

CHAPTER V: LOCAL FOOD NETWORKS

A) The Constitution of Local Food Networks: Clusters, Participants, and Food Pathways

The previous chapter presented a basic view of local food networks in Kansas through the frame of the commodity chain. It was shown that different local food types exhibit different geographical and topological tendencies. These tendencies were suggestive of some of the structural, regulatory, and financial issues related to the production and marketing of each different local food type. However, local food production-consumption networks are not as concentrated on single commodities or commodity types as many conventional commodity systems. It is important to keep in mind the cross-commodity allegiances, tensions, and patterns produced in local food networks in order to understand their evolution and political economy.

This chapter is dedicated to using some quantitative and graphical network analysis techniques to further dissect the complex local food network created from this project's fieldwork data. It was argued in Chapter Three that community structure algorithms are an appropriate way of identifying cohesive associative clusters within complex networks. While it is difficult to deduce adequate explanations for social cohesion from network analysis itself, identifying cohesive structural communities within networks can be an effective basis for formulating research questions. The cohesion and structural differentiation within local food networks are products of the same social and political forces affecting the environmental, social, economic outcomes of local food development. Studying these structures therefore provides a window into the associational contexts through which these social and political forces are expressed at the same time as it helps to dissect a very complex network into useful units of analysis.

Within this broader theme of network analysis, this chapter seeks to contribute to the understanding of the political economy of local food through several means. Dissecting the complicated network depicted below in Figure 18 to identify the difficult-to-perceive, partially obscured topological patterns is the first and most abstract aim. A second aim is to evaluate the geographical patterns correlated with these topologies. This

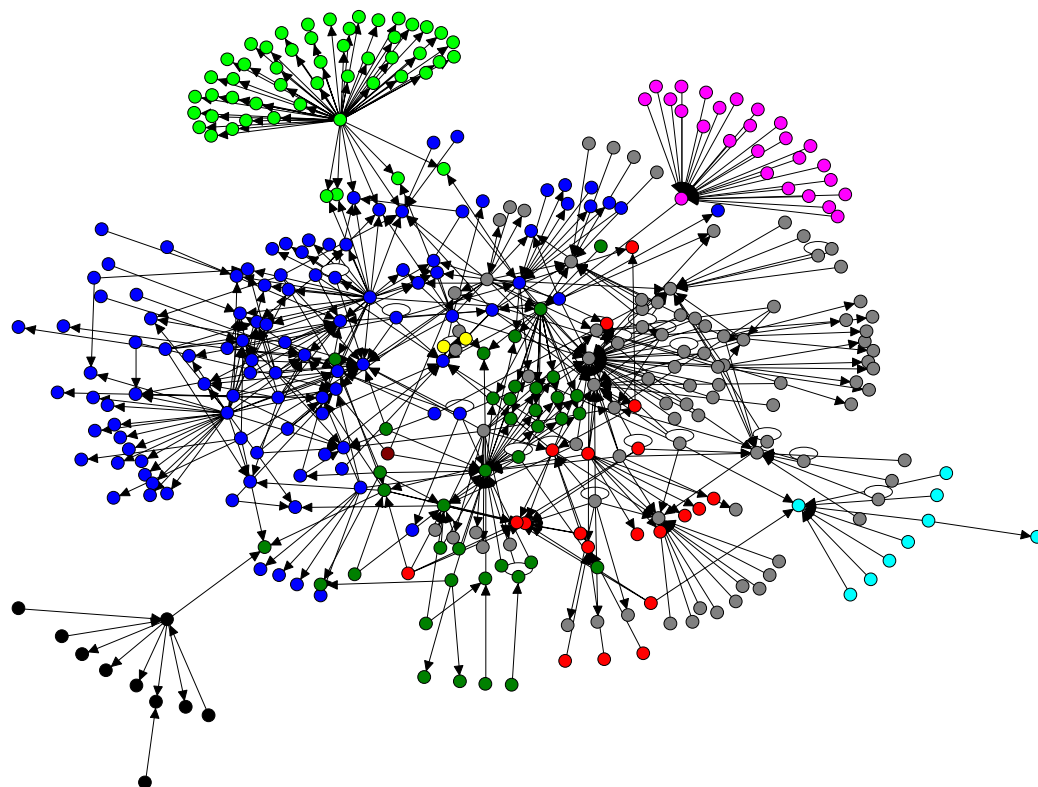
second aim offers a perspective from which to consider possible relationships between differences in network topology and the production of geographic difference in local food networks. A third aim is to identify key actors and types of actors ordering the topologies and geographies of these network communities. In addressing these three aims, this chapter will hopefully provide a helpful topological and geographical context for the conventions and spatial analysis that will engage questions about the social and spatial-political drivers of these patterns and local food outcomes.

B) Identifying and Locating Network Communities

1) Community Structure Analysis

Applying the Newman-Girvan community structure algorithm (Newman and Girvan 2004) to this study's local food network, it is possible to identify a number of

Figure 18: Full Network, Color-Coded by Newman-Girvan Partitions



Caption: *This is a representation of the full local food network from this study. The Newman-Girvan community structure algorithm has been used to identify eleven cohesive communities among the 357 nodes. Color-coding the nodes according to these communities shows that regions of the graph are seemingly cohesive, but representing communities individually is necessary for studying topological patterns in detail.*

meaningful structures. However, it is an iterative algorithm capable of separating each individual node into its own community if run long enough. Identifying meaningful structures requires somewhat intimate knowledge of the data used to construct the network. In the case of this study's local food network, identifying meaningful structures from community structure analysis depends on recognizing aggregate patterns and clusters based on qualitative information from fieldwork interviews and observations.

For instance, the above representation of the full network has been analyzed according to a less-than-rigorous application of the community structure algorithm. The eleven node colors correspond to eleven identified communities. It is difficult to identify complete communities in this picture due to the visual density of links and nodes, indicating that it is important to view communities of this network separately in order to make any sense of them. It is also somewhat clear, however, that the larger communities are still rather large and exhibit complex internal differentiation. More rigorous community structure analysis is required to fully uncover the differentiations throughout the full network. The network communities and forms of representation throughout this section are the results of a progressive application of these rationales toward identifying the topologies, geographies, and key representatives of difference for local food in Eastern Kansas.

In each of the major meaningful communities identified through this process, the core of the community tends to be the local food purchasing organizations in a single urban area. Three urban cores correspond to the core communities within the network – the micropolitan cities of Manhattan and Lawrence, and the Kansas City metropolitan area. Each of these urban-centered network communities shows some level of internal differentiation, and community structure analysis helps to represent these internal clusterings. In the case of Kansas City, the network community is substantial enough to warrant further subdivision according to its sub-communities. Each of the Manhattan, Lawrence, and Kansas City communities is distinctive in terms of its membership compared with the others, and yet they all share similarities. To demonstrate the urban-sales orientations and similarities in the constitution of network communities, a sequential presentation and analysis of the communities is justified.

Starting with the Manhattan-area community (below in Figures 19 & 20), it consists of a relatively independent cluster of 35 nodes, 16 of which are located directly in Manhattan or in the nearby town of Wamego. Furthermore, all four of the restaurants and the three most active retailers purchasing local foods in the network community are all located in Manhattan. The 16 farms in the community are certainly primarily located outside Manhattan, but they all sell in the dominant sales market of Manhattan restaurants and retailers. The food types traded along these links are primarily meats and produce from small farms, although a micro-creamery and small town cheese manufacturer are also prominent contributors of dairy products. The People's Grocery grocery cooperative plays a central role purchasing local food in this meager community, and their role relative to other key participants in the network will be more fully discussed later in this chapter.

The Lawrence-area community is the second major network community (below in Figures 21 & 22), comprised of 91 nodes, 30 of which are located in Lawrence. However, 12 of 17 restaurants in the community are located in Lawrence, as well as the dominant local food retailer in the Community Mercantile cooperative grocer. The 52 farms in the network are roughly balanced between meat and vegetable production, with about 20 farms of each type. Others include a few fruit/nut producers, beekeepers, and two wineries. There is also a cooperative CSA program among six vegetable farms that uses the cooperative grocer as a marketing and distribution location. The key members uniting this network community are not as clearly identifiable as in the Manhattan-area community, but, like the Manhattan-area cluster, supermarkets are notably absent and local food suppliers are predominantly small-scale minimally capitalized farms.

Figure 19: Manhattan-Area Network Community

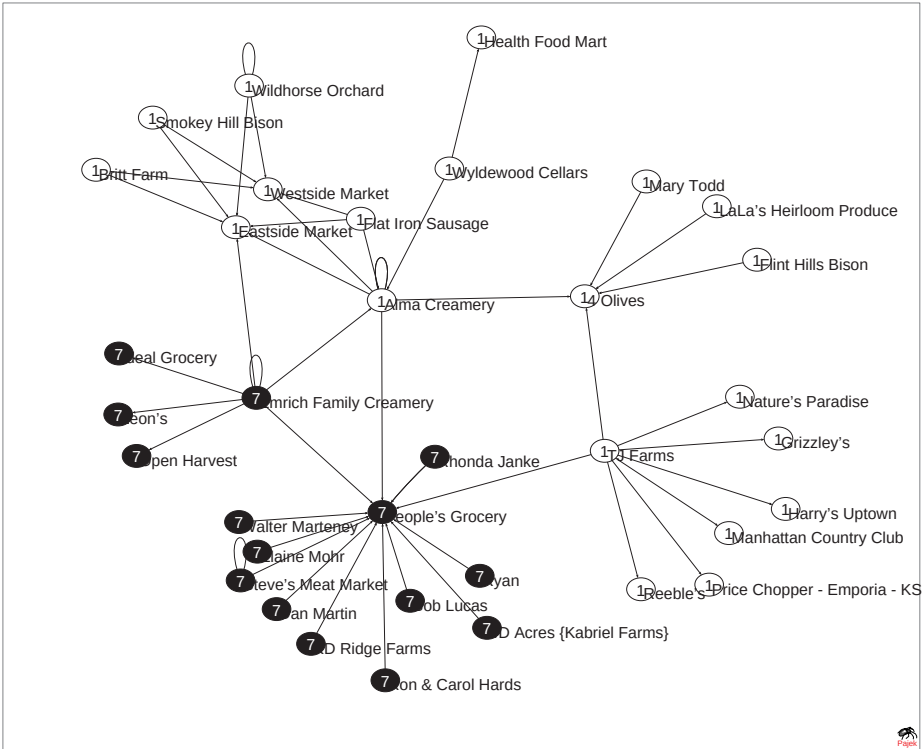


Figure 20: Regional Map of the Manhattan-Area Network Community

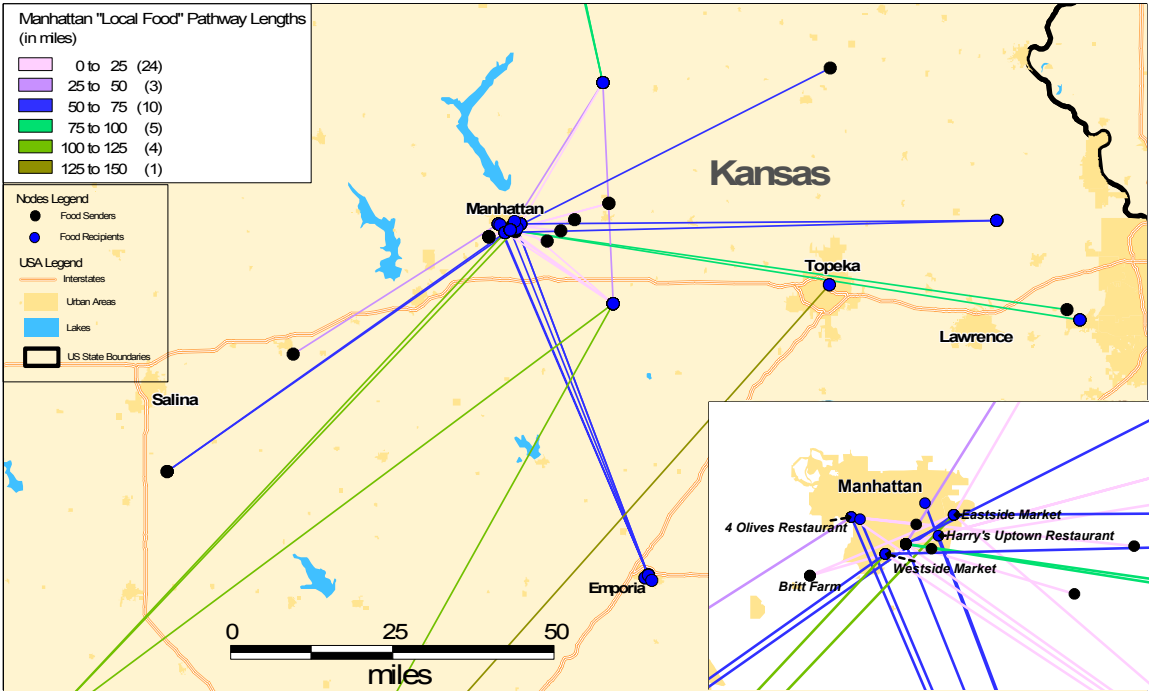


Figure 21: Lawrence-Area Network Community

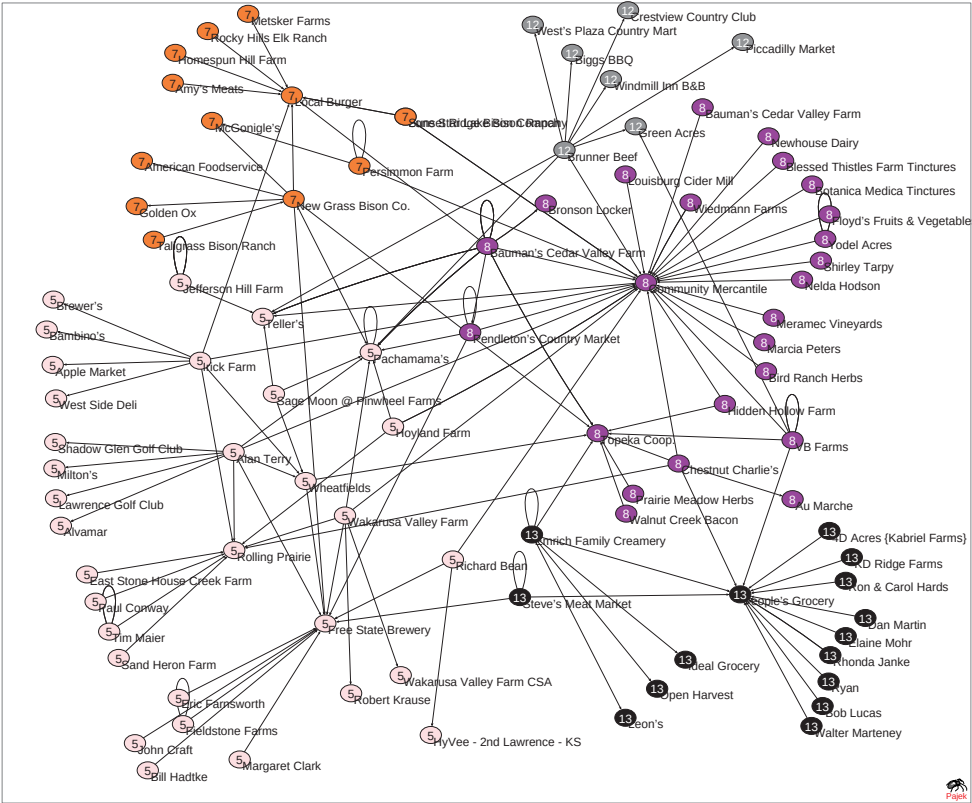
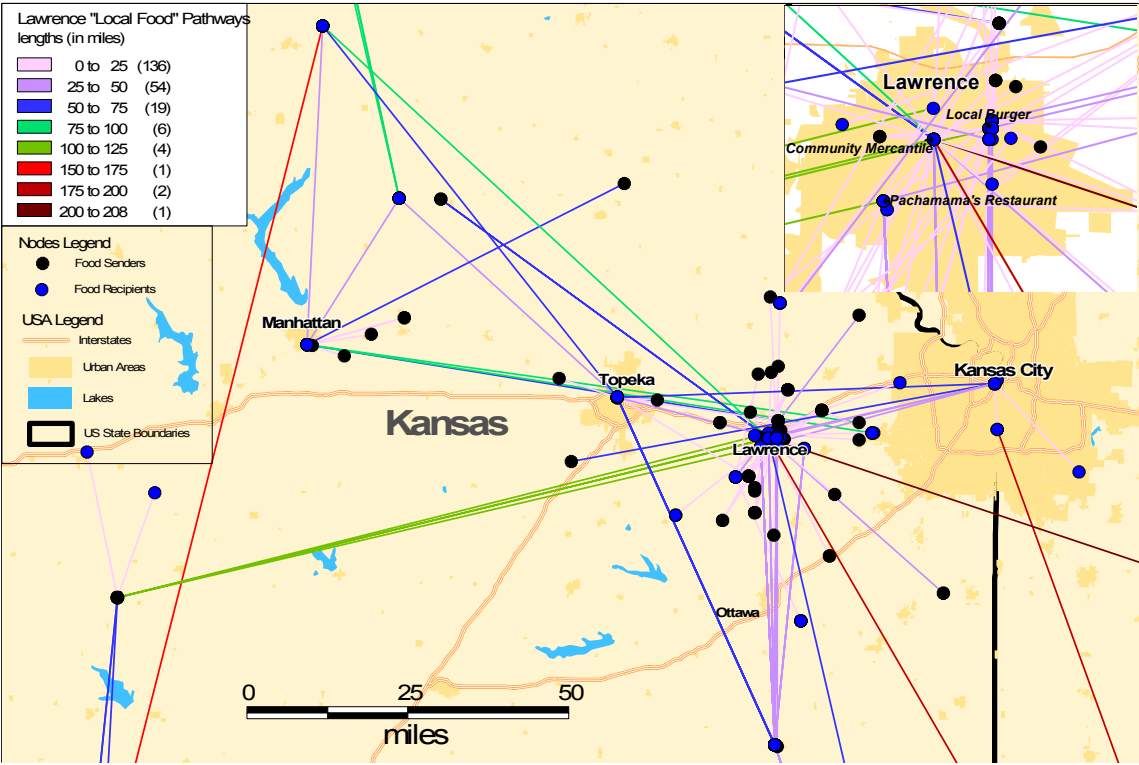


Figure 22: Regional Map of the Lawrence-Based Network Community



The third major network community identified is by far the largest, and predominantly centered on the Kansas City metropolitan area. Seen below in Figures 23 & 24, this community is large enough to require further subdivision into two sub-communities largely defined by restaurant-oriented and retail-oriented links, respectively. The Kansas City restaurant-oriented sub-community (seen below in Figure 25) is largely based on the demand for local foods among independent upscale restaurants in Kansas City. A full 28 of the 68 nodes in the network are restaurants of this kind, along with 4 more private country club restaurants, while 26 of the 68 are small farms that directly supply the restaurants. The network diagram below depicts this sub-community with a highly cohesive and muddled core of restaurants and farms, a peripheral cluster, and a highly connected farm attached to the core. The dynamics underpinning this structure will be explored more fully in Chapter Six using the analysis of conventions. For now, it should be noted that the correlation of this structural sub-community with primarily restaurant-oriented marketing both fits well with tendencies toward restaurants as strong local food marketing outlets and suggests that restaurant-farm relationships hold distinctive characteristics compared with retail-farm relationships.

The other major Kansas City sub-community (also below in Figure 26) is skewed away from restaurant-oriented marketing and toward retail-oriented local food flows. Fully 75 of the 138 nodes in this sub-community are retail establishments, while only 47 are farms. This proportion is roughly the inverse of that found in the Manhattan- and Lawrence-area communities, and substantially different than the proportion of restaurants to farms in the above Kansas City restaurant-oriented sub-community. The composition of retail stores in this sub-community is radically different than the other communities presented thus far, with 61 of the 75 total participants being urban and suburban supermarkets. This might suggest that one of the differences in substantial retail marketing of local foods involves marketing to supermarkets, and furthermore that marketing to supermarkets involves more intensive production and marketing efforts, allowing fewer farms to serve a larger number of stores. These suggestions are certainly speculative at this point of analysis, but these issues will be explored in greater detail in Chapters Six and Seven with conventions and spatial analysis.

Figure 23: Full Kansas City Network Community

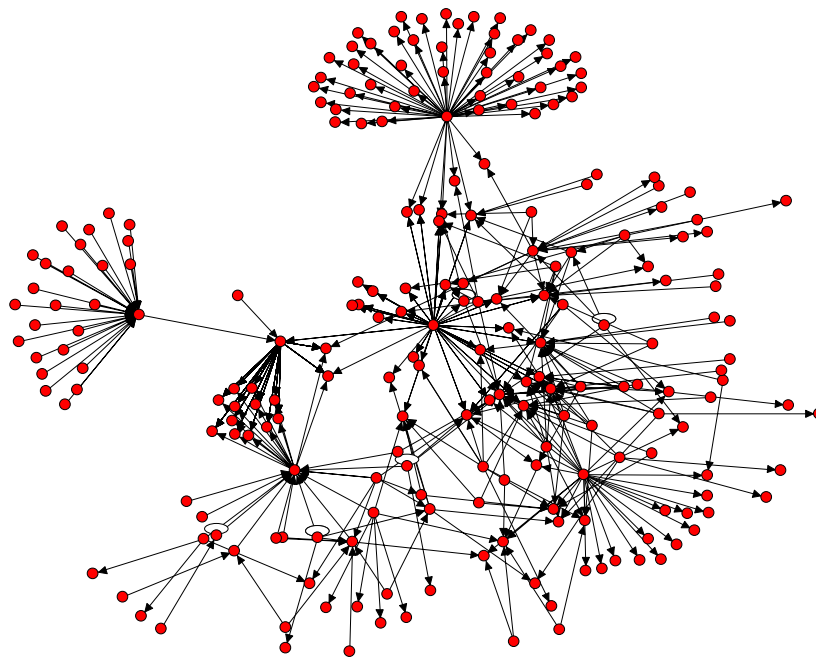


Figure 24: Regional Map of Full Kansas City Network Community

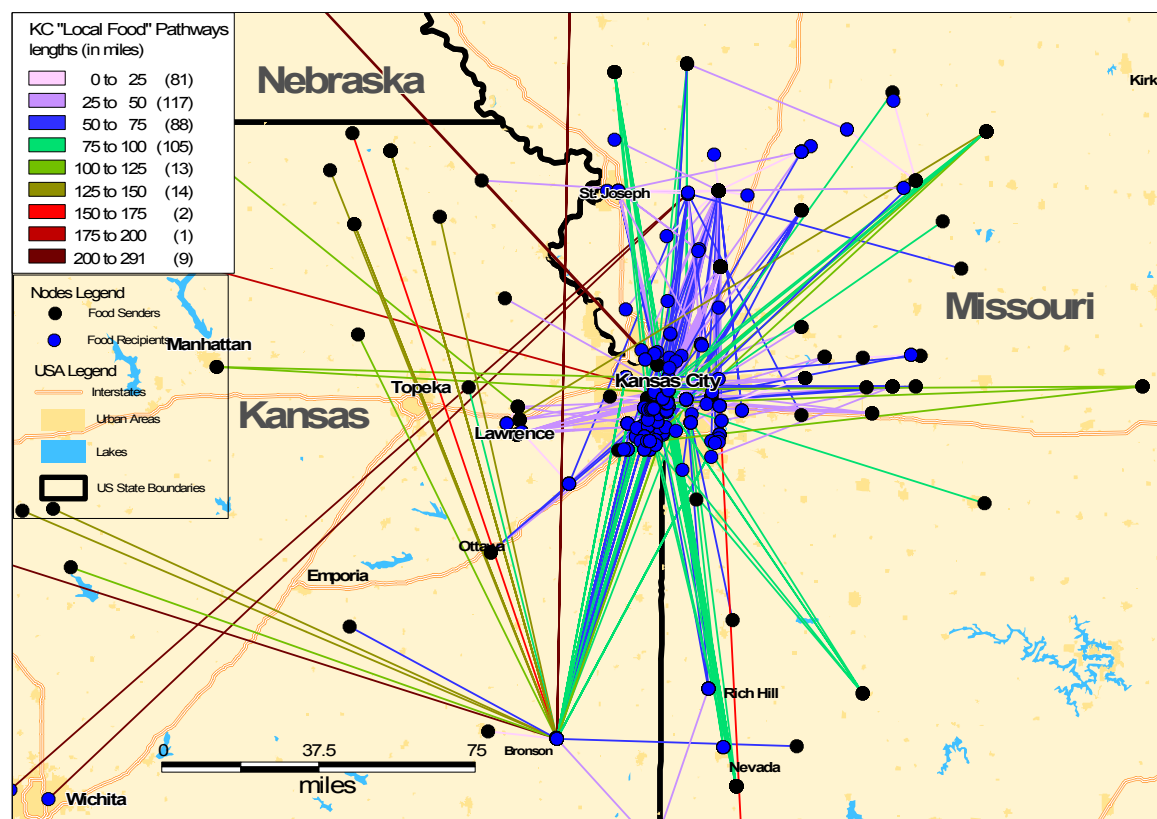


Figure 25: Kansas City Restaurant-Oriented Network Sub-community

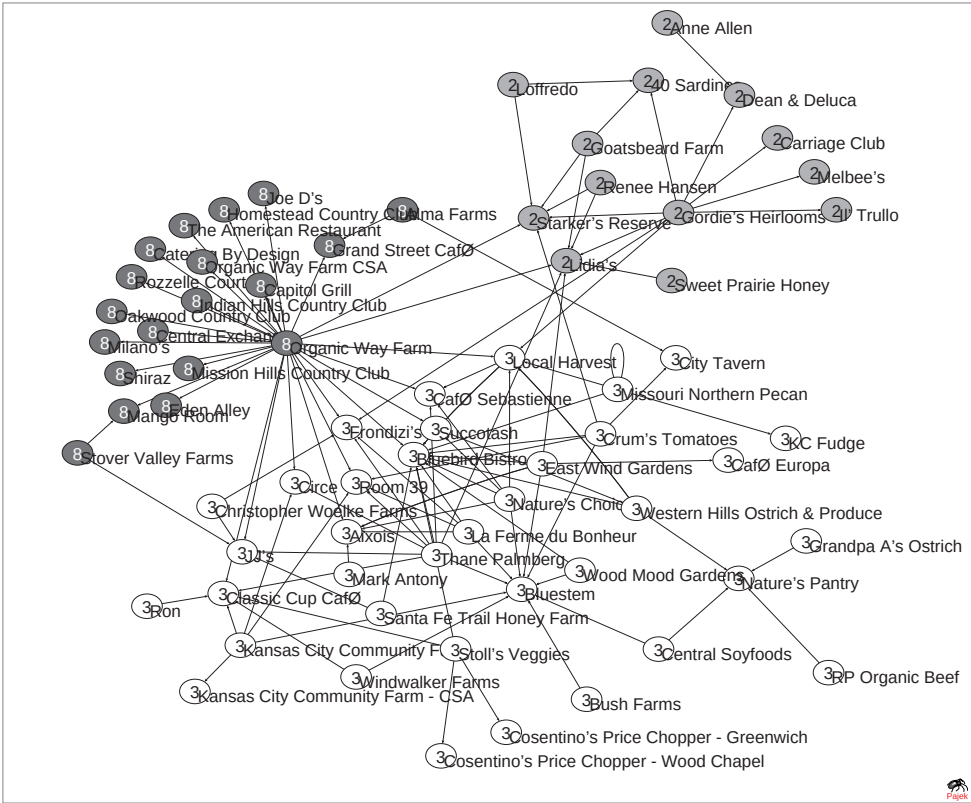
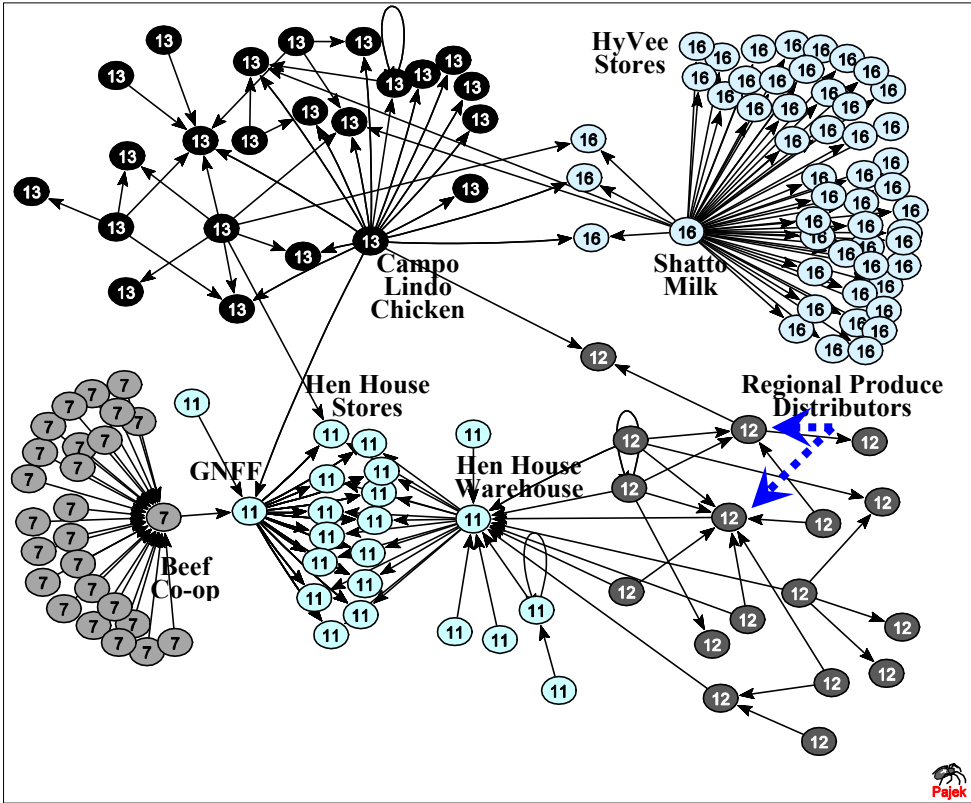


Figure 26: Kansas City Retail-Oriented Network Sub-community



2) The Distances of “Local”

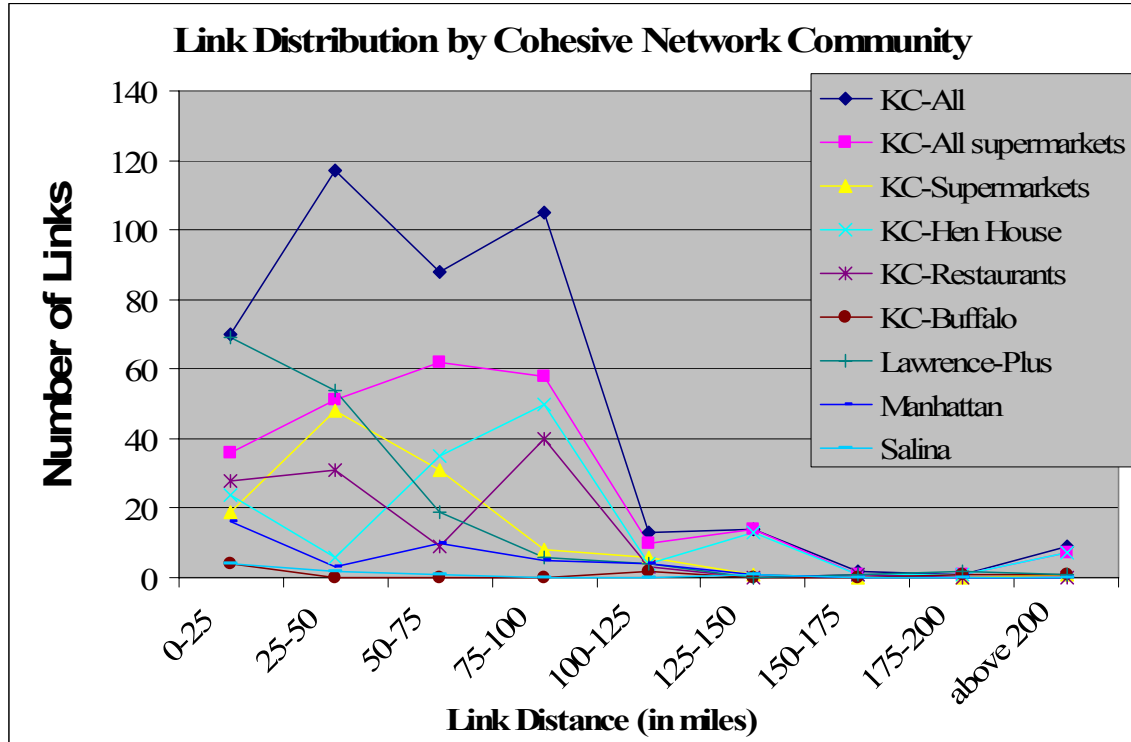
The different local food network communities identified above each have distinctive geographical distributions, as can be seen in the maps of the communities. Just as comparing the average distances of local food links for each commodity chain was an interesting way of representing these geographical differences, the same is true for the network communities above. For each community, mean link distances are reported below as a means of commenting on how local is local for each geographical foodshed represented by the communities. The weighted average of these is included as a reference point.

Not only do different food types exhibit different distancing tendencies within local food networks, but different communities also find themselves encouraging different distanciations as well. Lawrence and Salina seem to have tightly knit geographical networks, while Manhattan extends a wider reach and Kansas City averages much higher distances than any of the others. Further subdividing the Kansas City network into sub-communities which will be examined more closely in the sections below, we find that the responsibility for a higher than average mean for the Kansas City network lies principally with the Hen House supermarket chain’s local food program.

Just as in the previous chapter, a look into link length distributions lends a more textured perspective than mean values can offer. The issue with the Hen House program is not in that it has a large number of ultra-long links skewing its average, but that the bulk of its linkages are 50-100 miles in length. This is likely a product of the robust supply of Hen House local foods by producer cooperatives, significantly extending the effective geographical reach of the program over its competitors. This counterbalances the other supermarket linkages in the Kansas City area, skewed more heavily toward 25-50 miles in length. The result is a much higher average link distance for the Kansas City local foodshed, despite the fact that Kansas City restaurant food links were predominantly 0-50 miles in length. These trend lines are an important indicator of the geographical differences produced by organizational differences among similar types of local food participants and pathways.

Table 6: Local Food Distance Distributions by Network Community

Statistics	Lawrence-plus	Manhattan	Salina	KC-All	Weighted Average
Number of Links	156	39	8	419	
Mean Distance (miles)	37.5	48.6	37	61.4	54.28939
Statistics	KC-allsupermarkets	KC-supermarkets	KC-Hen House	KC-restaurants	KC-buffalo
Number of Links	240	114	141	112	8
Mean Distance (miles)	68.3	48.8	81.3	54	90.7



3) Toward Interpretive Community Structure Analysis

These primary results of community structure network analysis of the Eastern Kansas local food network are intentionally brief and simplistic. Such an overview is intended to make a few simple but important points before moving on to deeper analysis. First, structurally cohesive communities within the overall Eastern Kansas local food network are also somewhat geographically cohesive. Each of the communities identified is centered on an urban nucleus, generally comprised of restaurants and retailers to which local foods flow from the farms located in the more rural areas of the study. Second, each of the communities show structural divisions between restaurant-oriented and retail-oriented links. These divisions are subtle, but the community structure algorithm

consistently identified them, and in the case of the Kansas City network was able to identify highly coherent sub-communities based almost entirely on either restaurant- or retail-oriented marketing. Such consistent divisions would suggest that there are some important differences between production and marketing of local foods for restaurants and for retail sales. This is the basis for dividing the conventions analysis of Chapter Six according to restaurant-farm pathways and retail-farm pathways. A third point is that community structure analysis can indeed reveal meaningful structural patterns of relationship, but these patterns are only topologies of relationships and agendas and not indicative of the strength, type, or politics of relationships. Finally, the fourth point is that geographical difference is produced alongside topological difference, as in the different distanciations of local, by the actors and agendas structuring each community. It is clear that some members of the communities are more involved than others in the overall patterns of connectivity, and identifying these key actors and exploring their roles in shaping the topologies and geographies of the communities will be the subject of the following section.

C) Interpreting Community Structures

1) Collaborative Divisions: the Lawrence-Area Community

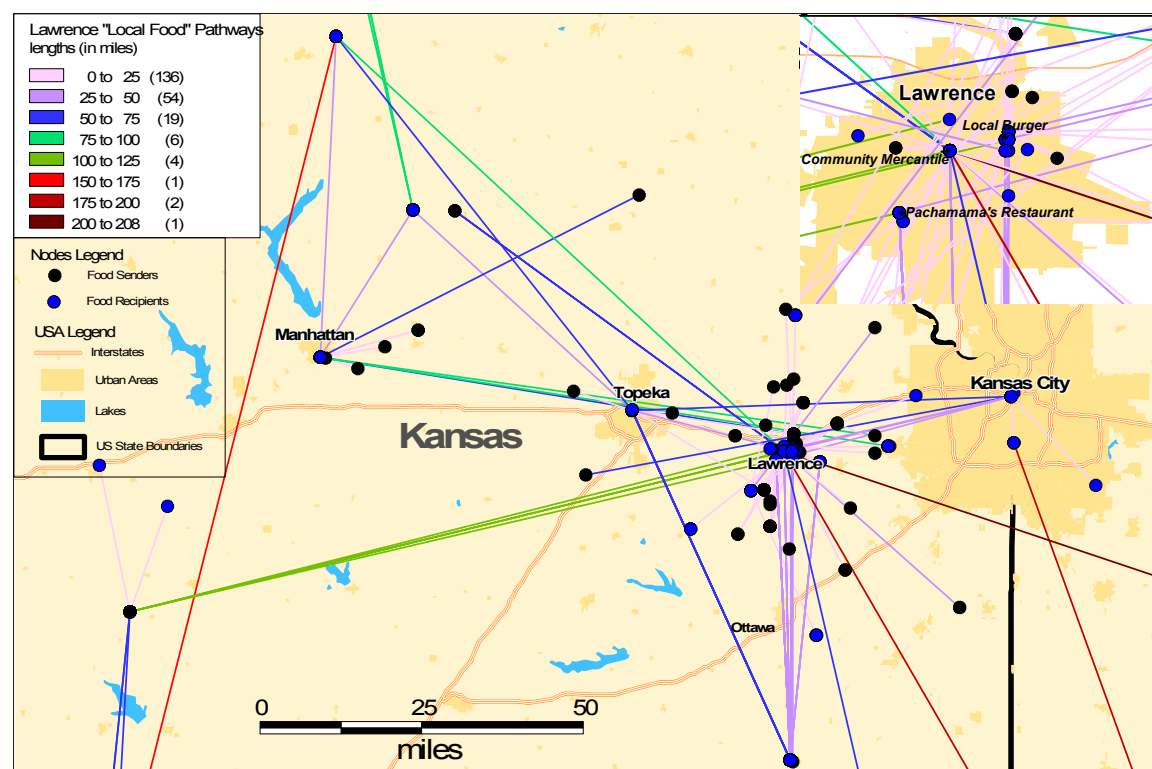
It is clear from the network diagram below (Figure 27) that there is no central core within the Lawrence-area community. There are numerous minor hubs in within the community, but none of them dominate the overall structure. The hubs do, however, contribute to partitions within the community, and community structure analysis allows one to identify and represent these partitions based on the same procedures used to identify the communities themselves. In the case of the Lawrence-area community, the partitions are indicated in the diagram below according to the colors of the nodes and numbers labeling their partition. The colors and number labels were arbitrarily assigned by the graphics software, but they allow one to see some interesting patterns when looking at the partitions with information about the participants in mind. Partitions 8, 12, and 13 are primarily oriented toward retail sale, whereas partitions 5 and 7 are oriented toward restaurant sales. This split between retail and restaurant local foods is an

The first and simpler side of the split is the retail side. There are three notable retailers in the diagram: the Community Mercantile in Lawrence, the Topeka Cooperative in Topeka, and the People's Grocery in Manhattan. They are hubs in partitions 8 and 13 in the diagram above. Each is a cooperative grocer, and the Community Mercantile is the oldest and largest, while People's Grocery is second largest, and the Topeka Cooperative is relatively new and small. The number of local food linkages for each of these grocery cooperatives is representative of their relative sizes, but not necessarily of their commitment to local food. Until recently, the Community Mercantile did not emphasize local food purchasing, but rather obtaining low prices from national health food distributors for its consumer members. The Community Mercantile is certainly the pivotal player in the network above, by far the most connected to local producers by virtue of its sizeable clientele and recent embrace of local produce, meats, dairy, eggs, and even some durable foods. Many of these producers solely sell to the Community Mercantile, while others sell to some restaurants and through the local farmers market. They are for the most part very small-scale producers, as the Community Mercantile has a very open and liberal policy for including local foods in the store.

The restaurant-oriented part of the diagram is represented by partitions 5 and 7 on the left side. These partitions lack any dominant figures like that of the retail partitions, as restaurants are more numerous than retailers and also more limited in their capacity to coordinate local food supplies. Yet, a few restaurants such as Free State Brewery and Local Burger have taken the lead in this regard compared with many of the other fine dining establishments in Lawrence. Again, many of the most active local food producers in this category also have substantial relationships with the retail sector. This contributes to a substantial cross-linking between the retail and restaurant partitions of the Lawrence-area community, much more so than in the Manhattan-area community and the Kansas City sub-communities.

Structurally speaking, a big part of this cross-linking is a result of a few key participants in the network. Innovative organizations have effectively broken down many distinctions between retail and restaurant marketing. Rolling Prairie is an interesting example of a collaborative CSA program among six farms, the success of which has allowed each farm to specialize their production and develop alternative markets over a period of years. Several of the Rolling Prairie farms are the very ones who also supply both restaurants and the Community Mercantile, weaving an interconnected web between the two sectors. Local Burger is another interesting innovator, a restaurant designed from the beginning to organize its menu around locally available meats and produce. Local Burger's effect on the overall network has been to shore up support for meat producers, where organic produce has been the traditionally dominant form of local food available in Lawrence. The availability of local meats as well as produce has helped promote local foods more generally in the eyes of the

Figure 28: Map of the Lawrence-Area Community



Caption: *The geographical distances traversed by links in this network community are substantially shorter than the other communities analyzed (see discussion in section B.2.). The fact that the network community is topologically more cohesive than the other communities is a conspicuous coincidence, and conventions and spatial analysis may help to explain any connections between the two.*

consumer and to support upstart meat producers as they grow from the farmers market to more formalized marketing through restaurants and retailers. While the restaurant-retail split is still prevalent in Lawrence, its importance is very much diminished by the efforts of a few key participants and organizations. One might even speculate that the cohesion of the network is partly responsible for the greater degree of geographical localization for local food in the Lawrence-area community compared with the others.

Beyond the structure, however, there are a number of important influences hidden from the network analysis. First and foremost, Lawrence has a very vibrant downtown commercial district for window shopping, food, and entertainment. Many of the successful local food developments in this community are tied to the popularity of this district. Second, within this district is a longstanding and very popular farmers market. For years, this farmers market has offered a valuable sales opportunity for new farms and has performed the role of incubator for many of the successful producers in this community. Neither of these influences is incorporated into the local food network, but it would be foolish to think they were not important drivers of the network. Gauging the relevance of these hidden factors toward the successes and limitations of key participants is important to understanding the underlying factors producing topological and geographical patterns. For this reason, Chapter Seven will discuss some of the important alignments between urban commercial districts and prospects for local food marketing through spatial analysis.

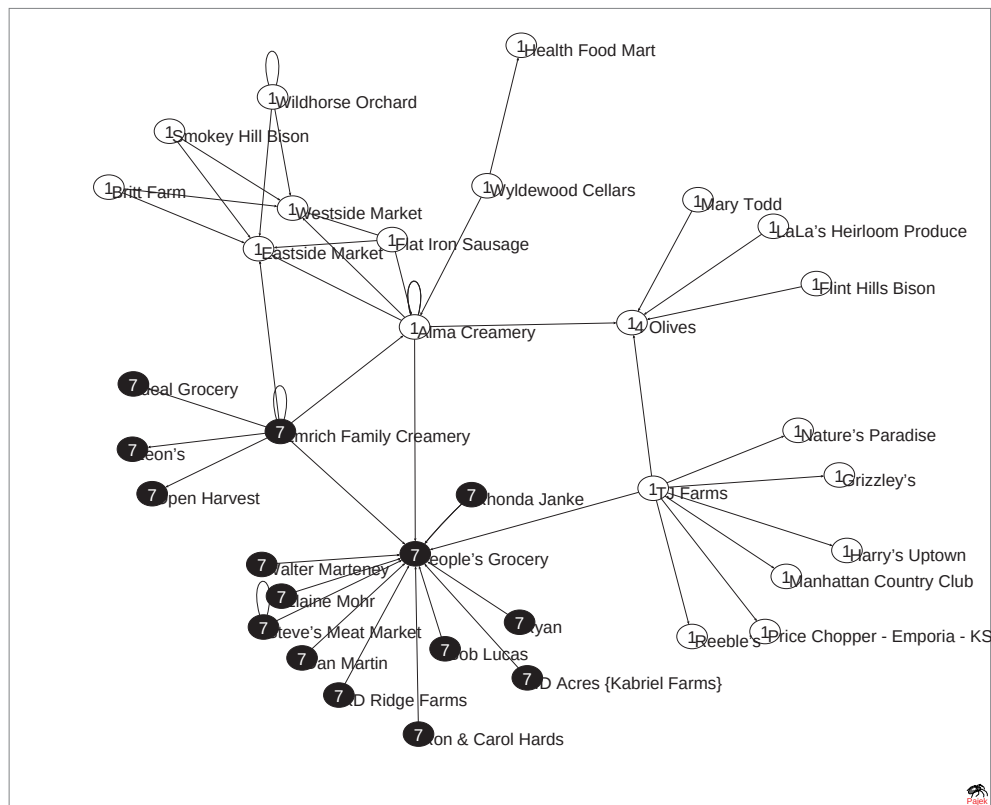
Overall, the Lawrence-area community is marked by structural divisions, and by cross-linking that creates a tension between structural and relational difference and unity in the network. Retail and restaurant sectors appear to align consistently with different community partitions, but many key participants appear to transcend the relational differences that produce the structural distinctions in the community. There is higher cohesion across the sectoral boundaries in this community than in the other communities presented below, and the geographical cohesion of the network is also notable as most producers are located nearer to the urban core of the community than in other communities.

2) Conflicted Local Food Development: The Manhattan-Area Community

The Manhattan-area community is much smaller than the Lawrence-area community, and a number of basic factors contribute to the lower level of development. Agriculture in the Manhattan area has largely been characterized by the large cattle ranches and intensive grain production in lowland areas typical of the Flint Hills eco-region in which Manhattan is nested. This means a legacy of fewer smallholder farms and less emphasis on horticultural production than is the case farther East around Lawrence and Kansas City, and thus less of a tendency toward a revival of small-scale local oriented production. With fewer locally oriented farms in the region, local foods must be sourced from greater distances (see Figure 30, below), making transportation costs an issue for local foods. Manhattan has less than half the population of Lawrence, and many times less than Kansas City, providing an incentive for producers to scale up production toward serving these larger markets instead of Manhattan. In a smaller town, there are also fewer upscale restaurants and innovative retailers inclined to source local foods. Particular to Manhattan is a commercial downtown district which has lost its small-shop, food, and entertainment culture to the development and consumerism of a nearby shopping mall. This has negatively impacted the development of the downtown farmers market at the same time. Some of these issues will be discussed more fully in Chapter Seven, and for now I will focus on describing the constitution of the Manhattan-area community.

The retail-restaurant split is in effect in Manhattan as it was in Lawrence, but there is an added division between two different modes of retail local food sales which was absent in the Lawrence-area community. The first of the two modes of retail local food is shown as partition 7 in the diagram below. This is the partition that was also shown in the Lawrence-area community diagram to illustrate often hidden connections among the communities represented individually in this study. It is centered on the People's Grocery cooperative grocery store. This cooperative began as a natural-foods consumer bulk purchasing group and has grown substantially in the past decade. It is now a fully functional natural-foods grocer with an additional fresh deli section. Most of the local foods sold through People's Grocery are frozen meats, eggs, and milk, the refrigerated

Figure 29: Manhattan-Area Community Diagram



Caption: *The community is divided among three partitions; the first is that labeled as partition 7 and is oriented toward retail natural-foods sold through a grocery cooperative; the second is clustered at the top-left and is oriented toward fresh produce and gourmet durable foods sold at two roadside markets; the third is clustered at right and is primarily characterized by fresh produce links between small farms, a greenhouse, and Manhattan upscale restaurants.*

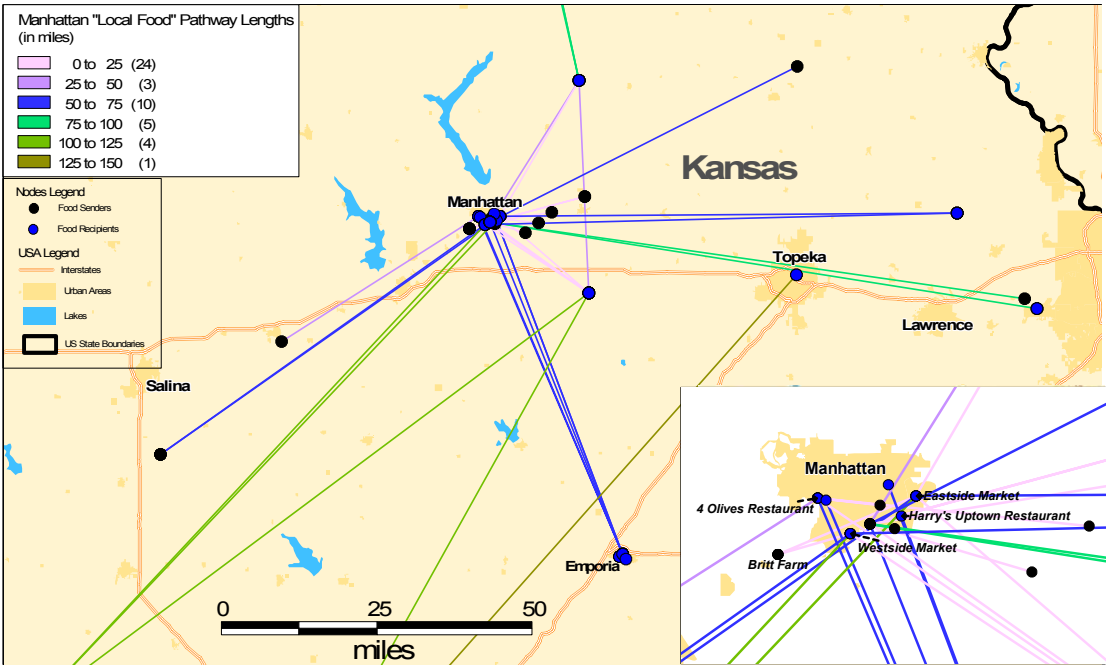
and more durable kinds of local food. It hosts a seasonal small weekly farmers market of only two produce gardeners during summers, but its main focus is in serving the needs of natural-foods acolytes and those with special food allergies. For various reasons, these priorities conflict with a whole-hearted embrace of local foods, and these reasons will be considered in Chapters Six and Seven in greater detail.

The other retail-oriented local food clustering is centered on two year-round roadside markets, shown in the upper left of the diagram above. Eastside and Westside Markets are both owned by the same individual and both offer the same products, just in two locations across town from each other. Among other things, these markets sell a variety of local gourmet canned foods and fresh produce. However, the local products are not clearly labeled as such, and they are sold alongside similar products with generic

“From the Land of Kansas” labeling indicating they are products of Kansas. The produce is indeed very fresh and local, perhaps the freshest produce in town, sourced from a farm only a few miles outside town. However, it is not organic, and the producer uses very intensive production methods for maximum productivity per acre. The stores benefit from a basic fetishism of local and Kansas-based products without clearly acknowledging the qualities or provenance of these products. The lack of strong support for local foods by the natural foods cooperative and the indiscriminate support of local foods by the roadside markets has strong implications for local food development in the Manhattan-area community. There is little opportunity for producers to forge unity between these two cultures, creating a rift that ultimately stifles development.

The third partition in the Manhattan-area community is based on sales through restaurants, featured at right in the diagram above. TJ Farms is an indoor greenhouse producer of fresh produce, especially leafy greens, located in Emporia, KS. They sell to a number of Manhattan restaurants, to People’s Grocery, and a couple retailers in Emporia. One of their customers is the upscale wine bar called 4 Olives in Manhattan,

Figure 30: Map of the Manhattan-Area Community



Caption: *A sparser network with longer links than the Lawrence-area community.*

which also buys from some produce gardeners in Manhattan and bison meat from a bison rancher in the Flint Hills. This cluster is the result of the marketing efforts of TJ Farms more than any explicit demand for local foods from area restaurants. Distant micropolitan cities like Manhattan have yet to catch the local food fervor in more urbane environs, and this is no less evident than through the relative lack of interest in local foods by Manhattan restaurants.

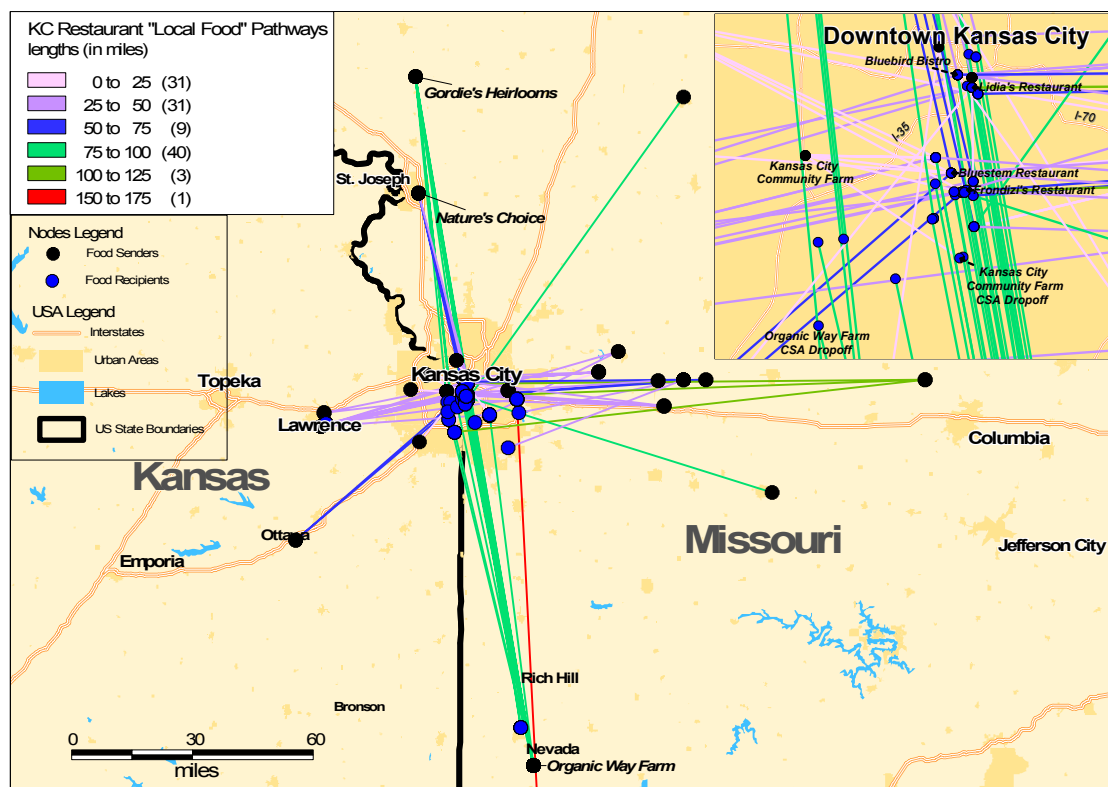
Cross-linking among these divisions is minimal in the community. The Emrich Family Creamery and Alma Creamery sell local bottled milk and cheese, respectively to both retail stores and restaurants, but this is hardly evidence of any systemic interplay between food sectors. The lack of diverse food types weaving connections between the divided sectors is indicative of a lack of common spaces of engagement among the sectors. One such space might be that of the farmers market or the downtown commercial district, both of which are powerful centers of local food activity in Lawrence and both of which are marginalized in Manhattan. These comparative spatial engagements will constitute a large focus of Chapter Seven.

The Manhattan-area community is simultaneously less developed and more divided than the Lawrence-area community. The geographical isolation of Manhattan away from other major centers of local food consumerism and nested in a region of dominant conventional agricultural land use both contribute to a sparse and extended geography of local food in this community. The fractured agendas of local food participants in the community sustain a fractured and un-reflexive view toward local food, especially without strong cultural champions of local foods in the form of prominent restaurant chefs and their appealing concoctions.

3) Kansas City Restaurant Sub-community

As was discussed above in Section B, the Kansas City community is only meaningfully understood if it is further subdivided into two sub-communities, one oriented toward restaurant sales and the other toward retail. This division mimics the division between retail and restaurant sectors present in the smaller Lawrence-area and Manhattan-area communities. The size of the Kansas City market for local foods

Figure 31: Map of the Kansas City Restaurant Sub-community



Caption: *The local food suppliers are drawn from a wider arc than the Lawrence-area community, and these longer distances are aided by the more numerous and better developed highway routes leading into Kansas City. Producers supplying restaurants appear to congregate along these thoroughfares. The restaurants themselves are not evenly distributed throughout the metropolitan area, but rather are localized in the prominent upscale shopping and entertainment districts of the city.*

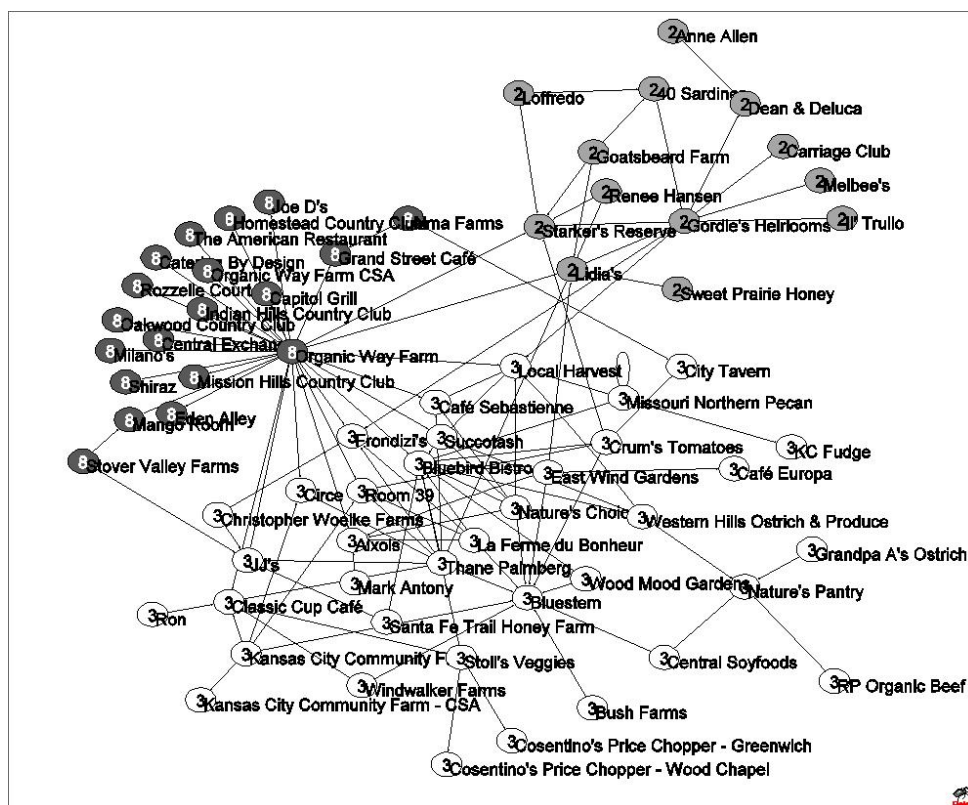
encourages specialization among participants and a differentiation of the market to a higher degree than was found in these smaller communities. Presenting this market in terms of two distinct communities does ignore some important interconnections between the retail- and restaurant-oriented local food sectors, but it also helps define their distinctive characteristics and influences on patterns of local food development.

The Kansas City restaurant sub-community consists of three partitions, a core composed of numerous independent restaurants and small-farm suppliers, as well as two clusters each forged around the dedicated marketing of a single producer. While the core is diffuse and lacks dominant key participants, the other two clusters are highly influenced by the strategies and agendas of their dominant producers. This leads to a balance between collective defined culture in the overall community and key participants

that act as leaders in enrolling other participants and ordering the terms of activity in the culture.

The core cluster is labeled as partition 3 in the diagram above and is a mixture of upscale restaurants and small-farm suppliers. There are a few restaurants in this cluster that are leaders in sourcing local foods, among them Bluebird Bistro and Bluestem restaurants. However, most restaurants have expressed a strong desire to source locally but have not managed to do so beyond a few special ingredients from a few small farms. The farms in this cluster are usually only a few acres in size, and organic produce is the predominant product alongside some other specialties like raw goat cheese, native pecans, gathered mushrooms, and some assorted meats. Participants in this core cluster

Figure 32: The Kansas City Restaurant Sub-community



Caption: *There are three partitions of importance to this network structure. The first, labeled as partition 3 is a collection of independent upscale restaurants and small farms with high structural cohesion and no dominant participants. The second is labeled partition 8 and is a cluster of upscale restaurants and country clubs surrounding a single medium-sized organic farm. The third is labeled partition 2 and is a cluster of several upscale restaurants, an upscale gourmet foods grocer, some herb growers, and a regional specialty produce distributor, all organized around an organic heirloom produce grower.*

engage in substantial trade of local foods, but even the most dedicated restaurants still source most of their food from conventional foodservice distributors and the small farms cannot sustain themselves on restaurant sales alone. These farms can rarely depend on sales to more than a few restaurants, requiring supplemental sales to sustain their farms through farmers markets and CSA programs. The varying degrees of commitment and varying values of participants underlying the production of this core cluster provide great exposure for local foods and contest conventional systems of provision, but they also result in a contested meaning of local food itself. Each participant must balance the priorities of local food with other competing priorities, resulting in a diverse food culture to match the diverse structure of this network cluster.

The central figure in the second major cluster of this community is one that has taken a decidedly focused approach to marketing local food to restaurants. This cluster is labeled partition 8 in the above diagram, and Organic Way Farm is the central participant, supplying over 30 individual restaurants. For many of these restaurants, the only local farm from whom they buy is Organic Way Farm. This is partly due to Organic Way's diverse crop offerings, partly because its proprietor is willing to grow any varieties desired by its clientele, and partly because he is very persistent, energetic, and willing to please. Organic Way Farm has put forth the effort to actively enroll restaurants in the local food network, and as such has established itself as the most common name in local organic produce in Kansas City. Yet, this success depends on the continued persistence of the farm in maintaining these relationships, as many of the restaurants will cease to buy locally if it is not at least as convenient as conventional systems of provision. This puts a great deal of stress on a single organization, and lessens the resiliency to adversity for this portion of the community.

The third cluster is also one that is largely characterized by an organized marketing effort by a single farm. Although it has not enrolled customers to quite the level of Organic Way Farm, Gordie's Heirlooms in partition 2 above has helped to align an eclectic mix of customers. The owner is more an entrepreneur than a farmer, having established an heirloom produce company to gain favor with popular upscale restaurants and retailers in Kansas City. The intent is to brand the farm based on its high quality

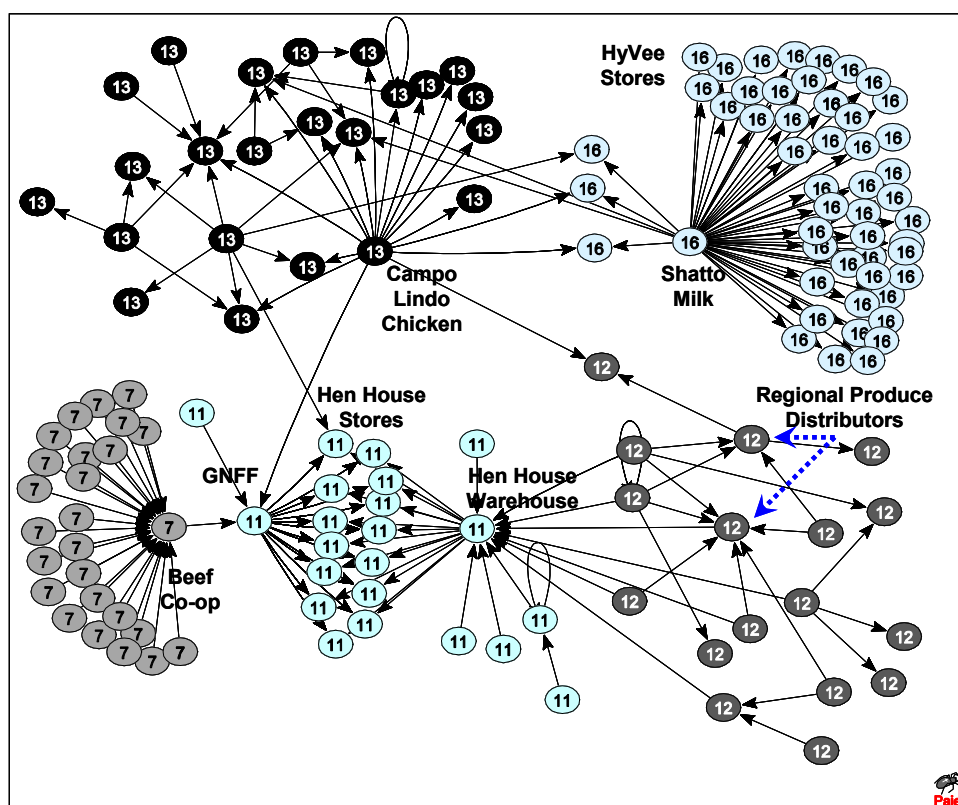
produce and develop a line of durable food products for upscale retail sales. The proprietor is not an agrarian traditionalist, nor does he have a background in farming. He simply has chosen to commercialize on the growing popularity of specialty heirloom produce and high end dining consumerism. The restaurants and the retailer Dean & DeLuca to which he sells seem to fit this profile, all of which are very popular upscale establishments located in prime shopping districts. While this is not unique to the restaurant community, commercializing local usually is combined with other complex moral valuations. This is not the case with Gordie's Heirlooms, and the culture of partition 2 reflects the exclusive aims of its primary organizer.

The potential for progressive cultural development and progressive outcomes in the Kansas City restaurant sub-community is mixed. Many of the intentions of participants are genuine for supporting marginalized farms, ameliorating negative environmental externalities from farming, and strengthening regional economies at the same time as seeking superior food quality. For most restaurants and farms in this community, there are constraints to achieving these aims due to practical financial and coordination limitations. These limitations prevent local food from exceeding its current marginal role in restaurant food provisioning. Many of the farm participants must bridge informal and formal marketing worlds by also selling at farmers markets or CSA programs. There are key individuals who have taken it upon themselves to challenge these limitations, either with personal persistence or with capital, or both. Yet, this begs questions about the kinds of compromises entailed in these special efforts. Are they in line with the ostensibly progressive goals of local food development? What are the particular agendas of these key individuals, and with which kinds of values and outcomes do the successes resonate? How are the smallholder farm and the independent upscale restaurant organizational forms themselves limitations on the growth of local food and opportunities for progressive outcomes? These questions deserve more thorough evaluation through conventions and spatial analysis.

4) Kansas City Supermarket Sub-community

Retail sales of local foods in Kansas City derive primarily from supermarkets, but there are also a number of specialty natural foods retailers participating. The farms supplying them are generally larger and more productively intensive than their restaurant counterparts. Like with restaurants, produce is a popular food type, but retailers also sell more processed, value-added, and durable foods than restaurants. The volume of sales through retail stores, especially supermarkets can by far exceed restaurant sales, justifying investments for greater productivity, processing, and packaging for in-store sales. These investments increase barriers to entry for retail sales of local food, but the difficulty of doing so also reduces competition. Success in retail sales of local food is therefore much more susceptible to organized efforts and the role of capital in developing

Figure 33: The Kansas City Retail Sub-community



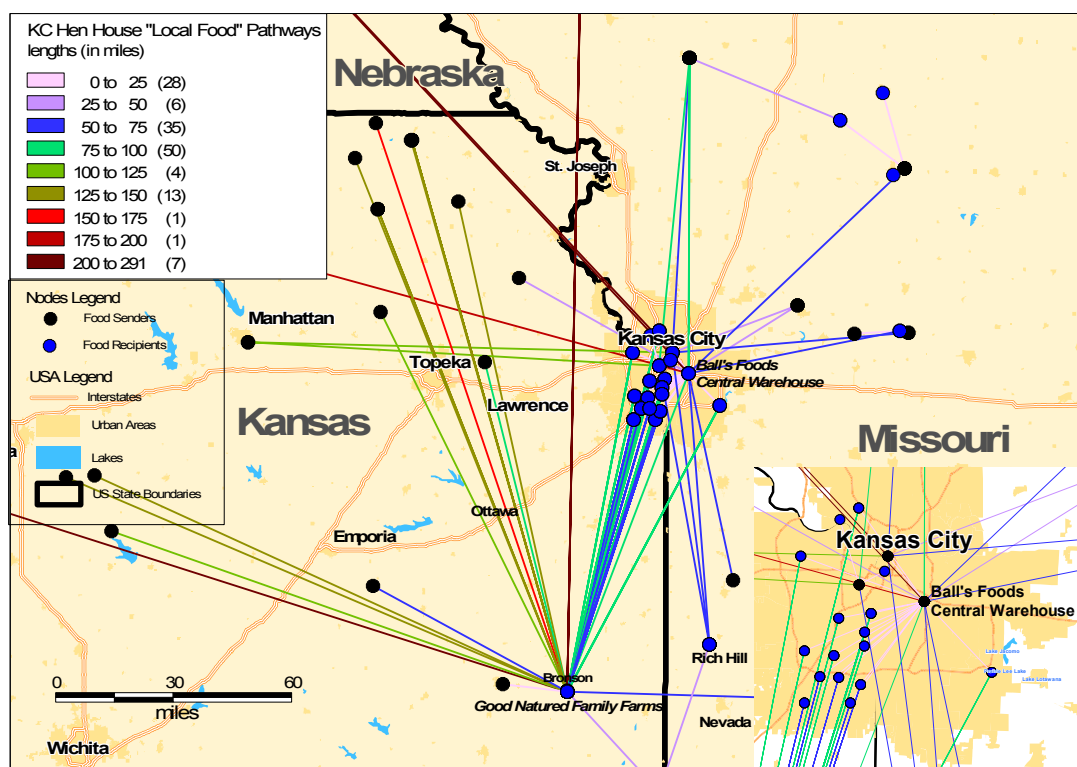
Caption: Partitions 7, 11, and 12 in the lower half of the diagram represent the Hen House urban supermarket chain and the two sets of producers supplying the chain's "Buy Fresh, Buy Local" marketing campaign. Partitions 13 and 16 in the upper half of the diagram represent other supermarket and specialty retailers in the Kansas City metropolitan area. The lack of organized local food campaigns by these stores empower producers with organized marketing agendas, resulting in a producer-centered topology.

productive and coordination infrastructure. The structure of the Kansas City retail sub-community reflects these barriers to success in that there are relatively few producers supplying relatively many retailers.

The community has two important subcomponents aligned primarily according to two types of retail establishment with different accessibilities for farmers. Clusters in the top half of Figure 33 above, partitions 7, 11, and 12, represent the first important part of the diagram. Partition 11 is a popular Kansas City supermarket chain, while partitions 7 and 11 are producer networks organized to supply this supermarket chain with local foods. The second important subcomponent is the bottom half of the diagram, represented by partitions 13 and 16. The central players in this subcomponent are not retailers themselves, but two farms with aggressive retail marketing programs. The upper and lower subcomponents are the result of two different retailer strategies with regard to local foods, each empowering different kinds of producers and geographies of production and consumption.

The Hen House supermarket chain is the core of the upper section of the diagram. It consists of 12 supermarkets located throughout the wealthy suburbs of Kansas City, and local food marketing has been a fundamental strategy in its fight to compete for retail market share in the metropolitan area. In conjunction with two non-profit organizations, one national and one local, it has developed a customized local food marketing program for its supermarkets called Buy Fresh, Buy Local (BFBL) providing fresh, farm-direct foods within 200 miles of Kansas City. This program is centrally managed by two coordinators, the chain's distribution warehouse and the Good Natured Family Farms producer alliance, both of which are hubs in the diagram mediating linkages between farmers at far left and right and the supermarkets at center. Demand for local foods through the program exceeds supply to a significant degree, and to meet the large-scale demand of 12 supermarkets the producers enrolled in this program tend to be relatively large and intensive vegetable and fruit farms, sizeable meat producer cooperatives, and medium-sized canned food and cheese producers. Many of these producers, especially the vegetable growers, were formerly suppliers to anonymous conventional supply chains through regional specialty food distributors in Kansas City. Those that have developed

Figure 34: Map of the Kansas City Hen House Local Food Network



Caption: Producers are more geographically dispersed in this part of the network than in others, while the urban geography of supermarkets in Kansas City also deviates from the restaurant geography, with supermarkets populating the sprawling low density suburbs as opposed to upscale shopping districts near the urban core.

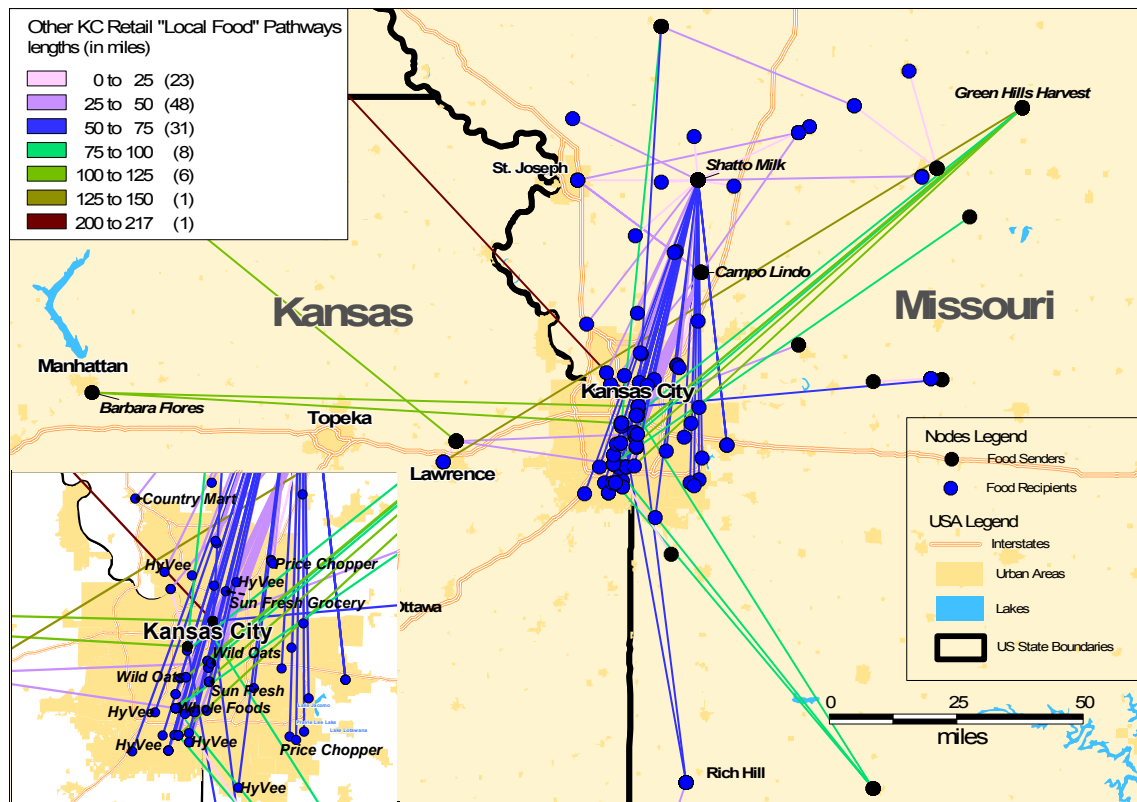
contracts with the BFBL program now nearly exclusively sell to this program, limiting any sense of cross-linking among communities in Kansas City like that of the Lawrence-area community. In addition to shifting the marketing allegiances of food producers and dividing the local food market at the same time as it substantially increases demand, the central coordination of the BFBL program also enables an expanded foodshed for local foods in Kansas City. The map in Figure 34 above depicts the substantial increase in food miles noted in the statistical analysis earlier in this chapter compared with Kansas City restaurant-oriented links and the other network communities studied.

In contrast to the centrally organized Buy Fresh, Buy Local program, other retailers in Kansas City order their local food relations on a much more ad hoc basis. The main competitor to Hen House is the HyVee supermarket chain. The headquarters in Des Moines, Iowa are too distant to centrally coordinate a Kansas City-based local food marketing program, instead leaving stores to coordinate with producers on an individual

basis. These stores combine with upscale natural foods supermarkets like Whole Foods and Wild Oats, as well as small specialty retailers, to create a whole population of stores interested in local foods for the sake of competitively attracting discerning affluent customers, but as yet unable to collectively plan and organize effective supply chain solutions. This disorganization of retailers creates an opportunity for organized producers with large productive capacities to monopolize this market for their specialty products. The chicken producer, Campo Lindo, and the micro-creamery, Shatto Milk, are good examples of farms who have invested in high production capacity and robust marketing in order to capture this market. Both are without competition among this second set of Kansas City retailers, and the two represent a large proportion of the local foods flowing through this market subset. Their market power is evident as they order the lower portion of the network diagram into two coherent clusters. It is a contrast to the upper Hen House section, where retail representatives were the network hubs enrolling and ordering participants.

With the roles reversed, the Kansas City retail arena is susceptible to dubious marketing on the part of entrepreneurial local producers, misrepresenting and betraying the ideal of transparency among local food advocates. It is also a more competitive marketing environment than with the centrally coordinated Hen House program. There is an incentive for producers to undercut each other on prices to land accounts, which also feeds more intensive and industrialized production methods. The central coordinators of the Hen House program are in a position by virtue of speaking for consolidated buying power to more effectively encourage production differentiation by farmers so as to enroll more farms and more products into its program. Yet, decentralized decision-making also has its advantages, in that it is less susceptible to shifting marketing priorities among upper managers of a single supermarket chain. Such decentralized coordination of supply chains does seem to have impacted the size of the viable foodshed for these retailers, as indicated by the shorter supply chains for local foods (see map below in Figure 35) compared with the Hen House program.

Figure 35: Map of Other Kansas City Retail Network Sub-community



Caption: *A few producers are more central players in marketing to numerous retailers here as compared to the Hen House map above. Urban retailers are greater in number, but not necessarily in demand for “local foods” due to a lack of collective coordination. Their locations throughout Kansas City suburbia is mirrors the Hen House map, while the producer “foodshed” is smaller.*

The retail sub-community of Kansas City is certainly distinctive compared with the restaurant sub-community. The buying power of retailers and the productive capacities of producers are much larger than the restaurants and farms in the restaurant sub-community. The stakes of organizing local food relationships are in some ways larger in these cases, and their coordination needs are therefore distinctive. The capacity for collective coordination by retail chains likely exceeds that of independent restaurants. Yet, the coordinated growth of local food marketing in supermarkets creates outcomes that depend greatly on the incentives created through the methods and values underpinning this coordination. The different geographies of local food production in this retail sub-community indicate that different forms of coordination have very different impacts on the enrollment of farms and the shaping of production. The different urban geographies between restaurant and retail local foods also beg questions about the

role of local food in the production and reproduction of urban spaces. The next two chapters will hopefully address many of these issues regarding the outcomes of local food coordination and the geographical implications of local food networks.

D) Summary and Conclusions

The previous chapter concluded that despite geographical and structural differences among local food commodity chains, local food is a banner uniting these differences in a common movement that excludes traditionally powerful processing and distributing intermediaries from commodity chains. This chapter has outlined the multiple patterns of participant enrollment, network topology, and geographical distribution that result from the contested development of new production-consumption circuits without these powerful intermediary actors.

Topologies and geographical distributions of local food networks have been the focus here. The networks in this study represent flows of local foods among economic participants in the movement. Community structural analysis was used to dissect the overall network of local food flows in the study region into interpretable cohesive subsets. The most cohesive subsets are centered on the urban outlets for the purchase of local foods by end-consumers, even as the local producers for each subset hail from often distant rural areas. Using qualitative data from interviews and observations during fieldwork, some basic evaluation of the key participants and strategies in each of these network communities was performed.

Each community has its own particularly distinctive patterns that suggest the importance of certain key actors in creating the overall network structure and geographical distributions, but there are also some common patterns among all the network subsets. The most basic common pattern involves a topological division between local food paths that end up at restaurants and those that end up at retail stores. The degree of this division varied between network communities, but each features this division to one degree or another. In each of the Lawrence- and Manhattan-area communities, the dominant retail establishment is a single cooperative grocery store, while supermarkets and specialty retail shops are the predominant forms of retailer in

Kansas City. Manhattan trails the others in terms of restaurant participation, while the division between restaurants and retailers in the Lawrence community is diminished by extensive cross-linking by key participants. Geographical distributions also deviate among the communities, with the Lawrence-area community featuring the tightest geographical distribution and Manhattan and Kansas City communities attracting a wide geography of local foods for very different reasons.

Another important aspect of unevenness involves the role of key participants in shaping the topological clusterings of these local food networks. Organized producers and retailers appeared to be most capable of establishing large numbers of links in the networks, leaving restaurants and smaller/less-organized producers ancillary positions and roles in network topologies. The relational roots of these patterns remain unresolved through network analysis, but the patterns themselves suggest potentially powerful alliances and/or conflicts between producer and retailer interests when it comes to ordering local food systems. All of this suggests that the diverse individual agendas of key individuals and the collective constraints/abilities of classes of organizations (e.g. producers, restaurants, and supermarkets) are all sources of difference in network and geographical patterns in local food systems.

This introduces an important research problematic. Network analysis helps to elucidate suggestive patterns of association and development, especially when combined with GIS, but it is quite limited in evaluating the sources and outcomes of these patterns. Ad hoc interpretation by identifying key participants and describing their strategies and relationships helps to provide a basic method for identifying social network and geographical patterns, and interpreting the social relations producing them. Yet, summarizing the geographies, participants, and agendas observed through this method is overwhelming in the absence of more elaborate and theoretically grounded interpretative frameworks of social analysis. Furthermore, it fails to adequately represent the construction of agendas and local foods themselves.

The following two chapters will take up the task of putting interpretative flesh on the bones of the networks described in this chapter. Chapter Six will use frameworks

from conventions theory to investigate the values underpinning the efforts of key participants and exemplars of the networks just described. The relationships between these value-negotiations and the production of network topologies and geographical distances will be an important focus of this chapter. Chapter Seven will consider the spatial dependencies of these socially contested processes of framing local foods in terms of values and constructing its meaning and patterns of development. The agendas of actors do not become important or powerful until they produce space, and the productions of space by local food pathways need to be represented to understand the politics of local food in terms of access and participation.

By studying the construction of value and the productions of space in service of that value among local food participants, the following chapters will add weight to some of the conclusions from network analysis while also addressing its limitations and silences. It is satisfying to pick apart pictures of local food networks for indications of powerful actors and important agendas, and this kind of analysis provides an important context for grasping the complexities, multiplicities, and extent of regional local food developments in Eastern Kansas. However, gauging the politics and socialization of local food in this region requires a different kind of analysis. Complementing network analysis with conventions and spatial analysis has the advantage of interpreting both global patterns in the network and the social and political will that construct those patterns. With these tools, it will hopefully be possible to make some recommendations about how to build strong local food alliances in this region based on progressive values and socially equitable, ecologically beneficial, and economically sound productions of space.