

URBAN AGRICULTURE, ATLANTA, & THE REGULATORY CONTEXT

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SUMMARY

PROBLEM: A growing body of research investigates the relationship between the built environment and health, specifically the health consequences for those with inadequate access to affordable and healthy food—because there are no nearby markets or because available food is not affordable. Sustainable urban agriculture offers opportunities at many scales to bring healthy food back into the city and closer to those seeking it; however, today’s regulatory system does not offer clear legal avenues for those seeking to initiate urban agriculture programs and operations.

PURPOSE: The purpose of this investigation is to better understand the potential for food production in urban environments and ways cities can revise regulatory frameworks to facilitate and encourage sustainable food production.

METHOD: I first researched the current state of food systems in urban environments and identified the possibilities and limitations of commercial urban agriculture operations, community gardens, and household agriculture. I then investigated the agriculture initiatives of other cities. And finally, I researched Atlanta’s current urban agriculture projects, conducted a close read of Atlanta’s relevant regulatory framework, and made recommendations to encourage sustainable food systems in Atlanta.

CONCLUSION: Cities, counties, local governments, communities, and individual households all influence local food production potential and each play a role in creating long-term sustainable food system plans. At the city level, zoning and policy updates that allow and encourage urban agriculture, land inventories and assessments, and city-sponsored programs to encourage community gardens and farmers markets are valuable tools for developing a sustainable food system. Cities and communities are utilizing vacant parcels, public rights of way, un-used green spaces, and under-used parking lots for both temporary and permanent urban agriculture projects. Whether it’s animal husbandry, raised-bed gardening, or simply planting some edible greens or fruit-bearing trees, gardeners and policy makers are creating innovative ways to make urban vacant space productive. Cities throughout the country are initiating urban gardening programs as interim uses for vacant properties—and others are creating regulatory frameworks that establish permanent agriculture uses. Urban farms, community gardens, and local markets have become ubiquitous in sustainable urban development discourse—and regardless of the approach, urban agriculture is gaining recognition as being vital to economic, social, cultural, and environmental security.

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INTRODUCTION

In recent years, access to food in the city, particularly access to healthy food, has garnered much attention from researchers, policy-makers, and local activists. Where individuals obtain their food and what they actually consume not only has socio-economic and environmental implications—but it is also critical to public health. Studies abound linking poverty and obesity—and ironically, some the most impoverished neighborhoods in the United States are also saddled with some of the highest obesity rates.¹

Today an estimated 80% of the United States population resides in cities or metro areas—and these numbers are growing.² And as populations grow, so does the demand for food—and as cities grow, so does the distance between food production and food consumption. The average American meal travels between 1,500 and 2,500 miles from its source to the table, which is an estimated 25 percent increase over the distance traveled in 1980.³ And an estimated 50% of food products transported is lost to spoilage.⁴ This dramatic change is largely due to the transformation of agricultural production over the past few decades from smaller-scale farms to large industrial agri-businesses. This change in the scale and geography of food production has had detrimental effects on public health, local economies, and the environment—and some researchers argue these consequences amount to a food-security crisis.⁵

¹ Dolnick, S. (2010, March 12). The Obesity-Hunger Paradox. *The New York Times*. Retrieved October 20, 2010, from <http://www.nytimes.com/2010/03/14/nyregion/14hunger.html?hp>

² Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

³ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁴ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁵ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

BACKGROUND

Many researchers and activists argue that the current food production system, which is centered upon monoculture crops and intensive animal feedlots, is inefficient, wasteful, and environmentally damaging. Assailants of the current industrial agriculture practices are compiling a growing list of industrial agriculture's offenses. For instance, researchers are beginning to link industrial agriculture to loss of biodiversity among plants and animals. Additionally, fertilizers, pesticides, and animal-antibiotics often compromise food safety and pollute the environment. Many large-scale farms also use water resources and non-renewable energy at unsustainable rates. And lastly, evidence exists suggesting that the monocrops produced by such operations yield foods that are often nutritionally poor.⁶

Not including energy required for food transport, the average farm in the United States requires 3kcal of non-renewable fossil fuel energy to produce 1 kcal of food energy—and a cattle feedlot requires 35 kcal of fossil fuels per 1 kcal of food energy.⁷ Such inefficiencies of the American food supply system will continue to increase as the consumption of factory-farmed meat increases. In 2000, the average yearly meat consumption per capita in the United States was 195 pounds—and this number is 57 pounds greater than the national average of the the 1950's.⁸ Cattle require 7 kg of grain to produce 1 kg of beef, pigs require 4 kg per 1 kg of pork, and poultry require 2 kg per 1 kg of meat produced.⁹

⁶ Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture. *Environmental Health Perspectives*, 110(5), 445-456.

⁷ Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture. *Environmental Health Perspectives*, 110(5), 445-456.

⁸ Agriculture Factbook 2001-2002. (n.d.). *Chapter 2: Profiling Food Consumption in America*. Retrieved October 10, 2010, from www.usda.gov/factbook/chapter2.htm

⁹ Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture. *Environmental Health Perspectives*, 110(5), 445-456.

Not only can the modern food system be environmentally damaging, but it can also have extreme implications for public health, especially for minorities and low-income individuals.¹⁰ There is a growing body of research investigating the relationship between the built environment and health, specifically the health consequences for those with inadequate access to healthy food—whether it be because there are no markets or because available food is not affordable. According to researchers, one in ten families in the United States is ‘food insecure,’ meaning they experience periods of time in which they are uncertain of having enough food for all members of the household—either because of insufficient money or because of inadequate access to food.¹¹

Minorities, low-income individuals, and those who live in rural areas have the highest rate of diseases stemming from a diet lacking in nutrient-rich food. The built environment is one of the greatest contributors to the health disparities that exist between different socioeconomic classes: “low-income areas have fewer supermarkets and groceries that carry healthy foods than do predominantly white, middle- and high-income neighborhoods; stores in low-income neighborhoods stock fewer healthy items and have significantly lower-quality fresh produce; when available, the cost of fresh foods in low-income areas is often prohibitive; and public transportation to supermarkets is often lacking.”¹²

Researchers emphasize the distinction between access to food and access to healthy, nutrient-rich food; however, while an awareness of healthy calorie availability is a starting point, an assessment of the adequacy of a neighborhood’s food access must consider a broader definition of the ‘quality’ of food—researchers and policy makers should also consider whether the environment provides food that is nutritionally sound, affordable, and culturally appropriate.¹³

¹⁰ Friedman, R. R. (2008). *Access to healthy foods in low-income neighborhoods: opportunities for public policy*. New Haven, Ct.: Yale University Rudd Center for Food Policy & Obesity.

¹¹ Freedman, D. A., & Bell, B. A. (2009). Access to Healthful Foods Among an Urban Food Insecure Population: Perceptions Versus Reality. *Journal of Urban Health*, 86(6), 825-838.

¹² Friedman, R. R. (2008). *Access to healthy foods in low-income neighborhoods: opportunities for public policy*. New Haven, Ct.: Yale University Rudd Center for Food Policy & Obesity.

¹³ Raja, S., Ma, C., & Yadav, P. (2008). Beyond Food Deserts Measuring and Mapping Racial Disparities in Neighborhood Food Environments. *Journal of Planning Education and Research*, 27(4), 469.

Community gardens, urban agriculture programs, and farmers markets seem especially appropriate in addressing this need. Research shows that individuals living close to a supermarket consume a healthier diet—likewise, those with access to affordable fruits and vegetables typically have a lower body mass index¹⁴

URBAN AGRICULTURE HISTORY & REGULATORY CONTEXT

The City Beautiful movement of the late 19th Century and early 20th Century emphasized the need to bring order to the urban framework and purge the city of anything potentially unhealthy, unattractive, or inefficient. The City Beautiful ideal sought to push industry out of city centers, and with the industry went public markets and any land use associated with food production or processing.¹⁵ And while this purging was perhaps justifiable given the urban context of the time, the system has grown to a scale that sometimes contributes to un-health and environmental deterioration instead of improving the health of urban environments. Although planners of the era did consider the consequences of the geography of food production relative to the consumer, agriculture in the United States was transforming from a more or less local farm system to a monocrop agri-business system operating on a nation-wide scale.¹⁶

Under the United States traditional land use patterns and given the current scale of production, food is generally produced outside of the city. Contemporary zoning practices are often targeted as the culprit for the current state of cities' food systems; however, since the colonial era, separated land use patterns have been prevalent—wherein, nuisance-producing operations such as slaughterhouses and tanneries were relegated to the outskirts of town.¹⁷ Today, in the average city's regulatory framework, many codes interact to regulate food production location,

¹⁴ Rundle, A., Neckerman, K., Freeman, L., Lovasi, G., Purciel, M., Quinn, J., et al. (2009). Neighborhood Food Environment and Walkability Predict Obesity in New York City. *Environmental Health Perspective*, 117(Number 3), 442-447.

¹⁵ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association*, August/September, 32 - 37.

¹⁶ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association*, August/September, 32 - 37.

¹⁷ Williams, N. (1956). The Evolution of Zoning. *The American Journal of Economics and Sociology*, 15(3), 253-264.

methods, and access—state and federal agriculture regulations, county and city health codes, as well as local zoning ordinances.

However, while zoning codes may not be solely responsible for the current state of the average city's ability to contribute to its food system, zoning does play a significant role in regulating the potential for food production in an urban environment. In 1926, The Standard State Zoning Enabling Act was created in an effort to preserve health. More specifically, policy-makers created the Act "for the purpose of promoting health, safety, morals, or the general welfare of the community...."¹⁸ The Act gave states and local governments the authority to formally regulate land uses. And these regulations most typically manifested in the form of Euclidean zoning, whereby 'incompatible' uses are separated.

And perhaps creating exclusive districts and separating districts by use was a legitimate response to the hyper-industrialized urban reality at the turn of the 20th Century; however, today's zoning regulations perpetuate exclusive zoning districts and sometimes separate 'incompatible' uses in a way that can be contrary to the public's best interest. While the codes often prevent undesirable scenarios, they sometimes also prohibit desirable ones, such as community gardens or farmers markets in residential districts.

Because allowing agriculture as a legal land use is arguably the first critical step in promoting urban agriculture, researchers and advocates often emphasize the need to update zoning codes. However, zoning codes are not the only relevant regulations. Agriculture operations seeking to sell goods must receive certification from the home-state department of agriculture; likewise, organic growers must receive federal certification and must also follow organic growing guidelines. Any restrictions set forth by these state and federal guidelines act in addition to local zoning codes.

Post-growing activities also have their own regulatory framework. In Georgia, packaged food products for sale are governed the state agriculture department and the U.S. Department of

¹⁸ A Standard State Zoning Enabling Act, United States Department of Commerce (1926), Section I

Agriculture. The Georgia Department of Community Health regulates prepared food products that are served fresh, and local county health departments administer these regulations.¹⁹

The original words from the purpose statement of the zoning enabling statute—to promote the ‘health, safety, morals, or the general welfare of the community’—can be re-interpreted by a modern reader as offering the perfect platform for an argument promoting urban agriculture, community gardens, food systems planning, and revised gardening regulations. Given the rates of food insecurity, increasing obesity rates, and the rising costs associated with our current food system, the zoning framework should be reconsidered and revised. In many communities, the current system is damaging public and environmental health instead of promoting it.

In ancient cities around the world, agriculture was incorporated into a city’s framework. Roman, Native American, and Persian civilizations (to name a few) all developed highly urbanized areas that also had the capacity to provide the city with its food needs, most of which was produced within the city’s boundaries.²⁰ Walled medieval cities often had farming space inside the city walls—and similar interior garden space existed in castles and monasteries as well.²¹ Similarly, cities throughout history often oriented private buildings and residences in such a way that allowed space for adjacent gardens and orchards or interior courtyard gardens.²²

In the United States throughout the Industrial Era and well into the 20th century, animal stables, feedlots, stockyards, and processing facilities existed within city limits. For example, New York City distilleries and breweries had adjacent cattle stables. In these operations, the cattle ate the

¹⁹ Processing and Value Added . (n.d.). *Georgia Organics* . Retrieved April 13, 2011, from <http://www.georgiaorganics.org/farmers/CropProduction/ProcessingValueAdded.aspx>

²⁰ Mougeot, L. (n.d.). Urban Food Production: Evolution, Official Support and Significance. *City Farmer: Canada's Office of Urban Agriculture*. Retrieved March 21, 2011, from <http://www.cityfarmer.org/lucpre-indst28.html#luc%20preindust>

²¹ Mougeot, L. (n.d.). Urban Food Production: Evolution, Official Support and Significance. *City Farmer: Canada's Office of Urban Agriculture*. Retrieved March 21, 2011, from <http://www.cityfarmer.org/lucpre-indst28.html#luc%20preindust>

²² Mougeot, L. (n.d.). Urban Food Production: Evolution, Official Support and Significance. *City Farmer: Canada's Office of Urban Agriculture*. Retrieved March 21, 2011, from <http://www.cityfarmer.org/lucpre-indst28.html#luc%20preindust>

leftover grain and produced 'swill milk,' which, although poor quality, was the primary source of milk for city residents.²³ Likewise, Chicago is infamous for its vast stockyards, which provided 82% of the meat consumed in the United States at the turn of the 20th century.²⁴

However, as previously discussed, as the Industrial Era's dense, polluting manufacturing districts continued to expand, the need to regulate urban food production and manufacturing industries became dire—and this led to urbanism patterns with an increasingly rigid and formal separation of uses. In response to the extreme densities of industrial cities, utopian planners of the 20th century began favoring decentralized urban forms, wherein countryside and city would no longer be distinguishable. Often in these idealized plans, agricultural production primarily informed the spatial configuration.²⁵ While most of these utopian plans never came to fruition, this planning movement effectively purged central cities of those uses deemed unhealthy and unattractive, including public markets and food production facilities.²⁶ Simultaneously, with the rise of zoning regulations and automobile transportation, agriculture, animal production, and food processing moved further into the countryside—and throughout the middle 20th century, American food systems transformed into the industrial agriculture systems we know today.²⁷

URBAN AGRICULTURE PRODUCTION

Even though the majority of cities' food supply and production facilities moved into rural areas during the mid-20th century, there is a historical tradition in the United States of urban gardening in times of economic stress and insecurity. For instance, governing officials campaigned for residents to supplement food supplies with home gardening during the

²³ Philpott, T. (2010, August 3). The History of Urban Agriculture Should Inspire its Future. *Grist A Beacon in the Smog*. Retrieved March 22, 2011, from http://community-wealth.org/_pdfs/articles-publications/urban-ag/article-philpott.pdf

²⁴ Philpott, T. (2010, August 3). The History of Urban Agriculture Should Inspire its Future. *Grist A Beacon in the Smog*. Retrieved March 22, 2011, from http://community-wealth.org/_pdfs/articles-publications/urban-ag/article-philpott.pdf

²⁵ Waldheim, C. (n.d.). Notes Toward a History of Agrarian Urbanism. *Places: Design Observer*. Retrieved March 26, 2011, from <http://places.designobserver.com/entry.html?entry=15518>

²⁶ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

²⁷ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

depression of the 1890s, and with victory gardens during World Wars I and II. Likewise, during these periods of war, school farming programs were also often initiated as a means of supplementing food supply and education children.²⁸ And today, both gardening and farm-to-school programs are growing in popularity.

One could argue that today's emergent economic, environmental, and health crisis is comparable to the periods of economic distress of the 20th Century and that it warrants a response like that given during the country's previous depressions and periods of war. In 2009, First Lady Michelle Obama planted a garden on the south lawn of the White House. It is quite telling that the last vegetable garden planted at the U.S. White House was Eleanor Roosevelt's victory garden during World War II.²⁹



Photo 1. War Garden at the Sheridan School during World War I.³⁰

²⁸ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

²⁹ White, Mason, and Maya Przybylski. "the productive surface." *On farming*. Barcelona: Actar;, 2010. 99-104. Print.

³⁰ Levenston, M. (n.d.). Sheridan School War Gardens – between 1910 and 1920 — City Farmer News. *New Stories From 'Urban Agriculture Notes' — City Farmer News*. Retrieved May 3, 2011, from <http://www.cityfarmer.info/2009/07/01/sheridan-school-war-gardens-between-1910-and-1920/>



Photo 2. 1941 Comic Book Cover Promoting Victory Gardens.³¹

³¹ Levenston, M. (n.d.). Superman, Batman and Robin are Victory Gardeners in 1941 — City Farmer News. *New Stories From 'Urban Agriculture Notes' — City Farmer News*. Retrieved May 3, 2011, from <http://www.cityfarmer.info/2010/01/06/superman-batman-and-robin-are-victory-gardeners-in-1941/>



Photo 3. 1942 Tomato Container Garden, London.³²

Additionally, in the 1970s, many American cities instituted 'Farm-a-Lot' programs to encourage residents to farm vacant city lots—and today, programs such as this are resurging in cities across the country.³³ City, state, and federal policy-makers are beginning to react to the growing concerns over food security, and many are reinstating and revamping vacant parcel and public lands gardening initiatives that have been forgotten for decades. For instance, the state of Michigan recently reinstated a vacant lot gardening program—the 'Garden for Growth Program,' whereby, for \$50, residents lease vacant state lands for gardening.³⁴

³² Levenston, M. (n.d.). 1942 – Waitresses gather tomatoes from container garden on street — City Farmer News. *New Stories From 'Urban Agriculture Notes' — City Farmer News*. Retrieved May 3, 2011, from <http://www.cityfarmer.info/2009/09/13/waitresses-gather-tomatoes-from-container-garden-on-street/>

³³ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

³⁴ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

However, creating productive food environments does not have to be relegated solely to vacant parcels. Communities everywhere are using almost any open space available. In addition to the traditional park plots, opportunistic gardeners are utilizing roofs, front yards, side yards, medians, and even interstate underpasses.³⁵ Publically and privately initiated programs to implement edible urban landscapes, fruit-bearing sidewalk plantings, and vacant parcel gardens are also growing rampant in many cities.

Not only is such gardening space available throughout any given city, but these spaces also have the potential to be hugely productive. In Rio de Janeiro in the 1980s, gardeners cultivated about 425 acres of open space under electrical transmission lines and yielded \$10 million worth of produce.³⁶ Small-scale efforts like community gardens and household plots can potentially produce a household's yearly vegetable needs.³⁷

In addition to gardening, urban public space can also be used for animal grazing. In many cities around the world, sheep and goats are used as an ecologically friendly and picturesque means of lawn mowing.³⁸ Five U.S. state transportation departments currently graze animals alongside roadways to keep grasses down.³⁹ These animals could potentially be permanent fixtures in city parks and open spaces and used as a source for milk, cheese, and even wool.

³⁵ Schell-Lambert, T. (2010, March 18). Hayes Valley: A Former Freeway Turns into a Farm - - GOOD. *GOOD Magazine*. Retrieved March 21, 2011, from <http://www.good.is/post/hayes-valley-a-former-freeway-turns-into-a-farm/>

³⁶ Mougeot, L. (n.d.). Urban Food Production: Evolution, Official Support and Significance. *City Farmer: Canada's Office of Urban Agriculture*. Retrieved March 21, 2011, from <http://www.cityfarmer.org/lucpre-indst28.html#luc%20preindust>

³⁷ Barrs, R. (n.d.). Urban Agriculture in Vancouver. *City Farmer's Urban Agriculture Notes*. Retrieved March 21, 2011, from <http://www.cityfarmer.org/barrsUAvanc.html#8.1>

³⁸ Sidawy, E. (2017, November 10). Sheep Grazing a London Park . *InnovCity*. Retrieved March 21, 2011, from <http://www.innovcity.com/2010/11/17/sheep-grazing-a-london-park/>

³⁹ Latshaw, G. (2009, July 1). More Use Grazing Sheep, Goats Against Invasive Weeds, Vines . *USA Today*. Retrieved March 21, 2011, from http://www.usatoday.com/news/offbeat/2009-07-01-animalgrass_N.htm

POTENTIAL BENEFITS OF URBAN AGRICULTURE

In response, local governments are beginning to give consideration to food systems planning initiatives that encourage local food production, improve access to healthy food, and promote environmental and economic sustainability. Community gardens, household food production, and urban agriculture all have a role in addressing these issues. A sustainable agriculture system has the potential to boost local economies, lead to financial savings for families, improve overall health, and benefit communities and the environment.

A network of local food sources can also offer local economic development opportunities. Urban agriculture and community gardens can provide opportunities for entrepreneurship. If zoning ordinances allow, and if a grower fulfills the requirements of other applicable health and food safety codes, household gardeners, community gardeners, and urban farmers can sell food directly to markets and restaurants. Likewise, if the regulatory framework allows, gardeners could also sell their surplus to neighbors directly from their community garden plot or home. In addition to the benefits of local entrepreneurship, urban agriculture can also foster direct local relationships between food producers and consumers—and this not only builds community, as discussed above, but small farming start-ups can also have large impacts on local economies.

Small farming operations can also boost regional economies by keeping consumer dollars local. Research of independent hog farms reveals that small independent farms create more jobs, more local income per capita, and generate more local spending—money generated by these smaller scale agriculture producers is more likely to stay in the local community and produce local economy multiplier effects.⁴⁰ Furthermore, research done by the Maine Organic Farmers and Gardeners Association estimates that a weekly expenditure of \$10 per family on local food would inject \$104 million into the local economy.⁴¹ In Georgia, if every household spent only

⁴⁰ Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture. *Environmental Health Perspectives*, 110(5), 445-456.

⁴¹ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

\$10 a week on locally produced food, \$1.9 billion could be injected into Georgia's local economy.⁴²

A local food system also has the potential to generate regional energy savings and decreased transportation costs. With more local food markets and increased availability, households will potentially make fewer trips to the grocery store. Plus, local and direct producer/consumer patterns decrease total food miles traveled. This decrease creates direct monetary savings and is more environmentally sustainable. A local network of community gardens, urban agriculture, and home gardening can also have financial impacts at the household level. Fewer household trips to a distant grocery store decrease family and individual transportation costs.

A backyard garden or plot in a community garden can also lead to significant savings on a household's overall food costs. According to the Georgia Department of Agriculture, a 10 x 20 garden plot, which could fit in the average backyard, can create \$600 in fresh food annually.⁴³ A group of Philadelphia gardeners reported a \$700 savings in yearly food costs per family.

And in terms of citywide yields, in Singapore, urban farms produce 80% of the poultry consumed by Singapore residents and 25% of consumed vegetables.⁴⁴ Likewise, a study found that London residents could produce 232,000 tons of fruits and vegetables if the city embraced urban agriculture.⁴⁵ A Boston community gardening project reports a 12,000-pound yield between two gardens located on vacant city lots.⁴⁶

⁴² What If Georgians Ate Georgia Produce?. (n.d.). *Georgia Organics*. Retrieved April 12, 2011, from <http://www.georgiaorganics.org/newscenter/Dirtsummer2010/whatifgeorgiansAtegeorgiaproduce.aspx>

⁴³ A Plan for Atlanta's Sustainable Food Future. (n.d.). *ALFI - Atlanta Local Food Initiative*. Retrieved February 12, 2011, from <http://www.atlantlocalfood.org/>

⁴⁴ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁴⁵ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁴⁶ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

Creating community access to fresh food can also have a positive impact on the health of urban residents, particularly for underserved communities.⁴⁷ Research shows that access to fresh food markets can lead to increases in nutritional food intake, decreases in healthcare costs, and improvement in overall mental and physical health.⁴⁸ Local access to food production, especially in the form of local farmers markets and community gardens, can also have a regenerative effect on social and public health—and although these benefits are perhaps more intangible than monetary savings, they are no less critical. Community gardens and local markets have the potential to foster a local identity and build community bonds.⁴⁹ As awareness of the consequences of food choice continues to rise, the public is increasingly demanding food products with traceable origins—and, for some consumers, knowing the origins of ones food “creates a sense of connectedness with other people and places.”⁵⁰

Many urban consumers without local farmers markets, or without the ability to grow their own food, are showing an increasing desire to feel a connection with their food source, whether it be a general assurance that food was produced organically or an actual relationship with the farmer herself. And such consumers are finding creative ways to make this connection. ‘Virtual gardens’ are emerging on the internet. One British web-company, “My Veggie Patch,” allows urban customers to participate (via the internet) in growing their own garden plot located in rural England. Customers log onto the website to view their plot and give input on plot maintenance—and after harvest, the produce from their plot is delivered to their door.

⁴⁷ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁴⁸ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁴⁹ Shigley, P. (2009). When Access is the Issue: What Cities Are Doing to Get Healthy Food into Underserved Neighborhoods. *Planning*, 75(8), 26-31.

⁵⁰ Holloway, L. (2002). Virtual Vegetables and Adopted Sheep: Ethical Relation, Authenticity and Internet-Mediated Food Production Technologies. *Area*, 34(1), 70-81.

Likewise, another online company allows customers to adopt a sheep located in Italy and play the role of a virtual shepherd—the customer then purchases the sheep’s offerings: milk, cheese, wool. While virtual shepherding is probably amusing and a creative solution to urban food deserts, if city dwellers find themselves this desperately disconnected from their food suppliers, more tangible options exist and should be incorporated in American cities. Community gardens, local urban agriculture operations, and local farm CSA’s can play a significant role in the process of providing healthy food environments for urban consumers.

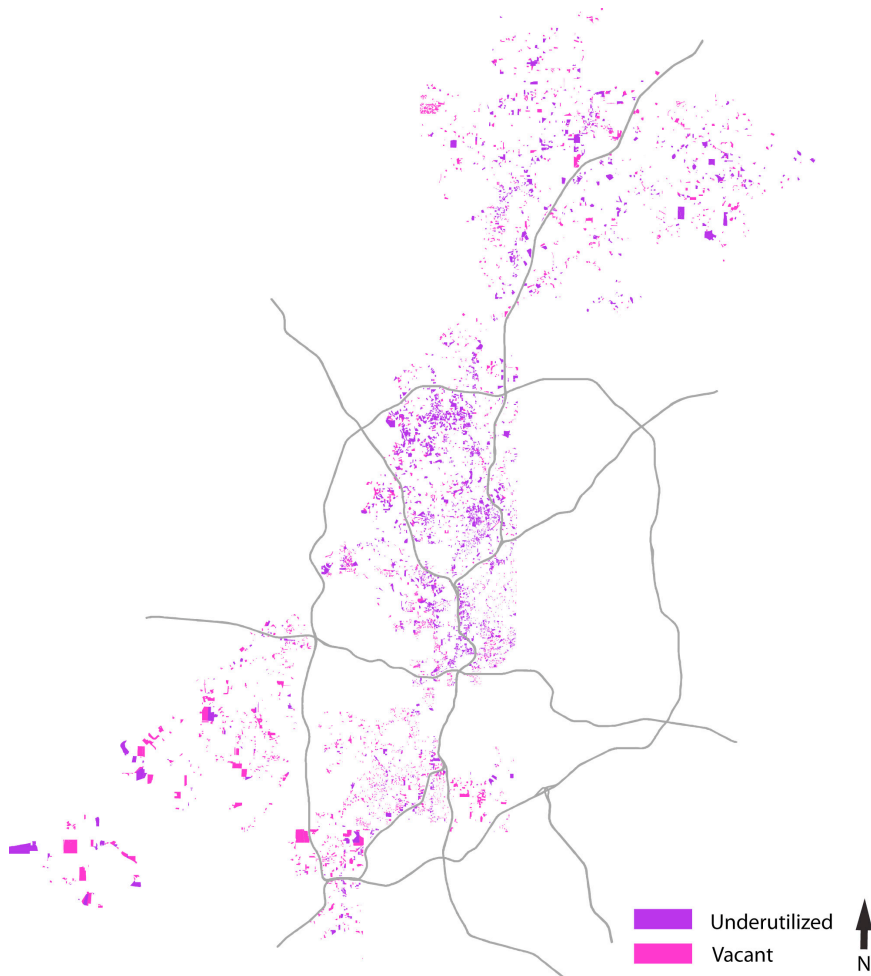
OBSTACLES TO URBAN AGRICULTURE

Although cities are reevaluating their regulatory frameworks and comprehensive plans in an effort to address the new demand for food planning, many obstacles and challenges exist for those seeking to initiate an urban agriculture project, whether it be a backyard garden, a community garden, or urban farm with commercial intentions. In addition to issues of economics and the suitability of land, short growing seasons, time, knowledge, and skills can be obstacles for city dwellers seeking to supplement their nutritional needs with gardening. Maintaining a garden or raising animals takes a time commitment that might be implausible for many working households. Likewise, unless raised on a farm, most people might not have the knowledge or skills to successfully raise food. However, community gardens and farm to school programs can offer opportunities for education.

Availability and affordability of land is sometimes also problematic for those seeking to farm for profit. Even though property vacancy rates are soaring today, an individual or organization seeking to initiate a community garden generally cannot afford to purchase land—and urban property values most likely price out commercial farmers given the limited profit potential of small scale agriculture. To overcome this, Minneapolis recently initiated a land assessment process, whereby publicly owned vacancies are ranked based on redevelopment potential and likelihood.⁵¹ The results of Minneapolis’ vacant land assessment estimated that the city would still have a surplus of vacant land, even with future growth and redevelopment trends. Minneapolis’ Urban Agriculture Plan sets forth recommendations for preserving this land for agriculture uses and policies to encourage its affordability and availability.

⁵¹ The Urban Agriculture Plan . (n.d.). *City of Minneapolis, Minnesota - Official Web Site*. Retrieved February 12, 2011, from http://www.ci.minneapolis.mn.us/cped/urban_ag_plan.asp

However, even though there might be a surplus of available land, much of it is still privately owned in cities without robust vacant landbanking programs. Privately owned land cannot simply be zoned for an exclusive agriculture use without risking legal takings lawsuits.⁵² Therefore, cities with a majority of privately owned vacancies could implement other policies that incentivize agriculture in urban areas.



Map 1. Vacant or Underutilized Parcels in Fulton County. For cities suffering from soaring vacancy rates for residents suffering from a lack of healthy and affordable food choices, urban agriculture offers a sustainable means of beginning to address these issues. As discussed below, Atlanta and Fulton County have an abundance of vacant and underutilized properties. Perhaps in conjunction with initiatives already

⁵² LaCroix, C. J. (2010). Urban Agriculture and Other Green Uses: Remaking the Shrinking City. *Urban Lawyer*, 42(2), 225-285.

underway through the Fulton County/City of Atlanta Land Bank Authority,⁵³ vacant parcels can begin to be used for agriculture or other productive uses.⁵⁴

Land tenure is also often an issue for gardens operating on vacant or public land. Even if a city allows community gardening on public property or creates a vacant parcel gardening program, gardeners risk losing their labor and monetary investments, as well as crops, if a policy is not in place to ensure land tenure for at least three to five years.⁵⁵ Many legal and policy tools exist to give gardeners security—for instance, easements, leases, and land trust programs can give gardeners legal access to a parcel but also establish a lease-end date, at which point the parcel could be developed for another use.

Soil quality can be a hazard for gardens or farms operating on contaminated urban sites. Many cities currently have a surplus of industrial lands that could be ideal for urban agriculture. However, these sites often have contaminated soils and qualify as ‘brownfields.’ The U.S. General Accounting Office estimates that there are anywhere from 130,000 to 425,000 brownfields in the United States that could be safely rehabilitated for agricultural uses.⁵⁶ However, if remediation is necessary, these brownfield sites sometimes pose a risk for small or commercial scale urban agriculture endeavors because of the high costs associated with remediating such properties.

The Environmental Protection Agency advocates redeveloping brownfields into agricultural uses and offers guidance and funding.⁵⁷ If funding a short-term site clean up is not a viable option,

⁵³ Land Bank Authority. *Fulton County/City of Atlanta Land Bank Authority*. Retrieved February 28, 2011, from <http://www.fccalandbank.org/>

⁵⁴ Author’s own GIS analysis. GIS obtained from Georgia Institute of Technology.

⁵⁵ Food Security Coalition. (2003). *Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe*. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁵⁶ Food Security Coalition. (2003). *Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe*. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁵⁷ How Does Your Garden Grow? Brownfields Redevelopment and Local Agriculture. (n.d.). *Environmental Protection Agency*. Retrieved March 11, 2011, from http://www.epa.gov/brownfields/success/local_ag.pdf

other avenues exist for communities and farmers. For instance, phytoremediation (a process non-edible plant life purifies the soil over time) is an option for brownfield rehabilitation. Also, smaller scale agriculture operations can sometimes sidestep the brownfield hazard by implementing raised bed gardens.⁵⁸

The potential for nuisance violations can also be a risk. Large-scale agriculture operations, particularly intensive animal farms, can produce noxious odors and unpleasant noises, plus yield tons of toxic waste and runoff annually. People generally would not choose to locate adjacent to such an operation.⁵⁹ However, farming operations do not universally qualify as nuisances. Urban farmers are creating less intensive sustainable farming methods, which can be context sensitive and ‘friendly’ adjacent land uses in an urban setting.⁶⁰

Zoning and health codes also sometimes limit opportunities to sell a garden’s surplus. To encourage such sales in a safe and regulated manner, cities can relax zoning restrictions for community garden sales and create clear administrative procedures for growers seeking permits to sell produce on site or at farmers markets. Several cities are beginning to address this issue by creating a ‘market garden’ classification and clarifying ordinances to allow on-site sales of produce.⁶¹

As discussed further below, many cities are revising zoning ordinances to address urban agriculture and some are actually creating specific agriculture or garden districts. New agriculture initiatives need legal protection and elaborate new zoning regulations could potentially do more hindering than helping. Instead of creating more regulatory barriers, cities

⁵⁸ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁵⁹ Ready, R. C., & Abdalla, C. W. (2005). The Amenity and Disamenity Impacts of Agriculture: Estimates from a Hedonic Pricing Model. *American Journal of Agricultural Economics*, 87(2), 314-326.

⁶⁰ Food Security Coalition. (2003). Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe. *North American Urban Agriculture Committee, October 2003*, 1 - 29.

⁶¹ LaCroix, C. J. (2010). Urban Agriculture and Other Green Uses: Remaking the Shrinking City. *Urban Lawyer*, 42(2), 225-285.

could perhaps focus on crafting open and flexible zoning ordinances that allow, protect, and perhaps even incentivize agricultural uses, while also allowing a mix of other uses.

Agricultural start-ups, whether it is a community garden, a commercial agriculture operation, or a farmers market, require a great labor commitment, as well as financial investment. Therefore, it is critical that a city revise its codes and ordinances to eliminate “threats and uncertainties” to the extent possible.⁶² This requires creating clear legal avenues for individuals seeking to begin an urban farm, a community garden, or a market—cities can accomplish this with clear zoning ordinances, an explicitly supportive comprehensive plan, city-sponsored or supported urban agriculture initiatives and measures.

AGRICULTURE AS URBAN INFILL: CASE STUDIES/OTHER CITIES

Given the rising awareness of food access and health disparities, many American cities are beginning to address food planning at the regional and city levels. At the regional scale cities, counties, and municipalities are broadly assessing local food production potential and creating long-term sustainable food system plans that increase productivity and sustainability. At the local level, cities are developing different approaches, including additions to comprehensive plans, zoning and policy updates to allow and encourage urban agriculture, land inventories and assessments, and also city-sponsored programs to encourage the growth of community gardens and farmers markets. For cities suffering from soaring vacancy rates, urban agriculture is emerging as a new (not new!) type of infill development.

As discussed further below, some cities implement urban gardening programs as interim uses for vacant properties, while others implement programs to encourage permanent agriculture uses. Many cities’ agriculture programs use gardening as a productive use for a parcel until it can be developed for some more economically viable purpose. However, other cities recognize that focusing only on temporary agriculture uses is sometimes too narrow of an approach. Instead, some cities are embracing agriculture uses—commercial agriculture operations, community gardens, and farmers markets—as being an economic, social, cultural, and environmental imperative.

⁶² The Urban Agriculture Plan . (n.d.). *City of Minneapolis, Minnesota - Official Web Site*. Retrieved February 12, 2011, from http://www.ci.minneapolis.mn.us/cped/urban_ag_plan.asp

Advocates and policy-makers are finding creative ways to bridge the food gap for families without adequate access and for those seeking more local and sustainable choices. Over the past several decades, many cities in the United States have experienced a shift from an urban-industrial economy—and this shift left many cities with bands of deteriorating and abandoned industrial sites. And more recently, because of the economic decline of the past few years, many cities are experiencing unprecedented foreclosure rates and increasing numbers of abandoned homes and vacant parcels.

As mentioned above, Detroit’s recently reinstated its ‘Farm-a-Lot’ program, wherein residents are allowed to adopt vacant city-owned properties. For a \$20 annual fee, the city will plow the land, test the soil, and even provide start-up seeds.⁶³ The state of Michigan also recently reinstated a vacant lot gardening project called the ‘Garden for Growth Program,’ whereby, for \$50, residents lease vacant state lands for gardening.⁶⁴ Seattle now allows residents to grow and sell produce and allows certain agricultural structures on public property. Philadelphia and Escondido, California also both use community gardens as an interim solution for addressing abandoned parcels and blighted properties. Philadelphia charges community gardens \$1.00 to ‘rent’ the vacant property—but because the garden is considered temporary, no permanent structures are allowed.⁶⁵

In recent years Cleveland, Ohio has begun an aggressive urban agriculture initiative that seeks to meet several needs at once—the program strives to meet community nutritional needs, while also stabilizing neighborhoods by improving vacant and under-utilized parcels. This is achieved through several coordinated programs. The city recently created a landbanking program to improve blighted and vacant properties—and in conjunction with the landbanking program, Cleveland also zoned a new ‘Urban Garden District’ to promote urban gardening. The new zoning ordinance allows citizens to grow produce on publically owned property and also sell

⁶³ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

⁶⁴ Bonfiglio, O. (2009). Delicious in Detroit. *American Planning Association, August/September*, 32 - 37.

⁶⁵ Shigley, P. (2009). When Access is the Issue: What Cities Are Doing to Get Healthy Food into Underserved Neighborhoods. *Planning, 75(8)*, 26-31.

surplus produce. Additionally, the new zoning ordinances allow certain structures, such as greenhouses, cold frames, and hoop houses, to be built on public property for food production.⁶⁶

Cleveland's zoning code states the purpose of the Urban Garden District as follows: "[T]o ensure that urban garden areas are appropriately located and protected to meet needs for local food production, community health, community education, garden-related job training, environmental enhancement, preservation of greenspace, and community enjoyment on sites for which urban gardens represent the highest and best use for the community."⁶⁷ As stated above, the ordinance allows gardeners to sell produce; therefore, the ordinance defines and distinguishes two types of gardens: the 'Community Garden' and the 'Market Garden.' The ordinance defines a Community Garden as "an area of land managed and maintained by a group of individuals...for personal or group use, consumption or donation"—and the Market Garden is "an area of land managed and maintained by an individual or group of individuals who grow and harvest...crops...to be sold for profit."⁶⁸

Cleveland's citywide initiative is different than other cities' 'Adopt-a-Lot' programs because Cleveland "seeks to ensure that urban gardens are established as a goal in themselves, not as a holding strategy until it is time for residential or commercial building construction."⁶⁹ As previously discussed, land tenure can be a threat to the viability to urban agriculture and community garden projects. And while using community gardens as an interim use for vacant properties works in many contexts, a permanent zoning allowance for agricultural uses might be more appropriate for commercial urban agriculture operations given the economic stimulus potential urban agriculture offers and because of the more substantial financial investment required by an independent farmer establishing a new urban farm.

⁶⁶ Freeman, N. (2008). Traditional Tools that Help Build Good Health. *Planning, American Planning Association, 2008, 1.*

⁶⁷ LaCroix, C. J. (2010). Urban Agriculture and Other Green Uses: Remaking the Shrinking City. *Urban Lawyer, 42(2), 225-285.*

⁶⁸ LaCroix, C. J. (2010). Urban Agriculture and Other Green Uses: Remaking the Shrinking City. *Urban Lawyer, 42(2), 225-285.*

⁶⁹ LaCroix, C. J. (2010). Urban Agriculture and Other Green Uses: Remaking the Shrinking City. *Urban Lawyer, 42(2), 225-285.*

In Cleveland, the Urban Garden District excludes any uses other than gardening, and urban gardening is restricted to that district alone.⁷⁰ Such exclusive zoning could possibly be too limiting if a city seeks to maximize garden and fresh-food access for all neighborhoods. This could be remedied if a garden district is placed within or near to every residential area. However, rather than creating an exclusive zoning category, a better approach might be to allow community gardens in all districts and allow market gardens in districts deemed appropriate.

Fresno, California also recently updated its zoning ordinances to address urban food planning. Fresno's ordinance now explicitly allows farmers markets and defined the term. However, Fresno takes a more flexible and non-exclusive approach than Cleveland. Fresno's ordinance allows farmers markets in all nonresidential zones and in the city's R-1 single-family residential zone.

Fresno deliberately allows farmers markets in R-1 to improve access for underserved communities within those zones. Furthermore, churches often fall within that zoning district and they can often serve as ideal farmers market sites.⁷¹ Fresno next intends to include urban agriculture initiatives in its 'Southeast Fresno Area Plan.' The initiative will create demonstration farms, reserve certain areas for agriculture uses, allow gardens on public lands, and allow farmers markets in all neighborhoods.⁷²

Minneapolis is taking a relatively aggressive approach and developing an Urban Agriculture Policy Plan, which is intended to "improve the growth, sales, distribution, and consumption of healthy, locally grown foods within the city."⁷³ The recommendations outlined in the agriculture

⁷⁰ LaCroix, C. J. (2010). Urban Agriculture and Other Green Uses: Remaking the Shrinking City. *Urban Lawyer*, 42(2), 225-285.

⁷¹ Shigley, P. (2009). When Access is the Issue: What Cities Are Doing to Get Healthy Food into Underserved Neighborhoods. *Planning*, 75(8), 26-31.

⁷² Shigley, P. (2009). When Access is the Issue: What Cities Are Doing to Get Healthy Food into Underserved Neighborhoods. *Planning*, 75(8), 26-31.

⁷³ The Urban Agriculture Plan. (n.d.). *City of Minneapolis, Minnesota - Official Web Site*. Retrieved February 12, 2011, from http://www.ci.minneapolis.mn.us/cped/urban_ag_plan.asp

plan will be a means of implementing the goals of Minneapolis' comprehensive plan. Minneapolis first initiated a citywide land capacity analysis, in which the city categorized vacant parcels based on their potential for redevelopment and suitability for urban agriculture activities. Additionally, the agriculture plan also highlights ways in which the city can revise its zoning ordinances to encourage urban agriculture, including incentives for developers to include growing space, ordinance updates to encourage green roofs and improve green building standards, and also new land use designations for community and commercial agriculture initiatives.⁷⁴

Seattle recently reformed the city's zoning codes to explicitly encourage backyard food production and citywide urban agriculture. In Seattle, urban farms up to 4,000 square feet are allowed as an accessory use in residential zones, and farms greater than 4,000 square feet require a permit. Urban farms are also allowed as a primary or accessory use in commercial zones with no size restriction. In industrial zones urban farms are allowed as a primary or accessory use; however, in areas designated as 'Manufacturing and Industrial Centers,' the code restricts agriculture to rooftops and vertical uses. For rooftop production, greenhouses receive an additional fifteen-foot allowance above the given height maximum for the district.⁷⁵ Seattle's code considers urban farms to be operations primarily producing vegetables, fruits, or flowers. The code does not allow animal husbandry as a use in tandem with urban farm allowances. With restrictions, raising animals is allowed in commercial and residential zones, but not in industrial zones.

Like Minneapolis, Seattle also updated its comprehensive plan to require at least one community garden for every 2,500 households in every neighborhood.⁷⁶ Furthermore, in addition to the urban farm allowances mentioned above, Seattle policy-makers enacted

⁷⁴ The Urban Agriculture Plan. (n.d.). *City of Minneapolis, Minnesota - Official Web Site*. Retrieved February 12, 2011, from http://www.ci.minneapolis.mn.us/cped/urban_ag_plan.asp

⁷⁵ Seattle Department of Planning and Development. (2010, November 17). *Client Assistance Memo 244*. Retrieved April 22, 2011, from <http://www.seattle.gov/dpd/Planning/UrbanAgriculture/Overview/default.asp>

⁷⁶ Mukherji, N., & Morales, A. (n.d.). Zoning for Urban Agriculture. *American Planning Association*. Retrieved November 11, 2010, from <http://www.cityfarmer.info/2010/03/09/zoning-for-urban-agriculture/>

legislation to clarify agricultural definitions, expand allowances for community gardens in all zoning districts, include farmers' markets in 'multipurpose retail sales' districts, increase the allowance for residential fowl to 8 per household, and permit horse farms over ten acres in single-family zones.⁷⁷

ANIMALS

And speaking of horses and fowl, most cities have existing regulations limiting the number of animals allowed on residential property; however, even with the many emerging citywide sustainable food plans and agriculture initiatives currently underway, animals are largely left out of the planning discourse. Few cities are initiating neighborhood chicken-raising programs in conjunction with their community gardening campaigns. For the most part, existing codes regulating animal husbandry set maximums for the number of animals allowed, set fence and pen setback requirements, and sometimes also require permits. However, there is an ambivalence embedded within these regulations—it is unclear whether cities are actually trying to discourage or encourage the practice.

Generally, the regulations give no justification for the distance requirements given, or for the maximum allowable numbers—and some seem particularly arbitrary. For instance, residents of a Los Angeles neighborhood battled with the city over large distance requirements for sheep and chickens.⁷⁸ Los Angeles regulations required that residents contain fowl and rabbits at least 35 feet away from adjacent properties—and calves, sheep, goats must be kept 75 feet away from a neighbor. In practice, these regulations often become almost entirely prohibitive on an urban lot. And given that there is a 75 foot buffer required for a sheet, but no distance requirement for vicious dogs, residents of the neighborhood argued that this policy is arbitrary and question what principal or public interest drives the regulation.

⁷⁷ 2010: Year of Urban Agriculture. (n.d.). *Seattle.gov Home Page - The Official Web Site for the City of Seattle, Washington*. Retrieved November 22, 2010, from <http://www.seattle.gov/urbanagriculture/>

⁷⁸ Ducker, G. (2009, July 23). The down and dirty on raising livestock in the city | Daily Dish | Los Angeles Times. *Daily Dish*. Retrieved November 14, 2010, from <http://latimesblogs.latimes.com/dailydish/2009/07/novella-carpenter-the-author-of-the-new-memoir-farm-city-may-have-created-her-own-slice-of-rural-life-on-the-mean-streets.html>

There is no consistency among city animal regulations and little to indicate the rationale behind any given city's maximums and minimums. For instance, St. Louis caps animals at 4, regardless of type,⁷⁹ Minneapolis now allows bees, chickens, ducks, and turkeys, but requires that households get a permit and solicit approving signatures from 80% of surrounding property owners—but Minneapolis prohibits hooved animals.⁸⁰

ATLANTA: OVERVIEW & HISTORY

Like the rest of the United States, Atlanta is bridled with a new surplus of vacant residential, commercial, and industrial properties, growing adult and childhood obesity rates, and increasingly expensive prices for nutritious food options. According to 2009 U.S.D.A. data, 23.2% of Fulton County adult residents are obese, and 14.1% of pre-school children.⁸¹

In response, community gardening and urban agriculture has grown in prevalence and popularity in Atlanta neighborhoods. In 2007, Atlanta began the "Adopt-a-Garden" program allowing residents to plant gardens in city parks.⁸² And in 2008, Atlanta had 150 community gardens established throughout the city, on private parcels and in public parks.⁸³ However, even with this growth of community gardens, Atlanta's full urban agriculture potential is not yet met. According to the U.S. Department of Agriculture, in 2007 farmers and gardeners harvested

⁷⁹ St. Louis City Revised Code Title 10.20 Part I

⁸⁰ Minneapolis, Minnesota Code of Ordinances. (n.d.). *Title 4 Animals and Fowl*. Retrieved April 1, 2010, from <http://library.municode.com/index.aspx?clientId=11490&stateId=23&stateName=Minnesota>

⁸¹ For adults, obesity is calculated as an estimate of "age-adjusted percentages of persons age \geq 20 with obesity, where obesity is BMI is equal to a BMI \leq 30 kg / m². For pre-school children, the obesity rate is the measure of the "prevalence of obesity among children aged 2-4 years in households with income \leq to 200% of the poverty threshold based on family size. For children aged 2-4 years, obesity is defined as BMI-for-age \geq 95th percentile based on the 2000 Centers for Disease Control and Prevention's (CDC) sex-specific growth charts." Source: Food Environment Atlas. (n.d.). *USDA Economic Research Service - Home Page*. Retrieved March 28, 2011, from <http://ers.usda.gov/FoodAtlas/>

⁸² Park Pride - Community Gardens. (n.d.). *Park Pride*. Retrieved February 28, 2011, from <http://www.parkpride.org/get-involved/community-programs/community-gardens>

⁸³ A Plan for Atlanta's Sustainable Food Future. (n.d.). *ALFI - Atlanta Local Food Initiative*. Retrieved February 12, 2011, from <http://www.atlantlocalfood.org/>

under 2000 acres of land in Fulton County.⁸⁴ Furthermore, in 2007 there were 15,557 acres of operating farmland in Fulton County, down from 27,975 acres in 2002.⁸⁵ However, there is an estimated 25,000 acres of vacant or underutilized property in Fulton County, some of which might be suitable for short or long-term agricultural uses.⁸⁶ See Map 1 above and Table 1 below.

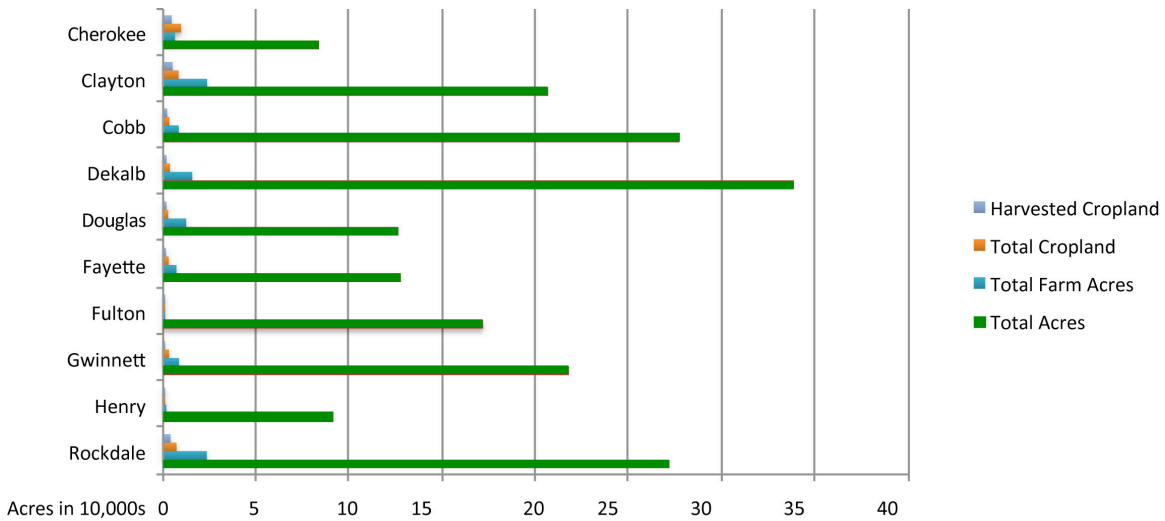


Table 1. Table of Total Farm Acres and Harvested Cropland by Metro-Atlanta Counties.⁸⁷

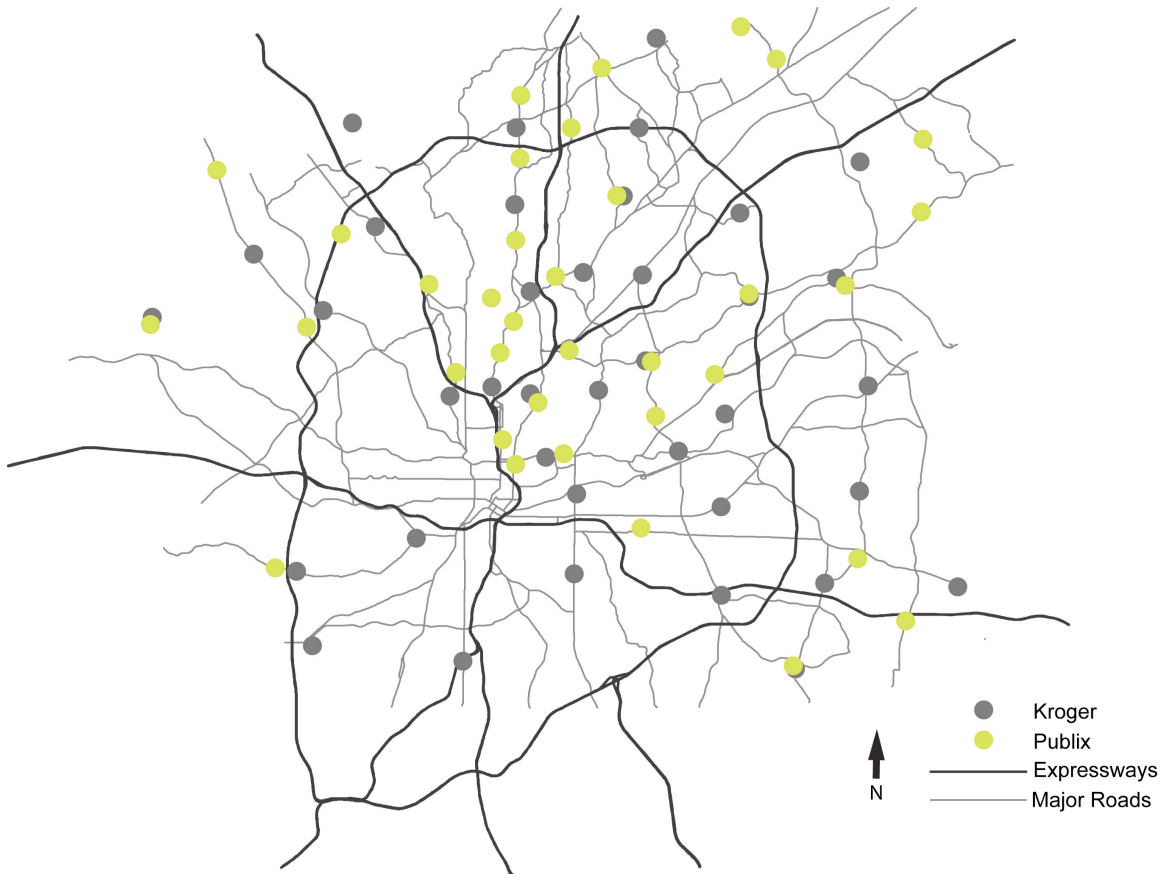
In addition to improving food production in the Atlanta area, food access for all residents can be improved as well. In Atlanta, zoning restrictions limit the areas in which grocery stores can be built. Because of these restrictions, grocery stores often develop along high-traffic commercial corridors that are inaccessible for families and individuals with limited transportation options. This is true of Atlanta, where most grocery stores are clustered along major multi-lane commercial corridors. See Map 2 below.

⁸⁴ Food Environment Atlas. (n.d.). *USDA Economic Research Service - Home Page*. Retrieved March 28, 2011, from <http://ers.usda.gov/FoodAtlas/>

⁸⁵ Census of Agriculture - 2007 Census Publications - State and County Profiles - Georgia. (n.d.). *USDA - NASS - Census of Agriculture*. Retrieved May 3, 2011, from <http://www.agcensus.usda.gov/>

⁸⁶ Based on the Author's own analysis, see Figure __. GIS source unknown.

⁸⁷ Census of Agriculture - 2007 Census Publications - State and County Profiles - Georgia. (n.d.). *USDA - NASS - Census of Agriculture*. Retrieved May 3, 2011, from <http://www.agcensus.usda.gov/>



Map 2. Map of Publix and Kroger Shopping Centers in Metro-Atlanta.⁸⁸

According to research conducted in the metro-Atlanta area, Atlanta residents' mobility by car affected the average size of grocery stores and that grocery stores are larger in high-income areas. Percentage of households without vehicles, percentage of individuals living in group quarters, and poverty were correlated with smaller store size.⁸⁹ The size of the grocery store is not the critical issue, but smaller stores are less likely to offer a wide variety of nutritious options at an affordable price. While all neighborhoods and communities can benefit from any food planning initiatives, these areas with transportation limitations and with inadequate grocery store access might be ideal locations for community gardens, local farmers markets, and urban agriculture projects.

⁸⁸ Author's own GIS analysis. GIS data address located from Kroger.com and publix.com.

⁸⁹ Dunkley, B., Helling, A., & Sawicki, D. S. (2004). Accessibility Versus Scale : Examining the Tradeoffs in Grocery Stores. *Journal of Planning Education and Research*, 23(4), 387.

ZONING FOR PRODUCTION IN ATLANTA and FULTON COUNTY

Perhaps it is assumed that one can garden one's own backyard; however, despite its seemingly exhaustiveness, with detailed and lengthy lists of allowances and prohibitions, the City of Atlanta zoning ordinance is almost entirely silent on gardening and agriculture within the city limits. 'Gardening' rarely surfaces in Atlanta's code except in reference to allowable accessory structures in residential neighborhoods: the garden shed (Sec. 16-03.004.).⁹⁰ And only two district regulations specifically mention community gardens: the Conservation Subdivision District and the Beltline Overlay District.

The Conservation Subdivision District regulations list the community garden as a permissible use to meet the greenspace requirement (Sec. 16-19E.001 (6)(g)).⁹¹ Similarly, in the Beltline Overlay District, private property owners can count a community garden towards the useable open space requirement (Sec. 16-36.010 (1)). The only mention of the word 'agriculture' in Atlanta's ordinance is in the R-3 zoning district (Sec. 16-06C.002 (A)(2)).⁹² R-3 lists agriculture as a permitted use: specifically it allows for "agriculture, general and specialized farming, initiated prior to March 7, 1990, including: horticulture, plant nursery, dairy farming, truck gardening and poultry raising provided, however, that agricultural buildings must be at least 200 feet from all side and rear property lines, and that no products shall be offered for sale on land so utilized" (Sec. 16-06C.002 (A)(2)).⁹³

Most noteworthy in this R-3 permissible use is that agriculture uses were grandfathered in and cannot be newly initiated. And an existing agricultural operation cannot sell its produce on site

⁹⁰ City of Atlanta Code of Ordinances –Land Development, Section 16-03.004. City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

⁹¹ City of Atlanta Code of Ordinances –Land Development, Section 16-19E.001 (6)(g). City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

⁹² City of Atlanta Code of Ordinances –Land Development, Section 16-06C.002 (A)(2). City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

⁹³ City of Atlanta Code of Ordinances –Land Development, Section 16-06C.002 (A)(2). City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

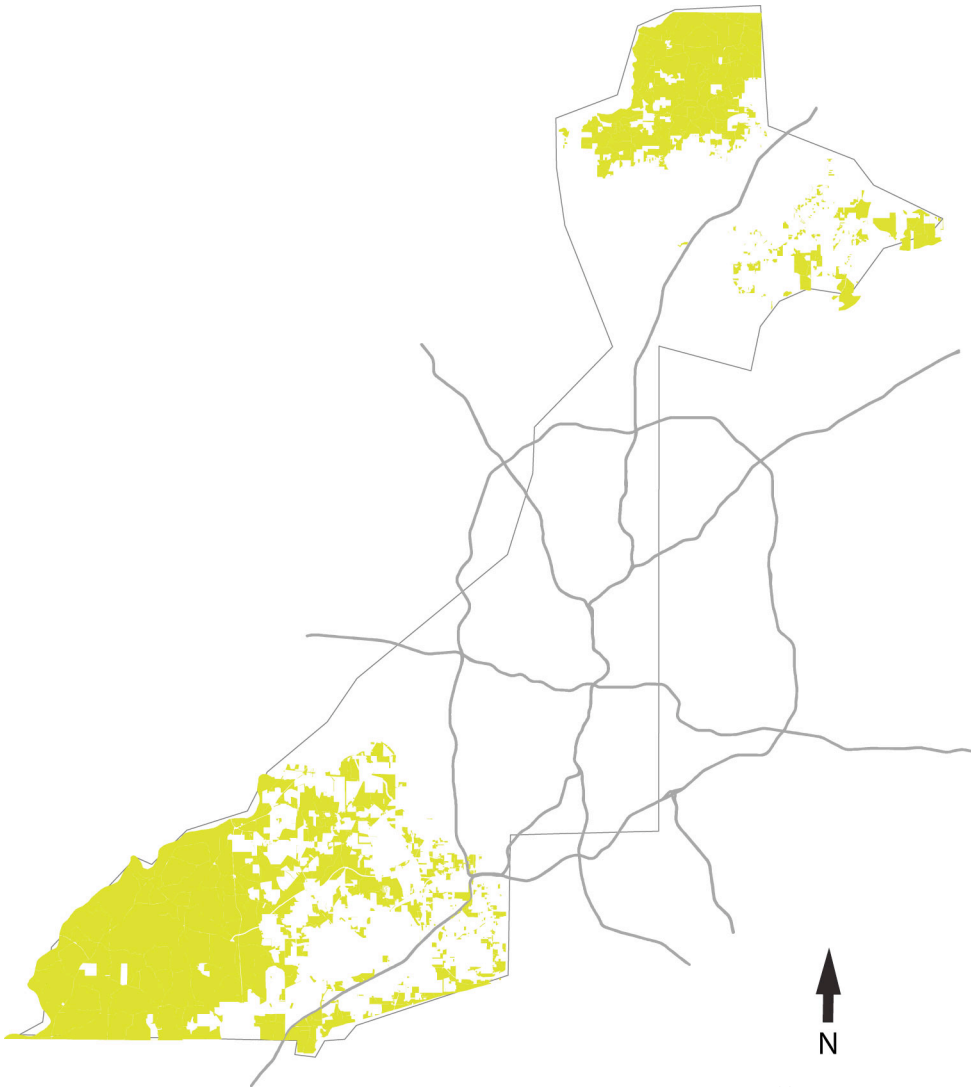
or within the community. This prohibition stands out as being an arbitrary limitation and it plays a role in the issue of food access. If an agriculture production site could sell its products to community residents on the site, this would provide a healthy calorie source and also reduce transport costs, as well as reduce the associated congestion and emissions associated with agricultural transportation. It seems that because the ordinance is carving out an exception for these uses within a residential zone, the ordinance extent exception in such a way that is truly beneficial to the residents of this zone.

The Fulton County Code of Ordinances also contains a zoning resolution outlining the county's "Agricultural District Regulations."⁹⁴ This district allows for residential uses, subdivisions, and agricultural uses. Specifically, the district allows for "general and specialized farming" operations, including horticulture, nurseries, greenhouses, and dairy farming. Raising livestock and poultry is allowed so long as animal buildings and enclosures are 100 feet from all property lines. However, there are very few, if any, areas zoned as Agriculture within the City of Atlanta. See Map 3 below.

Regarding household-level animal production in Atlanta, the Atlanta's Code of Ordinances specifically allows for raising animals in residential neighborhoods—however, the privilege comes with many restrictions and detailed specifications. The code allows for both large and small animals. Horses, cows, goats, sheep, "and the like" are allowed within the city limits. The code limits horses, mules, and cows to five per property and limits sheep and goats to ten.⁹⁵

⁹⁴ Fulton County, Georgia Code of Ordinances and Code of Resolutions, Appendix B Article V. City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

⁹⁵ City of Atlanta Code of Ordinances –General Ordinances, Section 18, Articles I & II. City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>



Map 3. Map of Regions Zoned as Agricultural Districts in Fulton County.⁹⁶

The code also allows for small animals, such as chickens, turkeys, bantams, pot-bellied pigs, guinea pigs, and rabbits; however, hogs and pigs are entirely prohibited.⁹⁷ Each type of animal requires an enclosure of varying measurements; however, regardless of animal type, all enclosures must be located at least 50 feet from any other residence or business. For chickens, the enclosure must be two square feet per bird, with a maximum of 25 chickens per residence.

⁹⁶ Author's own GIS analysis. GIS data obtained from Georgia Institute of Technology.

⁹⁷ City of Atlanta Code of Ordinances –General Ordinances, Section 18, Articles I & II. City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

Turkeys require an enclosure of at least four square feet per bird, with a maximum of 25. The code allows for one pot-bellied pig per residence, but it requires 100 square feet per pig. Rabbits and guinea pigs require four square feet per animal, with a maximum of 75 per residence.⁹⁸ Atlanta's animal allowances seem liberal enough to potentially offer a viable means of supplementing a household's nutrition needs.

In cities across the country, residents' interest in animal husbandry is escalating. Raising chickens seems to be particularly trendy today and cities with a formal chicken permitting process can track the rising numbers. For instance, in Minneapolis the number of chicken permit-holders jumped from 80 permits in 2008 to 120 in 2009.⁹⁹ Locals estimate that the true number of residents raising chickens is actually in the 1000's.

And although raising chickens seems to be the new trend for city dwellers, some backyard animal-raisers propose that raising bunnies is more sustainable than raising chickens and see bunnies as future dietary staple for American households.¹⁰⁰ According to experts, rabbits breed faster, are easier to slaughter, they exist quietly and cleanly, and can eat table scraps—and these qualities make them particularly sustainable and, for some, attractive for backyard food production.¹⁰¹ Urban farming organizations, fashionable butchers, and chefs all around the

⁹⁸ City of Atlanta Code of Ordinances –General Ordinances, Section 18, Articles I & II. City of Atlanta Online. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

⁹⁹ Bannow, T. (2009, December 3). Urban Chicken Farming Gaining Popularity . *News | mndaily.com - Serving the University of Minnesota Community Since 1900*. Retrieved April 14, 2011, from <http://www.mndaily.com/2009/12/03/urban-chicken-farming-gaining-popularity>

¹⁰⁰ Starr, A. (2010, March 2). Backyard Bunnies Are the New Urban Chickens - Environment - GOOD. *GOOD Home Page - GOOD*. Retrieved November 14, 2010, from <http://www.good.is/post/backyard-bunnies-are-the-new-urban-chickens>

¹⁰¹ Starr, A. (2010, March 2). Backyard Bunnies Are the New Urban Chickens - Environment - GOOD. *GOOD Home Page - GOOD*. Retrieved November 14, 2010, from <http://www.good.is/post/backyard-bunnies-are-the-new-urban-chickens>

country are on the forefront of bringing the rabbit to the table—and are tagging the bunny as the “new chicken.”¹⁰²

As referenced above, Atlanta’s zoning code allows residents to raise 75 bunnies per lot, compared to only 25 chickens; however, the rabbit enclosure must be twice as big as a chicken enclosure. A ten square foot enclosure will house about five chickens, but only 2 ½ bunnies. Neither of which is a very robust flock—especially if the animals are intended to sustain a family, or even make a dent in a family’s dietary needs. In a deep lot, one could probably squeeze in an enclosure for all 25 chickens or all 75 bunnies. An enclosure for 25 chickens must be at least 50 square feet, and for 75 rabbits an enclosure must be 300 square feet.

Using a 50x160 foot Virginia-Highland residential lot as an average for typical in-town neighborhoods, residents could squeeze either all 75 bunnies or all 25 chickens into the backyard. See Diagram 1 below. The regulation does not address vertical enclosures for the animals. Assuming one could build the rabbit enclosure vertically and the chicken enclosure either vertically or horizontally, one could perhaps fit all of the maximum allowed small animals into the back yard. On a shallower lot, or if neighbors’ houses are set deeper in their own lots, the enclosures are less likely to fit.

¹⁰² Wizansky, S. (n.d.). The Rabbit Course. *this is meatpaper*. Retrieved November 14, 2010, from <http://www.meatpaper.com/news/?p=153>

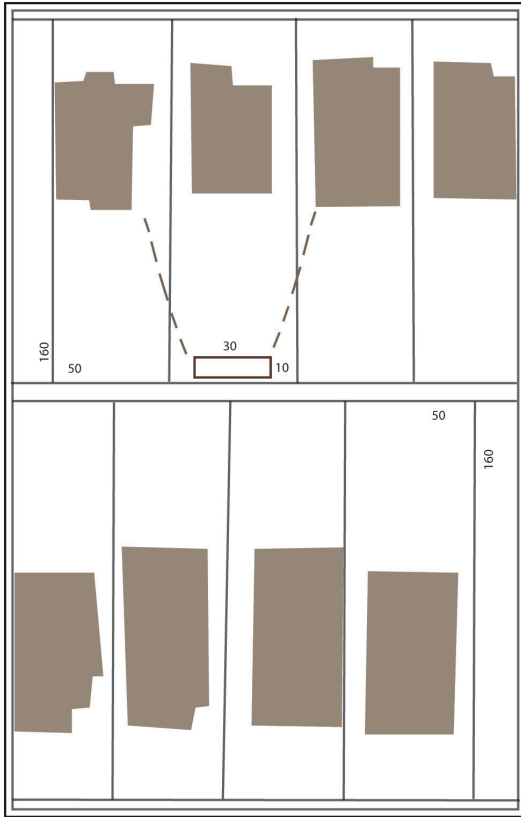


Diagram 1. Diagram of Average Intown Atlanta Residential Lot and Potential Rabbit Enclosure.

In 2000, the average yearly meat consumption per capita in the United States was 195 pounds, or about 3.75 pounds a week.¹⁰³ According to a self-professed ‘rabbity’ expert, in order for a backyard rabbit meat operation to be more economically advantageous than visiting the supermarket, each female rabbit must yield at least 36 five-pound ‘fryers’ a year.¹⁰⁴ Assuming an average of 2 ½ pounds of meat is yielded from each fryer, each female rabbit would produce about 90 pounds of meat a year. Given a 8 to 10 week growth period, a family of four would require about eight reproducing ‘does’ to meet their yearly meat needs, plus at least two ‘bucks.’ Assuming each female has a litter of 6 ‘kits’ at any given time, about 58 rabbits would be in the backyard on average—all of which fits within the maximum allowances set forth in the zoning code.

¹⁰³ Agriculture Factbook 2001-2002. (n.d.). *Chapter 2: Profiling Food Consumption in America*. Retrieved October 10, 2010, from www.usda.gov/factbook/chapter2.htm

¹⁰⁴ A Primer on Backyard Meat Rabbit Raising Practices (Rudolph's Rabbit Ranch) Part I. (2009, August 15). *Rudolph's Rabbit Ranch & Waterfowl Farm --- Raising Rabbits for Fun and Food: A Primer on Backyard Meat Rabbit Raising Practices, Now Offering Duck and Goose eggs*. Retrieved November 14, 2010, from <http://www.rudolphsrabbitranch.com/rrrpt1.htm>

In comparison, a 7-9 week old chicken yields 2 ½ to 4 pounds of meat.¹⁰⁵ At the yearly meat consumption rate mentioned above, and assuming one fills the quota with only backyard poultry, that equates to over a chicken a week per person, or about 63 chickens per year. However, while a rooster is not needed to raise egg-laying chickens, a rooster is required to raise chickens for meat. And because many city zoning ordinances do not allow roosters, this eliminates the option.

Regardless of bunnies' new sustainability tag, a bunny will never lay an egg—and the average chicken lays between 180-320 eggs per year.¹⁰⁶ Assuming an average of 250 eggs a year, 25 backyard chickens in Atlanta could yield 6,250 eggs a year—2,083 omelets.

BACKYARD, COMMUNITY GARDENS, & COMMERCIAL SALES

Atlanta's regulations prevent the sale of any produce on public or private property without a food-vending permit (Sec. 30-1481 (a)).¹⁰⁷ This prevents individuals from selling surplus produce to neighbors, or from selling surplus crops from a community garden plot without first paying \$75 for a permit. Furthermore, there are currently no community food processing centers in Fulton or DeKalb County, which further limits local and small-scale growers opportunities for processing and selling food products in the region.¹⁰⁸

Additionally, a resident seeking to sell some of her 2,083 eggs must also consider the Georgia Egg Law in addition to applicable vending permits and county health regulations.¹⁰⁹ The Georgia

¹⁰⁵ Hamre, M. L. (n.d.). Small Flock for Poultry Meat. *University of Minnesota Extension*. Retrieved April 18, 2011, from <http://www.extension.umn.edu/distribution/livestocksystems/DI1188.html>

¹⁰⁶ Facts about City Chickens . (n.d.). *Seattle Tilth*. Retrieved April 21, 2011, from <http://seattletilth.org/learn/resources-1/city-chickens/citychickensfaqs>

¹⁰⁷ City of Atlanta Code of Ordinances—General Ordinances, Chapter 18, Article XXIII and XXIV. (n.d.). *Municode*. Retrieved November 14, 2010, from <http://library.municode.com/index.aspx?clientId=10376&stateId=10&state>

¹⁰⁸ Hass, S. (n.d.). Yes, We Can. And You Can Can Too. *Georgia Organics*. Retrieved April 12, 2011, from <http://www.georgiaorganics.org/newscenter/Dirsummer2010/yeswecanandyoucancantoo.aspx>

¹⁰⁹ Licenses and Regulations. (n.d.). *Georgia Organics* . Retrieved February 28, 2011, from <http://www.georgiaorganics.org/farmers/LivestockProduction/LicensesRegulations.aspx>

Egg Law governs all eggs produced and sold in Georgia and generally requires Georgia Department of Agriculture licensing for all egg facilities; however, the Egg Law creates exceptions for ‘restricted eggs.’ A restricted egg sale is any direct sale from producer to consumer of less than 30 dozen eggs and from a flock of less than 3,000. Therefore, the law does not require licensing for a small-scale production such as a community garden or backyard producer. However, all eggs sold, regardless of quantities or size of flocks, must be graded and packaged according to applicable state regulations.

In 2007 there were 47,846 farms in Georgia, with an average of 212 acres per farm—and agriculture contributes more than \$65 billion per year to Georgia’s economy.¹¹⁰ Of the statewide farm system, in 2007 only 335 farms made direct farmer/consumer sales, which generated an estimated \$2 million in sales—only a small fraction of the \$65 billion industry. Likewise, there are currently 204 farms in Fulton County. And of these Fulton agricultural operations, only 12.7% sold goods directly to consumers, for a direct farm sales total of \$175,000.¹¹¹

Furthermore, Georgia residents consume less locally produced food than the national average.¹¹² According to a study conducted by the University of Georgia’s College of Agricultural and Environmental Sciences Center for Agribusiness and Economic Development, at least \$1.9 billion could be injected into Georgia’s local economy if each of the state’s 3.7 million households spent \$10 a week to Georgia-grown food products.¹¹³

¹¹⁰ Georgia Agricultural Resources | Agriculture & Natural Resources | UGA Cooperative Extension at CAES. (n.d.). *The College of Agricultural and Environmental Sciences at the University of Georgia*. Retrieved April 22, 2011, from <http://www.caes.uga.edu/extension/anr/gaagres/>

¹¹¹ Food Environment Atlas. (n.d.). *USDA Economic Research Service - Home Page*. Retrieved March 28, 2011, from <http://ers.usda.gov/FoodAtlas/>

¹¹² What If Georgians Ate Georgia Produce?. (n.d.). *Georgia Organics*. Retrieved April 12, 2011, from <http://www.georgiaorganics.org/newscenter/Dirtsummer2010/whatifgeorgiansAtegeorgiaproduce.aspx>

¹¹³ What If Georgians Ate Georgia Produce?. (n.d.). *Georgia Organics*. Retrieved April 12, 2011, from <http://www.georgiaorganics.org/newscenter/Dirtsummer2010/whatifgeorgiansAtegeorgiaproduce.aspx>

Not only could the state do more to connect growers with consumers through local farmers markets, but Atlanta could also do more to increase the number of agriculture producers within its boundaries. Atlanta and Fulton County can encourage more urban agriculture production at all scales by maximizing available urban lands and by reducing the legal barriers. As discussed above, encouraging local food production and better ensuring that locally produced food is sold to local consumers can have great impacts on local economies. In 2006, each Fulton resident purchased on average 216 pounds of fruits and vegetables and 113 pounds of meat and poultry.¹¹⁴ These local dollars could be injected into the county's local economy if more avenues existed for local agricultural production and sales.

CONCLUSION/OPPORTUNITIES

In today's urban context—in which almost all neighborhoods could benefit from more healthy and affordable food choices—perhaps community agriculture space, farmers markets, and grocery stores should qualify as community facilities. Such uses directly serve the community and proximity is critical. Perhaps such food production uses should be permitted as of right in all residential districts, or even in every zoning district altogether. Other countries, like Kenya for instance, are not only formally recognizing the legal right to urban farming, but are also elevating the right to healthy food to a level comparable to the most basic of protected human rights. According to Kenya's proposed urban farming by-laws, "every person within the jurisdiction of the Council is entitled to a well-balanced diet and food security." The formal right to food security further requires that the Council facilitate "acceptable and approved urban farming practices" for residents.¹¹⁵

Agricultural start-ups, whether it is a community garden, a commercial agriculture operation, or a farmers market, require great commitments from those individuals who initiate such endeavors—and they are being established nationwide with or without legal acknowledgement or support. Cities can ensure the success and safety of the emerging agricultural initiatives with straightforward policies and a clear legal processes. Such legal clarification would aid in

¹¹⁴ Food Environment Atlas. (n.d.). *USDA Economic Research Service - Home Page*. Retrieved March 28, 2011, from <http://ers.usda.gov/FoodAtlas/>

¹¹⁵ Food and Agriculture Organization of the United Nations. (n.d.). *Urban Agriculture*. Retrieved April 4, 2011, from <ftp://ftp.fao.org/docrep/fao/010/a1177e/a1177e07.pdf>

accommodating and encouraging the growing demand for urban agriculture at all scales. New agriculture initiatives need legal protection and many zoning codes would require only small expansions to allow urban agriculture, especially for operations at the community level.

For instance, typical zoning ordinances often allow uses deemed ‘community facilities’ in residential districts, which would otherwise be exclusive districts. These community facilities, such as schools and churches, are often ‘permitted as of right’ because they serve the community directly and proximity is important.¹¹⁶ For instance, most Atlanta residential zones allow schools as a permitted principal use. Likewise, most of Atlanta’s residential and mixed-use districts also outline ‘civic clubs’ or ‘community centers’ as allowable uses with a special or administrative permit. The definition of what constitutes a community facility, center, or club should not be a static idea and perhaps community facilities should not be limited to one universal list.

In Georgia and within the City of Atlanta, policy-makers are beginning to advocate new laws that begin to address the many issues of urban agriculture and food security. For instance, in Atlanta, a 2011 proposed Zoning Ordinance 10-O-1773 will come before Atlanta’s City Council. The proposed Ordinance seeks to amend the zoning code to protect farmers markets and encourage the establishment of more fresh farmers markets throughout the city. The Ordinance defines a Farmers Market as “outdoor market open to the public, operated by a governmental agency, a nonprofit corporation, or one or more producers” and requires that 75% of the products sold be farm products or value-added farm products, that 75% of the booths be producers (or their agents), and that products must display the name of location of the producer for all products.¹¹⁷ The Ordinance also sets forth farmers markets as a permitted use in residential districts, certain special interest districts, planning development districts, and in some commercial districts. To establish a farmers market, the Ordinance requires an

¹¹⁶ Williams, N. (1956). The Evolution of Zoning. *The American Journal of Economics and Sociology*, 15(3), 253-264.

¹¹⁷ City of Atlanta Ordinance 10-O-1773. (2010, December 17). *Zoning Committee Z-10-030*. Retrieved April 4, 2011, from http://npumatlanta.org/wp-content/uploads/2011/01/Z-10-030-Farmers-market-zoning-ordinance-text-amdt_121710-REVISED.pdf

administrative permit and some operation restrictions apply for farmers markets in some zoning districts.

At the state level, Republican Representative Bobby Franklin from Georgia's 43rd district presented The Right to Grow Act for legislative approval in 2011. The Act seeks to amend Chapter 1 of Title 2 of the Official Code of Georgia Annotated and preempt local ordinances prohibiting residents from raising animals and crops on private property. More specifically, the proposed Act mandates that "no county, municipality, consolidated government, or local government authority shall prohibit or require any permit for the growing or raising of food crops or chickens, rabbits, or milk goats in home gardens, coops, or pens on private residential property so long as such food crops or animals or the products thereof are used for human consumption by the occupant of such property and members of his or her household and not for commercial purposes."¹¹⁸ If approved, the Act would guarantee all residents right to raise food for household consumption, regardless of any local zoning prohibitions; however, the Right to Grow Act does not state any maximum allowances for small animals or any distance and enclosure requirements.

In recent years urban gardening has seen a revival in Atlanta and in cities across the country. Homeowners are gardening backyards, and neighborhoods are banding together to create community gardens. Likewise, commercial property owners are increasingly implementing roof gardens and green roofs to reduce carbon footprints and provide a means of food production for residents. However, among these urban agriculture trends, community gardening continues to gain the most traction as one of the foremost tools in neighborhood revitalization efforts and in 'green' community building.

The American Community Gardening Association estimated there to be at least 18,000 community gardens scattered throughout the United States and Canada in 2009.¹¹⁹ As

¹¹⁸ Georgia General Assembly. (n.d.). *2011 House Bill 2*. Retrieved April 4, 2011, from http://www1.legis.ga.gov/legis/2011_12/fulltext/hb2.htm

¹¹⁹ How Does Your Garden Grow? Brownfields Redevelopment and Local Agriculture. (n.d.). *Environmental Protection Agency*. Retrieved March 11, 2011, from http://www.epa.gov/brownfields/success/local_ag.pdf

previously discussed, bringing food production back into the city at this scale is not a new phenomenon. Agriculture has been central to urban form for all of history—and even post-industrialized cities have seen multiple surges in urban agriculture initiatives at the household and community scale, most often from necessity. As discussed, many advocates see this growing movement as a critical element in addressing socioeconomic health disparities, as well as issues concerning energy, economics, and environmental health.

Cities, counties, local governments, communities, and individual households all influence local food production potential and each play a role in creating long-term sustainable food system plans. At the city level, zoning and policy updates that allow and encourage urban agriculture, land inventories and assessments, and city-sponsored programs to encourage community gardens and farmers markets are valuable tools for developing a sustainable food system. And a city or community does not have to search far to uncover its productivity potential. Whether it's vacant parcels, public rights of way, un-used green spaces, or under-used parking lots; whether its temporary or permanent; and whether it's animal husbandry, raised-bed gardening, or simply planting some edible greens or fruit-bearing trees—almost any available space can be utilized in a productive manner.

As previously discussed, cities throughout the country are initiating urban gardening programs as interim uses for vacant properties—and others are creating a regulatory framework that establishes permanent agriculture uses. Urban farms, community gardens, and local markets have become ubiquitous in sustainable urban development discourse—and regardless of the approach, urban agriculture is gaining recognition as being vital to economic, social, cultural, and environmental security.

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