Transportation and Food Systems in the Genesee-Finger Lakes Region

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Photos on the cover courtesy of Cornell Agriculture and Food Technology Park and Muranda Cheese Company.
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Executive Summary

Transportation and Food Systems in the Genesee-Finger Lakes Region is a project of the Genesee/Finger Lakes Regional Planning Council (G/FLRPC) that seeks to promote local and regional food systems by conducting a baseline assessment of land use and transportation barriers and developing recommendations for actions. The project has identified and interviewed a diverse sampling of stakeholders involved in food production, processing, wholesale, retail, and waste management activities in the nine-county Genesee-Finger Lakes Region. The goal of this comprehensive inventory is to inform future efforts and build links between food and planning activities through land use, transportation, and economic development.

Agriculture is an economic driver not only for New York State but for the Genesee-Finger Lakes Region, which includes Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates Counties. Although New York State ranks 26th in the country in terms of overall agricultural sales, it is one of the biggest producers for dairy, fruits, berries, wine, and some vegetables—with the Region accounting for some of the largest production. New York State also ranks high among the largest producers in the nation for some food products, including cheese, cottage cheese, sour cream, and yogurt. The State is a leader in yogurt production, with several major companies located in the Region. In 2007, New York State was the second-largest producer of wine in the nation behind California. Two hundred million bottles of wine were produced in the State; 85 percent was produced in the Region and surrounding areas.¹

County Planning Departments and other regional organizations have assisted in identifying representative food system stakeholders. Stakeholders were then asked to participate in an interview that consisted of identifying and commenting on product and operational structure, opportunities and limitations of the local and regional food system, transportation and distribution issues, and other data-gathering. Standardized interview questions were developed with assistance from the G/FLRPC Planning Coordination Committee (PCC) and others.

The goal of Transportation and Food Systems in the Genesee-Finger Lakes Region is to develop a starting point to better understand the economic impact and future potential of local and regional agriculture, food processing, food wholesaling, food retailing, and food waste management activities as it relates to the Region’s transportation system. Product movement through the system and problems in the transportation infrastructure has been summarized. The project provides solutions to the transportation issues identified, such as case studies and other policies, plans, and tools in land use, transportation, and economic development.

Introduction

G/FLRPC became interested in food system planning when it became apparent how food affects and is affected by many issues central to G/FLRPC's program areas, including land use, economic development, and the environment. *Transportation and Food Systems in the Genesee-Finger Lakes Region* seeks to bring together different data and provide comprehensive analysis on the regional level about the variety of opportunities and challenges to inform food-related transportation and economic development planning.

The agricultural sector is very important to the Genesee-Finger Lakes Region, with $1.2 billion in agricultural sales in 2007 that represents 27.9 percent of the total farm sales in New York State. Wyoming County was second-highest in the State for agricultural sales in 2007 and led the State in the sale of cattle and calves, milk and other dairy products, and corn for silage (e.g., animal feed). Wayne County was the State's top producer of fruits, tree nuts, and berries. Apples are a major crop in the County—it was the State's top producer of apples and ranked third in the nation in 2007. Genesee County was New York's top producer of vegetables, melons, potatoes, and sweet potatoes.2 In 2010, New York's top six commodities were milk, corn grain, corn silage, hay, apples, and floriculture. The Region accounted for nearly 30 percent of the State's total farm sales. Wyoming County was the State's largest producer of milk and corn silage and Wayne County was first in apple production. The Region is also known for its 95 wineries, which are a major tourist attraction.3 According to the Genesee-Finger Lakes Economic Development District Comprehensive Economic Development Strategy (2014-2015 CEDS Update), the Region's agricultural industry yielded $1,605,046,000 in cash receipts for all products in 2012. In total, 29.6 percent of the State's cash receipts from all agricultural products came from the Region; specifically, 35.0 percent of the State's cash receipts in crops and 25.9 percent of cash receipts in livestock. The Industry Cluster Analysis, which measures the regional location quotients amongst 17 industry clusters, also identifies “Agribusiness and Food Processing” as one of the targeted cluster and competency industries.

The Long Range Transportation Plan for the Genesee-Finger Lakes Region 2035 (LRTP 2035) identifies the direction for the Region's transportation system and serves as the framework for future investment in highways, bridges, public transportation, bicycle and pedestrian paths and trails, and transportation-related air quality improvement projects. It identifies the regional food system as one of the “Emerging Opportunities and Issues” and also links to several goals and associated objectives that wholly incorporate the eight planning factors identified in MAP-21 (e.g., the Moving Ahead for Progress in the 21st Century Act), such as the economic viability of the promotion of local agriculture and food processing for local consumption; accessibility and mobility options for low income households in urban and rural areas; and low-mobility neighborhoods to healthy, affordable foods.

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2. Ibid.
The Finger Lakes Regional Sustainability Plan (May 2013) also supports a well-integrated, efficient, and productive regional food system through several of its general action-oriented statements:

1. Broad Strategy E1 - Develop, produce, and employ alternative energy (bio-energy, waste-to-energy);
2. Broad Strategy LU1 - Create healthy, safe and sustainable communities including
   - 1.5, Encourage creative strategies, such as farmers’ markets and small local markets, to provide access to affordable, healthy foods;
3. Broad Strategy MM1 - Reduce the amount of solid waste generated in the region; and
4. Broad Strategy A1 - Support the continued development of an efficient and productive regional food system.

The Transportation Strategies for Freight and Goods Movement in the Genesee-Finger Lakes Region (G-FL Regional Freight Plan, June 2012) identifies strategies that will position the transportation system of the Region as a distinguishing factor in retaining and attracting both traditional and emerging-technology manufacturing firms, as well as enhancing the viability of agriculture and associated processing companies. The Genesee Transportation Council (GTC), in cooperation with its partners, carried out this study to determine how transportation investments can be leveraged to increase competitiveness and maximize economic growth. According to the G-FL Regional Freight Plan, agriculture and food production remain significant economic engines for the Region.

The Mel Burger (top), courtesy of Cam Schauf, Director of Campus Dining Services and Auxiliary Operations/Co-chair, University Council on Sustainability, University of Rochester.

Cornell Agriculture and Food Technology Park (bottom).
Lastly, two regional economic development strategies address the importance of the local and regional food system. These economic development strategies include the 2014-2015 CEDS Update and the Finger Lakes Regional Economic Development Council (FLREDC) Strategic Plan, entitled “Accelerating Our Transformation.” The 2014-2015 CEDS Update addresses the importance of agriculture and the agri-business community through “Goal 4: Support Agriculture and Agri-Business” and the associated objectives and strategies:

**Goal 4: Support Agriculture and Agri-Business**

**Objective 4A:**
To continue to work with economic development partners to establish, maintain, and market programs and initiatives targeted to the advancement of agriculture and agri-business

**Strategies:**
- Pursue opportunities to educate leadership on the economic impacts of agriculture within the Region
- Continue partnerships with regional food and beverage cluster organizations, including the Cornell Agriculture and Food Technology Park
- Continue support of the RIT-CIMS Finger Lakes Food Processing Cluster Initiative project through membership on the Leadership Council
- Assist regional efforts in the development of a sustainable foodshed and farm to table and post consumption initiatives
- Pursue opportunities to assess and enhance food and food systems within the District
- Support regional efforts to connect youth to careers in Agriculture and to provide workforce development training for the Agriculture sector
- Support regional efforts and policies to expand New York State Wine, Beer, and Spirits
- Establish and administer the Growing the Agriculture Industry Now! Revolving Loan Fund and work with regional partners to connect the loan fund with agriculture businesses in need of financing

**Objective 4B:**
To encourage the protection and preservation of agricultural land within the District

**Strategies:**
- Support the development of Farmland Protection Plans within the District
- Pursue opportunities to educate leadership on the economic impacts of agriculture within the Region
- Support regional efforts to promote comparative agricultural advantages of the Region, including a favorable climate with limited natural disasters and level topography
The FLREDC Strategic Plan identified the “Agriculture & Food Processing” sector as a key cluster of the Region and outlined the following strategy and actions for the sector:

The Region will build upon leadership in this sector over the next five years by continuing to leverage its competitive advantages and proximity to major markets to:

- Increase the value, diversity of agricultural products, and exports;
- Support the creation and expansion of food processing companies in the region through incentives and academic private partnerships to gain manufacturing efficiencies and access to new markets;
- Invest in projects that create synergy between the region’s agriculture and energy sectors, particularly in the area of biofuels.

The work of the FLREDC also shaped the foundation for the development of the Upstate Revitalization Initiative entitled, *Finger Lakes Forward: United for Success*. The Finger Lakes Forward Plan specifically identified “Agriculture and Food Production” as one of the three key pillars of growth for the Region and referenced the following areas of focus within the cluster: food production; agriculture/ag-tech; wineries and craft beverage; agri-tourism; controlled environment agriculture; healthy, natural foods; and sustainable farming.
Methodology

From July, 2015 through November, 2015, fifty-five (55) interviews were conducted with various food system stakeholders throughout the Region. Interviews were conducted over the phone, with a handful of written interviews submitted. In order to develop appropriate survey questions, stakeholders were grouped into the following six categories:

- **Consumers/Retailers** – farmers’ markets and public markets, farm-garden stands, grocery stores and supermarkets, restaurants
- **Distributors/Warehousers** – cooperatives, food warehouses/cold storage, distribution and trucking companies, shipping companies
- **Non-Retail/Wholesale Marketers/Food Banks/Institutions** – wholesalers, emergency food system (food pantries and soup kitchens), Farm-to-School, institutional (schools, hospitals, corporations, vo-techs, universities), “non-retail” wholesale market (that may include not-for-profit activities)
- **Processors** – large and small-scale processing, bakeries/butchers, meat/poultry processors, food packaging
- **Producers** – local farms (organic growers, family farmers, niche farming enterprises), greenhouses (traditional and hydroponics), Community Supported Agriculture (CSA)
- **Recyclers/Compost Processors/Waste-to-Energy Suppliers** – composting (large-scale composting, composting service providers), recycling, conventional disposal (land-filling), alternative energy producers (food waste, biomass, bio-energy production)

The distribution of food system stakeholders interviewed (by group and location) is displayed in the chart and map on the following page. For a full list of food system stakeholders, review Appendix A. Stakeholder responses are provided in Appendices B and C: B lists the non-transportation issues identified by stakeholder group and C provides the full list of survey questions with answers. Transportation issues will be discussed in more detail in the following section, along with case studies and other land use, transportation, and economic development solutions.
Chart 1 – Food System Stakeholders Interviewed by Group

- Consumer/Retailer: 10%
- Distributor/Warehouser: 25%
- Non-Retail/Wholesale Marketer/Food Bank/Institution: 18%
- Processor: 11%
- Recycler/Composter/Waste-to-Energy Supplier: 18%
- Producer: 18%

Map 1 – Food System Stakeholders Interviewed by Location
What is a regional food system?

The food system represents the flow of products from production, through processing, distribution, consumption, and the management of wastes. The Genesee-Finger Lakes Region consists of many community or local food systems, which is served by a regional food system, and fits within a global food system. Food system planning is the integration of food system issues into policies, plans, and programming at all levels of government work. A growing network of planners and their partners are beginning to engage in strengthening the community, regional, and national food systems by balancing the need for an efficient food system with the goals of economic vitality, public health, ecological sustainability, social equity, and cultural diversity.

For this project, every stakeholder was asked, “When you hear the phrase “regional food system,” what does it mean to you?” The WordCloud below shows all of the responses, with greater prominence to words that appear more frequently.
Food System Stories

Several food system stories or “life cycles” have evolved from the stakeholder engagement and planning process. Through issue identification, food can be seen moving in the Genesee-Finger Region from cradle to grave.

The first story includes the relationship between Headwater Foods Inc., the University of Rochester, and Waste Management. Headwater Foods Inc. works with partner farms to supply local, top quality, sustainable foods for the Genesee-Finger Lakes Region of New York State and the Northeast region of the United States. Farmers deliver directly to Headwater Foods Inc. where they store, inventory, provide quality control, build coolers, pack boxes, and move out the produce. One of its customers is the University of Rochester. The University wants to purchase a wide variety of locally grown fruits and vegetables because students are voicing concern about where their food is coming from. The University would like to do more with local proteins too, such as antibiotic free and crate-free chicken, pork and other humanely raised meats as well as chopped lettuce and additional value-added produce. They are working closely with Headwater Foods Inc. to find ways to bring other local food producers and processors into the network. From there, Waste Management collects both pre-consumer and post-consumer food waste from the University. Waste Management processes two types of compost: food waste and leaves. Perinton Town vehicles collect leaf waste and Waste Management does the composting. Leaf compost is available for pickup by residents at local parks. Food waste compost is not currently available for distribution. It is composted onsite in the nature area of High Acres Landfill. Waste Management is considering certification from the US Composting Council to distribute the food waste compost as a finished product.
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Wegmans Food Markets, Inc. is a regional supermarket chain with 26 stores in the Rochester area that is partnering with local farmers and businesses to meet consumers’ growing demand for more local, fresh products. Inedible food scraps (e.g., spoiled) as well as rinds and peels are collected for the anaerobic digestion program, with some of the bakery items provided to animal farmers for feed. Nineteen of the 26 stores participate in the anaerobic digestion program. Wegmans has full service with Lawnhurst Farms in Stanley and Noblehurst Farms Inc. based in Linwood to process the food waste and pays the tipping fee, which is lower at the farms than the landfill. The hauling rates are higher, however. Wegmans has been participating in this food diversion program for about four years now, which is cost neutral but nonetheless demonstrates the company’s commitment to Sustainability.

The third story takes place in Wyoming County where there is an ongoing effort to build better links between local growers and consumers. One of the goals of the Wyoming County Business Education Council (BEC) is to act as a liaison to connect the business and educational communities. A way to do this is by supporting local farms by providing fruits and vegetables to students through school cafeterias. Their objective was to establish a Farm-to-School program with the support of the Wyoming County Industrial Development Agency (IDA), local farms and businesses, Cornell Cooperative Extension (CCE), and local school districts. Several roundtables were organized to provide networking opportunities between farmers and local school districts. Together they were able to identify what was being grown by the farmers and what food supplies the school districts needed for their students. The school districts and farmers received a list of contacts and resources that were generated from the roundtable discussions. They were encouraged to reach out (continued, next page)
to one another to find a common business interest in working together. Unfortunately, due to logistical issues and cost—specifically, the low volume of invoice orders coupled with the cost of trucking from the farms to the schools—the business relationship no longer exists. The Attica Central School District currently acquires a majority of its food items from a distribution company, Tarantino Food. It also works with a retired farmer that acts as a broker to supply the school district with local produce. The district’s food director prefers to buy local whenever possible, however it has still been consistently cheaper to obtain canned fruits and vegetables from international sources through various distributors than from a local grower. A number of reasons mentioned to the high cost for local growers is the relatively higher cost of labor, New York State regulations, and transportation costs.

A benefit from the roundtable efforts was the incorporation of agricultural teaching methods in the local school district’s math and science curriculums, which focused on the use of high tunnels. High tunnels are a type of greenhouse built with a dome and placed in the ground. A good example is the Perry Central School District. They were able to secure a grant through Cornell University to install a high tunnel on their school grounds and other supportive materials from local growers. The high tunnels have allowed for a 10-month growing season as observed by the school district. Students perform assignments and activities such as taking soil samples and solving math problems in determining proper plant spacing for ideal nutrient distribution. Lettuce, kale, and spinach has been grown and incorporated into nutritious lunch choices for the students. The school district has even considered selling the produce at the local farmers’ market.

Photos courtesy of Linda Leblond, Wyoming County Business Education Council.
The last narrative focuses on apples, which are grown in abundance throughout the Region. New York State ranks second in the United States in apple production. The Genesee-Finger Lakes Region is a large apple producer. Within New York State, Wayne County ranks first in apple production followed by Orleans, Monroe, and Ontario Counties ranking third, fifth, and eighth respectively as of 2006. Many growers rely on their apple orchards as their main source of income. Apples are grown for whole consumption, processed for applesauce, juice and cider as well as sliced and packaged for many institutional cafeterias. An overarching issue for apple growers and local consumers is the cheaper price point of apples grown nationally and internationally versus locally-grown. A number of interviewees stated that it can be cheaper to purchase apples or apple concentrate from Washington State or from China versus purchasing locally. The State of Washington is the largest apple producer and provider of juice concentrate in the United States and China is the largest apple producer and provider of juice concentrate in the world. The combination of large volumes of apples, juice concentrates, varieties, government subsidies, transportation costs, cost of production and a consistent, dependable supply chain that provides raw material 12-months out of the year has made it possible for providers outside of the Region to sell their apple products at a lower price point than New York State apple growers. Having a Mott’s processing plant in Wayne County is a major regional economic driver. Mott’s has contract agreements with many local apple growers and dry/cold storage warehousers to grow and store the raw material for their processing. The storage availability and technology allows Mott’s to have a nearly year-long supply of apples for processing. However, due to the short growing season and price competition nationally and abroad, Mott’s must still import apples and apple concentrate to supplement their resources when their demand is not met by local growers.

Transportation Issues Identified

Transportation challenges or concerns that occur in the local and regional food system were identified and summarized into four main categories: high transportation costs, infrastructure weaknesses, trucking regulations, and food waste storage, collection and transport. These issues will be discussed in connection with the G-FL Regional Freight Plan. Agriculture and food production is acknowledged in the plan as being a significant economic engine for the Region, with two of the Region’s three Workforce Investment Boards (WIB) having identified “Food/Agriculture” as growth industries for the purposes of guiding workforce development efforts.

High Transportation Costs

The number one transportation concern communicated by food system stakeholders are high transportation costs. The most popular mode of transport used by suppliers and businesses to deliver orders is by trucking. It is ideal for transporting perishables such as fruit and vegetables, and many transport companies can provide scheduled delivery services. But prices are increasing as road transport systems have high maintenance costs for both the vehicles and infrastructures. For example, the milk hauling industry has been challenged with increasing fuel costs. According to a Milk Hauling Study conducted in April 2008 by the Department of Agriculture and Markets, increasing fuel costs and other developments such as weight limit issues on roads and bridges have resulted in increased hauling rates charged to farmers.5

Cultivating a local and regional food network is one way to mitigate the escalating cost of food transportation. The American Planning Association, in its policy statement on urban food sources, notes that the average American meal travels 1,500 miles before reaching the dinner table. With volatility of petroleum prices, transportation can represent a significant portion of the cost of food products.

Combination trucks provide a majority of the long-haul, intercity trucking while urban trucking is dominated by single-unit trucks. Many food producers and processors maintain their own fleets or hire third-party carriers, which includes single-truck “owner operators.” Some of the situations described by the food system stakeholders include customers requesting “free shipping,” which cannot be achieved when food is heavy and the price-point so low. A higher-profit margin (like gold) would be needed. Also, large distributors are able to sell higher quantities of food products to its customers than would a small producer/processor with their own truck fleets. In order to compensate for transportation expenses, a small producer/processor would have to roll that cost into bigger orders. The challenge for small producers/processors is the lack of capacity to fulfill bigger orders.

Along the same lines is the ability to ship food products to New York City; it is cost-prohibitive to ship such small quantities and not increase the price. Stakeholders stated that there is a lack of reliable distributors to ship agriculture and food products to New York City. The lack of affordable distribution trucking is a complex problem. Less than tractor trailer or truckload (LTL) was mentioned. This is a service with smaller shipments that do not require a whole trailer. LTL forces the small producer/processor to partner in order to pass the transportation costs onto the consumer and still be affordable, which is not always possible.

The New York State Thruway, a major interregional truck artery, connects the Albany, Syracuse, Rochester, and Buffalo metropolitan areas and serves as the region’s primary entry, exit, and pass-through corridor. Several food system stakeholders mentioned that high tolls associated with the Thruway are an obstacle, especially for commercial trucking. Although there is evidence that trucks take alternate routes to avoid Thruway tolls, avoidance appears to be minor. Overall, the G-FL Regional Freight Plan supports the NYS Thruway as sustaining and encouraging economic growth and cites it as an “outstanding asset to the region.” Additionally, an assessment report by the Office of the State Comptroller states that the NYS Thruway is “a relatively inexpensive toll facility” and would maintain that position even with the 45 percent adjustment to commercial toll rates proposed in 2012.

Other toll highways in Virginia, Delaware, and Maryland impose commercial rates that are higher than the current Thruway tolls on five-axle trucks. On the other hand, motor fuel taxes and other costs in Virginia, Delaware, and Maryland are substantially lower than those in New York. According to the American Petroleum Institute, combined local, state and federal taxes on diesel fuel were less than 50 cents per gallon in Delaware, Maryland and Virginia but 73.5 cents in New York (as of July 2012). At the time of the assessment report, the Thruway’s tolls for larger trucks were 43 percent higher than those on the main branch of the Massachusetts Turnpike. The Thruway Authority ultimately abandoned the proposed 45 percent toll increase on commercial traffic in 2012. The Thruway last raised tolls in 2010.

Governor Cuomo recently unveiled his 2016 agenda, which includes a three-part Thruway Toll Reduction and Protection Plan. The proposed plan is intended to keep Thruway tolls flat until at least 2020. Proposed cuts would benefit nearly one million passenger, business, and farm vehicles. The average annual savings for businesses and commercial trucks would be $686 and $1,872, respectively. Vehicles owned by farmers that bring farm goods to market and use E-ZPass would have tolls completely eliminated through a 100 percent credit. The proposal also includes an investment of $700 million in Thruway infrastructure, on top of last year’s commitment of $1.285 billion. The Governor’s proposal aims to save the agricultural sector $5 million annually.
Some stakeholders stated that rail transportation would be “the best way” (e.g., cost effective) to move product were it more dependable. The perception is that rail transportation is “unreliable and lacks competition.” The rail sector in the Genesee-Finger Lakes Region is dominated by two major carriers: CSX and Norfolk Southern. Most trains moving on two freight rail lines of national significance pass through the Region without stopping. According to the GFL Freight Plan, the Region has a relatively small number of rail access points and no intermodal truck-rail transfer facility. Additionally, suppliers/customers are not always located near a rail freight depot and delivery to/from the depot can be costly and time consuming.

Solutions

There is a need for more companies to concentrate in the shipment of produce within the Region. A central trucking “hub” or facility owned as a Co-Op (Cooperative Markets) by many food producers is a possible solution. This hub would need a delivery radius large enough to cover the furthest point of all co-op members.

There are various examples of food hubs located throughout New York State. Bufflhub is a produce and poultry processing “hub” that washes, sorts, and packs local fruits and vegetables and processes chickens and Thanksgiving turkeys in a 4,000-square-foot facility in Buffalo’s Niagara Frontier Food Terminal. The intent of the hub is to provide small growers and farmers better access to high quality, NYS-licensed processing, which includes refrigeration and freezers. Plato Dale Farm, located in Wyoming County, owns the business with participating farms “co-branded” as part of the distribution network.

Other food hub projects have been awarded funding by the New York State Department of Agriculture and Markets through the NYS Consolidated Funding Application (CFA). In Round 2 of the CFA, three awards were made: Challenge Industries, Inc. received $150,000 to create the Finger Lakes Food Hub; Madison County Agriculture Economic Development received $500,000 to expand the Growing Upstate Food Hub; and the Hudson Valley Agribusiness Development Corporation received $475,000 to expand the food processing and distribution capacity for Farm to Table Co-packers and Hudson Valley Harvest.

The Finger Lakes Food Hub is an aggregation and value-added production facility in Groton, Tompkins County that collaborates with local farmers and provides them with services to expand markets for their products. Located in Canastota, the Growing Upstate Food Hub has a shared use processing, warehousing, and distribution facility for locally farmed products. With additional processing equipment, cold-freezer storage, and distribution depots, Farm to Table Co-packers and Hudson Valley Harvest will have expanded capacity to meet the growing demand for local food from customers in New York City and throughout the Northeast.

New York State and New York City convened a 90-day task force, the NYS-NYC Aggregation Food Hub Task Force, to identify sites for potential food hub aggregation centers to facilitate the distribution of upstate agricultural and processed food to downstate markets, including restaurant, institutional and government buyers. With a balanced membership of stakeholders from upstate and downstate New York, this new Task Force will develop a plan to expand the distribution of regional foods to the New York City marketplace. A report to Governor Cuomo on how to expand regional food hubs across New York State is anticipated soon.
Lastly, “food enterprise zones” or neighborhood food resource hubs are also possible solutions to high transportation costs, especially incurred by small producers. As cited in the Delaware Valley Regional Planning Commission’s (DVRPC) Greater Philadelphia Food System Study, food enterprise zones are incentives for urban food production, value-added and food processing, and healthy food retail conversions. They can be created in places strategically located near complementary industries, such as storage, warehousing, and wholesale market operations. Food enterprise zones can also be more effective in areas identified as lacking access to healthy food that could have incentives such as permissible zoning to attract healthy-food retail and other food businesses. Neighborhood food resource hubs, or Local Food Resource Hubs, are community-based networks in Minneapolis that provide home gardeners and community gardeners the support they need to grow, preserve, cook, and compost their own fresh produce. Coordinated by Gardening Matters, residents can join the Local Food Resource Hubs and select a small, medium, or large garden package. The Hubs program brings together residents, organizations, and businesses in order to share skills and learn from others about gardening techniques, composting, cooking, and food preservation. Using gardening as the tool, the Hubs program is meant to foster community development and builds up neighborhood networks—which are necessary in order to rebuild a community-based food system.

In addition to food distribution hubs as solutions for high transportation costs, there could also be an analysis of the New York State Thruway to provide quantitative and qualitative estimates of its economic impact to New York State and the Region as well as estimates of the time savings and other benefits such as fuel efficiency. A report conducted by Jacobs Civil Consultants, Inc. in May 2012 does provide an economic assessment of the investments and operations of the New York State Thruway Authority. For example, capital and construction expenditures made between 2005 and 2011 supported 608 food service jobs; planned capital and construction expenditures supported 390 food service jobs; and the Authority’s annual operations and maintenance efforts supported 1,856 food service jobs and 79 food and beverage store jobs. Further overview of the Thruway System could be beneficial, including usage and toll revenues in comparison with toll highways in other states in order to address the regional perception of high trucking costs vis-à-vis tolls. Marketing campaigns and educational promotions could also have a positive impact on perceived deficiencies of the Thruway.

Infrastructure Weaknesses

The second transportation issue important to food system stakeholders is the state of the infrastructure within the Genesee-Finger Lakes Region. Interestingly, roads or highways were not cited as the problem but instead bridges crossing the Erie Canal. Concerns include bridges that cannot handle weight loads and those that are out of service. The Erie Canal, which extends from Albany west to Buffalo, forms a water barrier that bisects Orleans, Monroe, and Wayne Counties. Many of the crossings are characterized by steel truss bridges considered historically significant according to the State Historic Preservation Office (SHPO) with weight, width, and/or clearance restrictions. According to the G-FL Regional Freight Plan, 42 of the bridges spanning the Erie Canal have weight and/or height restrictions. Additionally, more than half of the bridges are located in areas of high-density freight generation.

Weight-restricted bridges are cited as an “Infrastructure Weakness” in the G-FL Regional Freight Plan. Bridges that cannot accommodate heavy vehicles are a hindrance to regional freight mobility, especially in rural areas where there are few alternate routes that can force trucks to make long detours. The Erie Canal becomes a barrier to economic development in the northern parts of Orleans and (to a lesser extent) Wayne Counties.

Solutions

The G-FL Regional Freight Plan identifies Erie Canal bridges as a medium-term recommendation (MT-11, Address weight, width, and clearance restrictions on roadway crossings of the Erie Canal to improve truck access to those portions of the region located north of the Erie Canal). The New York State Department of Transportation (NYSDOT) has a program in place to address improvements to bridges crossing the Erie Canal. At this time, NYSDOT has met with the County Highway Superintendents, reviewed the Erie Canal Bridges, and developed a prioritized list of bridges in need of repairs. While the identification of specific priorities is beyond the scope of this study, it is important that agricultural needs and impacts are considered when the appropriate agencies make decisions on which bridges should be prioritized for investment. Among the factors to be considered is the ability of farmers to move equipment used for planting and harvesting crops and the ability of getting the harvest out of the fields to be processed. Dairy farmers have different needs related to moving milk off the farm for processing multiple times per day. Given the size of some of the equipment used in agricultural operations, farmers depend on the highway and bridge network.

The Canandaigua Road bridge over the Erie Canal in the Town of Macedon, Wayne County is an example of an important transportation link experiencing significant steel deterioration. The one-lane truss bridge was built in 1912. It was closed to traffic in December 2010. Prior to its closure, 5,557 vehicles traveled this section of roadway in 2009. The new bridge will be a conventional two-lane steel structure approximately 269-feet-long with a sidewalk. The bridge will be carefully dismantled and salvageable pieces will be stored and reused at other locations in
an effort to preserve the bridge’s historic components.\(^{11}\)

Another solution to the challenge of weight and clearance-limited bridges is better Global Positioning System (GPS) technology for the trucking industry that takes these restrictions into account.

The Fixing America’s Surface Transportation (FAST) Act is a five-year, fully paid-for transportation bill that provides needed assurance for states and local governments to plan and undertake long-term, complex projects to improve the Nation’s surface transportation infrastructure. The bill reforms and strengthens transportation programs, refocuses on national priorities, provides long-term certainty and more flexibility for states and local governments, streamlines project approval processes, and maintains a strong commitment to safety. The FAST Act expands funding available for bridges off the National Highway System and promotes private investment in the surface transportation system. With regards to rail transportation and the regional perception that rail is unreliable—albeit offering the highest capacity by land transportation mode—the FAST Act reforms the underutilized Railroad Rehabilitation and Improvement Financing (RRIF) loan program and enhances transparency for applicants. Reforms include RRIF loans approved more quickly through enhanced deadlines.\(^{12}\) The RRIF program was established by the Transportation Equity Act for the 21st Century (TEA-21) and amended by the Safe, Accountable, Flexible and Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU). The funding can be used to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops; refinance outstanding debt incurred for acquiring, improving, or rehabilitating intermodal or rail equipment or facilities; and to develop or establish new intermodal or railroad facilities.\(^{13}\)

As mentioned in the High Transportation Costs section, the Governor’s 2016 agenda includes a three-part Thruway Toll Reduction and Protection Plan that proposes a $22 billion multi-year capital plan to upgrade the State’s critical roads, bridges, and other vital transportation infrastructure, with particular emphasis on Upstate New York. The proposed capital plan includes the following programs:

- $1 billion BRIDGE NY program to replace, rehabilitate, and maintain at least 200 vital State and local bridges.
- $1 billion PAVE NY program that will include up to 1,300 miles worth of State and local road paving projects.
- $500 million Extreme Weather Infrastructure Hardening program, which will make investments in the roadways across the State proven to be susceptible to flooding and other extreme weather related events to ensure they remain safe and passable.\(^{14}\)

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Trucking Regulations

The third transportation issue cited by stakeholders is truck size and weight. Specific comments include allowing truck-trailer vehicles weighing up to 97,000 pounds (with 6-axles) on Interstate Highways and tandems on North-South roads such as Route 15. Trucking operations are regulated through federal and state legislation and policies to ensure public safety and system maintenance. Allowing heavier and longer trucks increases the amount of product that can be carried on each trip, but causes roadway infrastructure to deteriorate more quickly. According to the G-FL Freight Plan—other than Secondary Traffic—the region’s largest imports and exports by weight are food products.

The National Network Highway (or Qualifying Highway) is defined by the Surface Transportation Assistance Act (STAA) of 1982 and subsequent state legislation, including the 1990 Omnibus Truck Safety Bill, where Federal width and length limits apply to commercial motor vehicles (CMVs). STAA vehicles such as “tractor trailers combinations greater than 65 feet, tractor with 28 foot tandem trailers, maxi-cubes, triple saddle mounts, stinger-steered auto carriers, and boat transporters” are permitted to use a Qualifying Highway and any other highway within one linear mile of it for reasonable access to food, fuel, repairs, and rest. The Qualifying Highway includes the Interstate System and other designated highways which, on June 1, 1991, were a part of the Federal-Aid Primary System in effect at that time. The National Network Highway now totals over 200,000 miles of highways across the Nation.

When the STAA became law, the trucking industry standard for trailer length was a maximum of 48-feet. The industry standard is now 53-foot trailers, although not referenced or acknowledged by the STAA. New York State authorized the use of 53-foot trailer combinations under the 1990 Omnibus Truck Safety Bill. Per § 385(3) (e) of the Vehicle & Traffic Law, the 53-foot trailer combinations are restricted to the Qualifying and Access Highway system and (unlike the Qualifying Highway) are not permitted to travel off the Access Highway for any distance.

The New York State Thruway is the only highway in New York State where 48-foot tandem trailers are permitted (and some immediately adjacent highways listed in § 385(16) of the New York Vehicle & Traffic Law). Unless otherwise specified, the listed routes may be used by all Special Dimension Vehicles (e.g., 53-foot trailers and STAA vehicle combinations). Truck tractors with 53-foot trailers are limited to single unit operation. Tandem trailer operation involving 53-foot trailers and truck tractors with three or more trailers (regardless of trailer length) are prohibited throughout New York State.

The federal weight limit for Interstate highways has been set at 80,000 pounds since 1982. State departments of transportation are charged with regulating the movement of oversize and overweight trucks on the state highway system. Truck weights in New York State are regulated both by the U.S. and New York State Departments of Transportation. This responsibility is accomplished through the issuance of permits for
vehicles and loads whose size or gross weight exceeds the limits allowed by law and that “cannot be reasonably dismantled.” NYSDOT allows semi-trailers with a gross vehicle weight of 80,000 pounds or less to travel on state highways without a permit, provided they meet axle loading limits specified in the U.S. DOT’s Federal Bridge Formula. NYSDOT and U.S. DOT use the formula to determine the maximum allowable weight that any set of axles on a motor vehicle may carry. The formula limits the weight-to-length ratio of a vehicle crossing a bridge by spreading weight over additional axles or by increasing the distance between axles.

Solutions

The G-FL Freight Plan identifies the following recommendations for truck lengths and weights:

- Amend the NYS Vehicle & Traffic Law to allow 48-foot tandem trailers to operate on some subset of the National Network Highway and Access Highway System. Roadways that could possibly permit long combination vehicles would be those segments of state highways that are safely designed and connect Thruway Interchanges to major freight generators such as warehouses and distribution centers.
- NYSDOT could explore allowing heavier vehicles on state highways if there is a compelling reason to do so, such as an agreement to share additional bridge and pavement maintenance costs with a private-sector partner.
- Add or expand tandem trailer lots at Thruway interchange so that tandem trailers can exit the Thruway at the interchange closest to the cargo’s destination, or enter the Thruway at the interchange closest to the cargo’s origin. Truck operating costs may be reduced if tandem lots are located closer to major concentrations of freight activity because the distance that a local driver must haul a single trailer along regional roadways is shortened.

The Safe, Flexible, and Efficient (SAFE) Trucking Act was introduced in the fall 2015 to increase the cargo weight limit for freight-carrying trucks. This bill would give states the option to raise the federal gross vehicle weight limit from 80,000 pounds to 91,000 pounds for trucks equipped with six axles rather than the typical five. Based on its “Comprehensive Truck Size and Weight Study,” the U.S. Department of Transportation found that six-axle trucks can safely weigh up to 91,000 pounds while yielding significant truckload reductions, pavement wear savings, and environmental efficiency benefits without diverting significant freight from rail. The SAFE Trucking Act was not included in the FAST Act.15

Food Waste Storage, Collection and Transport

The final issue cited by food system stakeholders in the Region is the design and complications of organic waste collection and the need for proper planning for facilities to accommodate food and food waste transport. According to the Finger Lakes Regional Sustainability Plan, a significant amount of organic waste is produced throughout the Region due to an extensive agriculture base and many food manufacturing facilities and large retail food stores.

The Finger Lakes Regional Sustainability Plan identifies food waste under the following broad strategy:

E1 - Develop, produce, and employ alternative energy (bio-energy, waste-to-energy)
   1.1 Identify funding for and encourage implementation of projects that use food waste to produce energy.

Noblehurst Green Energy, LLC and CH4Biogas are two companies within the Region that use food waste, agri-waste, and other byproducts to capture energy. Both companies utilize a biological process called anaerobic digestion in which microorganisms break down biodegradable material such livestock manure and milk wastewater. The biogas is combusted to generate electricity and heat for the dairy farm and the processing digester. The byproduct of the digester is solid “digestate,” which is used for cow bedding.

Other companies, like C.R. Zornow, Inc./Organix Green Industries and Community Composting, utilize food waste to create other products such as compost and topsoil. Community Composting collects all types of household food scraps. The scraps are composted by Vermi-Green LLC to create organic compost and topsoil that is used by local farms and greenhouses. Organix Green Industries also composts yard waste with farm vegetables to create organic landscaping products. Both companies use a composting process that relies on worms to do the work called vermiculture. Under the right conditions, worms will consume many organic wastes, leaving additional worms and worm castings. The castings are useful as a soil amendment.

The transport of organic waste relies entirely upon trucks and the Region’s highway network. An issue identified by food waste haulers is the design specificity of organic waste trucks. Food scraps such as vegetable and fruit waste, egg shells, and coffee grounds are wet and heavy. Food waste collection trucks need to have leak-proof seals on trailers and lift attachments strong enough to bear more weight. Such design customization has been necessary to make trucks liquid tight and with lifting arms that are more efficient and durable. There is a need for more trailer and lift manufacturers to design equipment specifically for the collection and transport of source separated food waste.
Alameda County in California has a Mandatory Recycling Ordinance that prohibits the disposal of recyclable material and compostable material (food scraps and compostable paper) by commercial property owners and managers of businesses, owners and managers of multi-family residential properties with five or more units, and regulated haulers. There have been no issues of truck leakage, however, with the 8 different haulers for commercial organics collections that serve the 14 cities and 2 sanitary districts. On the residential side, food scraps are collected in carts (primarily 64 gallon) along with plant debris. Food-soiled compostable paper such as paper plates and towels are also part of the mix, and the fiber helps to some degree with free-running liquid. On the commercial side, most haulers only offer up to 64 gallon carts (not 96 gallon). Overall, the trucks used for organics collections are not designed any differently from those used for recyclables or municipal solid waste collection—issues of bin weight are controlled by the bin sizes offered for different materials and the frequency of collection is used to compensate for the lack of larger capacity carts.16

Siting for truck loading areas is also an issue identified by food processors and institutions that participate in food recycling programs. From a facility standpoint, square footage is at a premium. Along with staging areas and freight loading docks, food waste is yet another waste stream to store. Site selection, building design, and operation measures that accommodate food waste, composting, and other organic materials management is usually an afterthought.

16 Tom Padia, Source Reduction & Recycling Director, StopWaste (Oakland, CA), e-mail message to author, 30 December 2015.
Solutions

According to the G-FL Freight Plan, trucks that carry municipal solid waste are considered “non-commodity trucks.” Through this project, however, food waste has been shown to produce efficient gas-to-energy technologies as well as other nutrient rich products. If not properly planned, the movement of this type of freight could have the potential to interfere on a communities’ quality of life, such as congestion caused by poorly planned freight hubs and systems. Congestion may cause delays and increase costs for fuel and time. These impacts can be mitigated through careful land use and zoning, site and facility design, and operational considerations. If freight planning and land use decision-making activities are well integrated, freight generating land uses can potentially bring great benefits to the Region by providing jobs, tax dollars, and proximity of goods to growing populations and businesses.

The Federal Highway Administration (FHWA) Freight and Land Use Handbook is an excellent resource to provide information about land use and transportation needs of freight. Chapter Two, “Freight as a Good Neighbor – Land Use, Transportation System, and Environmental Considerations” provides various “best practices” of freight and land use integration, drawn from agencies of all sizes and community needs in urban, rural, and suburban areas. The document is available online, or as a printable version: www.ops.fhwa.dot.gov/publications/fhwahop12006/.

The Morris County Division of Transportation (New Jersey) also has an online publication about the purpose and need for freight-focused planning intended for local governing bodies and planning boards. The document reviews municipal “best practices” in freight planning, freight-specific issues for Morris County and its municipalities, and general guidance on the development application review process for freight-oriented development proposals. The document is available at: www.morrisplanning.org/boards/Transportation/Publications/Municipal_Guide_for_Freight_Planning.pdf.

Lastly, the G-FL Freight Plan recognizes local land use control to mitigate the impacts of freight movement as a medium term strategy:

(MT-19) Identify and implement specific policies and incentives to mitigate the noise, vibration, and emissions-related impacts of freight movement.
Mitigation strategies applicable to this project include:

- Enforce idling restrictions, particularly in overnight hours, in parking areas near sensitive receptors for truck noise and emissions (towns, cities, and villages);
- Identify appropriate areas for on-street truck parking where off-street parking capacity is unable to meet demand, and establish reasonable restrictions on truck parking near sensitive receptors (towns, cities, and villages); and
- Utilize the right of way of transportation facilities to generate renewable energy to offset the energy consumption associated with freight transportation.
Conclusion

G/FLRPC has conducted *Transportation and Food Systems in the Genesee-Finger Lakes Region* to create a comprehensive list of stakeholders who are involved in local food production, processing, storage/warehousing, distribution, and post-consumption throughout the nine-county region in order to identify current problems with the transportation and food system. Stakeholders have assisted in the identification of transportation and land use barriers such as food supply, security, and access. Moving forward, transportation and food planning efforts at the local and regional level can build on the Region’s assets and address the transportation challenges that emerged from this assessment.

1. Regional food transportation costs are challenging for small producers.
2. Infrastructure weaknesses, such as weight-restricted bridges and general infrastructure deterioration due to underinvestment, are significant region- and nation-wide issues.
3. Truck size and weight restrictions limit efficiency.
4. Siting and design standards for organic waste hauling are often overlooked and under-utilized.

An issue not discussed by stakeholders but nevertheless important to the local and regional food system is transportation and food access. Food access was likely not commented on because community groups were not identified as a category within the food system stakeholders. According to the University of Rochester Medical Center’s *Redevelopment and Community Health Toolkit*, initiatives are being implemented or underway in the City of Rochester to increase residents’ food access:

- Advocating for and supporting new full-service grocery stores
- Encouraging “corner stores” to add more healthy food
- Starting farm markets, trucks or stands
- Supporting community gardens and urban farms
- Improving transportation to increase access to food options
Solutions to improve transportation to healthy food sources include: (1) identifying where residents shop, how they get there, and barriers they face; (2) sharing results with private groceries and encouraging shuttle service, if needed; and (3) exploring a community-based private ride share system. Foodlink, a regional food hub and food bank that serves Allegany, Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates Counties, did participate in the stakeholder interviews and discussed its support of community gardens and “pop up” farm markets and community organizations/sites and “curbside markets” that bring produce to a central location.17

Overall solutions have concentrated on transportation planning cast studies, local land use control, and successful regional collaborations. Suggested “next steps” or recommendations include the following actions:

- Building partnerships and consensus
- Visioning and goal-setting
- Assessments
- Plan-making
- Creating standards and guidelines
- Regulating and codifying
- Marketing, outreach, and education
- Supporting catalytic pilot or demonstration projects
- Targeting public investments

In particular, G/FLRPC can play a number of food planning roles such as supporting efforts to raise public awareness of the importance of the food sector to the local and regional economy; collaborating with agricultural and related agencies and other organizations that provide training, technical assistance, and capital to businesses engaged in farming, food processing, and food retailing operations; and establishing a synergy between agriculture and alternative energy. For example, the Central New York Regional Planning and Development Board as a representative of the New York State Association of Regional Councils (NYSARC), which G/FLRPC is a member, received a 2015 Regional Economic Development Council Award for a New York State Community Partnership Program. This will be coordinated statewide to work with local governments and communities to help identify clean energy project development and aggregation opportunities. Potential technical assistance in the Genesee-Finger Lakes Region could involve the assessment of solid waste streams at different points of the local and regional food system (e.g., production, distribution, and consumption) and considering ways to reduce, reuse, and recycle wastes and/or assessing the impact of food waste disposal on area landfills and exploring organics recycling technologies such as composting and bio-fuel development. G/FLRPC can also build support in the Region for a more comprehensive approach to food planning, such as through local and/or regional food policy councils or coalitions, which is consistent with APA’s Policy Guide on Community and Regional Food Planning (2007).

The following sources may also assist Regional stakeholders with the implementation of programs and policies to strengthen the local and regional food system:

**GUIDE TO FEDERAL FUNDING FOR LOCAL AND REGIONAL FOOD SYSTEMS**

A publication from the National Sustainable Agriculture Coalition with lists of and guides to grants for local and regional food systems (last updated April 2010).

**U.S. DEPARTMENT OF AGRICULTURE**

*Farmers Market Promotion Program (FMPP)*

The Farmers Market Promotion Program offers grants to improve and expand farmers’ markets, community supported agriculture program, agri-tourism, and other initiatives.

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**

The Community Development Block Grant (CDBG) Program is a federally funded program authorized by Title I of the Housing and Community Development Act of 1974. The CDBG Program is administered by the New York State Office of Community Renewal (OCR) under the direction of the Housing Trust Fund Corporation (HTFC). NYS CDBG funds provide small communities and counties in New York State with a great opportunity to undertake activities that focus on community development needs such as creating or expanding job opportunities, providing safe affordable housing, and/or addressing local public infrastructure and public facilities issues. The primary statutory objective of the CDBG program is to develop viable communities by providing decent housing and a suitable living environment by expanding economic opportunities, principally for persons of low and moderate income. The CDBG program provides funding for a wide range of community development needs, including urban agriculture programs.

The Sustainable Communities Regional Planning (SCRP) Grant Program supports locally-led collaborative efforts that bring together diverse interests from the many municipalities in a region to determine how best to target housing, economic and workforce development, and infrastructure investments to create more jobs and regional economic activity. The Program places a priority on investing in partnerships, including nontraditional partnerships (e.g., arts and culture, recreation, public health, food systems, regional planning agencies and public education entities) that translate the Six Livability Principles into strategies that direct long-term development and reinvestment, demonstrate a commitment to addressing issues of regional
significance, use data to set and monitor progress toward performance goals, and engage stakeholders and residents in meaningful decision-making roles.

The Community Challenge Planning Grant Program fosters reform and reduces barriers to achieving affordable, economically vital, and sustainable communities. Such efforts may include amending or replacing local master plans, zoning codes, and building codes, either on a jurisdiction-wide basis or in a specific neighborhood, district, corridor, or sector to promote mixed-use development, affordable housing, the reuse of older buildings and structures for new purposes, and similar activities with the goal of promoting sustainability at the local or neighborhood level. This Program also supports the development of affordable housing through the development and adoption of inclusionary zoning ordinances and other activities to support planning implementation.
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