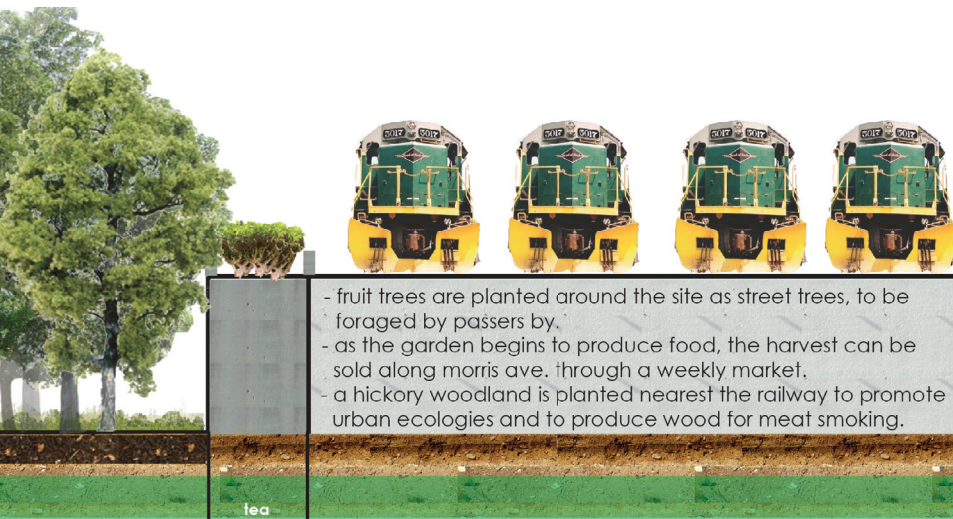
Planting begins with fruit trees being located along the streets (to be foraged by passers by) and the northwest corner of the site being planted with productive species to be planted in January. As more interest and time evolves, the year round garden will emerge from west to east, planting and harvesting from January to December in the same order. As the year progresses, so does the garden. After the year-round garden has been planted, the southern section of the site will be planted as a blue plate garden to provide all of the ingredients necessary for a BBQ chicken plate.

The blue plate garden will be planted in a similar way to the year round garden, emerging from east to west beginning with the planting of a hickory woodland to be used for smoking meat as well as providing habitat for urban wildlife species. The planting of the blue plate garden would then move east ending with the planting of cabbage to be used for cole slaw.

As the garden begins to produce food, the harvest can be sold in the market space to be held along Morris Avenue, the historic brick road that bisects the railroad site. This combination of production and distribution will be used throughout the network, as the combination of the two functions makes for a much stronger, more impactful local food node.

- fruit trees are planted around the site as street trees, to be foraged by passers by.
- as the garden begins to produce food, the harvest can be sold along morris ave. through a weekly market.
- a hickory woodland is planted nearest the railway to promote urban ecologies and to produce wood for meat smoking.

tea
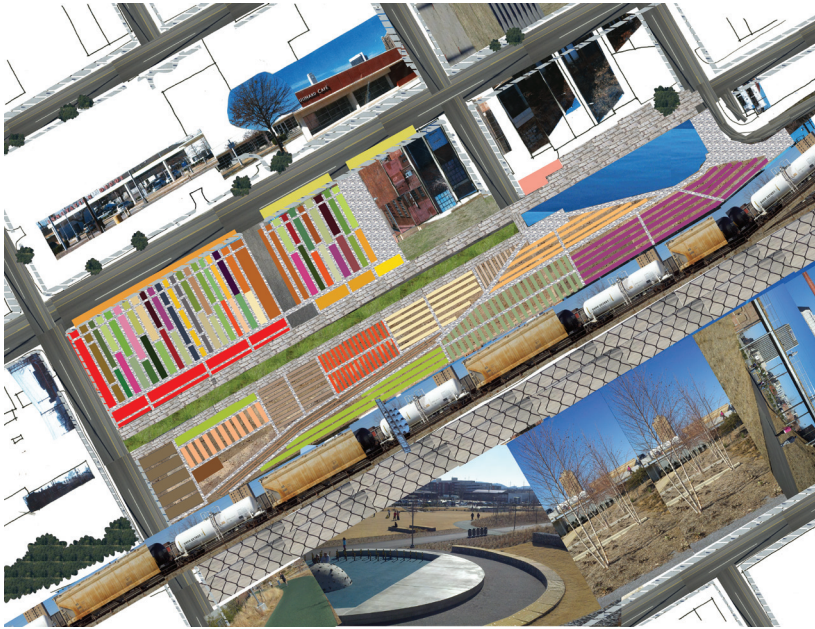
year-round garden

This portion of the railraod site will feature availability of food all year long, based on what is being harvested within the month at hand. The harvest of foods in this garden will shift from side to side as the year progresses, showing the ephemeral nature of individual plantings which bring to life the strength of a collection of nodes that contain multiple plantings emerging across a comprehensive system. The map above illustrates the entire site in finished planted form, locating the year-round garden on the north end of the site. The plan on the page to the right shows the detailed planting scheme of the year-round garden to illustrate its edge conditions of fruit and nut trees and the variety of plants to be cultivated as the year progresses. The specified food species correspond with the planting and harvest schedule on the far right.

Left garden layout (top section)

Vertical labels: lemons · pears · apricots

kiwis	citrus
broccoli	celery
beets	rutabagas
chinese cabbage	purple cabbag
potato	cucumbers
broccoli rabe	persimmon
radishes	flat leaf parsley
bok choi	swiss chard

pecans

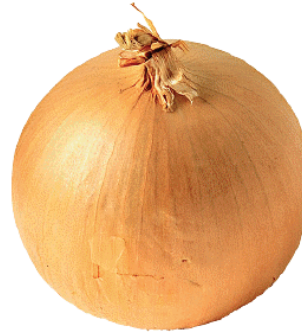**Left garden layout (bottom section)**

Vertical labels: peaches · apples

pecans

pumpkins	onion
eggplant	okra
summer squash	field peas
beans	tomato
basil	cilantro
muscadines	honeydew
watermelon	cantaloupe
blackberries	
corn	
blueberries	
purple cabbage	chinese cabbage
beets	radishes
mushrooms	cilantro
asparagus	spinach
turnips	kale
peas	green cabbage
bok choi	swiss chard
collards	scallions
winter squash	
apples	

Right seasonal chart

Seasons: winter · spring · summer · fall

herbs
carrots
peas
green cabbage
turnips
winter squash
collard greens
onions
asparagus
swiss chard
beets
red cabbage
radishes
beans
apples
mushrooms
broccoli
tomatoes
potatoes
cucumber
summer squash
corn
garlic
peaches
eggplant
watermelon
figs
blackberries
blueberries
okra
canteloupe
muscadines
pumpkins
celery
rutabagas
persimmons

cole slaw

Green Cabbage

Purple Cabbage

Onions

Carrots

sweet tea

Tea

Honey

hickory woodland (for meat smoking)

tea

honey

chickens

navy beans

tomatoes

muscadines
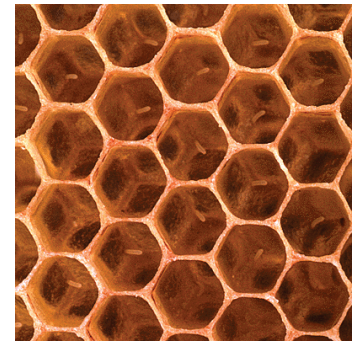
tea

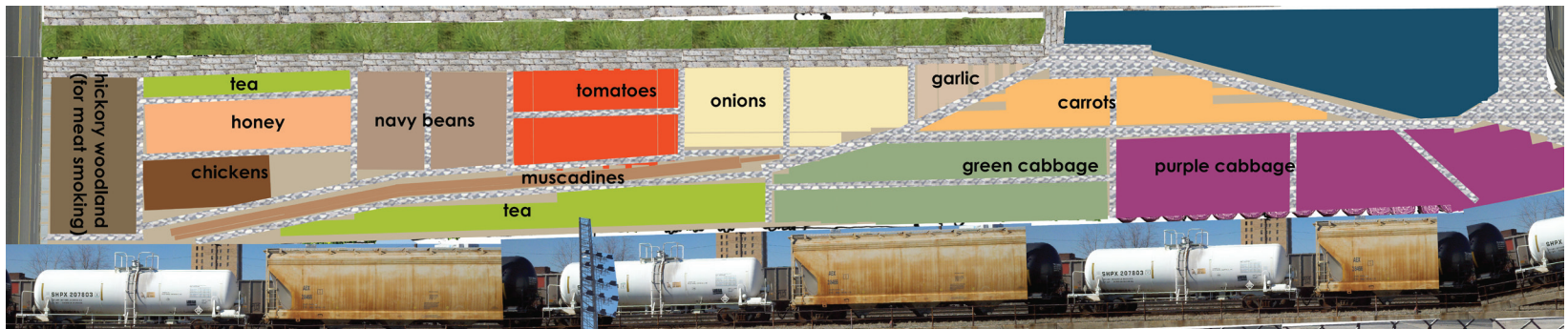onions

garlic
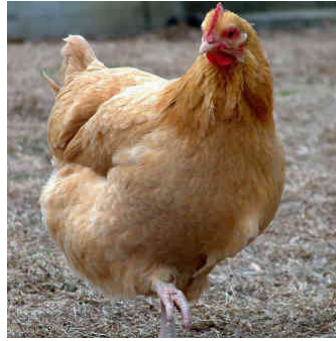
carrots

green cabbage

purple cabbage

Blue Plate Garden Plan

bbq chicken

Hickory (Smoking Wood)

Chickens

Tomatoes

blue plate garden

After the year-round garden has finished its development, a blue plate garden, focusing on a different dish every year, will develop along the southern portion of the site between Morris Avenue and the elevated rail lines. The first dish to be developed in the blue plate garden will be BBQ Chicken, baked beans, cole slaw and sweet tea - one of Birmingham's most popular styles of cuisine.

On the west side of the blue plate garden, a hickory woodland will be planted to provide wood for meat smoking and provide habitat for urban wildlife. Although the woodland will be permanent, the rest of the blue plate garden can be replanted with a different dishes ingredients each year, and different nodes within the network can focus on different culinary styles popular to the specific area of the city in which they reside.
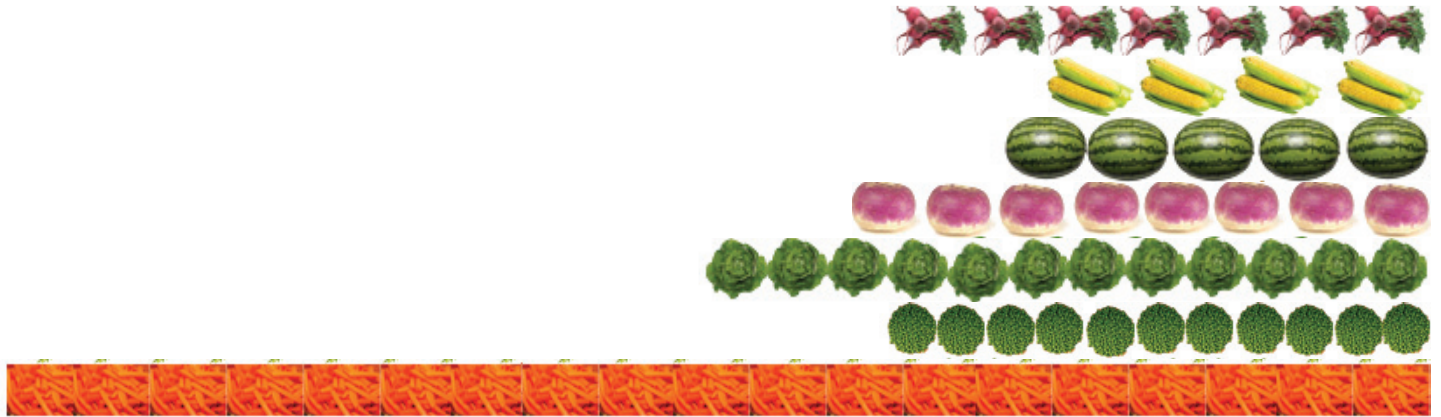
This garden will expand west to east in the same way the year-round garden progresses, with the establishment of urban chicken coops to sustainably and ethically raise chickens emerging to the east of the hickory woodland. In order to enable this to occur, regulatory measures regarding urban livestock would have to be raised to allow Birmingham residents and participants in the local food network to produce chickens and eggs. Tea (Camellia) and honey will also be produced in this area, providing a true southern beverage to be enjoyed with the dish.

The remainder of the garden will be devoted to the production of vegetables necessary to make baked beans, barbecue sauce, and cole slaw.
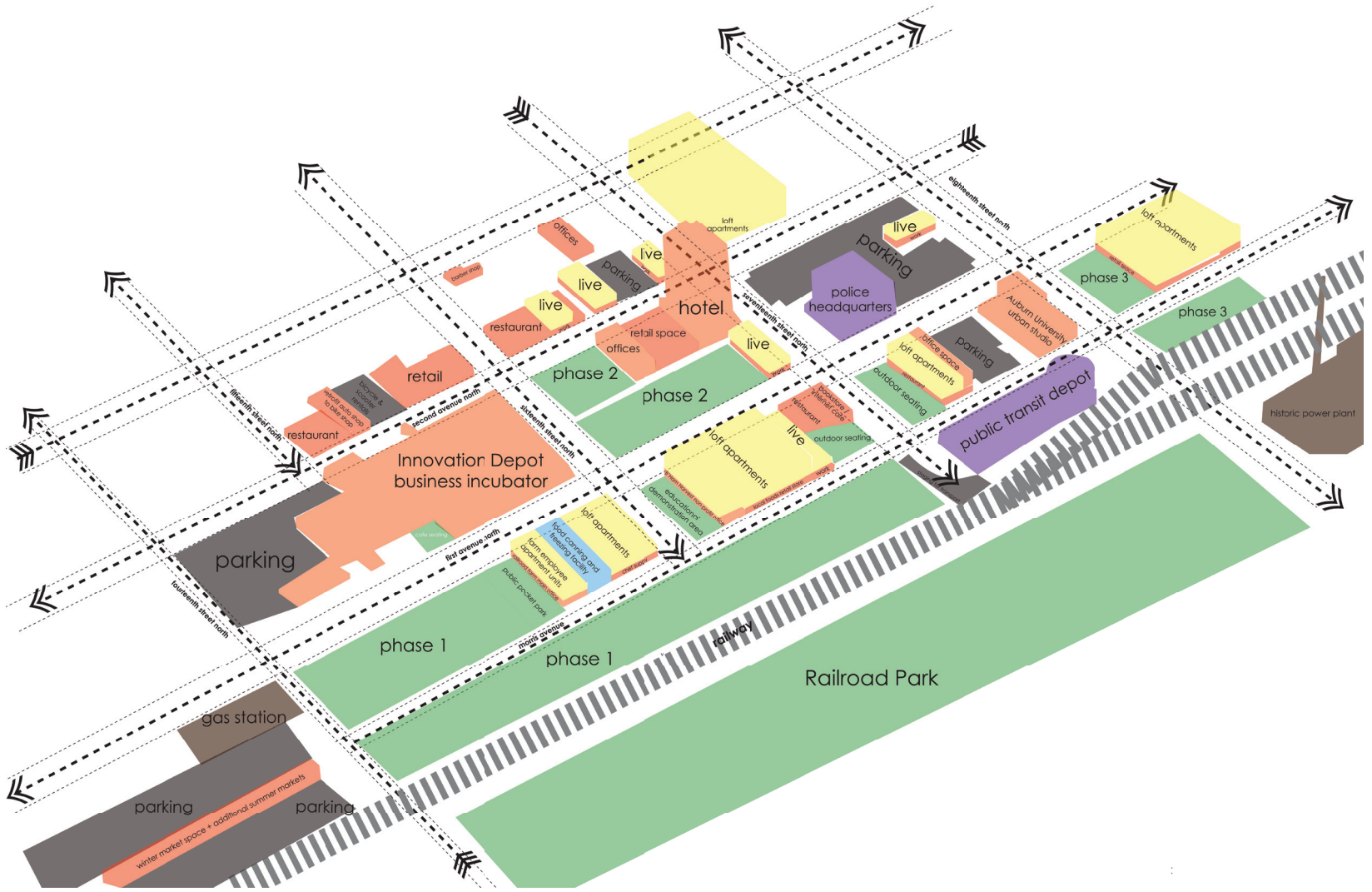
The provision of all the ingredients necessary for a specific dish will begin to promote the invention of new dishes using the ingredients provided. These dishes can define a new cuisine style specific to Birmingham that utilizes all of the rich culinary influences of the area.

chapter 7
final site design

offices

loft apartments

live

live

parking

live

barber shop

restaurant

live

retail space

hotel

offices

retail

live

police headquarters

parking

live

Auburn University urban studio

office space

loft apartments

parking

outdoor seating

bicycle & scooter rental

retrofit auto shop to bike shop

restaurant

second avenue north

phase 2

phase 2

bookstore/ internet cafe

restaurant

loft apartments

live

Innovation Depot business incubator

sixteenth street north

first avenue north

loft apartments

live

outdoor seating

educational demonstration area

public transit depot

parking

fifteenth street north

restaurant

cafe seating

food canning and freezing facility

loft apartments

farm employee apartment units

public pocket park

morris avenue

phase 1

phase 1

railway

Railroad Park

fourteenth street north

gas station

historic power plant

eighteenth street north

seventeenth street north

loft apartments

phase 3

phase 3

parking

winter market space + additional summer markets

parking

parking

effect on urban fabric

After the previous design exploration of the site, it was recommended that a land use plan be developed to understand the impact this productive and distributive node will have on the connective urban fabric in which it is proposed. Within this plan, no newly constructucted buildings have been suggested - all proposed building uses exist within existing buildings and all proposed outdoor uses exist within sites that are currently vacant or underutilized as parking lots.

A main component of the proposed effect on the existing urban fabric is the development of residential units within existing structures (indicated by yellow on the graphic to the left). Many of the upper floors of buildings in the area surrounding the railroad site will be utilized as residential units to promote urban living. Some of these will take the form of live-work units, while others will be developed into loft apartments to be occupied by singles, couples, and small families. These units should be affordable to the masses, providing the option for all types of people to live in a vibrant downtown that produces and distributes its own food. Affordability is an essential component of any uses related to the food network since quality, locally grown foods can be appreciated by people of all socio-economic backgrounds.

Buildings that reside on the blocks of the railroad site that are not residential will serve as places for activities related to the emergence of the food node and network. The building nearest the farm will serve as the main office for the farm itself with residential for the farm supervisor above. Storage and processing facilities, restaurants and cafes, permanent market spaces, and related retail shops will emerge throughout the district as the node and network gain notice and popularity. The block at the narrow end of the farm's corner building will serve as the headquarters for the non-profit entity developed to coordinate and facilitate the local food network, Conscious Foods Birmingham.

These land use proposals do not represent the only potential for this district, but illustrate one potential set of uses that would compliment and encourage the growth and development of the railroad site as a food node and the system as a whole.

existing conditions

As it exists, the railroad site is currently entirely underused and undervalued. The picture below illustrates the beautiful historic buildings that surround the site and the marginalized nature of the site itself. This image also gives a good sense of context, showing the Regions Bank building from the central business district in the background and the Jefferson County Transit Authority building in the foreground.
The perspective vignettes that follow illustrate the steps that will be taken to develop this marginalized space into a vibrant productive and distributive space for fresh, quality, local foods.

soil testing

In order for a node of food production and distribution to be integrated into the railroad site, a thorough analysis of soil qualities must be completed. This project, as earlier noted, adresses issues of soil nutrient capacity and organic matter but does not go through the intense, rigorous process of soil remediation that may need to be completed before this site develops into a food node. This process was not explored in this project since the reclamation of brownfield sites can be addressed as a project in itself. In order for a soil test to be completed, experts from the Alabama Cooperative Extension System will be contacted and brought to the site to test multiple areas of the site for nutrient and contaminant loads. After any necessary soil remediation for contaminants has occurred, the soil can be planted with green manure and composted to ensure the availability of nutrients for proposed food plantings.

soil building

After a soil test and any necessary remediation of contaminants have been completed, the process of integrating new nutrients into the soil will begin. Planting of "green manure" species of plants will begin to fix nutrients in the soil for easy plant uptake and increase soil organic matter. This process requires planting, watering, and tilling plants into the soil which would be completed initially by city parks and recreation maintenance employees and finally by city residents and stakeholder groups that want to support the emergence of a local food network. After the green manure plantings have been completed, compost will be brought in via the composting network mentioned earlier to ensure the availability of the nutrient sources required for the production of quality foods in urban soils.

pathways & planters

When all necessary amendments to the soil have been completed, the permanent features of this productive and distributive node will be established. This includes a bioswale and detention pond for irrigation water, pathways for pedestrians (both those participating in production and distribution and those enjoying passive recreation), and planter beds that have raised soil structure to provide plenty of room for plant roots to grow. Between planter beds, temporary pathways will be installed with straw mulch to prevent weedy plant species from establishing and to allow rainwater infiltration into the soil. These temporary pathways will be retilled and cultivated as the planter rows the following year to prevent compaction of the soil under the pathways.

Site office

chapter 7
railroad farm

When the design has been installed, prepared, planted, and begins to produce harvest, the site becomes Railroad Farm, Birmingham's first initiative of productive and distributive space in the comprehensive local food network of 'Conscious Food Birmingham.' Railroad Farm's mission is to activate the imagination of Birmingham residents, stakeholders, and city administrators about where their food comes from and the way underused, undervalued, marginalized spaces are used and considered. In combination with newly built and admired Railroad Park, Birmingham will have multiple options other than condominium developments (i.e. food production & distribution and recreation.

The farm consists of nearly 50 bands of 3 row groupings that contain two food species a peice. Each row is planted with companion plantings, defined by Smith as

plants that have a "synergistic relationship... One or both of them appear to grow better, yield more, and sometimes even taste better when they grow near one another." (Smith 2009). Most of the beds are oriented north-south to maximize sunlight. The bands of beds that run parallel to the street network are plants that are either exclusively grown in the winter or summer. An allee of pecan trees divides the site, providing a shaded area for summer market space and connecting Culinard Cafe to an outdoor kitchen area available for rent for individuals and events. A bioswale runs through the site carrying stormwater from the farm and surrounding buildings into a retention pond. Also, fruit trees will line the street along the site - this design proposal will connect the multiple nodes of the network.
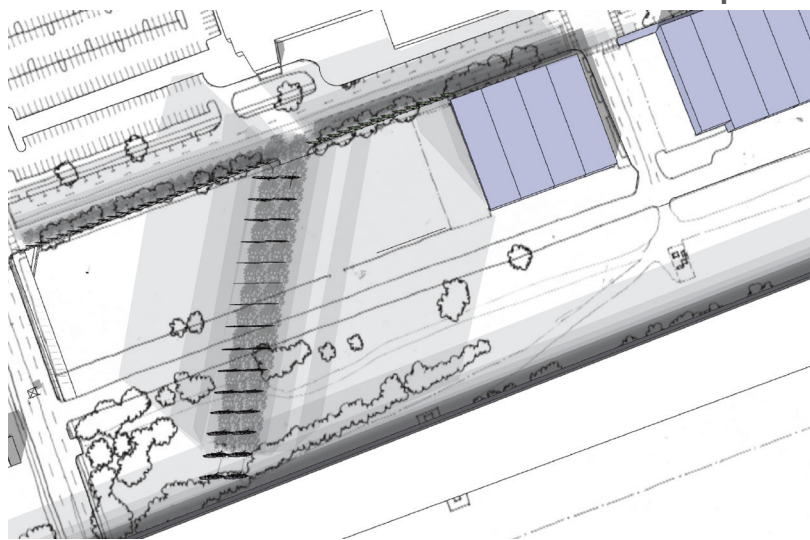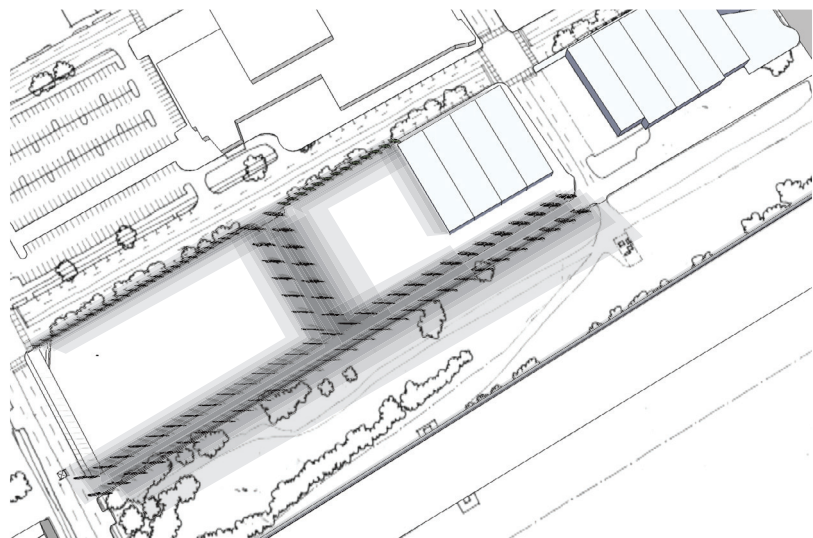
Final Plan
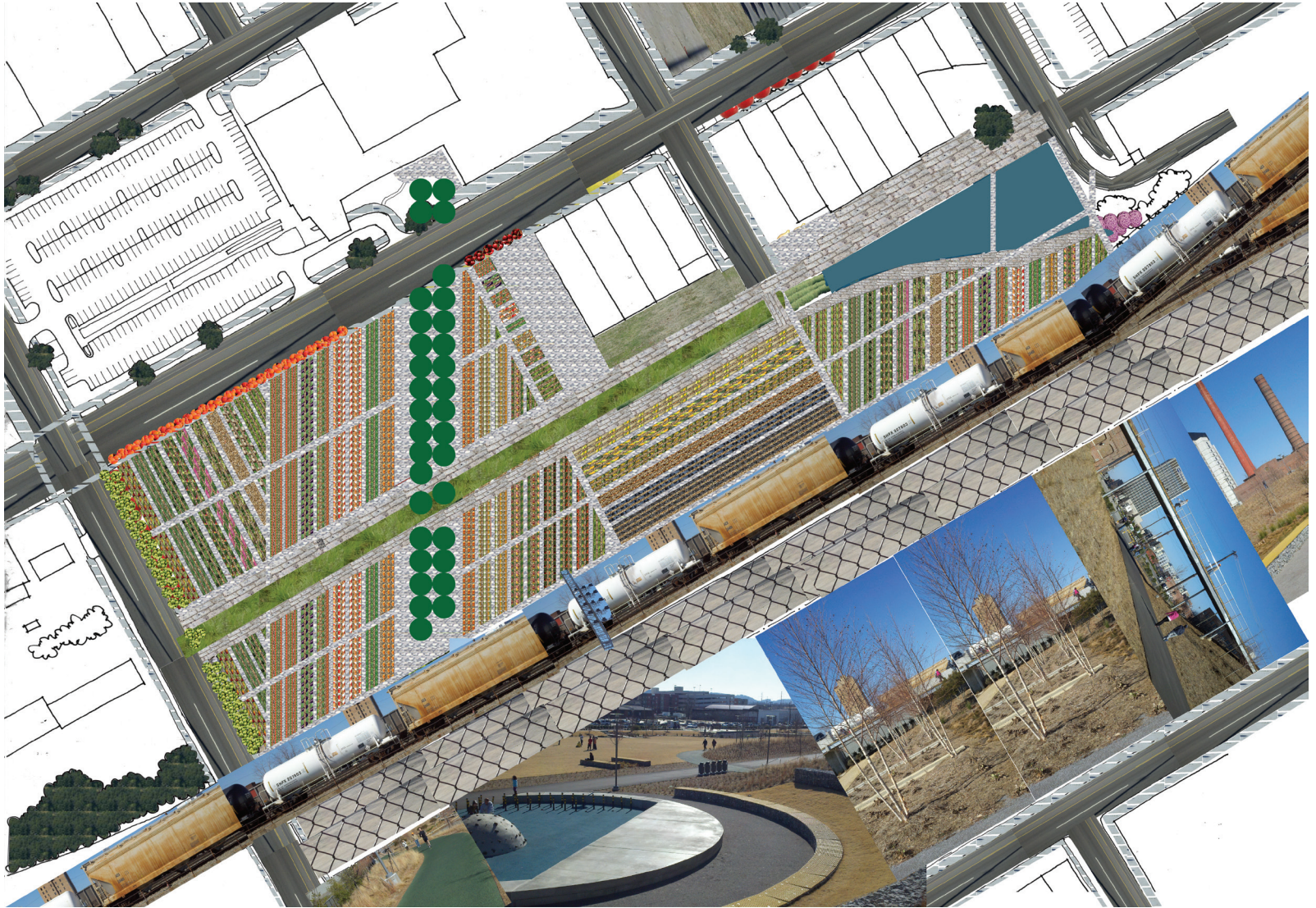
shadow study

The studies to the right were completed to understand the shadows that would be cast by permanent tree plantings within the site. These plantings will consist of fruit trees as street trees with nut trees (specifically, pecan) in the interior of the site to set up an arcade of spaces for market tents and tables stretching across the site. Study 1 was completed to understand the shadow implications of pecan trees being planted with a north - south orientation, and Study 2 was completed to understand the implications of the pecan trees being planted parallel to the existing street network. Study 1 was taken forward because the shadows cast by the north-south oriented trees sets up a division of the site based on seasons in which different parts of the site receive sun. The north-south orientation of pecan trees will also serve to reorient residents to the cardinal directions since the street network is based upon the railroad and runs southwest to northeast.
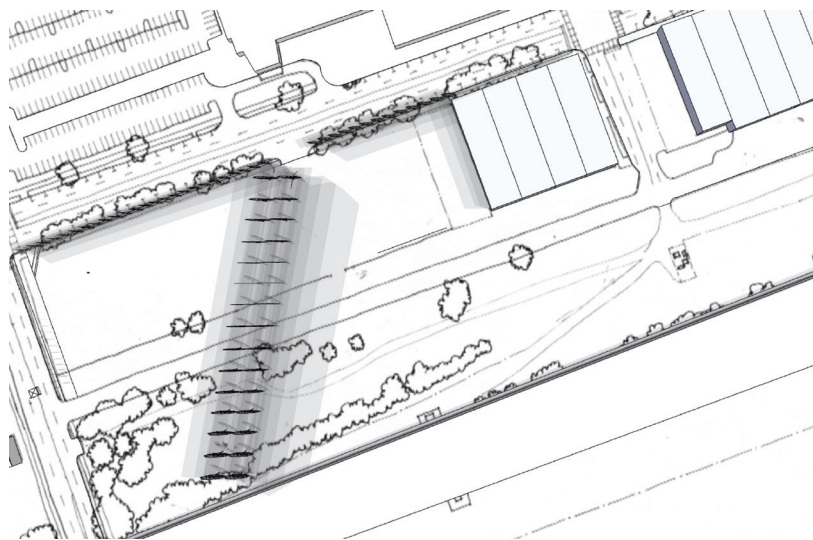
Study 1 - June 21

Study 1 - December 21

Study 2 - June 21

Study 2 - December 21

final site design

26 27 28

9 11 13 15 10
                    11
1 3 5 7   12
                    13
      8
2 4 6 10 12 14   15 16
                            16
25   9
                    17

bioswale

pecan trees

3 10 12 14   16
                        18 19
2   20
                            21
1 11 13 15 15 17   22
                            23
                            24

railroad

102
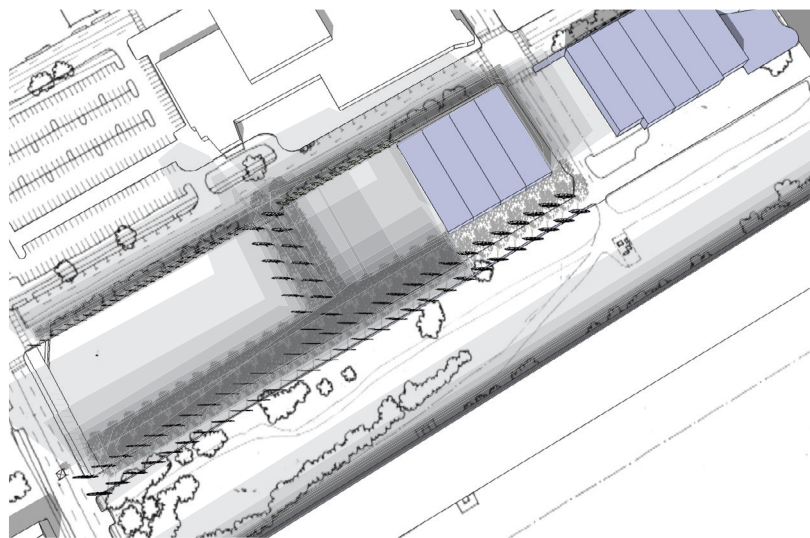
railroad farm planting plan

1. winter squash, radish, celery
2. collards, scallions
3. cabbage, kale, and spinach
4. swiss chard, bok choi
5. peas, turnips
6. asparagus, flat leaf parsley
7. purple cabbage, beets
8. mushrooms, cilantro
9. herbs
10. tomato, basil
11. eggplant, bushbeans
12. field peas, okra
13. tomato, onion
14. broccoli rabe, oregano
15. pumpkins
16. potato, chinese cabbage
17. peas, rutabagas
18. carrots, broccoli
19. corn, canteloupe
20. corn, summer squash
21. sunflowers, watermelon
22. muscadines
23. blueberries
24. blackberries
25. granny smith apple trees
26. peach trees
27. cherry trees
28. pear trees

a season in railroad farm

The four plans to the right show Railroad Farm in a time lapse over the summer season. Within each map, plants that are being planted, growing, or being harvested in that month will be visible. Those with a green transparency are being planted in that particular month, those with a red transparency are being harvested in that particular month and those that are simply visible are being grown within the month, but not being planted or harvested. The order of temporal emergence in the farm takes cues from the intial design investigation done within the site beginning in January by planting the westernmost bars of planter beds first, moving east as the year progresses. Within the series to the right, the phased planting across the site through the year is evident. These plans show the harvesting of the last of the winter crops in may, the planting of the first summer crops in June, ad the planting and harvest of the tall and permanent summer plantings within the beds oriented parallel to the railroad.
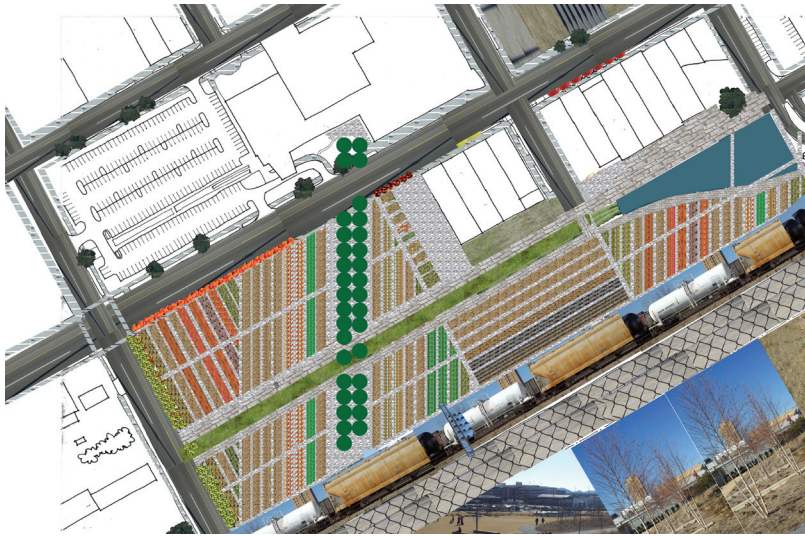
May
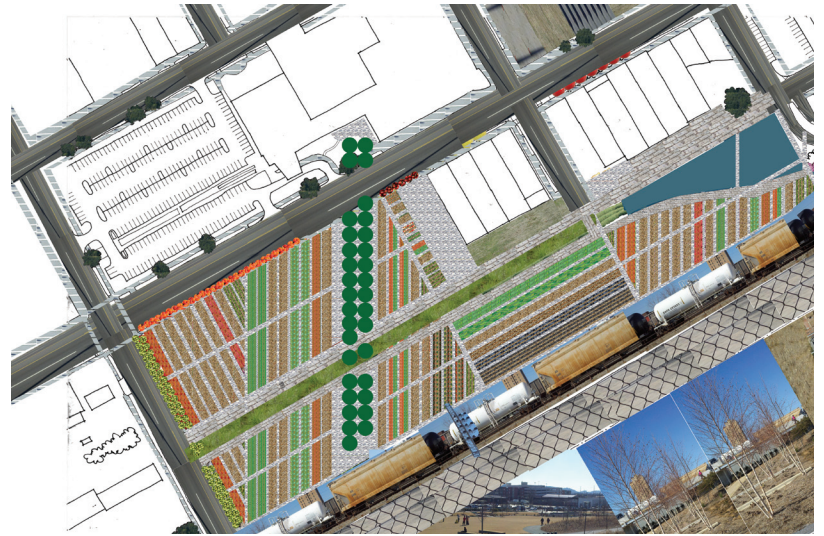
June
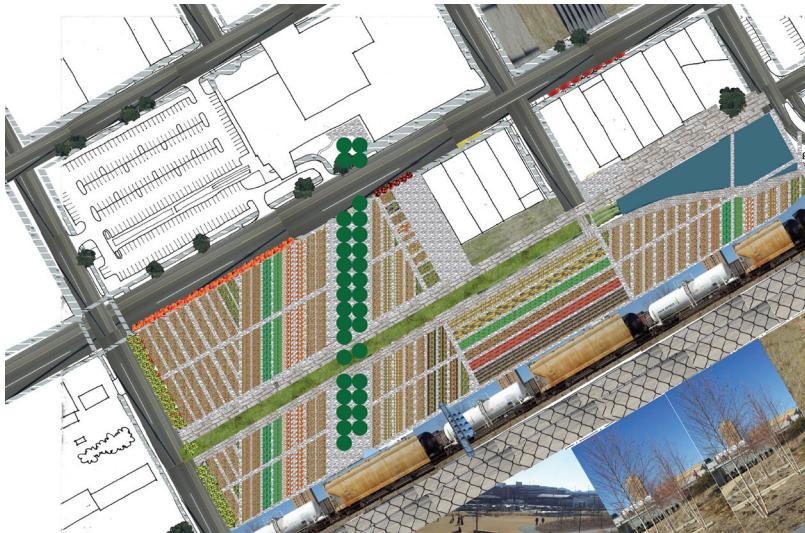
July
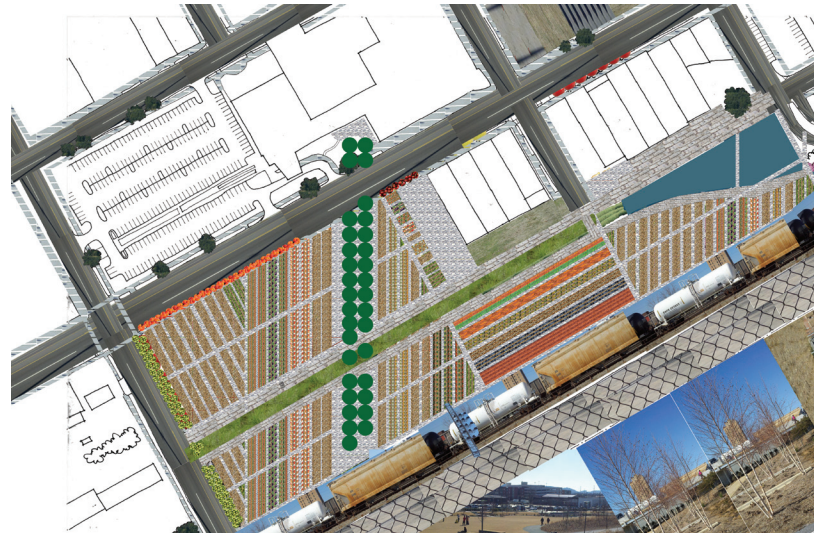
August
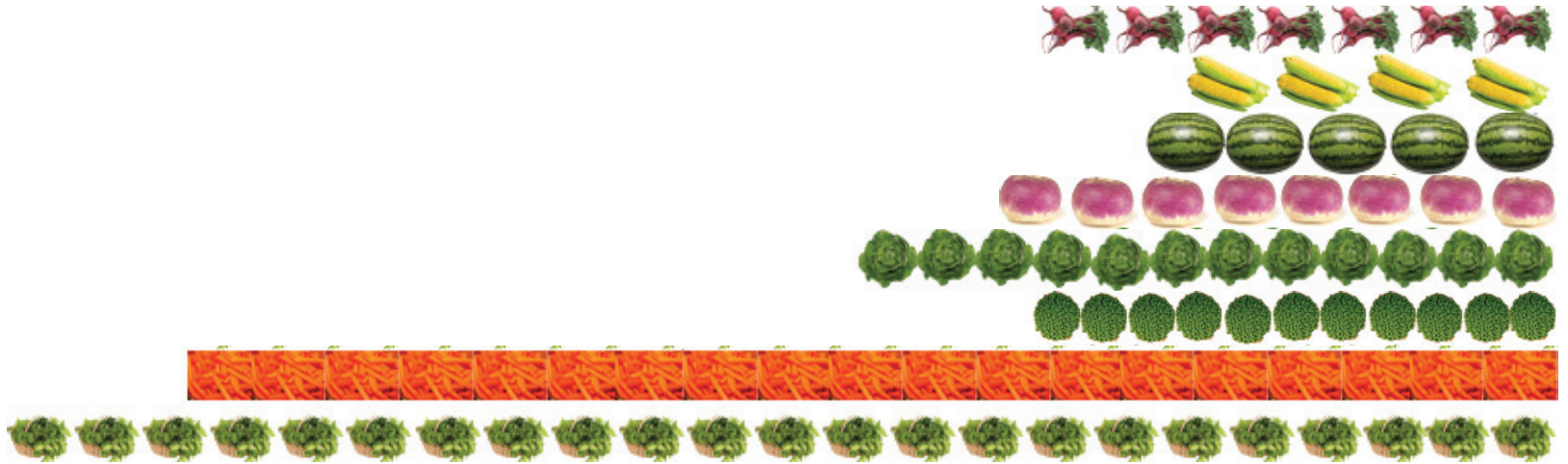
chapter 8
the network
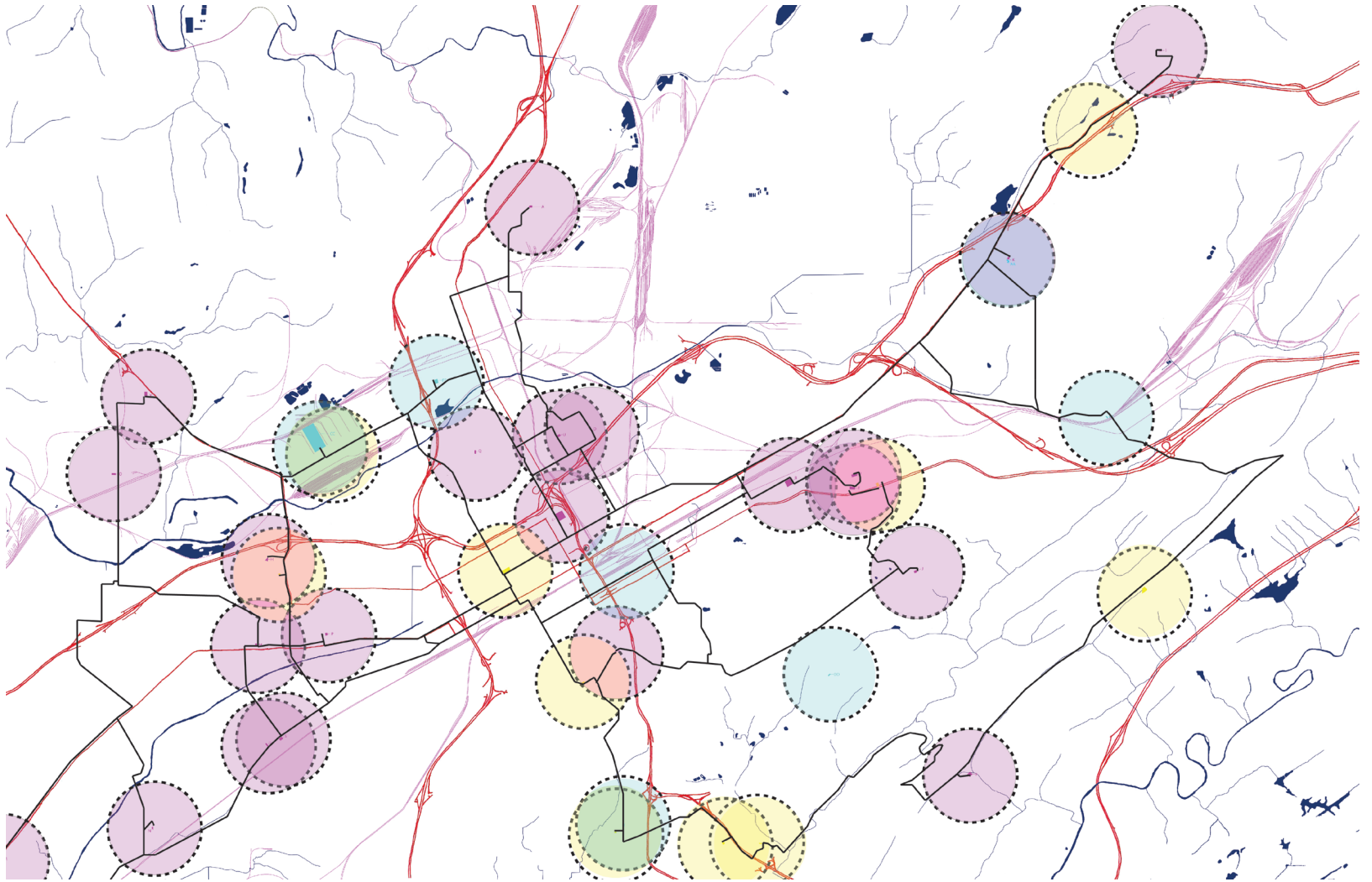
Existing Collection of Food Nodes

a network?

The idea of a network was developed because without unity, no system can grow and emerge. The existing collection of food nodes within Birmingham is an excellent step towards taking a stance in the city's food future, but without a cohesive structure to guide and aid individual entities the collection of nodes will remain a collection.

In order to coordinate the necessary components of a living, breathing local food network, an entity to bring individual stakeholders together must be created. This entity will be non-profit and named 'Conscious Foods - Birmingham (cfB).' The mission of this organization will be to guide, coordinate, and facilitate growth of a cohesive food network to benefit both investors and consumers. Through the development of the network, a raised consciousness will emerge in Birmingham residents regarding the source of their food and the connection to the land on which they live. This increased consciousness is the number one goal of the organization, and if the network were to somehow fail - the project would remain a success as long as a raised food consciousness at the urban scale has been acheived.

cfB will serve as a liaison between the city government, private investors, public interest groups, and individuals within the city. The network's success depends on a high level of mutual understanding and respect between these groups. This organization will be organized and administered by a landscape architect since the profession is especially well poised to bring the aforementioned groups together to realize common goals and develop compromises to please disparate groups.

Nodes within the network will be initially maintained by city parks and recreation department maintenance employees until investors and residents become aware of the network and begin to contribute money, time, and work to expand the network. After the network has emerged and begun to fill the food gaps within the urban fabric, the city should consider developing a department of urban agriculture to ensure the proper maintenance and care required to keep the system running.

Each node has the potential of being publicly or privately funded, depending on individual circumstances but all nodes will remain open to the public during business hours to promote urban unity and ensure that the word spreads about the network. Unlike the existing collection of nodes, the proposed network will have a connective tissue of food infrastructure to physically link individual nodes of the system. By not limiting the network to public or private, productive or distributive, a much more nuanced, dynamic system will be allowed to emerge.

network goals

- The change in mindset about where Birmingham's food comes from will be regarded higher than the quantitative "success" of the physical network.

- Historic elements of the sites shall be celebrated & integrated into new designs to tie Birmingham's past of industrial production to its future of food production and distribution.

- Network will promote affordable downtown housing near affordable, fresh food - not further gentrification of the urban core.

- Network will support rehabilitation of historic structures nearby as complimentary uses to promote urban life.

- Market spaces can act as arcades, drawing visitors from one end of the site to the other.

- Sites should be rationally organized to maximize efficiency – but not homogenous or monotonous.

- Locally important cuisines will be promoted within the development of the network. Production should be tailored to the wants and needs of consumers.

- New network nodes will not compete with existing food nodes but complement them and connect them together.

- Fruit and nut trees will be utilized as street trees when possible in and between all food nodes.

- Vacant lands with the potential to become food nodes will be regarded as a resource, not a commodity. (Often there are more profitable uses for land than food production or distribution).

- Local interest groups will be utilized in the planning and implementation of the network from the planning phase to the harvest / market phase.

- A non-profit entity will be created to ensure a shared vision in the development of the network.

- Planting beds run N-S (as a general rule) to avoid unwanted shading.
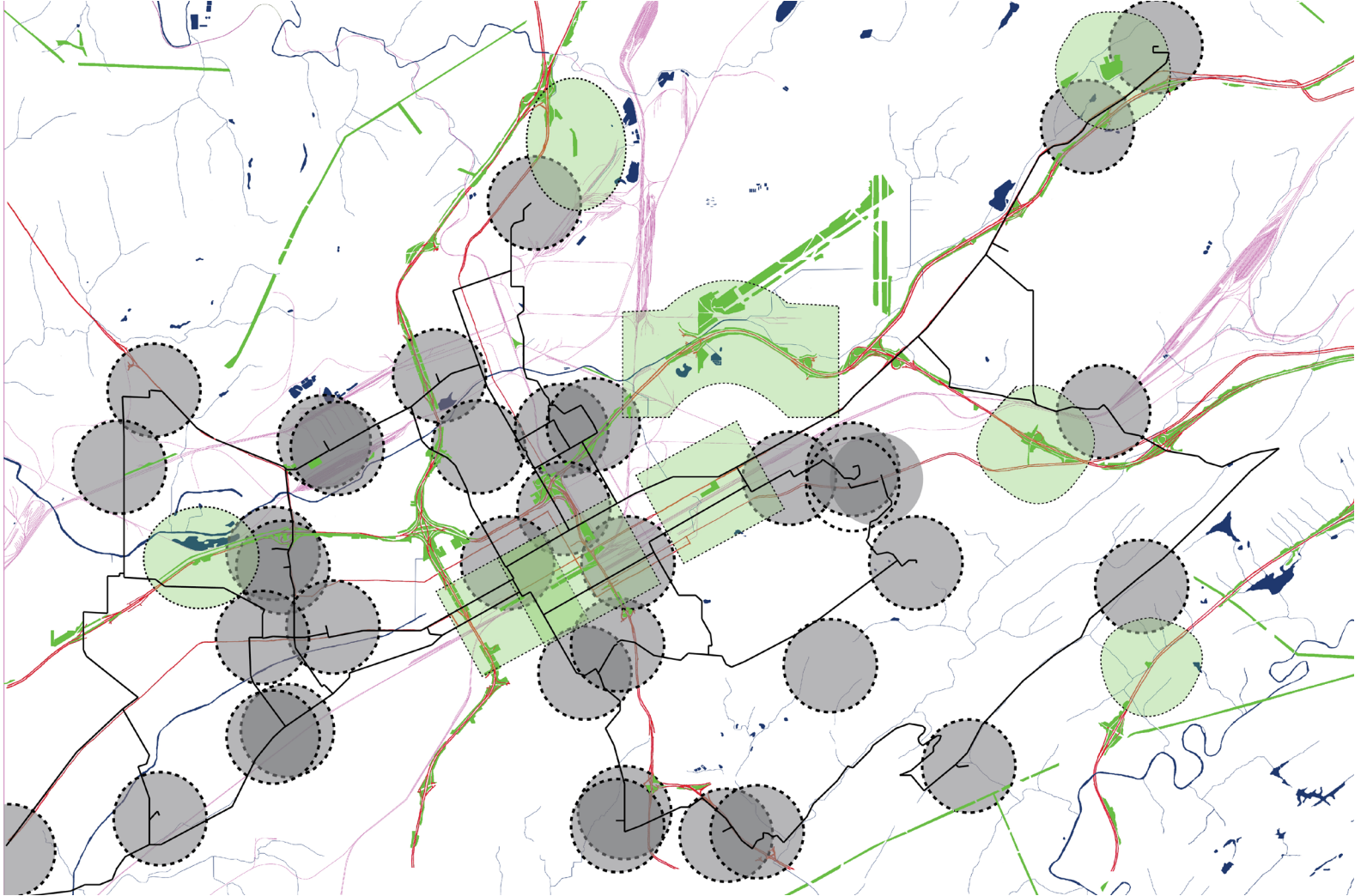
phase 1a - food nodes in the margins

After the establishment of Railroad Farm as the first food node to be implemented into a marginalized site, the network will expand to include other such marginalized areas around the city. These marginalized spaces are shaded in lime green transparency, indicating the 10 minute pedestrian shed around them. By utlizing these spaces, Birmingham residents receive preferential uses in undervalued spaces and more residents have access to locally produced and distributed foods within walking distance. As the map indicates, Railroad Farm will bring the food coverage of downtown Birmingham to near 100%, hopefully providing incentive for residents to relocate back to the urban center. Areas farther outside the city that are not located near infrastructure that causes marginalized areas do not receive benefit from the addition of food nodes within these spaces so additional phases are necessary (see remainder of chapter).

phase 1b - food nodes at schools

After all appropriate marginalized spaces have developed into food nodes, schools (red figure grounds) that lie along existing connectors (outlined in black) between existing nodes (grey circles) will be initiated as educational food nodes. Schools are especially useful for the development of the network since they often reach zones much larger than a pedestrian shed just by the nature of the school zone (red transparency). As the network expands to multiple school sites, more connectors emerge to physically link nodes together. Although these educational nodes may not provide the quantity other types could cultivate, students from Kindergarten to University will learn the value of locally grown foods and the techniques required to grow and distribute them. These schools will become gathering places for neighborhoods to discuss issues related to food and health and the establishment of a local food program may spark interest in a farm to school initiative to further take control of their food futures.
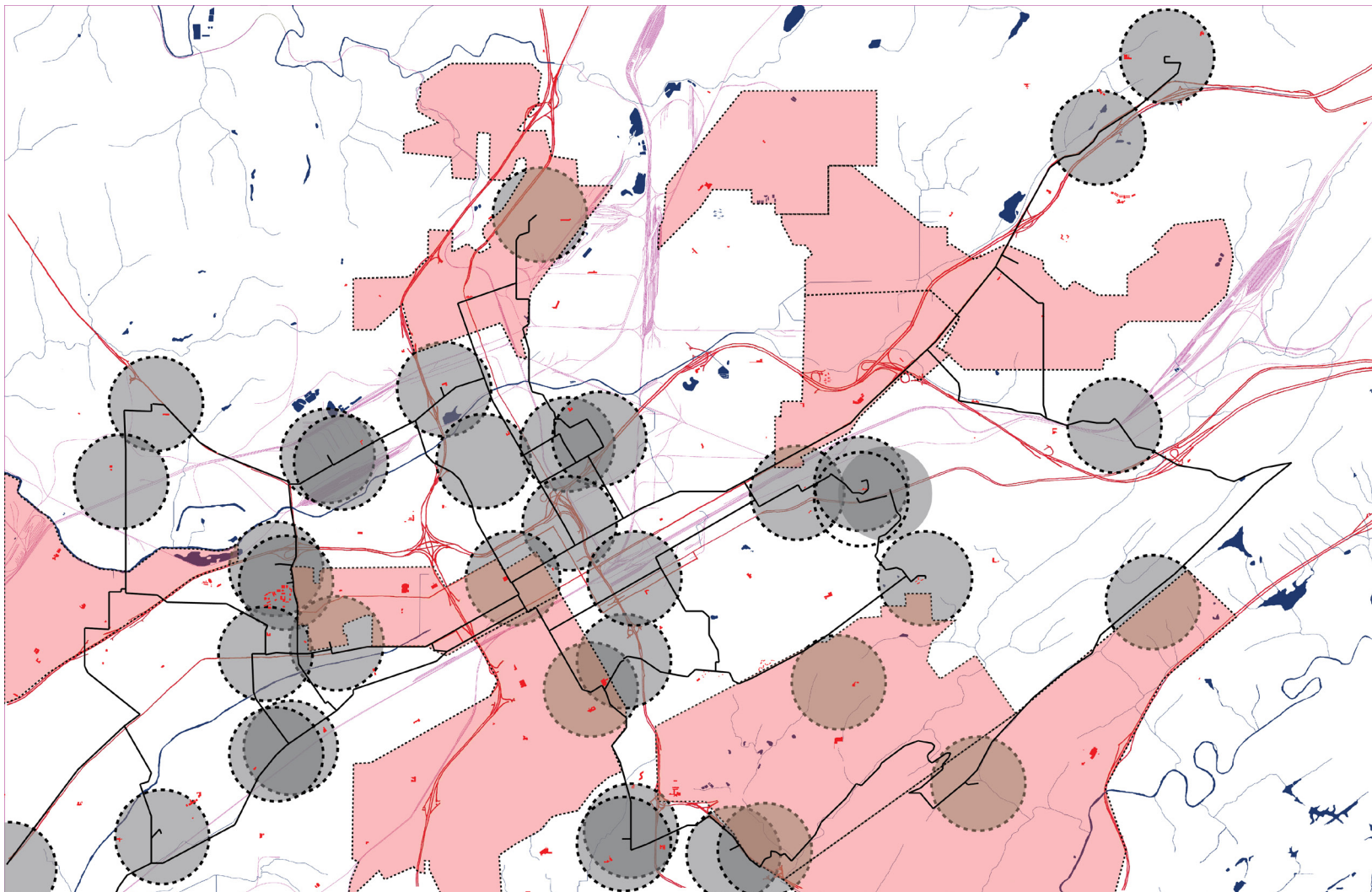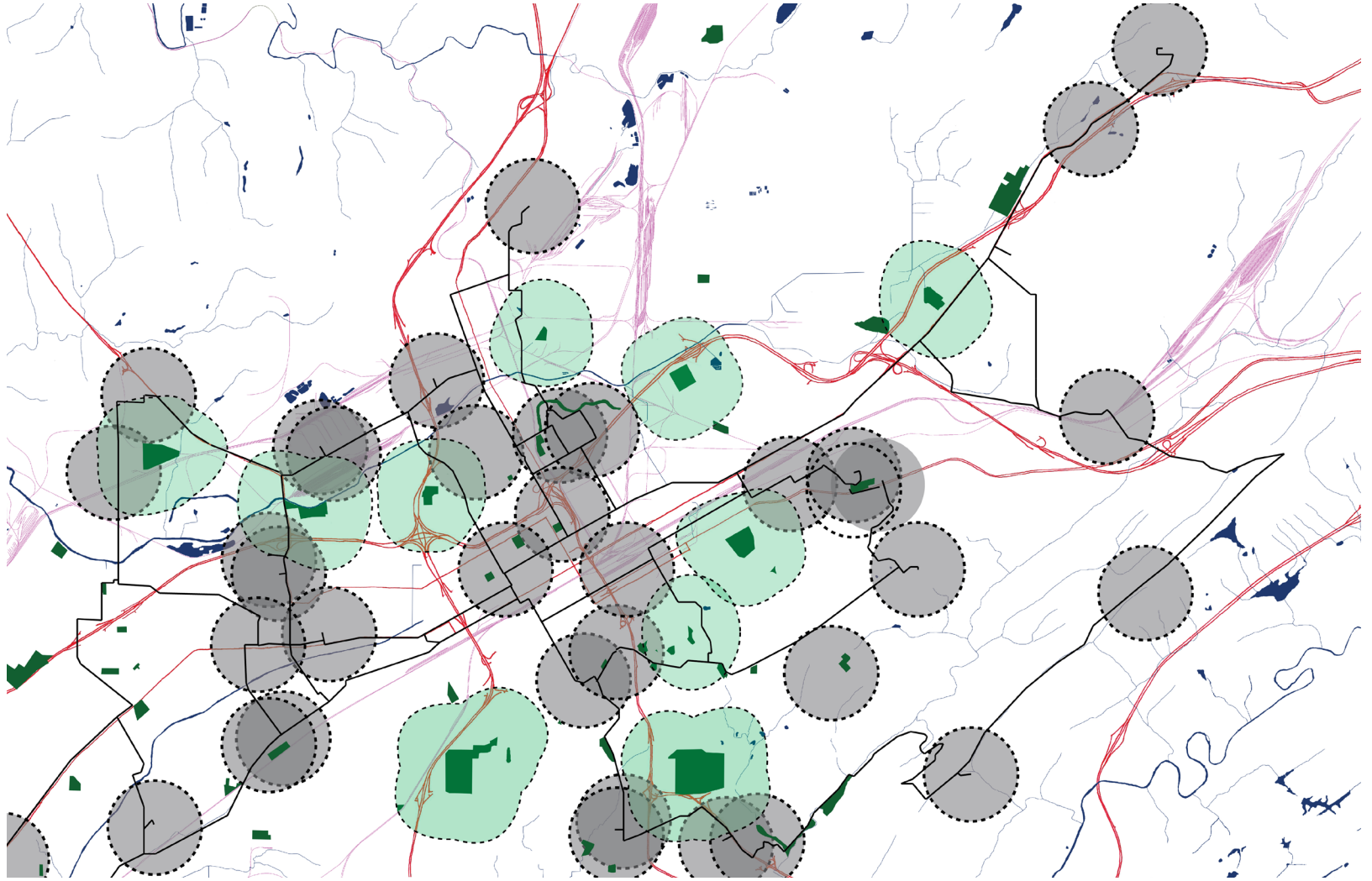
phase 1c - food nodes in the parks

After both marginalized spaces and an initial phase of schools have been activated as food nodes within the city, a phase of food nodes within park spaces will be initialized to further expand the network. These park spaces were chosen in the same way the schools were, sites that exist between existing nodes along existing connectors between the nodes. As the map to the left indicates, the activation of these nodes will serve to fill gaps not well covered by the school nodes. The design of nodes within park spaces will take cues from the design experimentation within Patton Park. Existing parking areas for these parks, when necessary, will be used for temporary weekly market spaces, allowing residents to procure locally produced foods without having to rely on the automobile for transport. Although not 100% of the space within these parks can be utilized for food purposes, each park can include some necessary components of the network (i.e. composting, markets, community gardens, etc.).

phase 1 (complete)

When phase 1 has been completed, food nodes will exist within marginal spaces, schools, and parks throughout the urban fabric. The map to the right shows the areas included in the network through pedestrian sheds and school zones. Most areas of the city will have sufficient coverage to connect to the local food network, but areas within the extent areas of the school zone coverage still may live too far from a node to fully benefit from its existence. This phase illustrates that the reasoning driving site selection for food nodes is satisfactory, but the network needs to expand into additional sites of these kinds. Even though the majority of residents would now have access to locally produced and distributed foods, a further extension of the network is necessary to fully capitalize on the city's existing infrastructural networks. Phase 2 attempts to fill the gaps left by the existing nodes and Phase 1 of the Conscious Foods Birmingham local food network.
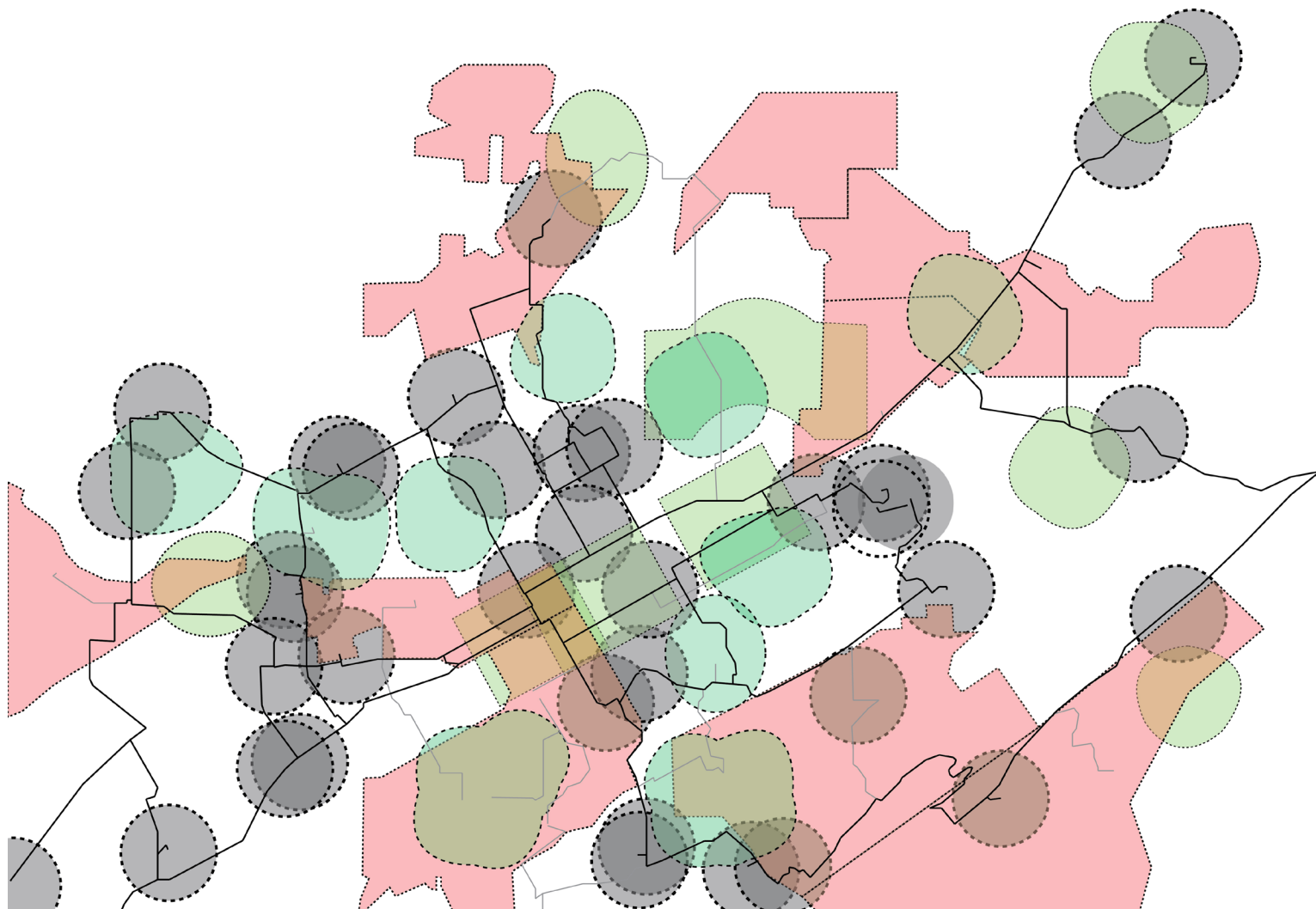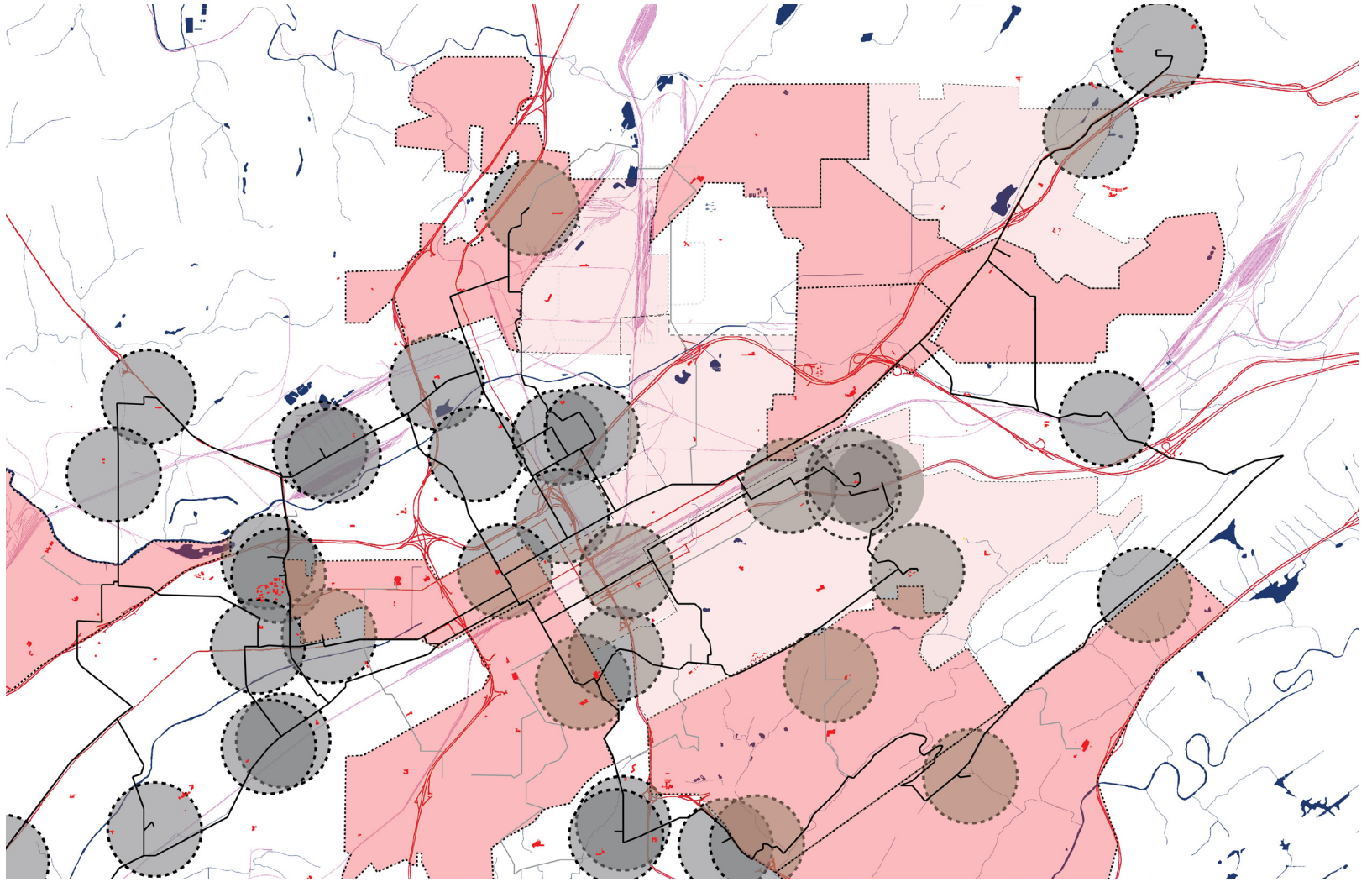
phase 2a - more schools

For the second phase of educational node development, schools that exist within zones not covered in the first phase will be initialized as nodes. These zones are illustrated with light red transparency; phase 1 schools are denoted with a darker red transparency. Phase 2 will serve to fill any gaps left after the completion of Phase 1. As indicated by the map, most of the school zones in the city of Birmingham now have access to an educational food node within one of their community's schools.

phase 2b - more parks

For the second phase of node development within park spaces, parks that exist within areas not covered in the first phase will be initialized as nodes. These parks are illustrated with light green transparency; phase 1 parks are denoted with a darker green transparency. Phase 2 will serve to fill any gaps left after the completion of Phase 1. As indicated by the map, most of the districts in the city of Birmingham now have access to a food node within an existing park space in their community.
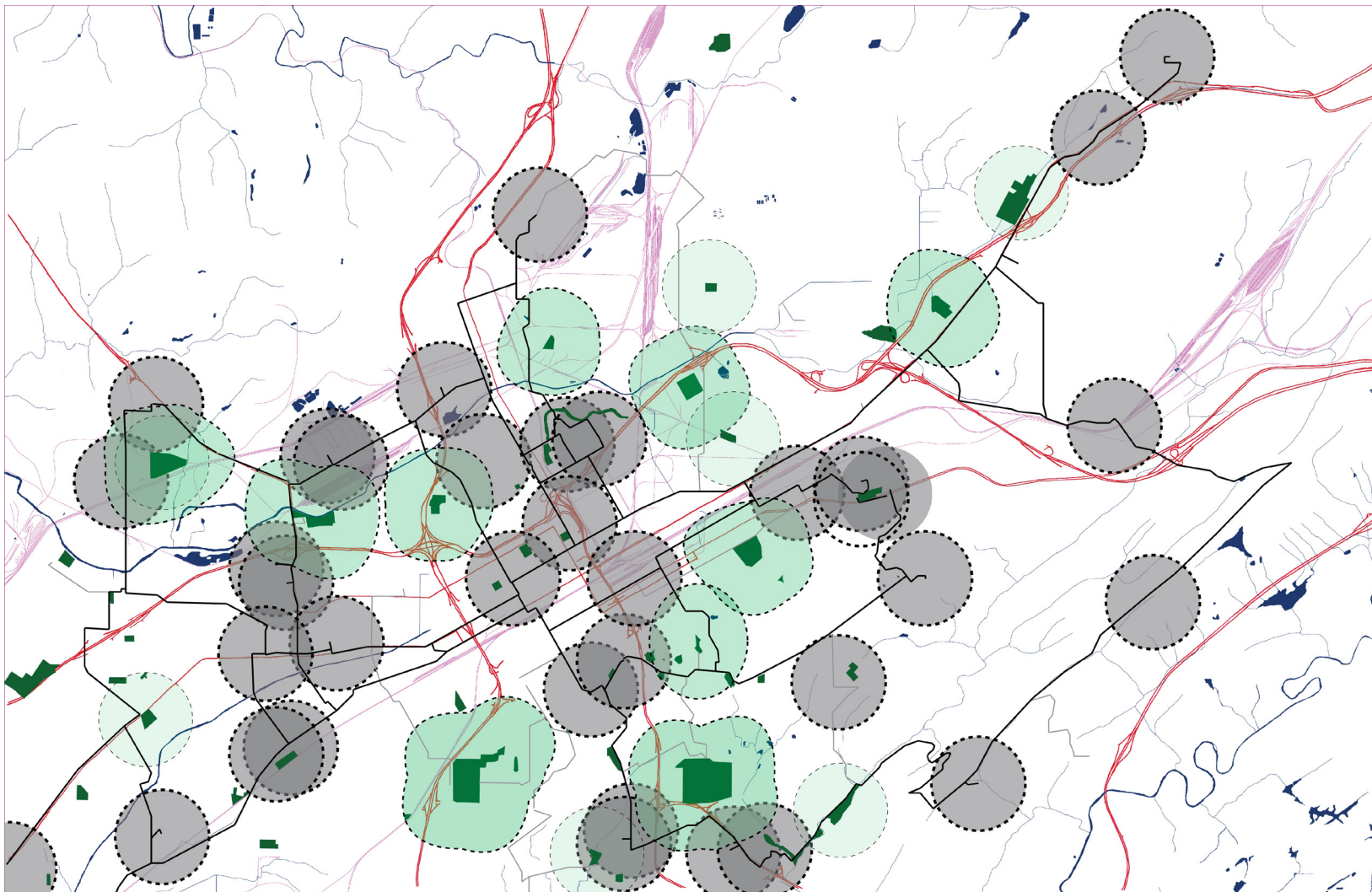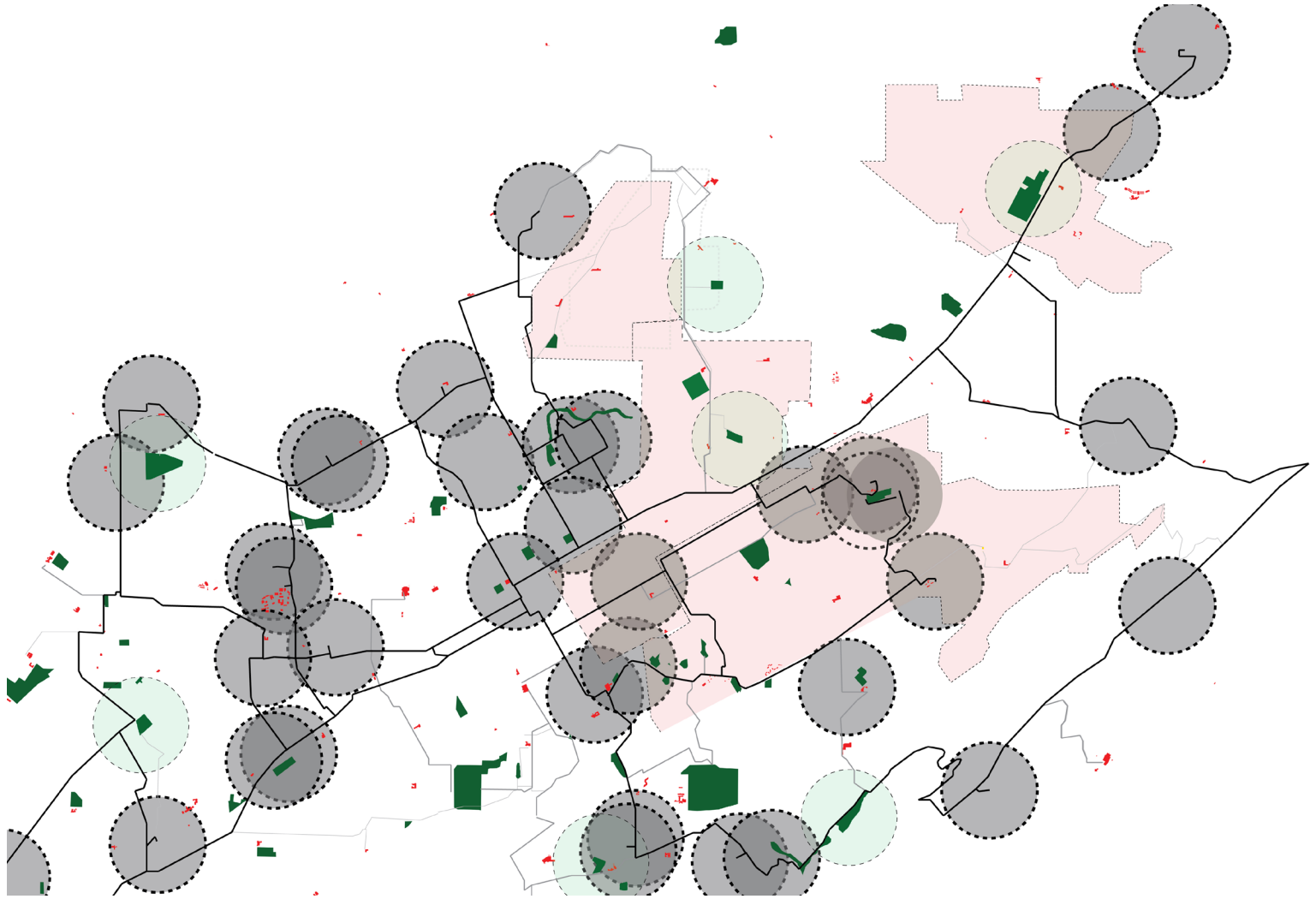
phase 2 (complete)

Phase 2 of the local food network is focused upon filling gaps in the system left from phase 1 and the existing collection of food nodes. The map to the left indicates the few addtional school and park spaces added to the network in Phase 2. This phase of network development is noticeably less intense than phase 1 as less spaces will be needed as the network continues to develop and emerge. After all potential park and school spaces have been integrated into the netowork, other underutilized sites within the urban framework will be expanded to as the market for local foods grows with the growth of the network as a whole.

the network (complete)
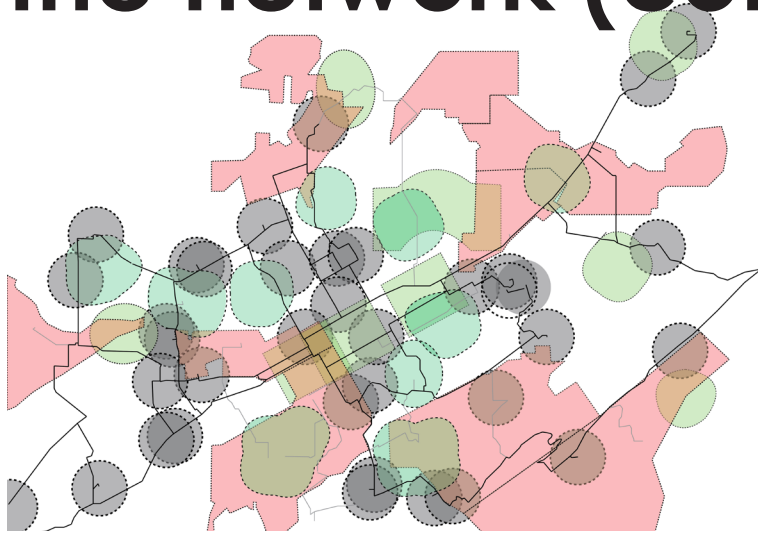
Phase 1

Phase 2

After the initiation of the network via the establishment of Railroad Farm, Phase 1 & 2 of the network (as seen above) will utilize marginalized spaces, schools, and parks in order to effect as many residents' imaginations as possible regarding place-based food systems and the reclamation of underutilized or undervalued open lands within the city. As the network emerges across the city, new connectors will be activated and utilized as productive landscapes themselves to make the network more than the collection of nodes it is today.

As the final network map to the right points out, once the network has developed and both phases of implementation are complete, the large majority of the city of Birming-

ham will have easy and ample access to the services provided by Conscious Foods Birmingham.
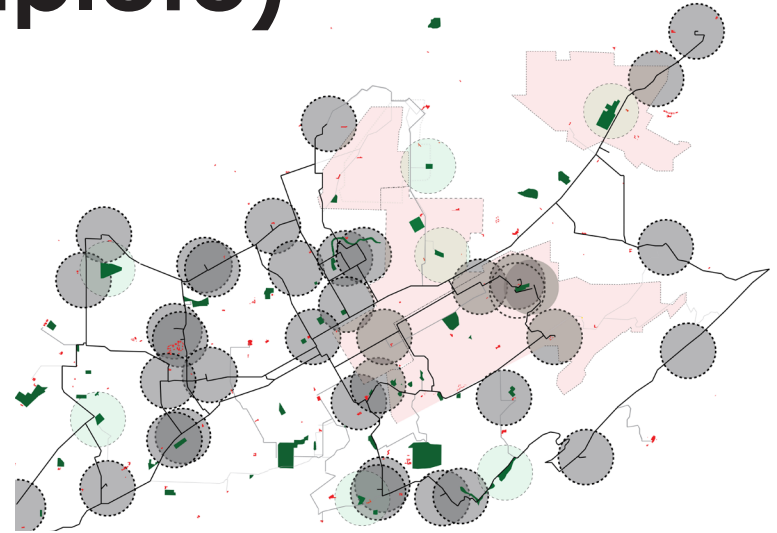
Although the phases outlined in this project are based on a thorough investigation of conditions favorable and necessary for nodes of food production and distribution, these do not represent the only potential spaces within the city for network emergence. The network should and will respond to the needs of the residents, therefore the final network will not necessarily be exactly as illustrated in the mapping to the right. The network described in this project represents only one possible expansion scenario out of an infinite number of possibilities, and this project makes no claim that the network described here is the only way to success.
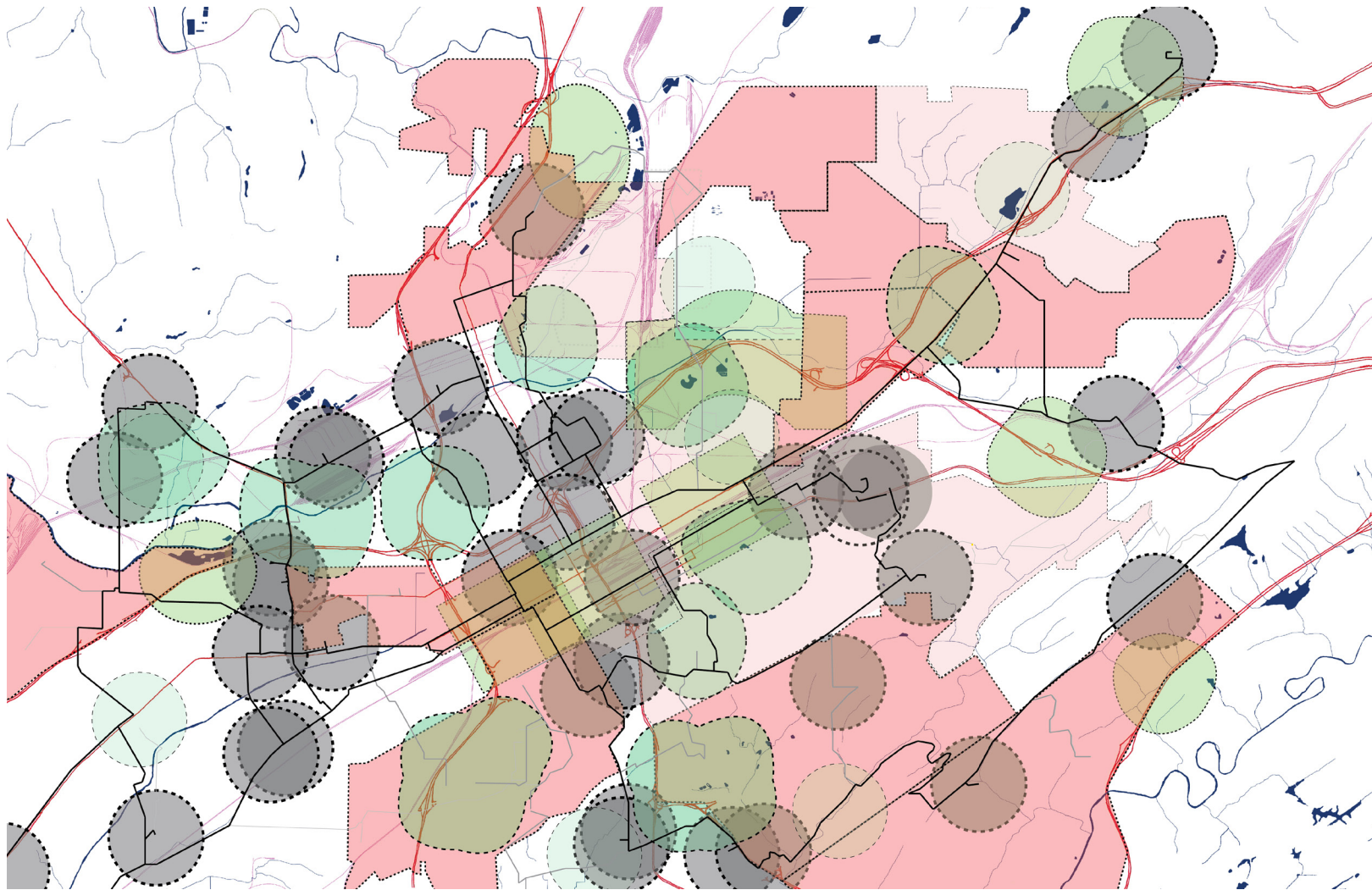
Conscious Food Birmingham - Local Food Network
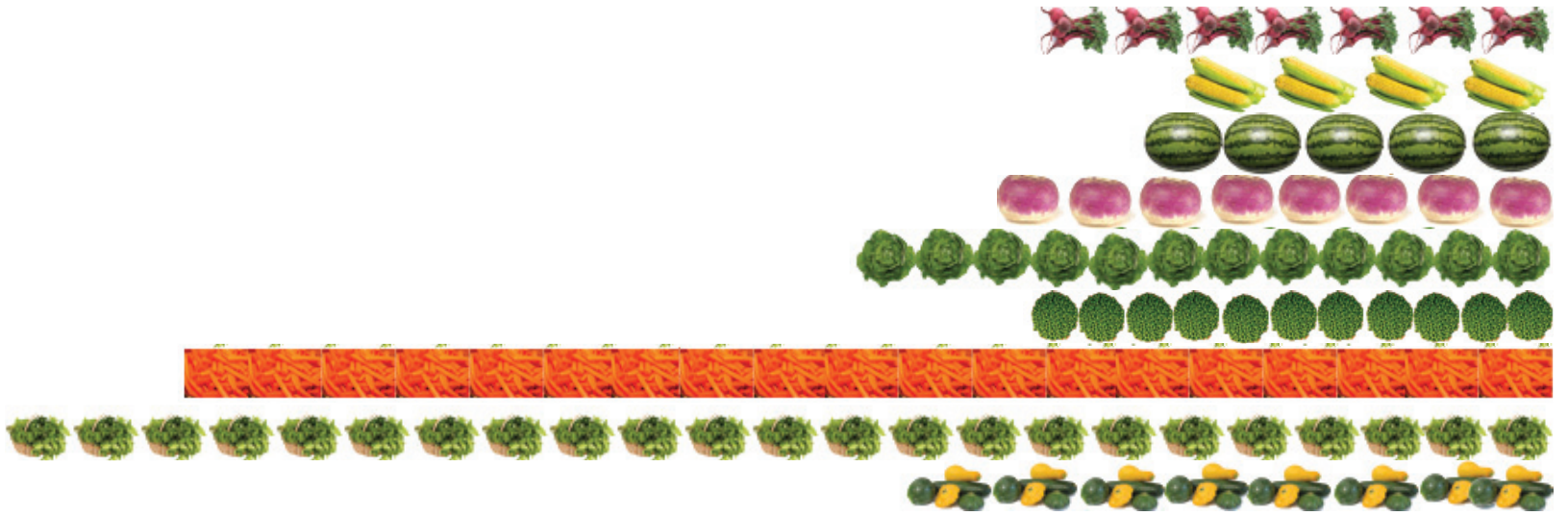
chapter 9
conclusion

how this project stands out

- Connected to other urban initiatives
+ Open Space Network
+ Residential Revitalization
+ Ecological Corridors

- The nature of the NETWORK
  + the shared vision of the network as a whole
  + more than just a collection of singular
entities

-Initiated through prototypic design of a central urban
farm that illustrates how a local food network could be-
gin to operate at the
urban scale.

measureable criteria

Goal: Birmingham residents will eat food grown locally.
Measureable Criteria: Survey consumers at local food nodes to count who is buying the food.

Goal: More Birmingham residents will have easier access to food grown locally.
Measureable Criteria: Count number of residents within a certain proximity to local food nodes.

Goal: Effect residents' connection to their locale by providing opportunities to contribute to a local food network.
Measureable Criteria: Survey local businesses and restaurants with a local food emphasis to compare to years before; also survey the number of private/community vegetable gardens started after the integration of the local food network.

Goal: Provide a garden that supplies all the food necessary for a complete meal.
Measureable Criteria: Calculate projected yields of the various foods and provide year-round production; also, provide necessary facilities for preservation of out-of-season foods.

Goal: The designed food network will be connected both physically and socially.
Measureable Criteria: Provide cues within the major pathways between food nodes and set up an organization to oversee the network and be the bond that holds disparate local food groups together.

Goal: The city's vacant and marginalized spaces will be exploited for their potential for food growth.
Measureable Criteria: Determine who will maintain these spaces and who owns the properties to determine real feasibility of this goal.

conclusion

reflections

 A food network is much more than a collection of spaces – it involves an interweaving system of participants and component parts. If I were to do this project again – I would jump into site design much sooner than I was able to in this project in order to more thoroughly understand the complexities involved in on the ground farming and distribution of food. I sincerely believe this project could be intensified and pursued within the City of Birmingham – as it is evident that interest in local foods is blooming.

 The network described within this project relies heavily on citizen / stakeholder / city cooperation and the lack thereof would result in another collection of nodes rather than comprehensive network. Individual nodes also depend on this cooperation, limiting their potential emergence. The proposed network and nodes will also depend heavily on the success of the entity created to coordinate disparate parties, putting a large burden upon the landscape architectural coordinator of Consious Foods Birmingham.

 If this project were to continue, I would further investigate soil contaminants of marginalized spaces to make the network more practical and scientifically sound project. Also, a more thorough investigation of ways to bring stakeholder and interest groups together within the design and implementation process.

 Although this project was successful as one of research by design, the design and mapping methodologies employed belong to the subfield of landscape planning, which often remains at the urban scale (much as this project has). The planning aspects of this project have allowed me to understand the broad scale concepts necessary for such a network to emerge, but the breadth of these aspects prevented me from exploring site design as in depth as necessary for a fully comprehensive project.

 Overall, this project has broadened both my knowledge of local food network development and the field of landscape architecture as a whole. The project has increased my passion for the topic and if given a similar project in practice I would be able to activate the project much more quickly and efficiently.

list of illustrations

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"you are where you eat."

reconnecting Birmingham, AL residents to their
landscape through a local food network

In an age of increasing globalization and expanding food distribution networks the distance between food sources and consumers is growing at an alarming rate. With this growing gap comes the increased separation of ties between citizens and the land on which they live. Several Birmingham, AL groups and residents have recently begun efforts to re-emphasize the importance of food that comes from where it will be eaten. The existing food network of Birmingham has the beginnings of a potentially successful venture, but without a comprehensive and cohesive food network the system will be piecemeal and ineffective. The food infrastructure of Birmingham must be seen as a system of both production and distribution of small scale, quality agriculture rather than the existing infrastructure of interstates, tractor-trailers, and mega-agricultural operations. This research investigates the kinds of productive and distributive spaces that need to be integrated in order to implement a local food system for Birmingham, AL. It does this by means of design experimentation and layered mapping. Selected urban sites will be designed to begin the phased implementation of an interconnected, cohesive food network that both changes the way citizens relate to the land on which they live and surrounds them with fresh, quality food.

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auburn university
college of architecture, design and construction
school of architecture
master of landscape architecture
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