

PLANNING FOR NEW MEAT CUTTING AND PROCESSING SERVICES IN MASSACHUSETTS

FY 2012

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This project researched options, benefits, costs, and regulatory requirements for meat cutting and processing businesses and services for local meat producers in Massachusetts. It explored options ranging from technical assistance and improved facilitation of slaughter services to inclusion of meat products in an existing shared-use kitchen to a stand-alone meat cutting and processing facility. The information and resources created and assembled through this project will support meat producers, start-up and expanding meat-related businesses, and local meat buyers.

FINAL REPORT

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Planning for New Meat Cutting and Processing Services in Massachusetts

FINAL REPORT
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Summary: Next Steps and Lessons Learned

This project researched options, benefits, costs, and regulatory requirements for meat cutting and processing businesses and services for local meat producers in Massachusetts. It explored options ranging from technical assistance and improved facilitation of slaughter services to inclusion of meat products in an existing shared-use kitchen to a stand-alone meat cutting and processing facility. The information and resources created and assembled through this project will support meat producers, start-up and expanding meat-related businesses, and local meat buyers.

An attached report, [*Confronting Challenges in the Local Meat Industry: Focus on the Pioneer Valley of Western Massachusetts*](#), completed by consultants to the project, provides a comprehensive review of the options and models considered, regulatory requirements, and producer needs. This final report provides additional detail about methods and next steps.

Our initial research, including lengthy interviews with producers and processors, was followed by further discussion of the consultants' report with stakeholders. Through that process, we have prioritized the following next steps, already initiated by CISA and our partners:

1. Additional technical assistance for meat producers, in partnership with a local slaughterhouse and with local meat buyers. This technical assistance model allows us to provide new information and skills to producers while also improving communication with processors and buyers and providing opportunities for coordinating demand for products and services.
2. Adding meat processing to the services offered by the Western Massachusetts Food Processing Center, a shared-use kitchen operated by the Franklin County Community Development Center (CDC). Within the last several months, they have added some options for meat processing, and they are pursuing USDA inspection that will allow production of additional meat products.
3. Supporting the start-up and expansion of meat-related businesses that will provide additional market and value-added opportunities for producers and expand the range of local meat products available to consumers. Examples include retail butchers specializing in local meat and local meat producers who add value-added enterprises using the facilities available at the Franklin County CDC. In some cases, these

businesses might alleviate some bottlenecks related to meat-cutting at existing processors, by removing animals after slaughter but before cutting. Support for these businesses, including business planning, financing, marketing, and sourcing, are available from CISA and our partners.

Taken together, these options strengthen the local meat production and marketing system by optimizing the use of existing infrastructure and services for meat production and adding new options that are relatively low-cost. Improving knowledge and communication, adding additional services to an existing shared-use kitchen, and adding new businesses and enterprises that fill gaps in production and marketing will all help to make the existing infrastructure better serve producers, processors, and buyers.

Background/Problem Statement

Over the past several years, two new slaughterhouses have opened within reasonable travel time for many Massachusetts producers (located in Athol, Massachusetts and Westminster, Vermont). Although these facilities provide adequate slaughter services, producers continue to express a need for additional post-slaughter options for meat cutting and processing. Other than the slaughterhouses, there have been few businesses that provide butchering, processing and curing services to local meat producers.

Producers want additional options for meat cutting and processing for the following reasons: scheduling flexibility, product diversity, packaging, quality, and customer service¹. Bottlenecks and slowdowns at regional slaughterhouses often occur at the cutting stage, not the slaughter stage. Thus, some scheduling challenges at these slaughterhouses, particularly during the peak fall season, could be alleviated if some producers took their meat elsewhere after slaughter. In addition to greater scheduling flexibility, services that producers want, but cannot always obtain at existing slaughterhouses, include additional control over the aging process; additional cuts, cures, or recipes; improved quality control and consistency; additional packaging options and improved packaging quality control; and improved customer service.

Despite these concerns, our focus group and lengthy interviews with producers indicated that most producers have found processing options that satisfy their needs. Several producers expressed concern that a new business focused on processing could threaten the viability of existing processors that are critical to their farm businesses. Producers also noted that service at existing processors has improved, and that some complaints date from several years ago.

Many of the limitations of existing slaughterhouses would also apply to new meat processing businesses. For example, slaughterhouses are reluctant to add additional recipes for new products, such as new types of sausage, because of the costs associated with label approval at the USDA. In order to incur these costs, processors need to be assured of a reasonable level of demand for the new product. Improved communication between processors and producers, and coordination of demand among producers, could address, or at least explain, some of the complaints that producers have about existing facilities. Adding meat to the list of

¹ One discussion of these concerns is found in the Massachusetts Farm Technology Review Commission 2011 Annual Report to Governor Patrick and the Massachusetts State Legislature, June 2011.

acceptable products at the Franklin County CDC will allow some producers to make low-volume batches of some meat products that are not available through current slaughterhouses.

Demand for locally grown meat products continues to grow. In the Pioneer Valley of western Massachusetts, for example, the number of farms selling meat through community supported agriculture, or CSA, has grown from one in 2006 to eight in 2012. CSA arrangements for meat are growing in popularity among consumers in part because locally grown meat is available only in limited cuts and quantities through traditional outlets, like retail grocery stores. Farmers report that they have no trouble selling meat shares. Restaurants also report that they cannot source all of the meat products they desire locally or even regionally.

Many factors contribute to the limited production and variety of local meat products. *Vermont's Farm to Plate Strategic Plan* describes challenges, or “pinch points” at each step of the process moving meat from farm to table². These challenges apply to Massachusetts as well; some, such as the price and availability of land, are exacerbated here. Thus, solving the challenges of meat cutting and processing is an important piece of the solution but not the only piece.

Meat cutting and processing is an important link in the supply chain that connects local meat producers to local markets. Our research indicates that strengthening this link will be an incremental process. Improving and adding services and enterprises at existing businesses—farms, processors, butchers, and the regional shared-use kitchen—is an important first step. Over time, these actions may contribute to an increase in production that would support additional fee-for-service processing.

Grant Objectives, Activities, and Outcomes

1. *Research producer and buyer needs.* Use surveys and interviews to identify products and services attractive to both producers and buyers.

Evaluate the potential for increased livestock production if additional services were available. Improve understanding of market opportunities that could result from new meat cutting options, and of the volume, packaging, delivery, and price requirements of those markets.

Activities:

In-depth interviews with eight producers and seven buyers. A key component of these interviews was an assessment of producer and buyer needs, including both products and services.

We then held a focus group with seven producers for early-stage feedback on draft recommendations. The focus group explored the increased market opportunities that could result from new meat cutting options. This was followed by a presentation and feedback

² Fuller, Sam, “Current Conditions: Vermont Livestock Production” chart included in Calderwood, Louise, and Scott Sawyer, Ellen Kahler, and Doug Hoffer, “Chapter 3.3 Food Production: Livestock,” *Vermont Farm to Plate Strategic Plan*, 2011, p. 2.

session with additional growers, processors, and industry representatives, and additional feedback gained from participants at technical assistance workshops (see below).

We considered options for a detailed assessment of demand for locally grown meat, but after consulting with others who have tried to assess this question in their own regions, we determined that data on this question does not exist and that generating that data is beyond the scope of this project. However, we did ask all interviewees and participants about their sense of the demand for local meat, and the answers were very consistent: processors, distributors, farmers, and buyers all expressed confidence that they can sell all the local meat they can produce or obtain, and more.

Our research did reveal that some farm businesses do find it challenging to assess and select markets that are a good match for their business, and we are addressing this question through technical assistance activities.

Outcome: Summarize producer and buyer research and recommend priority products and services not currently available. See report, [*Confronting Challenges in the Local Meat Industry: Focus on the Pioneer Valley of Western Massachusetts*](#).

2. Research options for expanding capacity of existing retail butchers to provide services to local meat producers.

What businesses in this region have the appropriate license for meat cutting and curing? Do they have any interest in expanding to provide services to local meat producers? Clearly identify facility and licensing barriers to this expansion. Make information about limitations of retail butcher exemption available to producers, butchers, and retailers, as needed.

Activities:

We spoke to one USDA FSIS inspector and two representatives from state agricultural agencies (Massachusetts and Vermont), and gained a clearer understanding of the regulatory requirements governing butchers operating under a retail exemption. As a result, we are no longer considering the option of having existing retail butchers provide cutting or processing services to meat producers who would then sell the meat products to their own customers. See report, [*Confronting Challenges in the Local Meat Industry: Focus on the Pioneer Valley of Western Massachusetts*](#), for a more detailed explanation.

We have provided information and support to a start-up retail butcher who is interested in providing fee-for-service cutting and processing in the future. We helped them to understand the limitations of the retail butcher exemption and made referrals to the USDA for additional information.

Outcomes: The expected outcome of this objective was a list of meat cutters available to provide fee-for-service processing, but since existing retail butchers operate under the retail exemption and cannot provide fee-for-service processing, this list is not available. Instead, we have a better understanding of the regulatory requirements for fee-for-service cutting and are already sharing that information with existing and start-up businesses.

3. *Explore models for meat cutting facilities that serve local meat producers, and identify two models for further planning.*

What products and services can be produced for sale in a commercial kitchen? What products and services require a dedicated facility? What licensing, facility design, and equipment are required for different processes and products? How are these services offered in other states and regions, and how do requirements in those locations differ from requirements in Massachusetts?

Activities:

In addition to the interviews noted above, interviews were also conducted with six meat processors, two trucking/logistics coordinators, and two directors of regional meat producer associations. In addition, we researched models in other regions, including the Meat Market in Great Barrington, Massachusetts and the new Black River Produce meat cutting facility in Vermont.

Four potential models for improving the existing meat processing system and adding cutting and processing options are explored in detail in our report, [*Confronting Challenges in the Local Meat Industry: Focus on the Pioneer Valley of Western Massachusetts*](#). These include: 1) a trade association for meat producers and processors in western Massachusetts; 2) a logistics service that could transport meat products between processors, located locally and throughout New England, and local farms in Massachusetts; 3) a local commercial kitchen that offers meat processing equipment and butchery services; and 4) a low-volume, stand-alone commercial meat processing facility.

Outcomes:

Our initial research was followed by further discussion of the consultants' report with stakeholders. Through that process, we have prioritized the following next steps, already initiated by CISA and our partners:

1. Additional technical assistance for meat producers, in partnership with a local slaughterhouse and with local meat buyers. This technical assistance model allows us to provide new information and skills to producers while also improving communication with processors and buyers and providing opportunities for coordinating demand for products and services.
2. Adding meat processing to the services offered by the Western Massachusetts Food Processing Center, a shared-use kitchen operated by the Franklin County Community Development Center. Within the last several months, they have added some options for meat processing, and they are pursuing USDA inspection that will allow production of additional meat products.
3. Supporting the start-up and expansion of meat-related businesses that will provide additional market and value-added opportunities for producers and expand the range of local meat products available to consumers. Examples include retail butchers specializing in local meat and local meat producers who add value-added enterprises using the facilities available at the Franklin County CDC. In some cases, these businesses might alleviate some bottlenecks related to meat-cutting at existing

processors, by removing animals after slaughter but before cutting. Support for these businesses, including business planning, financing, marketing, and sourcing, are available from CISA and our partners.

Taken together, these options strengthen the local meat production and marketing system by optimizing the use of existing infrastructure and services for meat production and adding new options that are relatively low-cost. Improving knowledge and communication, adding additional services to an existing shared-use kitchen, and adding new businesses and enterprises that fill gaps in production and marketing will all help to make the existing infrastructure better serve producers, processors, and buyers.

At this time, we are not recommending two additional options discussed in our initial proposal. One is the use of retail butchers to provide fee-for-service processing for producers, as this activity is not allowed under the USDA retail exemption.

The second is a new, standalone commercial meat processing facility. **Our consultants' report** includes a feasibility analysis of this business idea, and concludes that a new facility would have relatively high capital costs, would be only marginally profitable, and would need to operate at a capacity that is likely beyond the potential volume available in western Massachusetts without significantly drawing from the satisfied customer base of existing processors, thus threatening their viability. Meat cutting and processing, however, could be a viable business for the right entrepreneur, particularly as part of a larger business venture – such as a restaurant group, marketing company for local meat products, or a commercial kitchen such as that at the Franklin County CDC. We have developed a template for assessing feasibility for such a business, available on our [website](#).

4. Work with consultant to prepare preliminary cost analysis and business plan for model(s) identified above. Use advisory group to provide feedback and input to business planning process.

See our report, [Confronting Challenges in the Local Meat Industry: Focus on the Pioneer Valley of Western Massachusetts](#), and the on-line [feasibility template](#) for a small-scale meat cutting and processing facility. This template details the assumptions that we made in assessing this business, and allows the user to input their own information in order to receive a preliminary analysis of the numbers for their own business.

5. Disseminate project findings through workshops and on-line materials. Provide follow-up support for Massachusetts producers or businesses interested in using this information to create a complete business plan.

Activities:

Our research indicated that producers are eager for additional training about business management, enterprise analysis, meat cutting, marketing, and successful producer/processor and producer/buyer relationships. In addition, producers expressed a high level of interest in opportunities to network with each other.

During this project, we held three workshops for meat producers. Two were held in cooperation with Adams Farm Slaughterhouse in Athol, Massachusetts. The workshops included a meat cutting demonstration and discussion of available meat cuts for beef and pork and identifying appropriate cuts for different markets. In addition, we disseminated the findings of our research and received feedback from producers. Both workshops filled to capacity with 25 producers.

The third workshop focused on marketing meat to restaurants and wholesale buyers. A panel of buyers talked about the cuts that work for them, how they use those cuts, pricing, delivery, and how to optimize producer/buyer relationships. Again, we disseminated the findings of our research and received feedback from producers. There were 22 participants in this workshop.

Note that workshops were funded only in part with FSMIP funds.

We continue to disseminate our research findings and feasibility template through listservs and partner networks.

We provided support to a retail butcher start-up (see objective 2), both through direct technical assistance from CISA on sourcing and regulatory requirements, and by providing detailed background information to a business planning specialist from another agency who was working with the business to complete a business plan and obtain financing. We will continue to provide support in-person, by email, and by telephone to producers, retailers or other business people interested in using the business plan information in their own business planning.

Project Partners

Partnerships were critical to the success of this project. We worked closely with a team of students from the University of Massachusetts, Isenberg School of Management. They provided consulting services, conducted interviews, researched additional models, and completed business feasibility analysis. The caliber of their work was excellent and we are very pleased to have forged this relationship with the Isenberg School.

Another important partner is the Franklin County CDC. They operate the Western Massachusetts Food Processing Center, a shared-use incubator kitchen in Greenfield, Massachusetts. In addition, they provide business training and planning assistance and financing to small businesses. Until this year, the Food Processing Center has not included meat in its list of acceptable products. However, they recognize the need for additional meat processing options and followed our meat research with interest. We provided information to the CDC about the regulatory requirements governing meat processing in commercial kitchens and within the last several months they have added some options for meat processing. They are now pursuing USDA inspection that will allow production of additional meat products. We also work closely with the CDC to provide meat industry and regulatory information which informs their business planning assistance and financing review of meat businesses. We have also provided this kind of information to Common Capital and the Pioneer Valley Grows Loan Fund, two additional lenders serving local food businesses in the Pioneer Valley.

Two slaughterhouses, Adams Farm Slaughterhouse in Athol, Massachusetts, and Hilltown Pork in Canaan, New York, provided valuable input and feedback on our research and recommendations. We are also grateful for the time and expertise provided by many Massachusetts meat producers, especially Jeremy Barker-Plotkin of Simple Gifts Farm and Pete Solis of Mockingbird Farm.

Beneficiaries

Beneficiaries of this project include the following:

- (1) Producers, including existing meat producers, dairy farmers who diversify or transition to meat production for local markets, and vegetable farmers who diversify their operation to include meat production;
- (2) Buyers, including retailers, restaurants, and consumers;
- (3) **Meat processors, including existing slaughterhouses and the Franklin County CDC's Western Massachusetts Food Processing Center.**

Seventy-two producers attended workshops resulting from this project, focused on meat production, cutting, and marketing. We will continue to disseminate information through additional workshops. Producers have told us that the opportunity to share information with other meat producers has been a valuable outcome of participating in this project, whether through our focus group, project presentation and feedback session, or the three workshops. These workshops were conducted in partnership with Adams Farm Slaughterhouse and local meat buyers, giving both attendees and CISA staff opportunities to strengthen our relationships, improve communication, and discuss new products and services.

CISA and the Franklin County CDC staff have used the detailed regulatory and meat business information gained through this project to assist two meat-related businesses in business planning, feasibility analysis, and preparation for financing. We expect to continue to provide this support.

Confronting Challenges in the Local Meat Industry:

Focus on the Pioneer Valley of Western Massachusetts

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Executive Summary

This report aims to explain and provide recommendations to address challenges in commercial meat processing in the Pioneer Valley. Multiple conversations with meat producers, processors, and local food advocates in the area were conducted over the past three months, and a number of recurring themes emerged. Local producers expressed their concern with a lack of options available for creating and customizing value-added meat products in the area. Additionally, producers described a need for business and technical assistance, a shortage of data on demand for local meat products, excessive travel to and from processors, as well as problems with the quality of service received from existing processors. Many of these issues could be addressed by improving producer education, increasing the level of coordination among local producers in order to strengthen their collective bargaining power with processors, and reducing their operational costs, primarily related to transportation for slaughter and processing services.

These issues, however, are hardly confined to meat processors in the Pioneer Valley, being largely connected to apparent shortcomings in small-scale meat processing infrastructure across the country. To this end, current models for improving local meat processing options, as well as alleviating other business challenges faced by small producers, were identified elsewhere and considered for their applicability to the conditions in the Pioneer Valley.

All alternatives were considered for feasibility based on their ability to address current challenges faced by producers, impact on existing local commercial processing facilities, startup costs, and time to launch. Ultimately, three recommendations are proposed for implementation:

- 1. Establish a trade association for producers and processors** to better coalesce the business interests of parties in the value chain and to advance an efficient and thriving market for local meat products in the Pioneer Valley.
- 2. Form a transportation and logistics service** to reduce the transportation costs incurred by producers and to expand their post-slaughter processing options by delivering meat products from local processors back to producers farms' and facilitating access to regional secondary processing facilities.
- 3. Establish fee-for-service meat processing at a local commercial kitchen** to provide options for making small batches of value-added products for producers in the Pioneer Valley who are unable to meet the volume commitments required by existing processors.

Moving forward, additional areas of research are suggested, such as a detailed analysis of demand for local meat products and processing services, an assessment of the consumer's perspective of the local meat industry, and an investigation of the impact of labor issues on meat processors in the area and recommendations for addressing those challenges.

Introduction

Community Involved in Sustaining Agriculture (CISA) strengthens local agriculture by building connections between farmers and the community. CISA's strategic plan focuses upon four main strategies to achieve its mission:

1. Connect more people to local farms.
2. Ensure that more local farm products are available for all, including low-income residents.
3. Promote excellence in farm business practices and advance sustainable farm business models.
4. Educate and inspire people to become more involved in local agriculture.

In 2006 and 2007, CISA conducted an extensive study of the options and demand for slaughter and processing facilities for livestock raised in western Massachusetts.¹ The study was driven in large part by the fact that two USDA inspected slaughterhouses had recently burned down, forcing many local meat producers to travel much greater distances to have their animals slaughtered. The study evaluated multiple options, including a new small-scale commercial slaughter and processing facility, a mobile slaughter and processing unit, a commercial meat processing facility without slaughter capability, upgrading an existing custom slaughterhouse to a USDA inspected commercial facility, or rebuilding a destroyed slaughter and processing facility. Fortunately, Adams Farm, one of the two slaughterhouses that had been destroyed, decided to rebuild a new 13,800 square foot slaughter and processing facility, which opened in 2008. Currently, livestock producers in western Massachusetts have access to two USDA inspected slaughter facilities in Massachusetts, in addition to several across the border in Vermont and New York.

While access to slaughter facilities has improved somewhat since 2007, a number of challenges still exist in the meat processing industry. Meat producers want additional options for product diversity, packaging, quality, and customer service. Bottlenecks and slowdowns at regional slaughterhouses often occur at the post-slaughter processing stage, and not at slaughter, so new cutting options could also improve scheduling flexibility. Therefore, this report aims to:

1. Assess major challenges for meat producers in the Pioneer Valley of western Massachusetts through interviews with producers, processors, and buyers, including, but not limited to: producers, entrepreneurs, abattoirs, butchers, grocers, wholesalers, and restaurants that serve local meat.
2. Research and describe potential models for local and regional meat processing facilities able to satisfy the demand for quality cutting, grinding, and curing services for producers

¹ Community Involved in Sustaining Agriculture. *Demand Study: Assessing volume and attributes of farmer demand for slaughter and meat processing services in Massachusetts*. Massachusetts: Jun. 2008

in the Pioneer Valley, through analysis of current working systems in other parts of the country.

3. Recommend the best options to improve meat-processing options in the Pioneer Valley, including detailed analyses of feasibility.

Background

Local Food Movement

The history of agriculture in the United States has been a complex and remarkable story. According to the American Farm Bureau Federation, “today’s farmers produce 262 percent more food with two-percent fewer inputs (i.e. labor, seeds, feed, fertilizer, etc.), compared with 1950.”² At the same time, the number of farms in the United States has steadily declined, from 6 million farms in 1940 to 2.2 million in 2002. During this time, the average farm size has nearly doubled and the average number of commodities grown per farm has declined to just over one.³ Thus, the overall picture of agriculture is one of increasingly consolidated, large-scale production of monoculture commodity crops. In fact, just “125,000 farms (out of 2,204,792 total) produce 75 percent of the value in U.S. agricultural production.”⁴ This trend has yielded tremendous benefit, as over the majority of the past 70 years, food has been plentiful and relatively low cost in the United States.

These gains, however, have not come without substantial trade-offs. Critics charge that the current agricultural system is largely unsustainable due to its reliance upon substantial fertilizer inputs, transportation requirements, and harmful waste products created. A growing movement, including farmers, consumers, and policy advocates, has promoted a system of agriculture much different from the large scale, mechanized system of food production. The alternative is based on a smaller-scale model, in which food is primarily produced and consumed locally. A number of benefits are realized through a local focus on agriculture. It lies beyond the scope of this report to fully describe all the benefits of local food; however, a few important factors include:

- Foods produced locally require less transportation and storage, and therefore are received as a fresher product by the end consumer
- Producing food, especially livestock, in a distributed system reduces the massive concentration of waste often found in industrial scale production, such as in concentrated animal feeding operations (CAFOs)⁵

² “Fast Facts About Agriculture.” *The Voice of Agriculture - American Farm Bureau Federation* 2012. Web. 24 April 2013. <http://www.fb.org/index.php?action=newsroom.fastfacts>

³ *USDA Census of Agriculture*. Web. 19 April 2013. <http://www.agcensus.usda.gov/>

⁴ Kolar, Laura Richardson. “Historical Reflections on the Current Local Food and Agriculture Movement.” *Essays in History* 2 July 2011. Web. 20 April 2013.

⁵ “Industrial Livestock Production.” *Sustainable Table*. Web. 29 May 2013. <http://www.sustainabletable.org/859/industrial-livestock-production>

- Local foods support the local economy, multiplying funds spent locally, and providing funds to support the maintenance of agricultural land

Local and regional food systems have been growing dramatically in recent years. According to the USDA, the number of farmers' markets has more than doubled since 2004, rising nearly 10% from 2011 to 2012. Meanwhile, more than 12,000 CSAs⁶ were reported in the 2007 USDA Census of Agriculture, with their popularity continuing to rise. Beyond farmers' markets and CSAs, it is increasingly common to find restaurants and grocery stores promoting meat and produce sourced from local producers. 18,467 more small farms were counted in the five years since 2002, with a growing ethnic, racial, and gender diversity amongst farm operators. In the Pioneer Valley, investment in local food has been a strong and prevalent trend, thanks in large part to the work of CISA and its partners over the past twenty years.

National Meat Industry

Meat production is a huge part of the U.S. agriculture sector, representing more than half the value of all agricultural products and "often exceeding \$100 billion per year."⁷ In 2011, the United States produced 110 million hogs and 34.1 million beef animals. Thus, meat production represents a substantial component of the economy.

Similar to the overall trends in agricultural production, meat processing has undergone dramatic consolidation over the past several decades. As of 2005, four companies controlled 83.5% of the beef cattle slaughtered in the United States, while four others controlled 64% of the hogs slaughtered.⁸ Even as the amount of red meat slaughtered has grown, consolidation in the industry has actually resulted in a decrease in the number of meat processing facilities. The number of USDA inspected slaughterhouses fell by 20% between 2002 and 2007.

Thus market forces in the meat industry, to a greater degree even than in agriculture at large, have moved to large-scale, high-volume production. Larger operations and more consolidated systems require a smaller number of large-scale meat processors. In contrast, a local or regionally focused food system requires a larger number of small-scale meat processors.

Local Meat Industry in the Pioneer Valley

The meat industry in the Pioneer Valley is characterized by a cluster of at least 49 small commercial farms⁹ in Franklin, Hampshire, and Hampden counties, each with an average pasture

⁶ CSA, or Community-Supported Agriculture, is a model in which producers sell a certain number of shares of their annual produce in advance of the growing season to consumers, and, therefore, split the risks and rewards of the harvest between themselves and shareholder members.

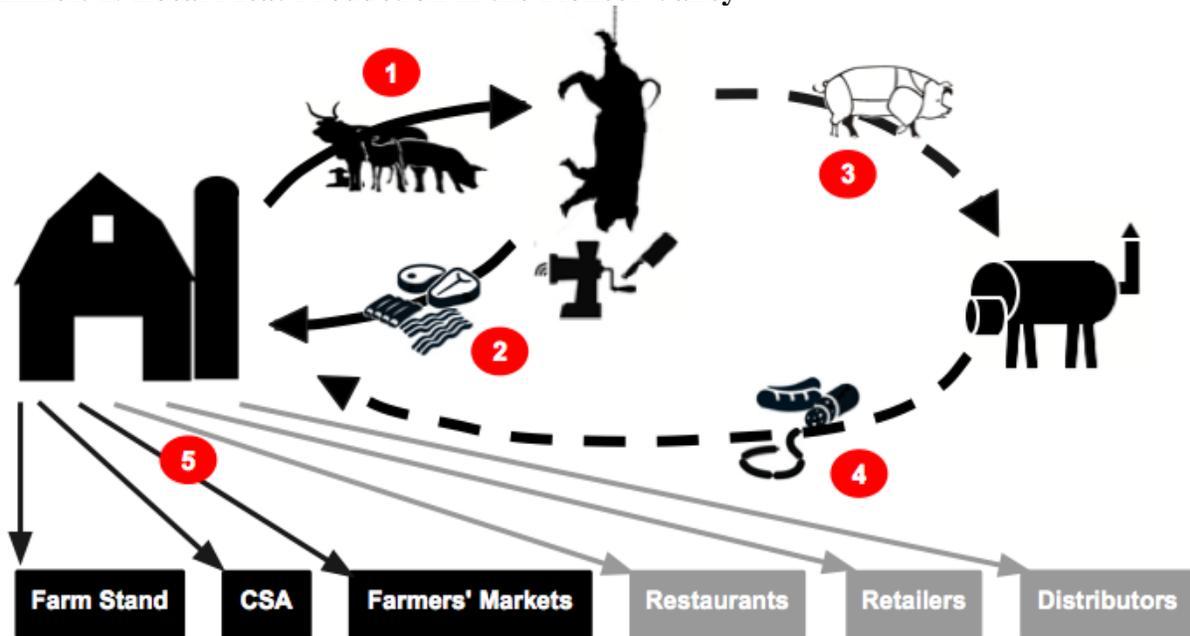
⁷ "Animal Products." USDA Economic Research Service 17 Jul. 2012. Web. 27 Apr. 2013.

⁸ Food & Water Watch. *Where's the Local Beef?* Washington: 2009.

⁹ The largest reported herd of cattle in this study is 100 head and the largest herd of hogs is 60 head.

area of 20 acres,¹⁰ with meat processors located outside the periphery. The most commonly raised livestock animals in this area are beef, sheep and lambs, hogs, and goats. Exhibit 1 depicts the typical process by which livestock is converted to meat and sold to end consumers in this area.

Exhibit 1: Local Meat Production in the Pioneer Valley



1) Producer delivers live animals to slaughter and processing facility. 2) Producer retrieves meat products from slaughter facility. 3) Some producers opt to bring their primal cuts of meat to a second processing facility in the region that is able to make a greater variety of value-added products than the slaughter facility. 4) Producers opting to use a second processing facility retrieve meat products. 5) Producer sells meat direct to consumers at the farm stand, CSA, and/or farmers' markets. Many producers also opt to sell meat wholesale to local restaurants, grocery retailers, and distributors.

In Massachusetts, producers must have their livestock slaughtered and processed in a USDA inspected facility if they wish to sell the meat. There are only two USDA inspected slaughter facilities in Massachusetts—Adams Farm in Athol and Blood Farm in Groton. There are currently no USDA inspected meat processing facilities located in Franklin, Hampshire, or Hampden counties. Adams Farm, located in Worcester County, is the most popular facility among commercial meat producers in the Pioneer Valley. Adams and Blood Farm both provide cutting and other value-added processing services. A few custom slaughter facilities also exist in Massachusetts, although they are not able to kill and process livestock for resale, and therefore serve commercial meat producers, since the facilities are not inspected by the USDA.

¹⁰ United States. Department of Agriculture. *USDA Agricultural Census, 2007: Massachusetts Farms, Land in Farms, Value of Land and Buildings, and Land Use*. Washington: 2008.

A greater variety of slaughter and processing options are available in states surrounding Massachusetts, within a few hours' drive of the cluster of livestock farms in the Pioneer Valley. The closest slaughter facilities to the area are Hilltown Pork in Canaan, New York and Westminster Meats in Westminster Station, Vermont. One producer in this study reported transporting his animals almost 100 miles away to Locust Grove Farm in Argyle, New York for processing.

In addition to slaughter facilities, there are several value-added processing options located outside of Massachusetts. These facilities do not provide slaughter services, but they will further process quarters and primal cuts. Many of these facilities are capable of making smaller batches of highly differentiated and even custom meat products for producers' private labels, which draws some business from producers in the Pioneer Valley. One example of a value-added processing facility that is used by producers in western Massachusetts is Vermont and Green Mountain Smokehouse in Windsor, Vermont. For a map of the commercial meat processing industry described above and a list of key members of this value chain, please refer to Appendix II of this report.

After slaughter and processing, producers retrieve their meat, which is typically frozen, from the processing facility and bring it to market. Larger producers in the Pioneer Valley sell a portion of their meat wholesale to local restaurants and retail markets. All producers involved in this study earn some revenue from retail sales at their own farms. Many also sell their meat directly to consumers at farmers' markets, as well as to their CSA members.

Regulatory Environment for the Meat Industry

Meat is a highly regulated product in the U.S. out of concern for consumer safety, with production and sale of meat governed at the national level by the USDA. Some states, New Hampshire and Vermont for example, have their own regulations that govern in-state meat production and sales, the standards of which must be at least as high as those of the USDA. Although Massachusetts does not yet have its own body of regulations governing the production and sale of meat products, there is currently legislation pending to establish a state meat inspection program.¹¹ Additionally, under the USDA's new Cooperative Interstate Shipment Program, if a state inspection program was implemented in Massachusetts, select meat processors with less than 25 employees could apply for the ability to ship products they process across state lines, enhancing the economic viability of any new, small-scale slaughter and processing facilities launched in the area.

¹¹ "Bill H.755: An Act to strengthen the Massachusetts agricultural infrastructure relative to meat and poultry production and processing." *The 118th General Court of The Commonwealth of Massachusetts*. Web. 29 May 2013. <http://www.malegislature.gov/Bills/188/House/H755>

It is important for any party aspiring to establish a meat processing business to fully understand the USDA's requirements for processing facility infrastructure, documentation, inspection, transportation, and labeling. Any processing business will require an approved facility, Hazard Analysis and Critical Control Point (HACCP) and Sanitation and Standard Operating Procedures (SSOP), and will be monitored by a USDA Inspector.

There are two exemptions under which meat can be processed in a non-USDA inspected facility: the retail exemption and the custom processing exemption.

Retail Exemption

The USDA FSIS Retail Exemption allows retailers, such as grocery stores, markets, and butcher shops, to engage in the processing and sale of any type of meat product, without mandatory USDA inspection, so long as the majority of these products are sold directly to household consumers. Essentially, the Retail Exemption exists for sales that are primarily made to household consumers, and the facility cannot sell products to other retailers for subsequent sales to consumers. A local producer, who might wish to have a butcher shop prepare various meat cuts and products for them in order to then sell those products at a local farmers' market, is categorized as a retailer. Therefore, the meat products that they sell must be inspected by the USDA, and could not be produced by another business under the Retail Exemption.

Custom Exemption

The Custom Exemption allows for the slaughter and processing of livestock without USDA inspection so long as those animals are consumed solely by the owner's household and non-paying guests. Livestock processed under the Custom Exemption must be labeled as "Not for Sale" and cannot be resold. Therefore, this exemption is not able to serve the processing needs of a commercial meat producer.

Research Findings

A total of 30 individuals involved with the meat processing industry in western Massachusetts and individuals who have developed robust local meat economies in other parts of the country were interviewed in order to produce this report. These interviewees are livestock producers, meat processors, retailers, restaurant owners, distributors, and food policy experts. These one-on-one interviews were conducted either in person or over the phone in order to gather in-depth information about the meat processing industry in the area, much of which would likely not have been communicated through a survey.

After completing this round of in-depth interviews, the investigators facilitated a focus group of livestock producers from the Pioneer Valley in order to clearly identify the most critical issues facing these stakeholders and rank them in order of importance. These rankings are based on the

severity of each issue's impact on producers' businesses, as reported by the producers themselves.

Through primary research, six major issues, which are obstacles to the production and sale of local meat in the Pioneer Valley, were identified:

1. Meat producers lack access to business and technical assistance.
2. There is an imbalance of power in the producer-processor relationship.
3. Producers spend a great deal of time and money driving between their farms, processing facilities of choice, and customers.
4. Local processors currently offer a relatively limited variety of smoked and cured meat products.
5. Processors have difficulty attracting and retaining the highly skilled employees required for providing consistent service.
6. There is a lack of data available regarding the demand and price elasticity of local meat products.

Each of these issues is described in detail below.

Business and Technical Assistance

It was revealed in the nominal focus group of Pioneer Valley meat producers that there is a need for readily available and affordable business assistance. This need is widespread, according to interviews with agricultural experts^{12, 13} and a recent report from the Niche Meat Processor Assistance Network.¹⁴ Specific needs, in order of importance, include:

- Inventory management systems and training on how to use them
- Demand forecasting in order to request valued cuts and products from processors
- Product pricing based on demand
- Selection of marketing channels and acquisition of new customers
- Basic information sharing resources among producers
- Customer education (e.g. how to cook grass-fed beef)

According to the producers in the focus group, this collection of issues has the greatest impact on individual farm businesses. Additional issues in this category, though not as critical as the six listed above, include the prohibitive cost of having a high-quality display in a farm's retail space, as well as identifying a market for non-edible parts of animals such as the hide and horns.

¹² Bardot Lewis, Chelsea. Personal interview. 20 Feb. 2013

¹³ Hashley, Jennifer. Personal interview. 15 Feb. 2013

¹⁴ Gwin, Lauren, and Arion Thiboumery. *From Convenience to Commitment: Securing the Long-Term Viability of Local Meat and Poultry Processing*. Oregon State University, Iowa State University, and Niche Meat Processor Assistance Network. Corvallis, Oregon: Mar. 2013

Greater access to technical advice related to production and processing is also a necessity for meat producers in the Pioneer Valley, especially for those who are new to commercial livestock farming. Examples of technical assistance may include understanding how to use a processor's cut sheet, the options available and inputs needed for various value-added products, and guidance relating to accessing certain claims and certifications, like grass-fed and organic.

Additionally, due to the seasonal nature of harvesting meat, it can be very difficult for meat producers to schedule slots for their animals at their processor of choice between September and December—the busiest time of year for meat processing. Most veteran producers try to schedule these appointments up to a year in advance in order to ensure that their animals will be accommodated. Often, they also try to bring animals to slaughter consistently throughout the year in order to reduce the strain on processors and smooth their own inventory. Scheduling slaughter and processing, however, can be a frustrating and costly experience for newer producers who are unaware of the need for advanced notice, sometimes requiring them to house and feed their animals for unanticipated periods of time. Recent regional efforts to educate producers in year-round finishing methods in order to alleviate slaughterhouse bottlenecks should be encouraged and further evaluated.

Some additional, though less critical, examples of technical advice that would be helpful to producers in the Pioneer Valley include the following:

- Which cuts and products can be made from each animal
- How much meat an animal will yield, based on its live weight, how it was raised, and the cuts ordered
- How to best use a cut sheet in order to communicate *exactly* what a processor should do with each animal

Recommendations for improving meat producers' access to such information and services appear in the "Establish a Trade Association for Producers and Processors" section of this report.

Buyer Power in Producer-Processor Relationships

Several pieces of information that producers and processors have shared indicate a lack of individual buyer power in the producer-processor relationship. Processors provide services to producers for a fee; there is no transfer of title of the goods. There are hundreds of producers for each processor. Furthermore, processors must engage in some wholesale trade in order to stay in business year-round. Therefore, each individual producer represents a small percent of each processor's business. Adams Farm provides processing services to over 100 individual farms, most of which are located in western Massachusetts. However, these western Massachusetts farms collectively represent only 14% of Adams Farm's total business.¹⁵

¹⁵ Maltby, Ed. Personal interview. 26, Feb. 2013

Overall, meat processors were found to be willing to invest in equipment and new recipes to meet their customers' demands for new products, but these processors require commitment from their customers of a certain volume and frequency in order to make these investments. For example, a processor may require a producer to commit to paying for 500 pounds of a certain custom-recipe sausage to be processed each month for the next year in order to provide assurance that the costs incurred to update the respective HACCP plan, buy ingredients, and, possibly, purchase a new piece of equipment will be recovered. For smaller producers, it may be difficult to meet these minimum volume commitments. If several smaller producers, however, could aggregate their purchasing power to consolidate the demand for new products and meet that minimum volume requirement as a group, processors could more easily make those requested investments.

While the producers interviewed for this report had mostly positive things to say about the processors with whom they choose to do business, a few first-hand accounts of missing or swapped meat, misinterpreted orders, mismanagement of animals, and scheduling mistakes on behalf of processors did surface. These 'horror stories' have a tendency to propagate throughout the agricultural community and become the common perception of what a producer-processor relationship may be like. While this might not be explicitly indicative of an imbalance of power, this sentiment does suggest that producers feel vulnerable in their relationships with processors. Furthermore, these complaints are not particular to one single processor—they reflect attitudes toward this necessary service at large. Meanwhile processors rely upon producers for the business that they bring, but often find it difficult to communicate the vital importance of having a year round, consistent supply of animals coming for slaughter. Recommendations for leveling the playing field and improving the overall relationships between producers and processors also appear in the "Establish a Trade Association for Producers and Processors" section of this report.

Travel and Logistics

The mean round-trip distance traveled by a producer in the Pioneer Valley to the processing facility is roughly 73.8 miles, with travel time totaling over an hour and fifty minutes.¹⁶ This represents an additional expense of roughly \$87 per trip¹⁷ to producers in terms of vehicle and gasoline usage, which results in an even higher cost of meat products, as well as the large opportunity cost of spending this time away from on-farm activities.

Furthermore, there are currently no affordable logistics services that producers in the Pioneer Valley could hire to deliver their meat products from the processing facility to their farms or to

¹⁶ Calculated by using the average distances traveled by all known commercial red-meat producers in the Pioneer Valley to the processing facilities that they use most often. If this preference was unknown, the distance was calculated by using the closest processing facility to the producer.

¹⁷ Based on the federal mileage reimbursement rate of \$0.565 and a wage of \$15 per hour for driving and load time.

their wholesale customers. Adams Farm does offer delivery services to its customers, but at a relatively prohibitive price point (i.e. \$1.75 per mile). While some producers occasionally coordinate their deliveries, loading animals from several farms into one trailer to bring them to the processing facility, and sharing the cost of renting a refrigerated truck to retrieve all their meat from the processor in a single trip, this is not a common practice. None of the processing facilities commonly used by producers in the Pioneer Valley offer affordable delivery services, nor are there any third-party logistics services that specialize in meat delivery.

The producers interviewed in this study are enthusiastic about the idea of using a delivery service to transport their meat from the processing facility back to their farms, as long as an appropriate inventory tracking system were used to ensure that all of their expected meat arrives safely back at the farm. However, they would not likely be willing to outsource the functions of delivering live animals to the processing facility, or delivering their meat products to wholesale customers. The live animal delivery process is often a delicate and an emotional one for producers, and it would be extremely difficult to find a qualified individual whom many producers would entrust with this task. Meanwhile, producers often use their delivery trips to local restaurants and grocery stores as an opportunity to maintain their relationships with these customers, make additional sales, and update them on news from the farm, which, in turn, benefits customers' marketing efforts. For these reasons, most producers would be expected to continue managing these two activities themselves, even if third-party services were available.

Recommendations for improving local logistics services appear in the "Form a Logistics Service" section of this report.

Variety of Meat Products

All but one of the producers interviewed support CISA's findings from its 2008 study on demand for meat-processing services,¹⁸ in indicating the need for a greater variety of meat-processing options in the local area. The alternative opinion came from a producer who raises only beef cattle, the majority of which are sold wholesale, either whole or in halves or quarters, to restaurants and grocery stores in the Pioneer Valley. Thus, this particular producer has little need for a broader selection of products in his current business model.

Interviewees also noted that since most producers in this area have their meat processed at the same facility, identical recipes are used to make everyone's products. For example, Adams Farm, the processing facility of choice for five of the seven producers interviewed in this study, uses the same sweet Italian sausage recipe for all of its customers. This makes it very difficult for producers who use this processing facility to differentiate their meat products from one another.

¹⁸ Community Involved in Sustaining Agriculture. *Demand Study: Assessing volume and attributes of farmer demand for slaughter and meat processing services in Massachusetts*. Massachusetts: Jun. 2008

They find that their customers, who pay a premium for these local products over what they might spend on conventionally raised meat at the grocery store, want to try new and unique products. Producers who want to meet this consumer demand must then travel from 150 to over 400 miles round-trip on average to regional USDA inspected facilities, which offer a greater variety of recipes. These trips drive the cost of the already expensive products even higher, which further impedes competition in this industry.

In addition to custom recipes for standard products, such as bacon and sausage, the producers who were interviewed also want a greater variety in the types of products that can be made with their meat in this area. Some examples of such products that producers would like to make in order to satisfy customer demand include dry-aged products (e.g. prosciutto and salami), nitrate-free smoked meats, and cased (i.e. linked) sausage.

Finally, locally produced meat in the Pioneer Valley sold through retail is almost always frozen. Fresh meat is only available wholesale to customers wishing to purchase a slaughtered animal whole, by the side, or by the quarter. Producers would like to meet their customers' demand and sell fresh meat through their retail stands and at farmers' markets, but the current logistics system, as described above, is not sophisticated enough to support this activity. Producers believe that demand for fresh local meat is too elastic to support the cost of making multiple trips to the processor to retrieve fresh meat before it expires. This too, demonstrates a need for additional logistics services in the area.

Recommendations to address the lack of variety in meat products that can be made locally appear in the "Recommendations to Address Challenges in the Local Meat Industry" section of this report.

Talent Development and Retention

The processors interviewed in this study agree that employee turnover and training is the biggest obstacle to providing their ideal level of customer service. The annual employee turnover rate in the American meat processing industry overall is over 100%, according to a 2005 report by the United States Government Accountability Office.¹⁹ While the turnover rate is much lower at smaller, family-owned processing facilities in this region, turnover is still roughly 10-15% annually,^{20, 21} and remains a significant roadblock to maintaining business continuity.

Furthermore, these processors note that their employees have little to no previous experience in the industry, and that the owners must train all of their employees themselves.

¹⁹ United States. Government Accountability Office. *Safety in the Meat and Poultry Industry, while Improving, Could Be Further Strengthened*. Washington: Jan. 2005

²⁰ Maltby, Ed. Personal interview. 26 Feb. 2013

²¹ Beckwith, Richard. Personal interview. 19 Feb. 2013

Data on Demand for Local Meat

While all resources used in this study claim that the demand for locally produced food is increasing consistently with no ceiling in sight, and that livestock farming is becoming more popular in the Pioneer Valley, there is still a lack of quantitative data to support these claims.

Potential Alternatives to Address Challenges

A variety of different types of businesses and organizations were examined as potential alternatives to improve the options for meat processing in the Pioneer Valley. Examples of such options are discussed below within the major categories of Meat Processors, Trade Associations, or Multi-Producer Marketing and Branding.

Meat Processors

Slaughterhouses

Slaughterhouses historically focused their business upon the slaughter and cutting of animals into primals, which would then be further processed by distributors, butchers, or supermarkets for retail sale. As discussed previously, with the growth of the local food movement, demand from meat producers has expanded significantly for attractive packaging, retail-cutting services, and the creation of other value-added products, especially types of charcuterie. Today's slaughterhouses, however, still largely offer only limited post-slaughter processing options, leaving producers in search of secondary processors or stuck with a lack of product diversity.

Butcher Shops

Classic Butcher Shop

In the past, local butcher shops fulfilled any meat-processing needs for consumers beyond what was provided at slaughterhouses. Today, with the widespread occurrence of supermarkets, and other market pressures for consolidation in the food industry, the traditional model of a classic butcher shop has diminished greatly. Instead of receiving primals and breaking them down into a wide assortment of retail cuts, today's butcher shops, mostly existing in supermarkets, generally receive 'boxed beef,' or the smaller subprimal cuts, such as tenderloins, which have already been cut from the larger primal cuts, like the loin, prior to delivery. The demand for skilled butchers, and thus the availability of these skills, has greatly diminished in light of these changes. Some butcher shops, such as Pekarski's in South Deerfield, Massachusetts, however, still prepare a variety of meat cuts and products, though these shops generally sell their products under the USDA FSIS Retail Exemption, without USDA inspection. Under the Retail Exemption, these butchers are not able to provide their services to producers who would like to have their meat processed for their own retail sale, since the Retail Exemption prohibits the manufacture of products for other retailers.

Mixed-Service Butcher Shop

Another example of a retail butcher shop is The Meat Market in Great Barrington, Massachusetts. As the classic model for a butcher shop typically provides low margins to owners, The Meat Market has built a successful business by also incorporating a restaurant, catering services, and artisan charcuterie. Only through combining these multiple streams of revenue is the business truly viable. Again, as with Pekarski's, The Meat Market currently operates under the Retail Exemption, and could not process meat for producers wishing to retail themselves.

Commercial Butcher Shop

An example of a larger butcher shop that does offer USDA inspected meat processing for producers is Westerly Packing in Westerly, Rhode Island. Similar to The Meat Market, Westerly Packing has a multi-stream revenue model. In addition to its retail butcher shop, the company also operates a large distribution service for restaurants, delivering meat and other food products, condiments, and spices, as well as paper goods and cleaning products. Again, it is through the use of multiple revenue streams that the business has been able to grow and be quite successful. Fee-for-service commercial meat processing for local producers makes up a small portion of its total business, but is desirable because the business must already be USDA inspected in order to operate its distribution service. Westerly Packing is the exclusive butcher for the Rhode Island Livestock Association, which is discussed below.

Vermont Smoke and Cure in Hinesburg, Vermont is another model for a hybrid USDA inspected meat processor and butcher shop. The company produces its own line of sausages, bacons, hams, and other smoked meats, which are distributed throughout New England to a variety of natural-foods stores and supermarkets. While it is a small part of their business, Vermont Smoke and Cure also offers fee-for-service meat processing to individual meat producers, largely resulting from the company's desire to support the local meat industry. Although some meat producers in Massachusetts have used Vermont Smoke and Cure's processing services, the facility is located almost 200 miles away from the Pioneer Valley, making it cost-prohibitive for the majority of individual local producers to access.

Supermarkets

The decline in stand-alone butcher shops coincided with the rise of supermarkets. Most supermarkets operate some type of retail butcher shop within their store. As discussed before, these butcher shops largely receive pre-cut meat, and, therefore, have little need to employ skilled butchers, greatly restricting the availability of these skillsets in the local meat industries that need them. Because supermarkets sell directly to household consumers, they typically operate under the USDA FSIS Retail Exemption, and, therefore, are unable to provide processing services to commercial producers.

Restaurants

Often, higher-end restaurants will purchase whole animals or primals in order to create their own meat cuts and products. As with classic butcher shops and supermarkets, most restaurants are not USDA inspected, and, therefore, could not process meat for producers to then resell. At a certain scale, some restaurants may consider setting up their own USDA inspected processing facilities in order to distribute the meat products that they currently create for diners through other wholesale channels to household consumers, as well as hotels and restaurants. The Farmhouse Group in Burlington, Vermont is an example of such a model, as they currently operate three restaurants, and will soon open a USDA inspected meat processing facility, as well as an associated butcher shop and delicatessen. In this model, meat processing is primarily undertaken as an extension of the restaurant's own business and brand. As with Vermont Smoke and Cure, it is possible that a restaurant might make its processing services available to individual high-volume producers at premium prices, in order to use up any excess capacity available in their USDA inspected facilities.

Commercial Kitchens and Food Hubs

Opening recently in January 2012, the Mad River Food Hub in Waitsfield, Vermont is an example of a commercial kitchen that has been established to serve both entrepreneurs making vegetable based products as well as producers who wish to create value-added meat products. Mad River is USDA inspected, and offers their patrons two meat processing rooms, as well as a large amount of refrigerated and freezer space. The processing rooms include the equipment necessary to cut, grind, and smoke meat, as well as create other value-added products, such as linked sausages. Mad River is also in the process of adding new equipment so that individuals can create dry-cured meat products, like salumi. Individuals can rent processing space by the day and storage space by the month in order to process meat or other products themselves. Mad River's staff is trained in butchery, and can assist those new to commercial meat processing with getting started. In the past, Mad River has offered a fee-for-service co-packing option, making food products for producers, instead of renting them space in which to process their own products. Since the mission of Mad River is intended to provide kitchen, storage, and distribution services to enable entrepreneurs to launch new businesses, and not to manufacture products for them, the company is planning to spin off co-packing to a non-staff individual who will provide these services as a separate business.

A commercial kitchen in Greenfield, Massachusetts has also been in operation for several years. The western Massachusetts Food Processing Center, part of Franklin County Community Development Corporation, is currently focused on processing non-meat products, and is not USDA inspected. This facility, however, has significant promise in helping to provide low-volume producers with expanded options for value-added products, as described in this report's "Establish Fee-for-Service Meat Processing at a Local Commercial Kitchen" section.

Trade Associations

The Rhode Island Raised Livestock Association (RIRLA) currently has a membership base of over 120 regional producers, from Rhode Island and neighboring states, plus other stakeholders in the local food system.²² RIRLA was founded in 2006 by a group of local producers to accomplish the following:

- Secure access to USDA-inspected meat slaughter and processing services for producers in Rhode Island, and
- Better coordinate business and policy activities of local producers, including transportation, distribution, and advocacy for the small-scale meat industry

Through aggregating their demand for local meat processing services, Rhode Island livestock producers gained access to USDA inspected livestock slaughtering services at Rhode Island Beef & Veal in Johnston, Rhode Island and cutting and processing services at Westerly Meat Packing Company in Westerly, Rhode Island.

Prior to the establishment of RIRLA, Rhode Island's small producers could not, as individuals, provide enough consistent demand to do business with Rhode Island Beef & Veal, which primarily services and buys livestock from larger regional meat producers. Today, RIRLA provides small Rhode Island producers access to slaughter at Rhode Island Beef & Veal. Collectively, they represent an estimated 1-5% of Rhode Island Beef & Veal's overall business. Once the livestock is slaughtered, Rhode Island Beef & Veal drives the carcasses approximately 50 miles from Johnston to Westerly for processing. After the meat is cut and packaged at Westerly Meat Packing Company, producers must then drive to Westerly to pick it up.

Another regional association, the Northeast Livestock Processing Service Company (NELPSC), is based in the Hudson-Mohawk region of New York. Their mission is to make custom processing stress-free for producer members, while also increasing the profitability of northeast family livestock farms by assisting with marketing. NELSPC has 139 members from 24 counties, and works with eleven different livestock processors.²³ Specifically, NELPSC provides consulting services, especially to those new to livestock farming, in areas such as slaughter scheduling, guidance on cuts and processing logistics, and issue resolution. The organization also helps its members fill slaughterhouse slots, or share product as needed between producers. Meanwhile, NELPSC has sought to create new markets for its members' products. This has primarily taken the form of serving as an approved vendor to a distributor of meat products for institutional accounts, primarily regional universities. Since the requirements to become an approved vendor are beyond the capacity of most individual producers, NELPSC has created an entirely new market for its members' livestock, which they could not access previously. The

²² Quinn, Heidi. Personal interview. 4 Mar. 2013

²³ Harris, Kathleen. Personal interview. 20 Feb. 2013

company pays a premium price to their members for the livestock, and coordinates all transportation to and from local processing facilities to the purchasing institutions. Similar strategies involving aggregation, distribution, and institutional markets may be applicable to western Massachusetts, although the number and size of farms, the price of land and some costs of production may differ in ways that impact price points that allow for farm economic viability.

Multi-Producer Marketing and Branding

Another model that has been successful in strengthening local meat industries is that of a multi-producer brand. Local producers operate as a single unified brand, all raising their livestock under mutually agreed upon conditions. Cooperatively owned multi-producer brands include Painted Hills Natural Beef in Oregon, Country Natural Beef throughout the West Coast, and Good Natured Family Farms in Missouri. In Massachusetts, Northeast Family Farms purchases livestock raised throughout New England to sell under its brand. Meanwhile, Hardwick Beef has created a strong brand of grass-fed beef throughout New England by working with regional producers. Black River Produce similarly sources locally raised meats for its distribution service, and has recently opened a USDA inspected meat-processing facility to increase their capacity and control over when and how the meat they sell is processed. Larger brands, like Black River Produce, are both better able to satisfy demand for a consistent supply of locally sourced meat, and to generate sufficient volume to profitably manufacture value-added products. For local meat producers, selling livestock to these multi-producer brands provides much lower margins, but allows a producer to devote less time to processing, marketing, and sales, and therefore save on numerous opportunity costs.

Evaluation of Alternatives

Criteria Used

In the consideration of all options to improve the local meat infrastructure, the following criteria were used in a multi-goal analysis of all alternatives:

Issue Relevance

To what extent the alternative addresses the challenges for producers described in the report's findings from primary research, such as the lack of options for processed meat products, imbalance of power in producer-processor relationships, high transportation costs, and so on.

In the alternatives decision matrix shown in Exhibit 2 below, alternatives are marked with a "+" sign for each of the following areas the option is likely to improve:

- Business and Technical Assistance
- Buyer Power in Producer-Processor Relationships
- Travel and Logistics
- Variety of Meat Products

Startup Costs

How much would it cost to launch this new venture? Initial capital expenditures are included as the primary driver of this criteria, with additional consideration for the operational effort required to sustain the organization and an assessment of the risk carried by the alternative in terms of its effect on entrepreneurship.

In the alternatives matrix, alternatives are marked with one "-" sign for minimal capital outlays, operational effort, and risk; two signs if moderate; and three signs if the projected costs are major.

Time to Launch

How long would it take for this alternative to become operational, and begin to address the challenges faced by local producers?

In the alternatives matrix, alternatives are marked with one "-" sign if the expected time to launch is less than six months, two signs if less than one year, or three signs if greater than one year.

Impact on Existing Local Meat Processors

To what extent would the alternative affect existing commercial meat-processing facilities? For instance, an alternative that would compete for the customers of an existing local meat processor

would be rated negatively, whereas an option that would support the business interests of a local processor by strengthening commitments from producers would be rated positively.

In the alternatives matrix, alternatives are marked with either “+” or “-” signs, depending on whether the option is expected to help or harm existing meat processors. One sign is used if the impact is assumed minimal, two signs if moderate, and three signs if major. As seen on the next page in Exhibit 2, all alternatives confronted during the research for this report were judged by these criteria.

Exhibit 2: Alternatives Decision Matrix

<i>Alternative</i>	<i>Issue Relevance</i>	<i>Startup Costs</i>	<i>Impact on Existing Local Meat Processors</i>	<i>Time to Launch</i>
Trade Association for Producers and Processors	+++	--	+	--
Transportation and Logistics Service	+++	-	-	-
Low-Volume, Stand-Alone Commercial Meat Processing Facility	++	---	-	---
Fee-for-Service Meat Processing at a Local Commercial Kitchen	++	---	-	--
Integration of Processing Activities into Producer's Own Business	++	---	-	---
Mobile Slaughter Unit for Red Meat	+	---	-	---
New High-Volume Commercial Slaughter and Processing Facility	+++	---	---	---
Fee-for-Service Commercial Processing at an Existing Retail Butcher	++	---	--	--

The latter four alternatives presented in Exhibit 2 above scored relatively low on these criteria with respect to the first four items on this list. For this reason, they have not been explored further in this study. A more detailed explanation of why these four alternatives are not currently the most beneficial options in the Pioneer Valley will follow in the next section of this report, titled “Alternatives Not Explored Further.”

Alternatives Not Explored Further

Integration of Processing Activities into Producer's Own Business

Although a producer could conceivably integrate a USDA inspected processing operation into their existing business of raising livestock and marketing meat products, this option is not particularly common for a variety of reasons.

First, the establishment of a processing facility requires significant capital investment, primarily for the building and equipment. Such expenditures would generally require a producer to recoup those costs either through expanding their own business to leverage the full capacity of such a facility, or offering fee-for-service custom or commercial processing to other producers and homesteaders. As local producers are typically of a scale far below what would be required to operate an exclusive facility, the prior option does not seem feasible in this context. Additionally, while some processors do manage their own herds, they are often used to provide income in periods of low demand for their processing services, and do not make up a major revenue stream for those operations. Ultimately, the businesses of raising and processing animals are very different, with few opportunities for synergy by combining these types of businesses on just a small scale.

Further, state and USDA regulations require both custom and commercial slaughter and processing to be conducted in an approved facility. Massachusetts does not have a state meat inspection program, so any producer wishing to sell meat products to consumers must have their animals processed in an USDA inspected facility. Alternatively, a producer may sell live animals to one or more household consumers, and then facilitate the custom processing of those for the consumers under a USDA FSIS Custom Exemption. In Massachusetts, this processing must occur in either a custom or commercial slaughterhouse, and not on a producer's farm, which would not meet the state's requirements to prevent the adulteration of food. Massachusetts requires that custom processors receive periodic sanitation and recordkeeping inspections from the Department of Public Health.²⁴ Producers in some neighboring states, such as Vermont and New Hampshire, however, may, through varying state regulations, slaughter and process live animals sold to customers on their farms. Some states always require the farm to use a custom processing facility, while others allow a small number of animals to be processed outdoors, outside of a facility. All custom and commercial slaughtering in Massachusetts must be done in an approved facility licensed by the Massachusetts Department of Public Health.

²⁴ Community Involved in Sustaining Agriculture. *Overview of Slaughter Options in Massachusetts: Meat and Poultry Processor Definitions*. Massachusetts: Jun. 2010

Mobile Slaughter Unit for Red Meat

Mobile processing units have received increased attention in recent years as an ultra-local solution to the slaughter and processing challenges of small-scale producers.^{25,26} The USDA FSIS is interested in finding solutions that work for smaller producers, and leveraged the flexibility provided through HACCP regulations to make inspection possible for new types of slaughter and processing facilities. Still, the establishment of a mobile processing unit for red meat in western Massachusetts was precluded as an alternative for several reasons.

Primarily, mobile processing units facilitate on-farm slaughter, and not usually on-farm processing. Most models require the use of a physical facility where the carcasses are transported to for aging, cutting, processing, and packaging. For many of the challenges faced by local producers, such as access to additional processing options and improved quality and consistency, this model does not seem to provide any improvements. If anything, the use of a mobile unit for slaughtering could detract from the business of local processors who already provide these services. Also, many desired value-added products must be cured, and often smoked, which generally require the use of specialized equipment and facilities for extended periods of time.

Secondly, anecdotes of severe under-usage are prevalent surrounding a recent venture to create a mobile poultry-processing unit in Massachusetts. Therefore, the local meat community may currently be more skeptical of supporting this type of processing solution, especially with the high switching costs incurred by producers when moving from one processor to another.

Lastly, mobile processing units tend to be financed through a combination of private donations, cooperative investment, and rural development grants. The need for many of these facilities is often underscored by a true lack of local slaughter and processing options, brought on by the closure of a valued local facility, and not the need for a solution that provides more processing options and convenience, as required in western Massachusetts. Although the concerns of local producers around processing may seriously affect their business, in general they relate to a desire of the producer to diversify their product lines or expand their business, not simply stay in business, and thus may not demand the same type of community investment as seen in other situations.

New High-Volume Commercial Slaughter and Processing Facility

While rumors of dissatisfaction abound, no significant complaints about local slaughter facilities were voiced by the Pioneer Valley livestock producers interviewed in this study. In fact, one local processor, Adams Farm, has a new, state-of-the-art, and high-welfare slaughter facility,

²⁵ Thompson, Stephen. "Going Mobile: Co-ops operate traveling slaughter units to help grow local foods movement." *Rural Cooperatives*. Nov. 2010

²⁶ Johnson, Rachel J., Daniel L. Marti, and Lauren Gwin. USDA Economic Research Service. "Slaughter and Processing Options and Issues for Locally Sourced Meat." Jun. 2012

which is valued highly by local meat producers. Further, this particular operation is not currently operating at full capacity, and would prefer to do more work for local livestock producers, instead of expanding its religious and regional slaughter segments. Although our interviews also suggest that there is some room for improvement in customer service and consistency in quality at existing processors, the establishment of a new slaughterhouse is not the simplest route to this goal, nor does it guarantee this result.

Similarly, existing processors have expressed a desire to increase their post-slaughter processing options, including the production of new types of meat products. These processors, however, often require some assurance of future processing volume in order to warrant investment of capital into new types of equipment, and of time into the development of new product recipes and labels. Therefore, aggregating demand from local producers for new processing services in order to reach the necessary volume thresholds is preferable to launching a new facility, which would likely require the same commitments. Such aggregation of demand and group-level communication with local processors could be facilitated through the activities of a new association for local meat producers as described in the “Establish a Trade Association for Producers and Processors” section of this report. In this report, post-slaughter processing for individual producers in amounts below the thresholds required by local processors are designated as ‘low-volume’ processing, and in amounts above the thresholds as ‘high-volume’ processing.

Fee-for-Service Commercial Processing at an Existing Retail Butcher

Originally, the alternative of adding processing services at a local butcher shop was considered as an option. This alternative was attractive for many reasons. First, it could add an additional revenue stream to an existing retail butcher shop. Also, this option would not require the establishment of a new meat-processing facility, and would leverage the expertise of a veteran meat cutter.

However, as discussed previously, in order to process meat products for producers to then sell, the butcher shop would need to become USDA inspected. Unless the volume of business available was significant, or the butcher shop had an additional reason to become USDA inspected (such as a desire to sell its branded products through wholesale distribution channels), this is unlikely.

Recommendations to Address Challenges in the Local Meat Industry

Recommendation 1: Establish a Trade Association for Producers and Processors

Introduction

Achieving success as a small-scale meat producer requires a strong relationship with a local meat processor. The local meat industry is without many parallels, as the goods (i.e. livestock) must be delivered to a service provider (i.e. processor), then retrieved as processed goods (i.e. meat cuts and products), and next moved down the value chain to consumers. USDA regulations, plus significant capital investments needed for facilities and equipment, make it practically impossible for small producers to incorporate processing into their own businesses. Furthermore, the obvious comparison consumers make between the prices of local and commodity meats make it difficult for producers and processors to grow their margins, even in a market for niche products. Therefore, it is essential for producers and processors to work together to ensure that both parties help each other meet their business goals to the best of their respective abilities.

From a producer's perspective, an ideal processor would always be available to accept animals that are ready for slaughter. Maybe the processor would come to the farm to pick them up, or even slaughter them on-farm and bring the carcasses back to a central location for aging and processing. The processing options would be many, consistent, and of the highest quality. Service fees would be as minimal as possible, and above all, fair. Finally, the product, fresh or frozen by the producer's choice, might be returned to the farm in a refrigerated truck, separated into individual boxes and sorted in accordance with a producer's inventory system. There would be no doubt that the products delivered were made from the producer's livestock or that any products might be missing. The goods would likely be accompanied by a detailed list of cuts, weights, and products delivered, maybe even with a barcode-type system for easy acceptance and transition into the producer's refrigerators or freezers.

From a processor's perspective, an ideal producer would plan their production a year in advance. There would be no surprises, and the projected amount of animals would be delivered on time, every time. Producers in the processor's region would work together to spread out their production over the year to provide smooth and regular demand for services. Certainly, level business demand would help the processor best manage its employee base in order to retain highly skilled and dedicated workers. Producers would always pick up the product as soon as it were ready, thereby reducing storage costs, and would never need to question the processor's tracking system, quality, or quantity returned. Producers would be happy to pay a margin that reflects the processor's fair profit goals, which helps it grow and maintain its operations. These contrasting ideal scenarios are summarized below in Exhibit 3.

Exhibit 3: Ideal Producer-Processor Relationship from Each Party’s Perspective

	<i>Producer Perspective</i>	<i>Processor Perspective</i>
<i>Scheduling</i>	Wants as-needed availability with the flexibility to change the date and timing of drop-off and pick-up, and the weights and number of animals at the last minute.	Wants concrete commitments, six months or more before slaughter date, with no surprises when the time comes for drop-off and pick-up.
<i>Variety</i>	Wants many options for cuts and meat products, with the ability to request custom recipes in batches of any size, to diversify their product line and grow their business.	Wants to focus on most profitable processing options, which have consistent, high levels of volume in order to cover any investments in additional equipment or approving new labels.
<i>Customer Service</i>	Wants a prompt, friendly, and dedicated partner, who is always available for consultation and discussion.	Wants customers who fulfill their commitments, including scheduling and payment, with no complaints along the way.

For most local meat producers, few options exist for slaughter and processing facilities. Generally, producers must travel 50 to 100 miles or more to deliver their livestock to processors, only to make the journey again in a few weeks to pick up their meat. Furthermore, producers often transport their livestock and meat products independently, and do little to minimize their costs as a regional group of producers. Some producers wish that they could pay less for processing, have more options for products that can be made with their meat, or at least see the availability and consistency of existing services improve. Other producers express frustration about the customer service they receive from processors, and vice versa. While producers may complain about how long it takes to schedule processing for their livestock, processors also criticize some producers for making last-minute changes in timing or quantity. Sometimes processors need to take on some larger, more commodity-type business, such as processing of halal or kosher products, just to keep the doors open. These situations represent inefficiencies in the fragmented value chain for local meat products that make it difficult for all members to manage their businesses.

Additionally, new livestock producers enter the local meat industry each year, with a need to learn how to best work with their regional processors. Each processor, for example, has different protocols for how producers should deliver and retrieve their products. New producers are especially burdened with learning all the complexities of their local meat processing system, namely options for meat cuts on an animal, conversions from live to finished weight, and scheduling timeframes. Producers come from a variety of backgrounds, not necessarily animal husbandry or business, and often have questions about how to most profitably break down their livestock into certain cuts and products.

Despite the fact that they do not have much time to spare and operate on small margins, small- to medium-scale processors routinely consult with producers on their production plans, and help new producers understand all their options. For example, it is not uncommon for a new producer, or even a veteran, to ask a processor to make certain cuts from the same animal that are actually mutually exclusive. The processor knows that he can make one cut or the other—not both—but the producer might not, which inevitably leads to inefficient back and forth that strains already small margins. Similarly, many producers desire new value-added products, such as specialty sausages and charcuterie, from their processors and have trouble understanding why processors often are reluctant to produce new items, often citing regulatory, legal, and capital concerns.

Perhaps it will always be the processor's responsibility to educate their customers. Or, could this task be something that a local network of producers adopts? After all, some producers understand the local processing systems quite well and could share this information with others. Competition in the local meat industry tends to be defined by camaraderie rather than rivalry; while producers are generally independent and heterogeneous in practices and products, they also understand that many livestock farms must exist to keep local small-scale processors in business. Of course, the other option is to follow the lead of the commodity meat industry and grow a farm to an industrial scale that could support its own processing facility, but this alternative seems to be the antithesis of the local food movement.

Value Proposition

For the reasons previously discussed, the establishment of an organization to support the interests of local meat producers and processors is recommended. This organization, referred to as the western Massachusetts Meat Association, or WMMA in this report, aims to provide small meat producers in western Massachusetts with a range of activities that support their businesses, while implicitly providing benefits that serve local processors as well. The vision and mission statement of WMMA could be similar to the following examples:

Vision Statement

To coalesce the shared business interests of livestock producers and processors in western Massachusetts, and to advance an efficient and thriving market for local meats.

Mission Statement

The western Massachusetts Meat Association (WMMA) provides a unified voice for local livestock producers; builds relationships among producers, processors, and consumers; advances members' common business interests, and promotes member empowerment through knowledge-sharing and other collaborative efforts.

Operational Model

WMMA would serve the interests of livestock producers in western Massachusetts through a variety of business support activities, including, but not limited to, the following:

Primary Services

- **Supply educational resources** to livestock producers on local meat processing infrastructure, expected yields and processing options, and best business practices
- **Provide consulting services** on business, technical, and regulatory challenges in order to assist members in pursuing their professional and personal goals
- **Facilitate scheduling of slaughter and processing services** for members in coordination with local and regional meat-processing facilities
- **Aggregate producers' demand and supply** to access new marketing channels, procure additional processing options, and coordinate transportation and logistics
- **Connect producers to local customers**, restaurants, wholesalers, and other institutions in order to enable a consistent, year-round supply of quality meat products

Ancillary Services

- **Develop strategic partnerships** and knowledge sharing among members through workshops, forums, newsletters, online portals, and other collaborative ventures
- **Represent members** and manage business relationships, as desired, between producers and processors in order to promote efficiencies and resolve conflicts
- **Collect data for members** on regional livestock production, demand for local meat and meat-processing services, carcass yields, and other useful business metrics

Financial Model

WMMA would operate much like a trade association and need to generate the majority of its operating budget through member contributions. Trade associations are typically funded through business memberships, donations, and value-added fee-for-service activities, such as product certifications and business consulting.

Unlike a trade association, WMMA would seek to promote member independence, in order to preserve the diversity of production and business practices that is necessary to protect the heterogeneous nature of local food systems.

Initial Funding

A combination of grants, business donations, and in-kind contributions, such as hours volunteered, will be necessary to provide the start-up capital for WMMA. Although WMMA would endeavor to become a self-sustaining organization in three to five years, external capital will be required to hire a Director who will then begin to generate revenue through securing members, providing consulting services, and facilitating access to local processors.

Expenses

Part-Time Director: The salary of a part-time Director will represent the majority of WMMA's operating budget. We project an annual salary of approximately \$25,000, commensurate with experience, for 1,000 hours of annual work, or an average of 20 hours per week. If an individual with significant experience, however, is hired into the Director role, instead of a person that would require significant on-the-job training, the \$25,000 half-time salary may be too low. Still, about half of the hours worked by the Director would be revenue-generating, spent on a mix of membership, consulting, and scheduling services, and the remainder would allow for pro-bono consulting, communications, marketing, and other activities, as defined above. Therefore, a person with more experience in consulting would be a preferable candidate for this position.

Other Expenses: A projected amount of \$5,000 to \$10,000 will be spent on general and administrative expenses related to office supplies, accounting, insurance, telephone and computer, website, postage, printing, mileage, etc. The Director will likely work remotely with a cellular phone and computer provided by WMMA, plus reimbursement for traveling to producers or processors.

WMMA should also plan to conduct a number of educational workshops and membership meetings, intended to facilitate the exchange of ideas and the development of business and technical skills, with each workshop costing \$800 to \$1,000 to design and deliver. Attendance fees will often cover a large portion of the cost of each workshop, but WMMA still expects to incur total expenses of roughly \$2,000 per year for workshops that will not be recovered by admissions.

Main Revenue Streams

Membership Dues: WMMA is expected to generate about 25% of revenues from membership dues. In contrast, membership dues for the Rhode Island Raised Livestock Association accounted for approximately 20% of the organization's operating budget in 2012.

WMMA's membership base is anticipated to grow to 100 after five years, paying average dues of almost \$100 each, as shown below in Exhibit 4. CISA currently lists 59 meat and poultry producers in its online database. We expect that these producers will join WMMA, in addition to new and existing producers who are not currently CISA members. Comparatively, Massachusetts Farm Bureau Federation, which represents both livestock and produce producers, boasts a membership base of over 6,400 families in Massachusetts, charging annual dues of \$180 for "Regular Farmer Members," \$300 for "Gold Club Members," and \$60 for non-farmers.

Exhibit 4: WMMA Memberships After Five Years of Operation

<i>Membership Class</i>	<i>Annual Dues</i>	<i>Expected Members</i>	<i>Total Dues</i>
Basic	\$65	30	\$1,950
Producer	\$100	50	\$5,000
Large Producer	\$135	20	\$2,700
Total Annual Dues			\$9,650

Basic WMMA members are either non-producers or homesteaders who process up to four animals per year. Restaurants, retailers, and other institutions that do business with WMMA producers will also be encouraged to support the organization by purchasing a basic membership. Producers are the typical WMMA member, processing five to ten animals per year. Large producers will likely process more than ten animals per year.

Producer or Large Producer membership with WMMA will include one free consulting hour per year, which will generally take the form of a planning-type meeting during which the WMMA Director assists the producer in planning livestock production for the coming year, or in starting to develop a twelve-month marketing strategy.

Membership with WMMA provides access to educational resources, such as workshops, newsletters, and member forums; access to regional production data and benchmarks; assistance in aggregating product with other members to engage higher-volume channels; as well as relationship management and conflict resolution with processors and other producers, as needed.

All WMMA members will also be able to take advantage of heavily discounted consulting services at only \$50 per hour, as well as access to ‘as-needed’ or ‘last-minute’ scheduling slots (discussed below) at local processors for a \$10 fee. WMMA members will also be able to trade their ‘as-needed’ slots with other members for a \$10 facilitation fee.

Consulting Fees: Business, technical, and regulatory assistance is expected to make up WMMA’s largest revenue stream, or roughly 45% of the organization’s operating budget. Primary research has revealed an absence and lack of awareness of the value of consulting services for livestock producers. Some regional organizations, such as Farm Credit East, already provide business-consulting activities to different types of producers, indicating local demand for these services. These engagements are often project-based, and although they can be quite valuable, total project costs can also be expensive. WMMA will offer flexible and highly available consulting services to local producers as needed. WMMA’s expertise will also be focused on the western Massachusetts meat market, with an acute awareness of local demand and strategic opportunities. Each member is anticipated to contract an average two hours of consulting per year at a total cost of just \$100.

Although many meat producers are able to operate profitably without these types services, many have also expressed a desire to learn more about how to better market, price, and advertise their products. Furthermore, some producers often struggle with understanding the most profitable way to process their animals into different cuts and value-added products. WMMA anticipates considerable demand for low-cost business support services from producers in western Massachusetts. Many of WMMA's consulting services also have the opportunity to benefit non-livestock producers, who are also expected to engage the organization for business analyses and recommendations. Additionally, consulting may take the form of the Director accompanying a producer's livestock along their route in the slaughter and processing facility, helping to assure humane handling, quality cutting and further processing, and accurate tracking and labeling.

WMMA will also assist producers and new processors in navigating the regulatory landscape of the meat industry, related to procuring labels for new meat products; creating HACCP, SSOP, and other food-safety plans; understanding facility, inspection, and equipment requirements; and more. Unlike individual businesses, which infrequently deal with challenging regulatory guidelines, WMMA's Director will consult on these matters routinely, enabling the efficient and practical delivery of regulatory advice, preserving members' time, money, and peace of mind.

Scheduling Fees: The last major revenue stream for WMMA will be income earned from providing highly available processing slots to local producers and homesteaders. Unlike RIRLA, which has exclusive rights to slaughter and processing services at local facilities, and can therefore demand a compensating fee from members to access these services, producers in western Massachusetts can access processors without any sort of provision from WMMA. Therefore, where RIRLA generates almost 80% of its operating funds from scheduling fees, WMMA expects to earn less than 20% of its revenues from these sources.

This financial model assumes WMMA will be able to reserve 10 processing 'slots' each week from local facilities, consisting of roughly 3 beef, 4 hog, 2 lambs, and 1 goat. Typically, these slots will not be used for routine processing needs, as WMMA intends to assist producers in planning for their yearly processing needs well in advance of the ultimate slaughter and processing dates. Instead, WMMA expects most of these slots to be used by new producers and homesteaders who are not yet experienced in planning their yearly production. Producers in emergency situations will often use these slots, such as in the case of injured animals or when livestock is not quite ready for slaughter at the planned processing date. WMMA will charge \$10 per slot for members and \$25 for non-members.

Members will also be able to 'trade' reserved slots with one another for a \$10 fee. Trades will generally occur when all of the available slots for a week have been reserved and a member has an emergency need to access a slot. In these cases, members will be able to ask the Director to contact all producers who have reserved a slot that week to see if any person is willing to

exchange his or her slot for a future slot. Similarly, if a member reserves a slot, but then is unable to deliver an animal on the scheduled date, WMMA will trade that reserved slot for a future slot.

Other Revenue Streams

Outside of income generated from membership dues, consulting, and scheduling fees, which represent 90% of the operating budget in this projection, WMMA will draw revenues from other sources, such as workshops, certifications, and merchandise.

Workshops: As supplying members with educational resources for the local meat industry is one of organization's key activities, WMMA will hold workshops on meat cutting, value-added products such as dry-cured charcuterie, carcass yields, business optimization, marketing channels, and other helpful technical and business topics. Members will often provide the Director with input on what subjects to cover in upcoming events, and offer recommendations on which speakers and formats would be most appropriate. Some WMMA members with expertise in particular areas may be invited to facilitate a workshop and be compensated for the effort. WMMA will charge members an average fee of \$25 to attend a workshop, which may include food, beverages, and supplies. RIRLA currently schedules at least four workshops per year on a variety of topics and attracts between 10 and 30 attendees for each.

Merchandise: As is common in many organizations, WMMA will sell branded merchandise, such as tee shirts, hats, and tote bags. Although these sales are not expected to bring in more than a few hundred dollars per year, they will serve to increase awareness of the organization's brand and to promote its visibility.

Certifications: Many trade associations offer certifications to their members and external communities in order to enhance the credentials of a product, business, or individual. Although WMMA will advocate for the interests of all members regardless of certification, some producers and processors may ask the organization to evaluate certain aspects of their businesses according to best practices established and maintained by the WMMA staff and Board of Directors. For example, a producer who endeavors to increase demand for grass-fed beef by creating weekly recipes for their customers may qualify for special recognition. This producer may realize premium placement at WMMA-sponsored events, receive special acknowledgement from the WMMA community as a type of business that exemplifies the vision of the organization, and ultimately earn a premium for their products in accordance with the additional value placed on them by consumers. The true value of any certification though, is largely expressed in terms of how it is recognized by the public, which depends on the visibility of the organization and the regard in which it is held. Therefore, we expect certifications to become a part of WMMA's strategic plan at least five years after launch, when the organization has solidified its standing in western Massachusetts' local food system.

Exhibit 5 on the next page is a projection of WMMA’s revenues, expenses, and earnings for the first five years of its operation, at which point it will become self-sufficient. WMMA should expect to raise roughly \$60,000 in grants and other supplemental funding in order to remain in operation for the first four years until it becomes self-sufficient in Year 5. Such grants may be available from the USDA, the Massachusetts Department of Agricultural Resources (MDAR), and non-governmental organizations that support local agriculture.

Exhibit 5: WMMA Projected Earnings

<i>Revenues</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>
Memberships²⁷	30	51	71	89	100
Membership Dues	\$2,895	\$4,922	\$6,852	\$8,589	\$9,650
Consulting Fees - Members	\$1,500	\$2,550	\$7,140	\$8,925	\$10,000
Consulting Fees - Non-Members	\$300	\$1,000	\$3,000	\$5,000	\$6,000
Scheduling Fees - Members	\$600	\$1,020	\$2,142	\$2,678	\$3,952
Scheduling Fees - Non-Members	\$500	\$625	\$1,250	\$2,000	\$2,470
Slot-Trading Fees	\$20	\$50	\$150	\$300	\$494
Workshops	\$200	\$1,000	\$1,500	\$2,000	\$2,500
Certifications	\$170	\$255	\$595	\$680	\$850
Merchandise	\$42	\$134	\$192	\$242	\$284
Total Revenues	\$6,227	\$11,556	\$22,821	\$30,413	\$36,200
Expenses					
Part-Time Coordinator	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Workshops	\$800	\$1,600	\$3,200	\$3,200	\$3,200
General & Administrative	\$5,000	\$5,000	\$8,000	\$8,000	\$8,000
Total Expenses	\$30,800	\$31,600	\$36,200	\$36,200	\$36,200
Earnings	-\$24,573	-\$20,045	-\$13,380	-\$5,787	\$0

Ownership Structure

There are a few possibilities for governing WMMA, including ownership by an existing non-profit organization (e.g. CISA) or by an independent group of producers. Ultimately, credibility is paramount in any type of trade association, which requires participation in the decision-making processes by a number of individuals and businesses respected in the industry.

Board of Directors

WMMA’s credibility will likely come from a board of local producers, processors, and food advocates, either in the form of an official Board of Directors for the corporation, or as an advisory board responsible for providing recommendations on the organization’s strategy and objectives. This sort of collective partnership from an assortment of perspectives is absolutely essential for WMMA. In spirit, WMMA endeavors to unite the business interests of independent

²⁷ WMMA membership growth projections are based on those experienced by RIRLA.

participants in the value chain for local meat products in such a way that maximizes efficiencies while promoting diversity.

Early on in WMMA's development, the formation of a board with a balanced approach to growing the local meat will largely determine its success and endurance. Further, depending on the interest of local talent in filling the Director position for WMMA, the board may have to invest significant time in training the new Director to help them fulfill all of their responsibilities. Such a period of relationship building and knowledge sharing between the new Director and the local meat community might consist of sharing information about local production and processing challenges, opportunities for industry collaboration and growth, and continuous networking in order to build community trust with the fledgling association.

The following makeup for an initial advisory board or Board of Directors, all located in western Massachusetts, is recommended:

1. Commercial livestock producer
2. Commercial livestock producer
3. Commercial livestock producer
4. Homesteader
5. Meat processor
6. Representative from local lending or banking organization
7. Representative from local food advocacy group

For a fair representation of the attitudes of western Massachusetts producers at large on the Board of Directors, the three commercial livestock producer members should be diverse in terms of the species of livestock raised, amount of experience in the industry, counties in which their farms are located, and marketing and sales channels used.

Ownership Options

CISA-owned and operated: Operation of WMMA could be included as an activity of CISA's organization, which could potentially enhance the value of a producer's CISA membership. As CISA is already active in supporting local producers, and lists over 50 producers selling meat and poultry on its online database, we see the objectives of WMMA as a natural extension of the services CISA already provides to its member producers. Further, since a primary goal of WMMA is to help educate producers on local slaughter and processing options, as well as best practices in meat production, ownership of WMMA would underscore CISA's commitment to a robust local food system. We expect producers to perceive WMMA as a high-value initiative, which could reflect favorably on CISA's brand.

CISA may consider adding a new membership level to the Local Hero program (ex. Platinum Level), possibly at a higher price point than current membership levels, which includes provision

of the processing scheduling service and access to WMMA's other resources for producer coordination and education. Alternatively, CISA may choose to provide these services to current member producers free of additional charge, if such an arrangement is affordable to the organization and able to be combined into existing activities.

The largest single expense for WMMA is the part-time salary (~\$25,000/yr.) for the single employee acting as the Director of the association. This salary would likely represent between 50-65% of WMMA's operating expenses. If CISA were able to allocate the equivalent of 20 hours per week of labor from current employees to WMMA, then this would greatly reduce WMMA's operating costs. Furthermore, an additional 10-15% of WMMA's operating expenses include general administrative expenses, such as telephone, accounting, website maintenance, and other services, which might be shared with CISA.

Cooperatively owned and operated by producers: If CISA opts for another party to own and operate WMMA, it is recommended that the governing body be a cooperative group of local producers and other committed stakeholders. A combination of CISA members, non-member producers, and other stakeholders could control the Association. A Board of Directors and Director would likely oversee operations, along with regular meetings to solicit opinions from the membership. As slaughtering and processing animals is an essential part of the business models for local livestock producers, these parties may wish to have more control of the WMMA than would be possible if the entity was the responsibility of CISA.

In order to cover WMMA's expenses, including a part-time Director, producers would likely need to draw revenue from memberships, processing fees and possibly grants in a combination deemed most efficient by ownership. If the price of membership were free or reduced, for example, processing fees would need to increase to cover all expenses. Or, the price of memberships could be sufficiently high to decrease the need for processing fees and grant funding. Ultimately, a cooperative model would allow producers to retain complete control of these decisions.

Considerations for Implementation

It is uncertain whether the definition of western Massachusetts as the region of constituency for WMMA is ultimately appropriate. The association could potentially include just members from the Pioneer Valley, or expand to draw in members from all of Massachusetts, from nearby regions in neighboring states, or even from all of New England. Regardless of the eventual geographic scope of the association, WMMA should start small. For example, RIRLA was born from a small group of tightly clustered Rhode Island producers getting together at one farm to discuss challenges in the local meat infrastructure. Today, RIRLA has members from outside of Rhode Island, spanning into Southeastern Massachusetts, including Cape Cod and Martha's Vineyard. New members from other regions join because they are aware of the tangible benefits

that the organization provides to its members. The evolution of WMMA is expected to follow a similar trajectory, beginning in the Pioneer Valley, and expanding as appropriate into bordering areas. Since the success and effectiveness of trade associations, like WMMA, are founded on the organization's abilities to affect change for their members, strengthen their businesses, and earn their trust, the long-term legitimacy of WMMA depends on the commitment of a core group of members, stemming from its Board of Directors, and gradually increasing in representation.

Recommendation 2: Form a Transportation and Logistics Service

Value Proposition

The fragmented nature of the local meat industry fails to minimize transportation costs for producers in western Massachusetts. Even though many producers regularly frequent the same processors, only rarely do they share vehicles or coordinate logistics. Thus, as an overall group of local meat producers, the costs to move livestock to processors, and later to pick up the packaged meat products, are multiplied unnecessarily. Confronted with these challenges, a few coordination networks have organically emerged in the region, where producers have worked together to combine their trips to and from the local slaughter and processing facility.

While effective at reducing the time and resources expended by some producers, these networks have yet to also coordinate transportation to additional meat processing facilities in the region, some of which provide product options beyond what is available locally. Although a few of the producers interviewed have occasionally taken their primal cuts to these locations to make smoked and cured products, such as custom-recipe sausages, nitrate-free bacon, and other types of charcuterie, these are largely independent efforts. Only one of these producers consistently uses a secondary meat processing facility in the greater region.

The establishment of a dedicated transportation and logistics organization for producers in western Massachusetts would serve the interests of local meat producers through reducing transportation costs, and providing access to new post-slaughter cutting and processing options. An average round trip of at least 73.8 miles is estimated for local producers traveling to and from their preferred processing facility. This trip must generally be made twice, once to drop off their livestock, and then, a few days or up to two weeks later, to pick up their meat products. Using the 2013 federal reimbursement rate of \$0.565 per mile for operating a vehicle for business and other purposes, the average cost per trip is assumed to be \$41.70.²⁸ The trip to pick up the meat products alone requires a producer to spend nearly 3 hours away from the farm, on average, including an hour of time spent at the processor waiting for service, and examining and loading the packages. This time and effort represents significant opportunity costs for producers. Depending on how this time is valued, the potential for even more savings exists through the provision of a local transportation and logistics service.

²⁸ United States. Internal Revenue Service. *Standard Mileage Rates for 2013*. Washington: 21 Nov. 2012

Further, for many producers seeking to add new meat products to their business, coordinating transportation to secondary post-slaughter processing facilities may also be worthwhile, and accomplished with significant savings through coordinating product to travel at the same time.

In this report, this transportation and logistics service will be referred to as the western Massachusetts Meat Transportation and Logistics Service, or WMMTLS.

Operational Model

Vision Statement

Minimized transportation costs and maximized product options for local meat producers

Mission Statement

WMMTLS provides affordable and high fidelity product movement solutions to local meat producers, which enables them to focus on their farms and grow their businesses.

Key Activities

To serve the interests of local meat producers, WMMTLS would provide the following:

- Affordable product retrieval and transportation services from local processors with delivery to the producer's farm or other desired location
- Coordinated logistics and transportation to access secondary meat processing facilities in the region that provide cutting and processing options unavailable locally²⁹
- Peace-of-mind assurance that all product is collected and safely transported

Personnel

Part-Time Coordinator: WMMTLS requires the employment of an individual spending roughly five hours per week on coordinating travel among local producers. This position is essential to a functioning transportation and logistics service, as effort will be required to market, schedule, and ensure execution of the organization's key activities.

²⁹ This model generally assumes that five producers would evenly share the full 2500-pound capacity of a 12-foot box truck (i.e. 500 pounds per producer). Pricing depends on the distance to the desired secondary processor, and ranges from \$0.21 to \$0.33 per pound at full capacity, and from \$0.41 to \$0.66 per pound at half capacity.

Meat can generally be delivered fresh or frozen. Some facilities only accept frozen meat outside of their busy seasons, which are generally fall and winter. Other facilities prefer frozen meat throughout the year.

Minimum batch sizes vary depending on the facility and whether the product requested is a standard or custom recipe. For example, at the Green Mountain Smokehouse, batch sizes for standard sausages start at 50 pounds, with no minimums for smoked products. At Noack's Meat Products, batch sizes start at 30 to 50 pounds for most products. At Vermont Smoke and Cure, batch sizes generally start at 400 pounds for most products, with requirements of at least four bellies for bacon, and four hams for smoked ham.

During each week throughout the year, the Coordinator will be responsible for communicating with producers for the purpose of grouping deliveries and trips to secondary processors. At times, the Coordinator will spend less than five hours per week arranging travel with the producers, as desired slaughter dates and intentions for post-slaughter processing will conveniently line up for multiple parties. Other weeks, however, may see the Coordinator spending all of the five hours reaching out to WMMTLS's network of producers to see who has livestock that is close to maturity, especially when there are only one or two producers seeking delivery and secondary processing in a given week. Ideally, the Coordinator will discuss potential timelines for processing with producers during their yearly planning period well in advance of their expected slaughter dates.

Marketing WMMTLS's services to local livestock producers will also be an important part of the Coordinator's role. The Coordinator would be expected to maintain working relationships with local food advocacy organizations, like CISA, and local associations for meat producers, such as the proposed western Massachusetts Meat Association (WMMA). Such relationships will allow the Coordinator to leverage communities of local meat producers that already exist, and ensure that these groups understand WMMTLS's value proposition. Newsletters, either paper-based or electronic, social media, phone calls, advertisements, community presentations, and networking may would all be likely marketing strategies pursued by the Coordinator.

Driver: WMMTLS will also contract for the employment of a truck driver, who would retrieve meat products from the local processor, potentially to a secondary processing facility in the region, and back to the producers' individual farms.

Financial Model

Services

WMMTLS will provide two different transportation and logistics services for local producers:

Local Delivery, which includes retrieval of meat from Adams Farm and delivery to the farm of each producer who has hired the service. While some producers use other regional slaughterhouses, Adams is the closest for nearly all producers and is used by the majority.

Secondary Processing, which includes retrieval of meat from Adams Farm, delivery of that meat to a secondary processor in New England (examples of secondary processing facilities are listed below), and then retrieval of product from the secondary processor and delivery to each producer who has hired the service.

- **Green Mountain Smokehouse** in Windsor, Vermont
- **Noack’s Meat Products** in Meriden, Connecticut
- **Vermont Smoke and Cure** in Hinesburg, Vermont
- **Westerly Packing** in Westerly, Rhode Island

The facilities listed above represent a sample of the many meat-processing options available to producers in the region, and are not intended to be exclusive. Based on demand from local producers, trips to certain facilities may be added or eliminated, without significantly affecting this model.

Based on the demand for delivery services demonstrated by the producers involved in this study, WMMTLS is expected to make one local delivery trip per month in its first year of operation. In Year 2, demand for WMMTLS will be great enough for the enterprise to expand its services to include one trip to a secondary processing facility per month and double the number of local delivery trips that it made in Year 1. WMMTLS will continue to increase the number of deliveries it makes annually until its current model reaches capacity in Year 4. A summary of this growth is presented in Exhibit 6 on the next page.

Exhibit 6: WMMTLS Expected Growth

<i>Delivery Scenario</i>	<i>Number of Trips Made Annually</i>				
	Year 1	Year 2	Year 3	Year 4	Year 5
Local Delivery	12	24	36	48	48
<i>Secondary Processing</i>					
Green Mountain Smokehouse	0	3	12	12	12
Noack’s Meat Products	0	3	12	12	12
Westerly Packing	0	3	12	12	12
Vermont Smoke & Cure	0	3	12	12	12

Fixed Expenses

The Coordinator will be paid an hourly wage of \$20, up to a total of \$5,000 per year. Assuming that the Coordinator will work at full capacity in Year 3 and then gain some efficiency as WMMTLS’s capacity for delivery plateaus in Year 4 and 5, WMMTLS should expect to pay this employee the annual salary listed in Exhibit 7 below. Also displayed in Exhibit 7 are the expected general and administrative expenses for WMMTLS, such as the Coordinator’s phone and office supplies.

Exhibit 7: WMMTLS Annual Fixed Expenses

<i>Fixed Costs</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>
Part-Time Coordinator	\$625	\$2,000	\$5,000	\$5,000	\$5,000
General & Administrative	\$500	\$500	\$1,000	\$1,000	\$1,000
Total Fixed Costs	\$1,125	\$2,500	\$6,000	\$6,000	\$6,000

Variable Costs

Total costs per trip, as shown on the next page in Exhibit 8, include travel from the truck rental site to the local processor, and then either delivery directly back to the producers (termed “Local Delivery” in the table below), or transportation to a secondary meat processing facility, back to the truck rental site, returning to the meat processing facility, and finally, delivering to the producers.

Exhibit 8: Total Cost Per Trip³⁰

<i>Trip Destination</i>	<i>Total Trip Cost</i>
Local Delivery	\$201.57
Green Mountain Smokehouse	\$443.97
Noack’s Meat Products	\$452.61
Westerly Packing	\$533.77
Vermont Smoke & Cure	\$698.81

Total trip costs include truck rental, fuel, and a wage for the driver. The following assumptions were used in the calculation of total costs:

- Rental costs are calculated based on a flat \$50 per day rental fee plus \$0.10 per mile.
- Fuel costs assume \$4.00 per gallon for diesel fuel and an average fuel economy of 10 miles per gallon.
- Driver costs assume a wage of \$15 per hour.

The decision to rent a refrigerated truck from a local business with extra capacity was found to be much less expensive than renting through a traditional truck rental company, such as Penske or U-Haul. In fact, the savings realized through this local partnership may directly affect the feasibility of an operation with low demand. For example, the financial model below uses a realistic daily rental rate of \$50 plus \$0.10 per mile from a local ice cream company. Penske, on the other hand, quoted \$175 plus \$0.27 per mile, increasing the cost to rent a truck to make a 400-mile round trip, for example, from \$130 to \$283.

³⁰ Total costs listed Exhibit 8 average the most and least optimal scenarios for delivery, depending on which farms in various geographic locations contract for services. For instance, if the producers contracting for services in a given week were tightly clustered geographically and located close to the processor, then the total distance traveled would be much lower than if the producers were spread out and far away from the processor.

Pricing

Fees for local delivery and secondary processing are determined by taking the total cost of each trip, as seen in Exhibit 8 above, and adding a 18.29% margin to each cost that will be used to pay the Driver’s and Coordinator’s salaries, and for other office and administrative expenses.

There are two ways that producers can be charged for using this service-- the price of each trip can be split equally among the producers whose meat is being transported, or producers can be charged by the pound of meat that is transported for them. Exhibit 9 shows both of these pricing options in a variety of scenarios. Variables include the truck’s destination, the number of producers using the service at once, and how much of the truck’s 2,500-lb. capacity is used for a particular trip.

Exhibit 9: Example Trip Pricing Schemes for WMMTLS

<i>Delivery Scenario</i>	<i>Price per Person</i>			<i>Price Per Pound</i>	
	<i>Solo Commission</i>	<i>Split 3 Ways (<850lbs. Ea.)</i>	<i>Split 5 Ways (<500lbs. Ea.)</i>	<i>Full Load (2,500lbs.)</i>	<i>Half Load (1,250lbs.)</i>
Local Delivery	\$238.44	\$79.48	\$47.69	\$0.10	\$0.19
<i>Secondary Processing</i>					
Green Mountain Smokehouse	\$525.17	\$175.06	\$105.03	\$0.21	\$0.42
Noack’s Meat Products	\$535.39	\$178.46	\$107.08	\$0.21	\$0.43
Westerly Packing	\$631.40	\$210.47	\$126.28	\$0.25	\$0.51
Vermont Smoke & Cure	\$826.62	\$275.54	\$165.32	\$0.33	\$0.66

The column on the far left of Exhibit 9 lists describes the two types of services provided by WMMTLS. The next three columns to the right demonstrate pricing schemes based on the number of producers using the service on a given trip. In this scenario, the total price of the trip will be divided evenly among the producers being served on a trip.

The final two columns on the right demonstrate a scenario in which each producer is charged by the pound for delivery services. The price per pound charged to each individual would be determined by the following formula:

$$Price\ per\ pound\ paid\ by\ producer = \frac{Total\ price \times Pounds\ per\ producer}{Total\ cargo\ weight}$$

Two examples of this per pound pricing scheme listed in Exhibit 9:

1. Full Load (i.e. 2,500 lbs. of meat on the truck)
2. Half Load (i.e. 1,250 lbs. of meat on the truck)

While this per pound pricing scheme might be the fairest way to charge producers for local delivery service, several variables may confuse this seemingly straightforward model in the secondary processing scenarios. Points of conflict might include whether the producer's meat is weighed before or after it is transported to the secondary processor and the total cargo weight of the truck for any given trip. Due to these variables, and for the sake of transparency, it is recommended that the WMMTLS split the price of each trip equally among the number of producers being served.

The most likely scenario is one in which five producers, each transporting an average of 500 pounds, or the rough equivalent of the meat yielded by one beef animal or three hogs, are served in one trip. In this scenario, the price of local delivery is roughly \$46—only \$5 more than the average cost of vehicle and gasoline usage to a producer for making a single round trip to Adams Farm. The benefits of using WMMTLS's services for secondary processing are significantly greater. If five producers were to share WMMTLS's services for a trip to Green Mountain Smokehouse, each producer could save over \$100 in vehicle and fuel usage alone.³¹ If the producer's time were taken into account, the cost savings of approximately 52% would prove even more significant.

Operating Income

Based on the growth projections shown previously in Exhibit 6 and the prices listed above in Exhibit 9, WMMTLS is expected to realize a loss of roughly \$700 and \$500 in Year 1 and Year 2, respectively, and break even in Year 3. Years 4 and 5 see WMMTLS earning a very modest profit—less than \$400 in each year. Exhibit 10 below contains detailed projections of the enterprise's income over the first five years of operation.

³¹ Based on the mileage traveled by one producer from Amherst, to Adams Farm, to Green Mountain Smokehouse, and back to Amherst. Then, traveling again from the farm back to Green Mountain Smokehouse, and, finally, returning to the farm with the finished product, all reimbursed at the federal rate of \$0.565 per mile (86.9 miles + 96 + 25 + 174 = 381.9 miles x \$0.565 = \$215.77).

Exhibit 10: WMMTLS Projected Earnings

<i>Gross Revenues</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>
Local Delivery	\$2,861	\$5,723	\$8,584	\$11,445	\$11,445
Green Mountain Smokehouse	\$0	\$1,576	\$6,302	\$6,302	\$6,302
Noack's Meat Products	\$0	\$1,606	\$6,425	\$6,425	\$6,425
Westerly Packing	\$0	\$1,894	\$7,577	\$7,577	\$7,577
Vermont Smoke and Cure	\$0	\$2,480	\$9,919	\$9,919	\$9,919
Total Gross Revenues	\$2,861	\$13,278	\$38,807	\$41,668	\$41,668
Operating Costs					
Truck Rental	\$579	\$2,686	\$7,850	\$8,429	\$8,429
Fuel	\$851	\$3,951	\$11,546	\$12,398	\$12,398
Driver	\$989	\$4,588	\$13,410	\$14,399	\$14,399
Total Operating Costs	\$2,419	\$11,225	\$32,806	\$35,225	\$35,225
Operating Income	\$442	\$2,053	\$6,000	\$6,443	\$6,443
Fixed Costs					
Part-Time Coordinator	\$625	\$2,000	\$5,000	\$5,000	\$5,000
General & Administrative	\$500	\$500	\$1,000	\$1,000	\$1,000
Total Fixed Costs	\$1,125	\$2,500	\$6,000	\$6,000	\$6,000
Earnings Before Taxes	-\$683	-\$447	\$0	\$443	\$443

Ownership Structure

Since demand for such a service might only be once per week for approximately five producers, this entity would likely operate as a self-sustaining extension of an existing non-profit organization, such as CISA or the proposed western Massachusetts Meat Association (WMMA). Alternatively, it is possible that a local meat producer, or other entrepreneur, may wish to advance this service as a part-time for-profit business. It could be cooperatively owned and managed by a network of producers in western Massachusetts, similar to other local networks that have formed previously.

Considerations for Implementation

Transportation to and from processors is a major obstacle for the meat producers in the Pioneer Valley. From an industry-wide perspective, individual travel fails to minimize transportation costs for local producers and presents an opportunity for collaboration. Such partnership could only be possible in an industry in which competition is generally non-rivalrous, participants are typically operating at less than full capacity, and do not intend to grow at the expense of others in

their industry. Fortunately, the local meat industry largely reflects these conditions and can benefit from shared transportation.

A critical requirement for the success of WMMTLS is coordinating the times at which animals arrive at the local processor for slaughter and are then ready to be picked up. Without this coordination, it would be difficult to aggregate sufficient demand for delivery or secondary processing services on any given day. Therefore, WMMTLS must act to facilitate this type of collaboration and work closely with other organizations that support the local meat industry. Initially, the biggest obstacle for WMMTLS to overcome would be a trust deficit between the new organization and the producers it intends to serve. Many producers are sensitive to the issues of ensuring that 100% of their meat products are retrieved from processors and that the products they receive are made from their own livestock. If WMMTLS cannot command this credibility, then the effort has little hope of making a single delivery. Certain strategies, however, could help to reduce this trust deficit, such as hiring an existing producer as the coordinator and/or driver; having an existing producer accompany the driver on the first few trips; maintaining records of weights and yields from the producer and processor; using color-coded labels, bins, and other systems to differentiate between producers' inventories, and so on.

Lastly, the establishment of a transportation and logistics service for local deliveries and secondary processing could be the precursor to an expanded service that also hauls livestock from the producers to the local processor. Many producers have cited a lack of trucks, trailers, and other equipment necessary to move live animals from the farm to the slaughterhouse in a safe, humane, and efficient manner. Although some local processors already offer livestock pickup and other farms rent out their own hauling services, many synergies are likely to exist in terms of cost, expertise, and ease-of-use if a larger, multipurpose transportation service were available in the area.

Feasibility Analysis for a Low-Volume, Stand-Alone Commercial Meat Processing Facility

As local producers have limited options for meat processing in western Massachusetts, a number of potential models were explored to help producers expand their product lines. To this end, the best current option for low-volume producers is to add the capability for USDA inspected meat processing to an existing commercial kitchen, such as the western Massachusetts Food Processing Center (WMFPC), part of the Franklin Country Community Development Corporation in Greenfield, Massachusetts. This option offers the greatest flexibility and viability for supplementing existing meat processing for low-volume meat producers, and will be discussed in greater detail later.

Again, low-volume production refers to quantities of value-added products desired by producers that are less than the volume and frequency thresholds required by existing local meat processors. For high-volume production, the formation of a trade association is recommended in order to better align and communicate the needs of producers able to reach these thresholds.

Before turning to the final recommendation, a model for a new stand-alone commercial meat-processing facility, specifically designed for low-volume production, has been developed in order to better understand the costs and opportunities in this sector. As will be demonstrated below, a new facility would have relatively high capital costs, would be only marginally profitable, and would need to operate at a capacity that is likely beyond the potential volume available in western Massachusetts, without significantly drawing from the satisfied customer base of existing processors. Although this design may be curious from an entrepreneurial standpoint - after all, a new business would likely try to shift market share in its own favor, not protect their competitors - current demand for meat processing services in western Massachusetts is largely satisfied by existing facilities, except for low volumes of value-added products and custom recipes. A low volume facility, however, could be a viable business for the right entrepreneur, or as part of a larger business venture – such as a restaurant group, marketing company for local meat products, or, as optimal for the current situation, a commercial kitchen.

Value Proposition

A new, small-batch processor should provide local meat producers with significant value through the consistent, high quality production of meat products prepared for retail sale. This new business would offer a range of meat processing services, transforming primal cuts, which are transported to the processor from a local USDA inspected slaughterhouse, into retail meat cuts and processed meat products, such as ground meat and charcuterie.

The processor's success, and value to producers, would also come from its ability to accommodate the production of home-recipe sausages, nitrate-free cured meats, premium charcuterie, and other custom products inspired by and created for individual local farmers. A new processing facility would ideally offer a wide variety of artisan meat products not currently available in the local area, like prosciutto and salami, which can take weeks, months, or even years to fully cure. Providing local producers with access to such products has the potential to invigorate the local meat industry, and excite new forms of healthy competition. Additionally, this service would enable access to new marketing channels for local producers, as regional restaurants, retailers, wholesalers, and similar institutions may also benefit from increased product options and enhanced diversity in the local meat system.

In order to profitably serve these small-batch producers, however, the processor will need to price their services at the high end of current market prices. Even with the desire of a community to support the local meat industry, it must be understood that from a business standpoint, the production of small quantities of goods for small producers by small processors benefits from

few economies of scale. Certainly, the new processor must be sensitive to what the local market will bear in terms of meat prices, and will likely be able to provide discounts to loyal and large-volume customers. Also, the ownership structure—whether the entity is for-profit or a community-owned non-profit—could affect the pricing requirements of the business.

Based on the demand for local meat processing services, especially in the case where competition with existing facilities is precluded, a new operation would need to be relatively small in size and scope. The model explored as part of this feasibility analysis is based upon a 2,500 square foot facility, which is staffed by a full-time butcher acting as a manager, plus a full-time assistant butcher. The facility is assumed to be in operation for 50 weeks per year, allowing for vacation and down time.

Estimated Demand for Low-Volume Commercial Processing

Based on conversations with existing processors, it is projected that approximately 6,600 heads of livestock, raised by producers in western Massachusetts, were processed last year at existing regional facilities. From trends realized during primary research, it is estimated that less than 10% of the customers now using local commercial processors are dissatisfied enough to endure the switching costs required to transition to a new commercial processing facility.

Therefore, a total market of roughly 600 livestock per year, or about twelve animals per week, consisting of beef, hogs, lamb, and goats, is projected to be available to be served by a new low-volume commercial processor in western Massachusetts. Based on the relative composition of different livestock species processed in the area, a new commercial facility, whether a butcher at a commercial kitchen or a new low-volume facility, could process two to three beef per week, along with six to ten hogs, and one to two lamb or goats, without drawing from the relatively loyal customer base of existing local processors.

Financial Model

Site Plan

The facility is assumed to be located in the upper part of the Pioneer Valley, in an area such as Greenfield or South Deerfield, Massachusetts, which has existing agricultural businesses and resources. This model assumes the lease of a 2,500 square foot facility. At 2,500 square feet, the business would most likely lease space inside of a larger building. Alternatively, a new facility could be built, or an existing facility purchased and then renovated. These options would obviously require additional capital costs.

This meat cutting facility will require space for a freezer and refrigerated cooler, a cutting and fabrication room, a smokehouse, offices, supplies, and welfare rooms, such as bathrooms or dressing rooms. Most facilities will require substantial leasehold improvements in order to operate in accordance with federal requirements, which are discussed in “Regulatory Environment for the Meat Industry” appendix of the report.

The total cost of making leasehold improvements will vary greatly depending upon the specific facility chosen. For the following projections, the cost of these improvements is estimated to be \$200,000, which includes setup for the cooler and freezer, and is consistent with previous studies^{32, 33} and conversations with other small USDA inspected facilities.

An estimate for the composition of a 2,500-square-foot facility is shown in Exhibit 11.

Exhibit 11: Components of the Processing Facility

<i>Description</i>	<i>Est. Square Feet</i>
Refrigerated Cooler	400
Freezer Room	400
Cutting and Fabrication	800
Smokehouse	200
Office	200
Supply Room	150
Inspector Office & Bathroom	120
Bathrooms & Hallway	230
Total	2,500 Sq. Ft.

Leased industrial space is available in this region for \$4 to \$6 per square foot.³⁴ Leases are also typically ‘triple net lease,’ which require the tenant to pay their share of the property taxes, building insurance, and general maintenance. A local commercial realtor estimated triple net lease costs to be an additional \$1 per square foot. Therefore, a total lease expense of \$7 per square foot, or \$17,500 per year, is estimated.

Equipment

As a facility designed to cut and fabricate meat products, the main equipment necessary is listed in Exhibit 12.

³² Shepstone, Thomas. Hudson Valley Livestock Marketing Task Force. “Meat Processing Feasibility Study.” Jan 2001.

³³ Roche, Jonathan. “Cost Analysis: A Meat Processing Facility in Western Massachusetts.” Oct. 2001

³⁴ Based on conversations with local commercial realtors and small business owners.

Exhibit 12: Processing Equipment

<i>Description</i>	<i>Est. Cost</i>
Thompson 900P Mixer/Grinder	\$15,100
UltraSource PS-50 Piston Stuffer	9,795
Bacon slicer	4,000
UltraSource One Truck Smokehouse	30,000
Ultravac 225 Vacuum Packager	3,495
Protégé Patty Forming Machine	5,628
Tables, shelves, carts, etc.	5,000
Total Equipment Cost	\$67,390

As the equipment listed is capable of processing larger volumes than those projected for this operation, the machinery will be able serve the business if it grows in the future. Smaller equipment may be available, but likely would not meet the quality needs of a low volume processor.

Additionally, while a meat rail system is typically required in meat processing facilities, it should not be necessary for this operation, as cuts would be received as primals. An additional expense of approximately \$25,000 to \$30,000 would be required if an entrepreneur wanted to install a meat rail.³⁵

Startup Expenses

Basic startup costs, as shown in Exhibit 13, include one-time costs that are not capitalized over time, unlike equipment and leasehold improvements. These costs are estimated to occur immediately in the first year, though, realistically, they are likely pre-development expenses that would be spread out over several months.

Exhibit 13: Startup Costs

<i>Expense</i>	<i>Est. Cost</i>
Training	\$3,000
HACCP & SSOP Plan Development	4,000
Legal & Accounting	3,000
Label Setup	200
Misc. Small Equipment	2,000
Total Non-Capital Start-Up Costs	\$12,200

Due to the complexity of designing required documentation, such as HACCP and SSOP plans, necessary for USDA inspection, the assistance of a professional consultant or an otherwise experienced individual, is strongly recommended and commonplace in the industry. Food safety

³⁵ Roche, Jonathan. "Cost Analysis: A Meat Processing Facility in Western Massachusetts." Oct. 2001

training, such as certification through ServSafe or a similar provider, is also recommended for all staff members, especially for those responsible for signing off on food sanitation documents.

Operating Expenses

Operating expenses before interest, depreciation, and taxes are projected to be \$162,272 per year, as shown in Exhibit 14 on the next page.

As the proposed facility only assumes employment of two butchers, it may make sense to hire a part time office manager or bookkeeper as the business grows. Because the operation is so small, labor is treated as a fixed cost, rather than a variable cost based on volume. Including taxes and benefits, annual salaries for the two butchers are estimated to \$116,272. These salaries are based on an hourly rate of \$25 for the butcher acting as the manager, and \$18 for the assistant butcher. Payroll taxes and workers compensation insurance are assumed to be 15% of total payroll, with employee benefits comprising another 15%. This model also assumes that the two butchers will spend 10 hours per week on administrative responsibilities when the operation is at full capacity. This time will be used for the drop-off and pick-up of products, collection of accounts receivable, and for bookkeeping and recordkeeping.

Exhibit 14: Operating Expenses

<i>Description</i>	<i>Est. Cost</i>
Labor, Payroll Taxes, and Benefits	\$116,272
Accounting and Professional Fees	1,500
Marketing	1,200
General Administrative	2,400
Lease	17,500
Insurance	9,600
Utilities	12,000
Repairs and Maintenance	3,000
Total Operating Expenses <i>(Before Interest & Depreciation)</i>	\$162,272

Additional ongoing operational expenses include outlays for accounting and other professional services, marketing, general administrative, insurance, and utility expenses, totaling \$26,700 annually.

In addition, it is assumed that equipment will be depreciated over seven years, and leasehold improvements over 15 years, leading to depreciation expenses of \$23,764 for the first seven years. Interest payments on debt vary over time, based on the capital structure of the business and the amount financed. The projections are based on a \$200,00 loan at an interest rate of 6% that is amortized over 7 years. Interest payments in the first year will be \$12,000, declining

thereafter. Thus total operating expenses in the first year are \$197,272, and decline thereafter as interest expense is reduced.

Revenues

The model assumes processing of three beef, ten hogs, and two sheep or goats per week through two types of services:

- Cutting and packaging primals as retail meat cuts
- Producing other value-added products, including ground meats and charcuterie

Capacity could grow through hiring additional butchers, although this assumption is at the high-end of current demand estimates. Since this facility is largely expected to produce charcuterie, consisting of custom-recipe sausages, bacon, ham, and other smoked pork products, of which many types are unavailable at low volumes from existing processors, the ratio of hogs processed to other animals is substantially higher than the ratio of hogs to other animals slaughtered in the region.

Anticipated prices for producers are shown in Exhibit 15, and based on a study of processing fees in the region. As discussed previously, prices are at the higher end of the fees typically charged.

Exhibit 15: Pricing and Maximum Projected Annual Revenue

<i>Cutting and Packaging</i>	<i>#/ Week</i>	<i>Hanging Weight</i>	<i>Price/lb.</i>	<i>Weekly Revenue</i>	<i>Annual Revenue (50 wks.)</i>	<i>Yield</i>	<i>Direct Supplies Cost/lb.</i>	<i>Annual Cost of Supplies</i>	<i>Net Revenue</i>
Beef	3	671	\$0.85	\$1,711	\$85,553	67%	\$0.07	\$4,720	\$80,832
Hogs	9	162	\$0.85	\$1,239	\$61,965	70%	\$0.07	\$3,572	\$58,393
Sheep/Goat	2	50	\$1.00	\$100	\$5,000	75%	\$0.07	\$263	\$4,738
Grinding and Charcuterie									
<i>Grinding and Charcuterie</i>	<i>#/ Week</i>	<i>Lbs. per Animal</i>	<i>Price/lb.</i>	<i>Weekly Revenue</i>	<i>Annual Revenue (50 wks.)</i>		<i>Direct Supplies Cost/lb.</i>	<i>Annual Cost of Supplies</i>	<i>Net Revenue</i>
Ground Beef	3	90	\$0.20	\$54	\$2,700		\$0.07	\$945	\$1,755
Smoked Beef	3	20	\$1.25	\$75	\$3,750		\$0.13	\$390	\$3,360
Linked Sausage	9	16	\$2.00	\$288	\$14,400		\$0.38	\$2,736	\$11,664
Smoked Pork	9	90	\$1.25	\$1,013	\$50,625		\$0.07	\$2,835	\$47,790
Annual Totals at Full Capacity					\$223,993			\$15,461	\$208,531

Prices charged per pound for cutting and packaging are based on estimated average hanging weights of each animal (i.e. 671 pounds for beef, 162 pounds for hogs, and 50 pounds for sheep

or goats). Additional fees for grinding and charcuterie options are based on an estimation of the number of pounds used from each animal for ground or smoked products. Weekly revenue is calculated, and, when multiplied by 50 weeks, yields total annual revenues of \$223,993.

Direct costs of supplies are estimated at \$0.07 per lb. of finished product for wrapping and packaging, \$0.25 per pound for sausage casings, and \$0.06 per pound for any spices, brine, or nitrates/nitrites. Actual costs will vary based upon the volume of specific supplies that are used. At full capacity, total supply expenses are estimated at \$15,461, resulting in net revenues of \$208,531.

Cash Flows, Taxes, and Financing

Projections for Profit & Loss and Cash Flows are in Exhibit 16 on the next page. This model assumes operations at 85% of total capacity in Year One, 95% in the Year Two, and full capacity from Year Three and beyond.

Exhibit 16: Profit & Loss and Cash Flow Projections

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Gross Revenue										
Processing Capacity Used										
Processing (beef)										
Processing (hog)										
Processing (sheep/goat)										
Ground Beef										
Smoked Beef Products										
Sausage										
Smoked Pork Products										
Total Gross Revenue	\$192,306	\$214,930	\$226,243							
Less Cost of Supplies	\$15,845	\$17,709	\$18,641	\$18,641	\$18,641	\$18,641	\$18,641	\$18,641	\$18,641	\$18,641
Net Revenue	\$176,461	\$197,221	\$207,601							
Operating Costs										
Labor - Direct	\$116,272	\$116,272	\$116,272	\$116,272	\$116,272	\$116,272	\$116,272	\$116,272	\$116,272	\$116,272
Utilities	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Telephone/Office Expense	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400	\$2,400
Lease/Rent (including triple-net fees)	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500
Insurance	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600	\$9,600
Accounting and Professional fees	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Repairs and Maintenance	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Startup Costs	\$12,200	////	////	////	////	////	////	////	////	////
Total Operating Costs	\$174,472	\$162,272								
EBITD (Earnings B4 Interest, Taxes, Depr.)	\$1,989	\$34,949	\$45,329							
Interest on term debt	\$12,000	\$10,570	\$9,055	\$7,449	\$5,746	\$3,941	\$2,028	\$0	\$0	\$0
Depreciation	\$23,764	\$23,764	\$23,764	\$23,764	\$23,764	\$23,764	\$23,764	\$23,764	\$23,764	\$23,764
Profit before Taxes (NBT)	-\$33,775	\$614	\$12,510	\$14,116	\$15,819	\$17,624	\$19,537	\$31,996	\$31,996	\$31,996
Taxes (%)	\$0	\$0	\$0	\$0	\$3,638	\$4,053	\$4,494	\$7,359	\$7,359	\$7,359
Profit after Taxes (NAT)	-\$33,775	\$614	\$12,510	\$14,116	\$12,181	\$13,570	\$15,043	\$24,637	\$24,637	\$24,637
Annual Cash Flow										
Beginning Cash Balance	0	\$3,144	\$2,267	\$11,769	\$21,271	\$27,135	\$25,799	\$23,286	\$48,938	\$74,590
Initial Capital	\$310,000									
Operating Income	\$176,461	\$197,221	\$207,601	\$207,601	\$207,601	\$207,601	\$207,601	\$207,601	\$207,601	\$207,601
Total Cash In	\$486,461	\$197,221	\$207,601							
Capital Expenditures	\$273,018									
Repayment of loan principal	\$23,827	\$25,257	\$26,772	\$28,378	\$30,081	\$31,886	\$33,799	\$0	\$0	\$0
Operating Expense(EBITDA + Interest)	\$186,472	\$172,842	\$171,327	\$169,721	\$168,018	\$166,213	\$164,300	\$162,272	\$162,272	\$162,272
Taxes paid	\$0	\$0	\$0	\$0	\$3,638	\$4,053	\$4,494	\$7,359	\$7,359	\$7,359
Owner's withdrawals	\$0	\$0	\$0	\$0	\$0	\$6,785	\$7,522	\$12,318	\$12,318	\$12,318
Total Cash Out	\$483,317	\$198,099	\$198,099	\$198,099	\$201,737	\$208,938	\$210,114	\$181,950	\$181,950	\$181,950
Ending Cash Balance	\$3,144	\$2,267	\$11,769	\$21,271	\$27,135	\$25,799	\$23,286	\$48,938	\$74,590	\$100,242

This model also assumes \$110,000 of capital invested by the owner, along with the \$200,000 loan. While this financial structure provides substantial equity for the project, it is perhaps unlikely that an entrepreneur will be capable of investing \$110,000, given the long period required to recoup those funds and other risks. Additionally, the debt coverage ratio is just 0.98 in year 2 and 1.27 in year 3, which is likely below the level required by many commercial lenders, meaning that additional equity would be required, or a longer term loan required. The exact tax status of the entity owning the project will define the appropriate tax rate. The following projections assume a corporate tax rate of 15%, the lowest federal tax rate, plus 8% for taxes in Massachusetts, yielding a total tax rate of 23%. Additionally, tax losses from Year 1 are carried forward, offsetting any tax due for several years.

The projections show that by Year Eight, the business has repaid the original loan and is generating \$24,637 of profit after taxes. It is assumed that the owner of the business will begin withdrawing one half of the after-tax profits each year beginning in Year 6, with the remaining profits accruing in order to fund the replacement equipment or other business expenditures.

Considerations for Implementation

With a relatively small demand for meat processing in the Pioneer Valley, success is difficult to imagine for such a stand-alone commercial processor, especially without competing for the customers of existing local processors. Operating at almost full capacity with two employees, the facility must process three beef, ten hogs, and two sheep or goats each week in order to be profitable. If production falls below these levels, then the operation becomes only marginally profitable, even generating a loss, and is ultimately unable to cover its debt expenses. The facility, however, could be more profitable if it hired additional staff and processed a larger volume, which is in opposition to current recommendations for strengthening the local meat industry. For these reasons, low-volume commercial meat-processing services are most likely better incorporated as a component of a larger business venture, as described below.

Marketing Company for Local Meat Products

Potentially, a new stand-alone meat processing and marketing company could be launched in the Pioneer Valley, similar to Vermont Smoke and Cure. Such an operation could process a much larger volume of meat with only marginally higher capital costs. Meat would be sold under the brand of the marketing company, and likely sold throughout New England. Similar to Vermont Smoke and Cure, ideally this company would also offer USDA inspected processing to independent meat producers, through a desire to support the local meat industry.

Restaurant Group

This model could alternately exist as a component of a restaurant, similar to The Farmhouse Group, which decided to open a USDA inspected processing facility and butcher shop in order to create its own branded products for sale not only in their restaurants and shops, but also through

distribution to other retail outlets.³⁶ Again, the ideal is that such an organization would also open their USDA inspected processing services to support local producers, some of which may provide them with animals for their own products.

Commercial Kitchen

These value-added processing options could also be included as a component of a USDA inspected community commercial kitchen, like the Mad River Food Hub. Typically these businesses include elements of shared kitchen space, contract processing, and business incubation. This option is deemed the most likely scenario for current expansion in the Pioneer Valley and will be further developed in the following section.

Recommendation 3: Establish Fee-for-Service Meat Processing at a Local Commercial Kitchen

Value Proposition

The mission of the Western Massachusetts Food Processing Center (WMFPC) is to promote economic development through entrepreneurship, provide opportunities for sustaining local agriculture, and promote best practices for food producers. Currently, there is excess capacity at the WMFPC outside of the fall harvest season. The WMFPC currently provides several different services to local food business who lack their own kitchen space; producers can rent space at the WMFPC to create their own branded products, or alternatively, the WMFPC offers fee-for-service ‘co-packing’ for producers, in which the WMFPC staff manufactures products for producers according to provided recipes and specifications.

Currently, the WMFPC is not USDA inspected and can offer only limited options to meat producers interested in creating value-added meat products. According to USDA regulations, meat products can be produced in a commercial kitchen that is not USDA inspected if they are produced by the actual producer, and sold at the producer’s farm stand, either located at their farm or at a farmers’ market. Without USDA inspection, co-packing, however, would not be allowed. Similarly, the producer could only create meat products for resale by another entity if the facility to produce those meat products was USDA inspected. For example, if a producer wanted to create meat products to sell at a grocery store, or to sell wholesale, then the USDA would need to be involved.

If the WMFPC obtained approval from the USDA to produce inspected meat products, the commercial kitchen could serve a larger base of local producers, including those who wanted to use co-packing services, therefore increasing facility usage. Although the preparations for USDA approval can be challenging, the facility is already a commercial kitchen, largely designed in the appropriate physical structure required by USDA regulations. Additionally, the facility has

³⁶ Clayton, Philip. Personal interview. 21 Mar. 2013

experience in writing HACCP plans for its existing food processing activities, so it should be capable of creating new plans for meat processing. Also, an SSOP plan is already in place, although it may need to be updated for meat-specific sanitation requirements.

Ideally, the WMFPC would provide the facilities necessary for production of home-recipe sausages, nitrate-free cured meats, premium charcuterie, including salumi, and other custom products, such as prosciutto and salami.³⁷ Producers would have the opportunity to make use of the facility to create their own unique products in small batches. Alternately the WMFPC could offer co-packing options for meat processing in which their staff would create the products desired by individual meat producers.

In order to best provide self-serve and fee-for-service commercial meat processing at the WMFPC, it would be important to have a few staff members who are skilled in butchery. Current staff could potentially be trained for these purposes, or the WMFPC could add these skills in a future hire. As an example, the previously discussed Mad River Food Hub has two staff members, both of whom are skilled butchers, able to provide guidance to new users of the facility, monitor safety and sanitation procedures, and able to assist as needed by helping a processor new to meat cutting or other value-added production.

Operational Model

An attractive feature of adding meat processing to an existing commercial food processing facility is the flexibility to gradually incorporate meat-processing services over time, enabling the WMFPC to slowly expand its operations, train its workforce, develop required documentation, add equipment, and make necessary structural improvements.

Vision Statement

Creating an abundance of opportunities for local meat producers to diversify their product lines.

Mission Statement

Our commercial food processing space now enables local meat producers to create the best cuts and unique value-added products from their livestock, in the amounts appropriate for their businesses, with support from an experienced staff trained in butchery and charcuterie.

Key Activities

To serve the interests of local meat producers, the WMFPC could provide the following:

³⁷ Considerations for producing dry-cured meat products, such as pricing for equipment and facility renovations have not been included in this proposal, nor in the feasibility analysis for the low-volume, stand-alone commercial meat-processing facility. Dry-cured meat products are often prepared in temperature and humidity-controlled rooms, requiring special features and food-safety plans. The Mad River Food Hub in Waitsfield, Vermont is in the process of adding the appropriate equipment and modifications to their facility to make dry-cured meat products, and is recommended to be consulted for any ventures in Western Massachusetts, including adding dry curing to a local commercial kitchen.

- Fee-for service, low-volume co-packing solutions for local meat producers
- Rental of commercial processing space to producers who want to create their own value-added meat products, or add to their existing product lines
- Rental of refrigerator, freezer, and other storage space for meat products
-

Financial Model

Facility and Equipment

Renovation costs would be significantly lower if an existing commercial kitchen added meat processing to its operations, instead of establishing a new, stand-alone facility, as described previously. As opposed to the projected \$200,000 in leasehold improvements, the following analysis assumes \$100,000 for the cost of renovation to the WMFPC to add meat processing, although this figure could vary significantly depending on the renovation actually required.

Equipment needs are assumed to be similar to that discussed in the previous section. If production, however, is less than that of a stand-alone facility, the WMFPC may actually incur lower equipment costs, as it already possesses some of the necessary items, such as vacuum packing machinery. Therefore, equipment costs are estimated at 75% of what was described previously, or about \$55,000.

Revenues

WMFPC is anticipated to generate additional revenue from meat processing via several different sources, as shown in Exhibit 17, totaling \$78,958 annually.

Interested producers will have the option to rent space to process their own meat products in a USDA inspected facility. The standard cost to use the WMFPC is now \$50 per month for membership, plus \$38 per hour of production. Based on current availability at the WMFPC, it is assumed that two new producers would make shared use of the facility one day a week for a total of eight hours per week; the WMFPC would realize additional annual revenues of \$1,200 from memberships, plus \$15,808 from facility usage. Additionally, this projection assumes that the WMFPC will be able to offer co-packing solutions to meat producers. Here, co-packing is assumed to include the cutting and packaging of both beef animals and hogs. Additionally, this model assumes that the majority of each hog will be processed into sausage, bacon, ham, and related products, while beef animals will only partially be made into value-added products. Providing co-packing services for an average one beef animal and two hogs per week is expected to generate \$57,140 of revenue after accounting for packaging and ingredient expenses. Again, co-packing will require at least one WMFPC staff member to be proficient in meat cutting and processing. Lastly, producers are also expected to rent storage pallets in the WMFPC's freezers and refrigerated space, for \$105 and \$95 per pallet per month, respectively.

Exhibit 17: Commercial Kitchen Projected Revenue

<i>Revenues</i>	<i>Units</i>	<i>Fee per Unit</i>	<i>Monthly Revenue</i>	<i>Annual Revenue</i>
Monthly Memberships	2	\$50	\$100	\$1,200
Weekly Hours of Production	8	\$38	\$1,317	\$15,808
Weekly Co-Packing - Hogs	2	\$256	\$2,223	\$26,674
Weekly Co-Packing - Beef	1	\$586	\$2,540	\$30,476
Monthly Storage - Freezer Pallets	2	\$105	\$210	\$2,520
Monthly Storage - Refrigerator Pallets	2	\$95	\$190	\$2,280
Total Annual Revenues				\$78,958

Operating Expenses

Compared to opening a stand-alone meat processing facility, many of the ongoing operating costs will be reduced or completely eliminated. WMFPC’s existing operations could incorporate the cost of the lease, as well as expenditures for accounting and professional services, marketing, and general administrative needs, although incremental additional expenses for utilities, additional insurance, and repair and maintenance are anticipated to total \$4,800.

Staffing costs can also be substantially reduced through adding these services to a commercial kitchen, as the WMFPC already has employees, though this model assumes that the WMFPC would hire one new employee to oversee meat processing at the facility. Approximately 75% of this individual’s time would be spent working in the meat processing area, working to co-pack meat products, helping to develop HACCP plans, and otherwise overseeing the work of meat producers using the commercial kitchen themselves. This employee’s remaining time would be spent assisting with other duties at the WMFPC, such as co-packing of non-meat products. Total payroll expenses, taxes, and benefits are expected to total \$54,080 per year, assuming a salary of \$20 per hour. Allocating 75% of those expenses to the meat processing operations yields expected payroll expenses of \$40,560.

Cash Flows, Taxes, and Financing

Anticipated incremental revenue and operating expenses show that given the previous assumptions, the WMFPC could generate an additional \$33,598 of profit before interest, taxes, and depreciation. Given that the center is run by a nonprofit organization, the Franklin County CDC, it is assumed that the tax rate will be zero and that depreciation will not therefore be directly relevant for cash flow purposes. The center will need to decide how to finance the capital expenses, estimated at \$156,764 in these projections. Grants or similar funds could potentially be available from a variety of sources to finance expansion of the WMFPC. If the center financed the capital expenses entirely through a traditional business loan at 6% for 7 years, then annual payments of \$28,082 would be covered 1.2 times by the cash flow. Exhibit C2

below is a projection of the incremental revenues, expenses, and earnings for the first four years of its operation, as business gradually increases.

Exhibit 18: WMFPC Incremental Profit from Meat Processing

<i>Gross Revenue</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>
Processing Capacity Used	65%	75%	85%	100%
Kitchen Use	\$10,275	\$11,856	\$13,403	\$15,808
Co-packing Hog	\$17,338	\$20,006	\$22,617	\$26,674
Co-packing Beef	\$19,809	\$22,857	\$25,840	\$30,476
Monthly Storage	\$3,120	\$3,600	\$4,070	\$4,800
Monthly Membership	\$780	\$900	\$1,017	\$1,200
Total Gross Revenue	\$51,323	\$59,218	\$66,948	\$78,958
<i>Operating Costs</i>				
Labor - Direct	\$40,560	\$40,560	\$40,560	\$40,560
Utilities	\$3,000	\$3,000	\$3,000	\$3,000
Insurance	\$1,200	\$1,200	\$1,200	\$1,200
Repairs and Maintenance	\$600	\$600	\$600	\$600
Start Up Costs	\$7,200	////////////////	////////////////	////////////////
Total Operating Costs	\$52,560	\$45,360	\$45,360	\$45,360
EBITD (Earnings Before Interest, Taxes, & Depreciation)	-\$1,237	\$13,858	\$21,588	\$33,598
Interest on term debt	\$9,406	\$8,285	\$7,097	\$5,838
Depreciation	\$14,490	\$14,490	\$14,490	\$14,490
Profit before Taxes	-\$25,133	-\$8,917	\$0	\$13,269

Considerations for Implementation

The Western Massachusetts Food Processing Center (WMFPC) already serves as a potent resource in supporting local food producers and entrepreneurs. Through the addition of USDA inspected meat processing services, the WMFPC could support new types of food produces, help launch new business, and increase its overall scale. This model assumes that demand for low-volume meat processing services exists in western Massachusetts, if only for the approximately twelve animals per week brought in by dissatisfied customers of existing processors. These customers would be expected to bear the switching costs of transitioning to a new type of processing service, and perhaps take on the responsibility of creating desired value-added products themselves.

Processing meat products also requires significant refrigerated space. The WMFPC likely does not now have the space required to receive primal cuts of meat and then store fresh or frozen

finished meat products. Conveniently, the WMFPC is in the process of exploring options to significantly increase their freezer space, which is expected to be available later this year.

Sufficient space for meat cutting and processing may also be difficult in WMFPC's current space. The facility is set up with a single shared kitchen area, and two temperature-controlled areas. At this time, it is still unclear whether these areas could accommodate meat processing. If they cannot, then the WMFPC would need to consider expansion of kitchen space, possibly into an existing back room, or into a portion of the current dry storage space. These renovations, however, would likely require substantial investment of capital. Further, if meat processing is conducted in the shared kitchen space, then there may be issues with current users who are producing vegan or vegetarian products. Even with proper scheduling and sanitation, some facility users may object to the incorporation of meat processing.

Given the opportunities and challenges, conversations with the WMFPC would need to continue in order to determine how meat processing could fit within its existing capacity and base of customers, in addition to what investment would be required to make necessary renovations to the facility. Again, these services could be added gradually to the WMFPC to slowly reach the appropriate scale relative to its other operations. Certainly, this process would need to consider how the additional revenue from meat processing would recover the costs of any new equipment and renovations in order to warrant the investment in expanded services.

Recommendations for Next Steps

While this analysis was intentionally conducted in a broad manner, there exist several areas of additional research that would be beneficial in augmenting this report. Some of this exploration was projected to be extremely time and resource intensive, and thus, was left out of the scope of this report in favor of the topics covered within. Still, there is likely to be significant value in conducting further research on the following three topics.

Elasticity of Demand

The local meat industry in the Pioneer Valley would benefit tremendously from research that yielded the following data:

- Quantities of local meat demanded at various prices, including categorization by species, cut, and type of meat product
- Cross-price elasticity of demand for local and conventional meats (i.e. how much the quantity demanded of local meat increases when the price of conventional meat increases, and vice versa)

- Quantities of meat processing services demanded at various prices, including categorization by time of year, specific processing service, and type of producer
- Quantities of consulting services demanded at various prices by local producers to assist with business and technical concerns
- Quantities of transportation and logistics services demanded at various prices by local producers to move meat products to and from regional processors

Throughout this report, sufficient demand was assumed to exist for local meat products, meat-processing services, and related business activities, such as consulting and logistics. Although the pricing used in the report's financial models generally reflects fees existing in parallel regional operations, the specific quantities demanded at these prices by local consumers and producers is relatively unknown. As a probable first step for any entrepreneur or other organization considering launching these operations, an analysis of market demand would likely ensue in short order, but the need is reiterated here to demonstrate the sensitivity of many of these models to their respective demand schedules.

Consumer's Perspective of the Local Meat Industry

Much of this report is written from the perspective of solving problems faced by local meat producers in the Pioneer Valley, with some regard to how these solutions can mutually benefit both producers and processors. Unwritten, however, is an analysis of the local meat industry from the perspective of consumers. Throughout this research, certain processors have communicated that local producers often make decisions about their businesses without considering the interests of their customers, including demand for specific species and products, growing practices, and willingness to pay. Some of this tendency may be explained by the culture of the local food movement, in particular the desires of many small entrepreneurs to create businesses based on what they enjoy growing, instead of what would best serve consumers in the local market. For example, a producer may personally wish to grow pasture-raised organic hogs, sold mostly as chops and bulk sausage under their own label, when the greatest demand in the market is for local organic beef, with no willingness to pay for an own-brand product over a multi-brand product. Therefore, an exploration into the preferences of consumers in the market for local meat products may be beneficial. Consumers could be asked "Are there certain products that they largely prefer to buy local versus conventional?" or "What local meat products are they willing to pay the most for over conventional, and the least?"

This exploration may also include analysis outside of product lines, in areas such as buying behavior, marketing channels, and investment in the local food system. For example, what challenges do different types of consumers, such as households, restaurants, and grocery stores, face in purchasing local meat products? Through what channels would consumers prefer to buy

local meat products? Would consumers, as a community, be willing to invest their own capital in a new low-volume commercial processor for the area in exchange for a supply of premium local meat products in the future?

Challenges Facing Local Processors

Similar to the above, the local meat industry could also be enhanced by addressing business challenges faced by existing processors. For example, how does a lack of meat cutting talent that can efficiently produce high-quality product affect the bottom line for local processors, and could lessening this burden reduce costs throughout the value chain? How might a formal butcher training program be established locally? Processors have also expressed concerns around securing the volume commitments necessary from local producers in order to produce new value-added products. From a processor's perspective, would it be valuable to investigate ways to reduce these volume commitments, such as increasing collaboration with other regional processors? Perhaps an association of regional meat processors could better serve the business interests of the community?

Appendices

Appendix I: Key Terms

- **Charcuterie:** A general category of prepared meat products consisting all types of linked and bulk sausage, bacon, ham, jerky, etc.

- **Low-Volume Processing:** As opposed to high-volume processing, a volume and frequency of meat processing for an individual producer, or group of producers, which is below the thresholds required by existing processors to profitably manufacture a new type of meat product

- **Pioneer Valley:** An area in western Massachusetts composed of Franklin, Hampshire, and Hampden counties

- **Producer:** A farmer who raises and markets livestock

- **Processor:** A business that transforms livestock into meat products, such as cuts, ground meat, and charcuterie
 - *Custom Processor* – A type of processor that operates under the USDA FSIS Custom Exemption, creating meat products for household consumption that cannot be resold

 - *Commercial Processor* – A type of processor that operates under state or USDA inspection, creating meat products for customers seeking to resell these products

- **Post-Slaughter Processing:** The act of transforming whole hanging animals, halves, quarters, or primal cuts of meat into retail meat cuts, ground meat products, or charcuterie

- **Salumi:** A type of charcuterie that includes cured meats that are predominantly made from pork, such as pancetta, prosciutto, and salami

- **Value-Added Product:** Any retail meat cut, ground meat product, or type of charcuterie

Appendix II: Key Members of the Local Meat Production Value Chain

This appendix contains a map of all known commercial livestock producers in the Pioneer Valley (Exhibit 19), as well as a map of USDA inspected commercial slaughter and processing facilities used by local producers (Exhibit 20). A list of all the stakeholders depicted on these maps is listed at the end of this appendix.

Exhibit 19: Map of Pioneer Valley Meat Production

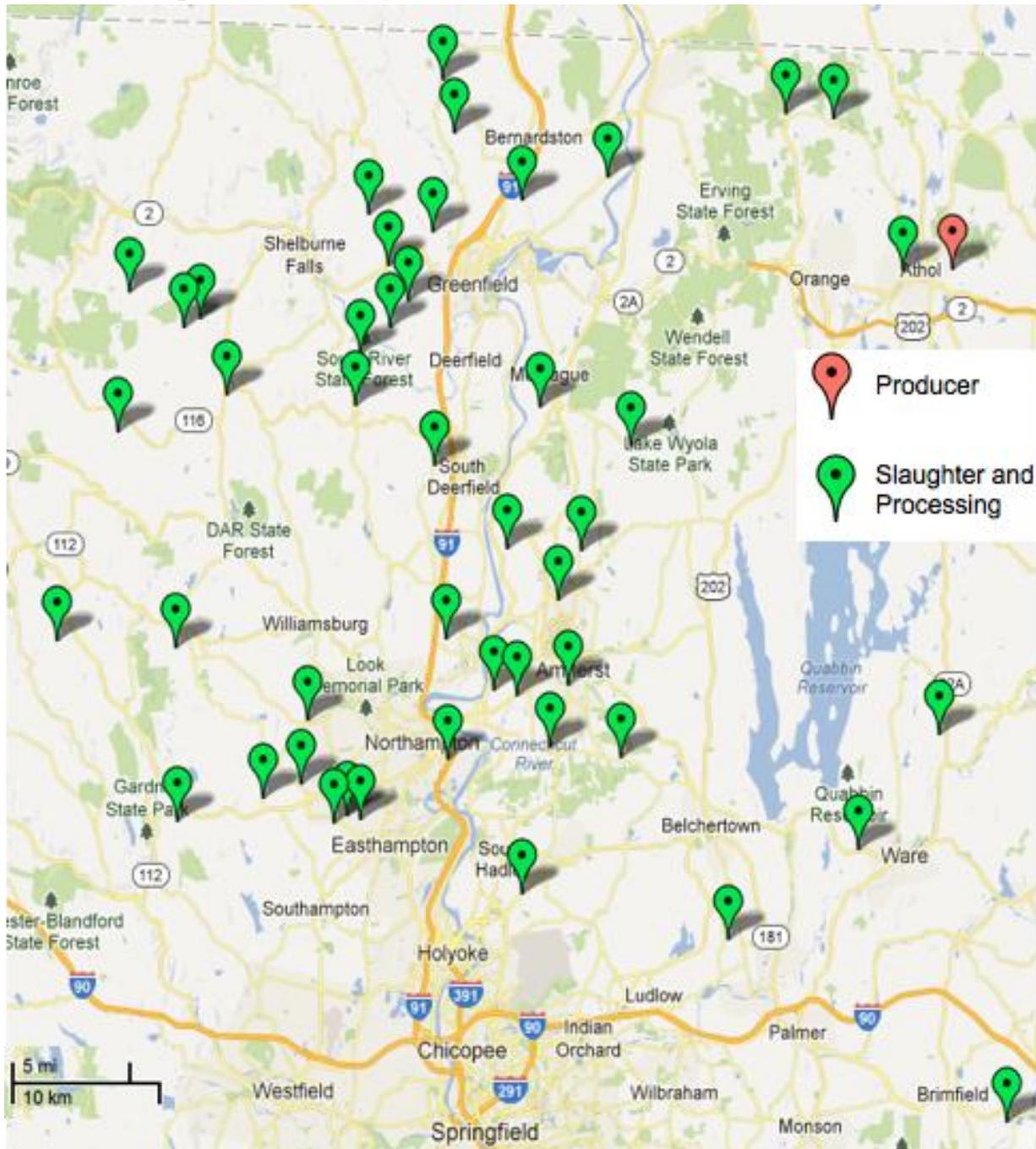
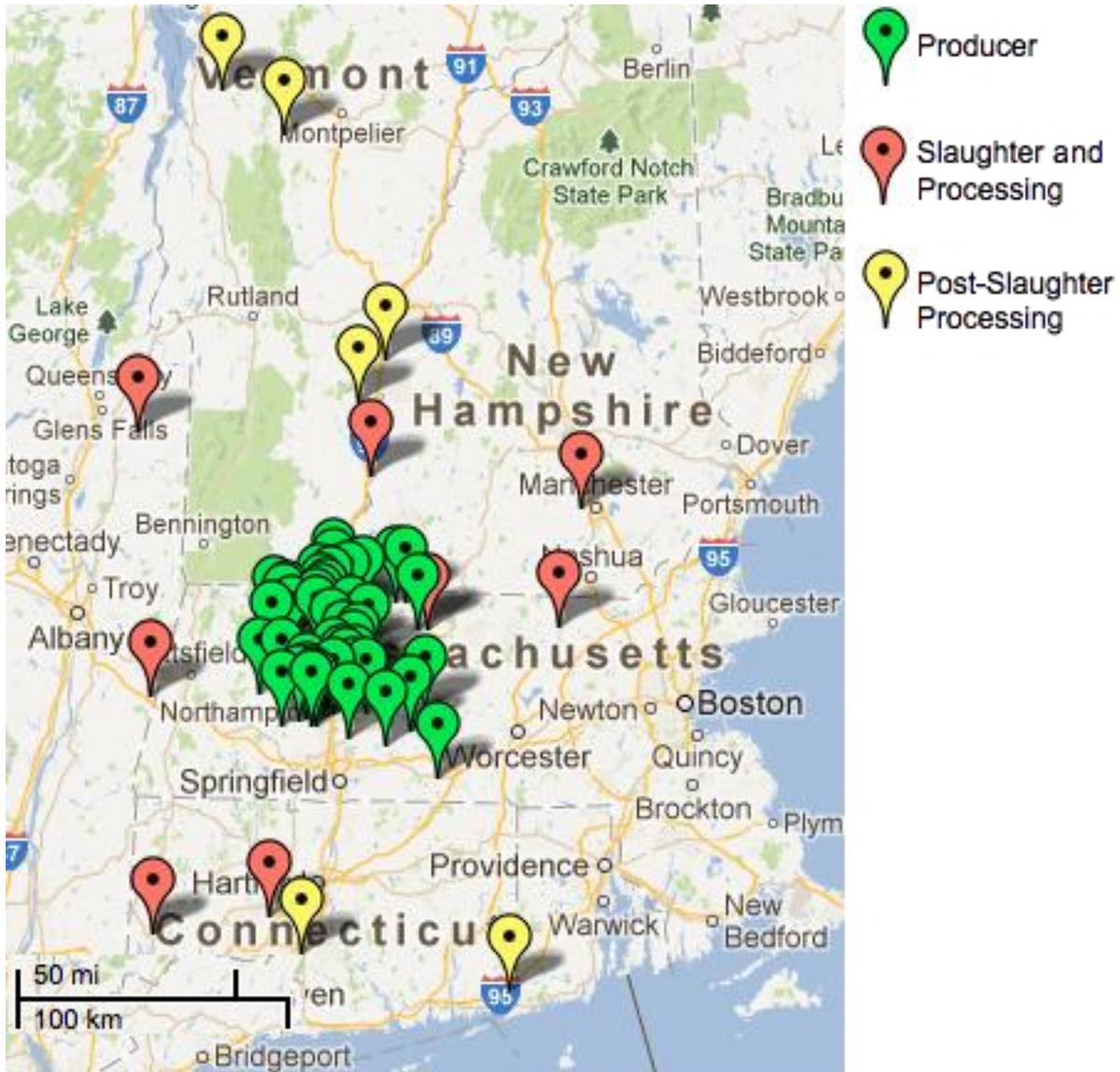


Exhibit 20: Map of Regional Processing Facilities



List of Known Pioneer Valley Producers and Regional Commercial Processors

Producers

Austin Brothers Valley Farm, *Belchertown*
Bostrom Farm (Beef & Pork), *Greenfield*
Bridgmont Farm (Beef), *Westhampton*
Brookfield Farm (Beef), *Amherst*
Brooks Bend Farm (Lamb), *Montague*
Chase Hill Farm (Beef & Pork), *Warwick*
Chestnut Farms (Beef, Lamb, Pork), *Hardwick*
Chicoine Farm (Beef), *Easthampton*
Cook Farm (Beef), *Hadley*
Copperhead Farm (Goat), *Hadley*
Crabapple Farm (Beef & Lamb), *Chesterfield*
Earthfire Farm (Lamb & Pork), *Buckland*
Echodale Farm (Beef & Pork), *Easthampton*
EIEIO Farm (Beef, Goat, Lamb, & Pork), *Leverett*
Foxbard Farm (Beef), *Shelburne*
Gray Dog's Farm, *Huntington*
Greenhorn Farm (Beef & Pork), *Amherst*
Hampshire College Farm Center (Pork & Beef), *Amherst*
Hettie Belle Farm (Lamb & Pork), *Warwick*
Intervale Farm (Lamb), *Westhampton*
King Creek Farm (Beef & Pork), *Ware*
Leyden Glen (Lamb), *Leyden*
Little Brook Farm (Beef, Lamb, & Pork), *Sunderland*
Long Hollow Bison Farm (Bison), *Hadley*
Manda Farm (Beef & Pork), *Plainfield*
Mansfield Farm (Beef, Goat, Lamb, & Pork), *Worthington*
Mayval Farm (Beef), *Westhampton*
Mockingbird Farm (Beef & Pork), *Easthampton*
Natural Roots (Pork), *Conway*
Open View Farm (Lamb), *Conway*
Red Gate Farm (Lamb), *Buckland*
River Maple Farm (Beef), *Bernardston*
River Rock Farm (Beef), *Brimfield*
Roaming Farm (Beef), *South Deerfield*
Shinglebrook Farm (Pork), *Shelburne*
Sidehill Farm (Beef), *Hawley*
Simple Gifts Farm (Pork), *Amherst*
Steady Lane Farm (Beef), *Ashfield*
Tanstaaf Farm (Lamb, Mutton, & Pork), *Greenfield*
The Farm School (Beef, Lamb, & Pork), *North Orange*

Town Farm (Pork), *Northampton*
Twin Maples Farm (Beef & Lamb), *Hatfield*
Upinngil in Gill (Beef), *Gill*
Wells Tavern Farm (Lamb & Pork), *Shelburne*
Wheel-View Farm (Beef), *Shelburne*
Winterberry Farm (Lamb & Pork), *Leverett*

Slaughter and Processing Facilities

Adams Farm, *Athol, Mass.*
Blood Farm, *Groton, Mass.*
Bristol Beef Co., *Bristol, Conn.*
Hilltown Pork Co., *Canaan, N.Y.*
Lemay & Sons Beef, *Goffstown, N.H.*
Locust Grove Slaughterhouse, *Argyle, N.Y.*
Tarzia Meat Packing, *New Milford, Conn.*
Westminster Meats, *Westminster Station, Vt.*

Post-Slaughter Processing Facilities

Black River Produce, *North Springfield, Vt.*
Green Mountain Smokehouse, *Windsor, Vt.*
Mad River Food Hub, *Waitesfield, Vt.*
Noack's Meat Products, *Meriden, Conn.*
Vermont Smoke and Cure, *Hinesburg, Vt.*
Westerly Packing, *Westerly, R.I.*

Appendix III: Overview of USDA Meat Processing Regulations

Requirements for Processing Facility

In general, the USDA's guidelines for an acceptable facility require washable floors, walls, and ceilings, plus potable hot and cold water.³⁸ Major topics including plans for the site, floor layout, plumbing, room finishing, and doors, and are briefly summarized below:³⁹

Site Plan

The size of the site must reflect necessary buildings, access roads, parking lots, and considerations for future expansion. Additionally, the site should be relatively free of potential external contaminants, such as landfills or chemical manufacturing plants. The direction of the prevailing wind in the area must also be taken into account.

Floor Layout

Product should systematically flow through the facility, in a way that reflects the relative risk of contamination, from raw to fully cooked products. Rooms must be large enough to accommodate necessary equipment and personnel, and allow for sufficient spatial separation between product and trash receptacles. Likewise, inedible or contaminated products should be well separated from edible products in either different rooms or different areas of the same room. Clear pathways must exist in rooms to allow personnel to appropriately separate themselves from product. "Welfare rooms," such as bathrooms or dressing rooms must be located as to not interfere with the flow of product throughout the facility.

Also, in a room processing different species of animals, these processing areas should be kept separate to minimize the risk of cross-species contamination. Further, the storage, preparation, and processing of non-meat items, like produce and spices, should be separated from meat items.

Plumbing Plan

The facility must be large enough to accommodate the supply of potable water necessary for the intended processing needs, and a sewage system able to handle the liquid waste and processing water generated.

Room Finishing

Floors and surfaces must be constructed with materials that are easy to clean. They must be waterproof, durable, and lightly colored. Floors must slope downwards from walls to allow for drainage into the facility's sewage system. Rooms should be regularly checked for damage, and well maintained.

³⁸ Detailed regulations can be found in the Federal Register:
<http://www.ncagr.gov/meatpoultry/pdf/Facility%20Guidelines.pdf>
[http://www.ncagr.gov/meatpoultry/pdf/Facility Guidelines.pdf](http://www.ncagr.gov/meatpoultry/pdf/Facility%20Guidelines.pdf)

³⁹ Adapted from guidelines prepared by the Virginia Department of Agriculture and Consumer Services:
<http://www.vdacs.virginia.gov/meat&poultry/pdf/guidebook.pdf>

Doors

Although many types of doors are permitted, all must be waterproof, tight-fitting in a way that greatly mitigates air exchange and the possibility of entrance by vermin, durable, easy-to-clean, and high and wide enough to allow the movement of product through them with enough clearance.

Ultimately, due to the complexity of facility requirements, no new construction or renovation should take place without the assistance of the relevant federal or state agencies, and an experienced consultant.

Requirements for Documentation

A commercial meat-processing facility must create and maintain a variety of plans, primarily HACCP and SSOP plans, aimed at reducing contamination of food products. As with meat-processing facilities, the requirements for documentation are often complex. Therefore, a new processor may greatly benefit from hiring a consultant to assist in the preparation and approval process for these plans.

Hazard Analysis and Critical Control Point (HACCP) Plans

Essentially a food-safety plan for a particular type of food product, HACCP plans became a requirement for small processing facilities in 2000. A processor first creates their own procedures and performance standards for producing food products, following the HACCP guidelines, and then submits this plan to the USDA for approval. A HACCP plan is required for each type of product made at a facility (ex. fresh pork sausage). Whenever a facility plans to create a new type of product, they must either review and update the existing HACCP plan for that type of product (ex. update HACCP plan for fresh sausage to reflect critical control points in the production of a new hot Italian fresh sausage), or create a new HACCP plan, if an entirely different type of product will be made (ex. a variety of fully cooked sausage, which has not been produced at the facility before). All HACCP plans must annually be reviewed and signed by the trained parties bearing responsibility.

The concept of a HACCP plan may be better understood by separating the “Hazard Analysis” component from “Critical Control Point.” Hazard analysis refers to the identification and prevention of significant food-safety hazards, whereas critical control points are steps within the manufacture of a food product where specific critical control limits may be exceeded. A critical control limit can be defined as “a minimum or maximum value at which a physical, chemical, or biological parameter must be controlled to minimize the risk that a potential food safety hazard may occur.”⁴⁰

⁴⁰ Maryland. Calvert County Health Department Division of Environmental Health. “Designing a HACCP Plan for your Facility.” Web. 12 Apr. 2013

<http://www.calverthealth.org/community/environmentalhealthservices/PDF/HACCPPre.pdf>

A HACCP plan typically requires the following components:

1. Identification of each Critical Control Point (CCP)
2. Critical limits for each CCP
3. Monitoring procedures for each CCP
4. Corrective action that will be taken when there is a loss of control at a CCP
5. Verification procedures that will ensure proper monitoring of each CCP
6. Written procedures for employee training in HACCP plan procedures
7. A list of food service equipment that is used at each CCP

Since the USDA must approve new each HACCP plan for a processor, we have found significant value in the use of a consultant to assist new processors in the development of these plans. Existing processors with approved HACCP plans that are in need of a new plan regularly choose to copy and edit an existing plans, instead of creating new plans from scratch.

Sanitation Standard Operating Procedures

As of 1997, all USDA-inspected commercial meat processors must create an SSOP. This plan specifies which sanitation activities will occur daily in order to prevent contamination of food products within the facility. At minimum, this plan must describe how surfaces which come in contact with food products, in addition to equipment and utensils, will be cleaned each day. The plans identify who in the facility will perform these duties, such as employees, or, more commonly, a contract cleaning service, in addition to who will sign and date the appropriate documentation to verify the completion of these activities.

Details from the USDA FSIS on how to construct an SSOP can be found here:

http://www.fsis.usda.gov/pdf/ssop_module.pdf

Food Defense Plan

Unlike a food-safety-type plan, like a HACCP plan, which seeks to identify ways food can be unintentionally contaminated, a food defense plan aims to protect food products from the intentional contamination by people who wish to do harm. These plans try to address contaminants that may not be routinely tested for or anticipated. A food defense plan is much simpler to create than a HACCP plan, and USDA FSIS has provided the following document to allow a commercial meat processor to easily compile their own plan:

http://www.fsis.usda.gov/pdf/food_defense_plan.pdf

Food Emergency Response Plan (FERP)

As defined by the USDA FSIS, “a food-related emergency involves the adulteration and/or contamination, threatened or actual, of food, that impacts or may impact human health.”⁴¹

Further, these food emergencies are not small, local issues, but large incidents that involve a

⁴¹United States Department of Agriculture. National Association of State Departments of Agriculture. “Food Emergency Response Template.” Aug. 2011

number of facilities and states. Therefore, these plans are typically developed at the state-level, not by the processor, and then disseminated to food-processing facilities within the state.

Requirements for Inspection

In general, if a facility wishes to produce packaged meat products for sale at retail locations, either the state or the USDA must inspect the premises. Thus, the facility must be available for daily examination by a USDA inspector. USDA typically provides inspection services to small plants at no charge, although the plant must pay approximately \$80 per hour for any overtime worked by the inspector. Although the arrival of an inspector should be anticipated at any commercial meat-processing facility each day while in operation, only facilities that conduct slaughter require continuous inspection, when each carcass must be visually inspected. Otherwise, for a meat-processing facility that does not slaughter live animals, an inspector might only be present for an hour or less each day to examine the state of the premises, before moving on to check another facility.

A new commercial meat-processing facility can receive approval from the USDA to operate in as little as one month. There is no application fee.

To receive a grant of inspection, the establishment must:⁴²

1. Develop and implement a HACCP plan
2. Develop, implement, and maintain Sanitation Standard Operating Procedures
3. Conduct generic E. coli testing
4. Comply with Salmonella performance standard requirements
5. Maintain sanitary conditions
6. Not be unfit to engage in any business requiring inspection (ex. previous criminal activity, especially food-related)

Further, the facility must meet requirements relating to pest management, safety standards for employees, and provisions for office and locker space for the USDA inspector.

Once the processor's description of business activities, declaration of responsible persons, plan for the site, floor layout, HACCP, and SSOP plans have been approved by the USDA, an inspector will be deployed for a site visit. If the site meets USDA requirements, a 90-day conditional "grant of inspection" will be provided, which will later become permanent, and assigned a federal plant number. The USDA recommends that new facilities heavily leverage a consultant to ensure that the facility and necessary documentation meet all requirements at the time of initial submission. If there are errors, significant delays can occur.

⁴² Roche, Jonathan. "Cost Analysis: A Meat Processing Facility in Western Massachusetts." Oct. 2001

Exemptions from USDA Inspection

*Retail Exemption*⁴³

The USDA FSIS Retail Exemption allows retailers, such as grocery stores, markets, and butcher shops, to engage in the processing and sale of any type of meat product, without mandatory USDA inspection, so long as the majority of these products are sold directly to household consumers. Retailers may, however, process and sell meat and meat products, in limited quantities, to hotels, restaurants, and similar institutions (HRIs), under the Retail Exemption. In all cases, the meat received and used by the retailers must have been slaughtered and pre-processed, if applicable, under state or USDA inspection.

Sales to HRI's cannot exceed 25% of the retail establishment's total sales, or \$67,300 in sales of red meat annually. Additionally, the Retail Exemption component only allows for the provision of fresh meat that has been cut, ground, or frozen. Any retail facility that cures, cooks, or otherwise prepares products for "other than household consumers" would be subject to USDA inspection. Therefore, this rule precludes the manufacture of smoked meat products, such as bacon and ham, and cooked sausages.

Although establishments operating under the Exemption are free of mandatory USDA inspection, they must still maintain a sanitary establishment that produces clean products. Similarly, these establishments must create food-safety plans, although not necessarily a HACCP plan; develop sanitation standard operating procedures (SSOPs); and keep records of production, including documentation of non-household customers, production dates, quantities, and other required information.

Essentially, the Retail Exemption exists for sales that are primarily made to household consumers, as well as a limited amount of sales to restaurants and other food-service-type establishments. Retailers, though, cannot sell to other retailers, wholesalers, or distributors, under the Retail Exemption. Selling to these customers requires mandatory USDA inspection.

Unfortunately, a local producer, who might wish to have a butcher shop prepare various meat cuts and products for them in order to then sell those products at a local farmer's market, is not defined as an HRI. In this situation, the producer is actually operating a type of retail establishment, and is categorized as a retailer. Therefore, the meat products that they sell must be inspected by the USDA, and cannot be produced under the Retail Exemption.

Custom Exemption

The Custom Exemption allows for the slaughter and processing of livestock without USDA inspection so long as those animals are consumed solely by the owner's household and non-

⁴³ United States Department of Agriculture Food Safety Inspection Service. "Retail Exemption – Preparation of Meat Requirements." 13 Feb. 2013. Web. 23 Mar. 2013.

paying guests. Livestock processed under the Custom Exemption must be labeled as “Not for Sale” and cannot be resold. Therefore, this exemption is not able to serve the processing needs of a commercial meat producer.

Although the Exemption prohibits the sale of the meat after slaughter, in some cases producers sell a live animal that they own to a consumer, or portions of that animal to several consumers, and subsequently arrange for slaughter and processing of that animal for those consumers at a custom slaughter facility. Interpretation and enforcement of the exemption in the case of sales of animals prior to slaughter varies, and producers interested in these sales should contact local state or USDA representatives for guidance.⁴⁴ Recently, Vermont passed a new law allowing a farmer to sell a limited number of live animals each year to customers that may then slaughter the animals on the farm themselves, or hire an itinerant slaughterer, who is not the farmer that sold the animal, to do so for them. With this law, the farmer is not required to have a slaughter license or to be inspected as long as certain conditions are met.⁴⁵

In any situation, livestock processed under a Custom Exemption must adhere to the following:⁴⁶

1. Carcasses must be labeled “Not for Sale” immediately after slaughter:
 - a. If the carcass is slaughtered on the farm, and then brought to a custom or commercial processor immediately after slaughter, all packaging used in transport must be clearly labeled as “Not for Sale”;
 - b. If meat processed under the Exemption is mixed with USDA inspected meat, perhaps for the purpose of grinding, then all of the commingled product must be marked as “Not for Sale”.
2. The custom processor must maintain documentation on sanitation, disposal of certain animal parts, and the numbers and kinds of livestock slaughtered:
 - a. Information on safety measures at the facility, relating to water, sewage, and chemicals, must be recorded;

⁴⁴ There are numerous conditions to the use of the Custom Exemption for the processing of a live animal sold to one or more new owners. In many cases, these are based on interpretation of the rule by a particular agency or regulator. Thus, they may not be available in writing and may be subject to change. In general, a live animal should only be divided into up to four shares when it is sold to new owners for custom processing without drawing scrutiny from the USDA. Prior to slaughter, one or more consumers must own the whole of an animal, with no portion left unclaimed. Further, any pricing must relate to the animal’s live weight, not hanging or finished weights. The new owners must pay the producer for the live weight of the animal sold, but then must pay the processor themselves for the slaughter and processing fees incurred. Any advertising must be very clear that a live animal, and not meat, is for sale. For reasons like these, some processors may be reluctant to process live animals sold under the Custom Exemption to new owners by the producer.

⁴⁵ Vermont Agency of Agriculture Food & Markets. “‘On-Farm’ Personal Use Exemption.” Web. 21 Aug. 2013

⁴⁶ Carr, Chad, Larry Eubanks, and Ryan Dijkhuis. “Custom and Retail Exempt Meat Processing.” University of Florida IFAS Extension. Nov. 2011. Web. 24 Mar. 2013

- b. Information on how brains, spinal cords, and other risky animal parts must be recorded, in addition confirmation that only ambulatory animals were slaughtered;
 - c. Data on the numbers of species slaughtered on various dates, along with a listing of products prepared, must be maintained.
3. Lastly, facilities processing under an Exemption are subject to periodic sanitation reviews by the USDA FSIS to ensure that the facility meets required sanitation regulations; review for processors with no history of non-compliance are infrequent, and rarely occur more than once per year.

Requirements for Transportation

When USDA inspected meat products are moved by vehicle from one facility to another, perhaps for further processing, the USDA only examines the conditions of the product, including temperature and packaging, at departure and arrival. Therefore, the vehicle that actually moves the product does not also need to be inspected by the USDA. Other state and local regulations, however, may require the transportation of perishable food products, including meat, in a mechanically refrigerated truck, instead of in coolers, so this manner of travel is generally recommended, especially in the warmer seasons of a year.

Requirements for Labeling

General

- The label must...
 - Be applied on a package's principal display panel, or the side of the package that directly, and obviously, faces the consumer when it is picked up.
 - Use a print or type size that is prominent, conspicuous and easy to read.
 - Use letters that are at least one-sixteenth (1/16) inch in height based on the lower case letter "o".
 - The letters must not be more than three times as high as they are wide, and the lettering must contrast sufficiently with the background so as to be easy to read.
 - Do not crowd required labeling with artwork or non-required labeling. (http://datcp.wi.gov/uploads/Food/pdf/food_label_questions.pdf)
- Labels, and other stickers, must be applied to the package at the processor, *not* at home.
- The net weight of a package may be handwritten on the label at home.
- One or more labels may be used to display the following requirements.

Required Sections for All Food Products

- Name of Product:
 - Terminology must be approved
 - Product name must be USDA-approved.

- Ex. “Italian Sausage”
 - Go to the following URL for a list of approved names for meat products:
http://www.fsis.usda.gov/OPPDE/larc/Policies/Labeling_Policy_Book_082005_2.pdf
 - Any claims must be USDA-approved.
 - Ex. “Natural” or “No Hormones”
 - Go to the following URL for a list of approved claims for meat products:
http://www.fsis.usda.gov/factsheets/meat_&_poultry_labeling_terms/#14
 - Names for meat cuts must follow this order: **Species | Primal | Cut** (Ex. “Goat Loin Chop” or “Beef Rib Steak” *not* “Delmonico Steak”).
 - The use of generic labels with hand-stamped product names is permissible.
 - Name must be prominent.
- Ingredient List:
 - List is required for products with two or more ingredients.
 - Ingredients must be listed in order of predominance by weight.
 - List must include listing of eight major allergens: Peanuts, Tree Nuts, Milk, Wheat, Soy, Fish, Shellfish Crustaceans, and Eggs.
 - 60% of all meat recalls are for undeclared allergens.
 - Use “Contains: Wheat, Soy, etc.” statement at bottom of ingredients list, or identify allergens in-line with products (Ex. Whey [Milk]).
 - Advisory labeling (Ex. “Processed in a facility that also processes soy”) is not required, but is recommended for legal reasons.
- Declaration of Responsibility:
 - Must include name of producer or processor, in addition to address and zip code, unless the address is readily available in the phonebook;
 - Ex. “Packed for Jones Farm, 123 Meadow Drive, Agtown, MA 12345” or “Packed by Smith Processor, 456 Brick Lane, Othertown, MA 67890”
- Net Weight (i.e. NET WT.):
 - Must appear on bottom 30% of principal display panel
 - Must reference weight in ounces and pounds (Ex. “16 Ounces [1 Pound]), or liquid measure
 - Type size must not be less than one-sixteenth inch in height on packages with a principal display panel of an area of 5 square inches or less; not less than one-eighth inch for between 5 and 25 square inches. Go to the following URL if using larger principal display panels: <http://www.gpo.gov/fdsys/pkg/CFR-2008-title9-vol2/xml/CFR-2008-title9-vol2-sec317-2.xml>

- Weight must be prominent and separated from other label contents by twice the width of the capitalized letter “N” used in the appropriate type size.

Additional Requirements for Meat Products

- Official Inspector Legend:
 - Required for all products containing > 3% raw meat or > 2% cooked meat by weight⁴⁷
 - Includes state or federal symbol with plant establishment number
 - Ink brand on a carcass must be visible through any plastic wrapping in order to move product to another facility, or else a label with the legend must appear on the outside of the packaging.
- Handling Statement:
 - Must include “Keep Refrigerated” on fresh products
 - Must include “Keep Frozen” on frozen products
- Safe Handling Requirements:
 - Can be placed anywhere on package, including the principal display panel, or otherwise
 - Label Text:
 - *This product was prepared from inspected and passed meat and/or poultry. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly. For your protection, follow these safe handling instructions.*
 - *Keep refrigerated or frozen. Thaw in refrigerator or microwave.*
 - *Keep raw meat and poultry separate from other foods. Wash working surfaces (including cutting boards), utensils, and hands after touching raw meat or poultry.*
 - *Cook thoroughly.*
 - *Keep hot foods hot. Refrigerate leftovers immediately or discard.*
- Country of Origin:
 - Only required for stores selling >\$230,000 of produce (i.e. fruits and vegetables) per year
 - Required for meat cuts, not multi-ingredient products
 - Currently must include: “Product of Country A, B, C, etc.” referencing all countries when animal was born, raised, or slaughtered

Requirements for Nutrition Labeling (i.e. Nutrition Facts)

- Required for producers of all sizes selling major cuts directly to the consumer;
 - Must appear on package, or be prominently displayed at point of purchase; for example, on a 8.5x11-inch piece of paper on the table at the farmer’s market;

⁴⁷ The USDA only requires the inspection of amenable products. A mixed product containing meat is considered amenable if it contains greater than 3% raw meat or 2% cooked meat by weight.

- Go to the following URL for a printable copy for beef and veal:
http://www.fsis.usda.gov/PDF/Beef_Veal_Nutrition_Facts.pdf
- Go to the following URL for a printable copy for pork and lamb:
http://www.fsis.usda.gov/PDF/Pork_Lamb_Nutrition_Facts.pdf
- If a producer desires to use nutrition facts different from the data provided by the USDA, then the product must be tested in the laboratory by the USDA's Agricultural Marketing Service at an estimated cost of \$100 per nutrient (Ex. Protein).
- Not required for producers selling major cuts wholesale; the institution, such as a retail establishment, must instead provide this information
- Only required on ground or multi-ingredient products made by companies with >500 employees or if over 100,000 pounds of the particular meat product (Ex. "Teriyaki-Flavored Beef Jerky") are produced per year
- Claims on nutrient contents (Ex. "Lean" or "Low Cholesterol") must be verified at owner's expense; documentation is required along with nutrition facts used.

Description of Approval Process

- Typical procedure:
 - Obtain 'model' label from processor to use as layout for new label;
 - Bring label to printer, remove processor's information, and add appropriate declaration of responsibility text;
 - Retrieve paper-based label application form:
<http://www.fsis.usda.gov/fsisforms/7234-1.pdf>

Label Applications sent via U.S. Postal Service (including regular mail, U.S. Priority Mail and U.S. Overnight Mail) should be mailed to:

USDA, FSIS, OPPD, LPDD
 Labeling Distribution Unit
 Stop Code 3786, Patriots Plaza III, 8-168
 1400 Independence Avenue, SW
 Washington, DC 20250-3700

Label Applications sent via UPS, FedEx, or courier should be shipped to:

USDA, FSIS, OPPD, LPDD
 Labeling Distribution Unit
 Patriots Plaza III, 8-168
 355 E. Street, SW
 Washington, DC 20024-3221

- Average wait time for paper-based submission of new label *without claims* (Ex. "No Hormones") is 4-6 weeks.

- Average wait time for new label *with claims* is 6-8 weeks.
- New eAuthentication system promises reduced wait-times and ease-of-use for certain types of producers. Go to the following URL to register:
<https://www.eauth.usda.gov/mainPages/eAuthSiteMap.aspx>

Appendix IV: Individuals Consulted in the Production of this Report

We would like to thank the following people for all of their input and support throughout this study, as well as for their commitment to strengthening local agriculture.

Agricultural and Food Policy Experts

Ms. Chelsea Bardot-Lewis, *Vermont Agency of Agriculture Food and Markets, Montpelier, Vt.*

Mr. Sean Bowen, *Massachusetts Department of Agricultural Resources, Boston, Mass.*

Mr. Thomas Collaro, *United States Department of Agriculture, Waltham, Mass.*

Ms. Jennifer Hashley, *New Entry Sustainable Farming Project, Lowell, Mass.*

Producers

Mr. Jeremy Barker-Plotkin, *Simple Gifts Farm, Amherst, Mass.*

Mr. Matt Biskup, *King Creek Farm, Ware, Mass.*

Mr. Kyle Bostrom, *Bostrom Farm, Greenfield, Mass.*

Ms. Anne Cody, *Summit Farm, New Braintree, Mass.*

Mr. Dan Kaplan, *Brookfield Farm, Amherst, Mass.*

Ms. Eliza Lake, *Kinne Brook Farm, Worthington, Mass.*

Ms. Mary Montague, *Bridgmont Farm, Westhampton, Mass.*

Mr. John Payne, *Foxbard Farm, Shelburne, Mass.*

Ms. Jennifer Peotter, *Dirigo Farm, Chesterfield, Mass.*

Mr. Pete Solis, *Mockingbird Farm, Easthampton, Mass.*

Ms. Carolyn Wheeler, *Wheel-View Farm, Shelburne, Mass.*

Processors and Commercial Kitchens

Mr. Chris Bailey, *Vermont Smoke and Cure, Hinesburg, Vt.*

Mr. Richard Beckwith, *Hilltown Pork Co., Caanan, N.Y.*

Mr. Jacob Finsen, *Mad River Food Hub, Waitsfield, Vt.*

Mr. Ed Maltby, *Adams Farm, Athol, Mass.*

Mr. Robin Morris, *Mad River Food Hub, Waitsfield, Vt.*

Mr. John Waite, *Western Massachusetts Food Processing Center, Greenfield, Mass.*

Restaurants, Retailers, and Distributors

Ms. Gail Beauregard, *Green Fields Market, Greenfield, Mass.*

Mr. Sean Buchanan, *Black River Produce, North Springfield, Vt.*

Mr. Alden Booth *The People's Pint, Greenfield, Mass.*

Mr. Philip Clayton, *The Farmhouse Group, Burlington, Vt.*

Ms. Rebekah Hanlon, *Valley Green Feast, Northampton, Mass.*

Mr. Daniel Martinez, *Bistro Les Gras, Northampton, Mass.*

Mr. Jason Pearsall, *Whole Foods Market North Atlantic Region, Cambridge, Mass.*

Mr. Gary Schaefer *Bart's Homemade, Greenfield, Mass.*

Mr. Jake Levin, *The Meat Market, Great Barrington, Mass.*

Trade Associations

Ms. Marissa Guggiana, *The Butcher's Guild, San Francisco, Calif.*

Ms. Kathleen Harris, *North East Livestock Processing Service Company, Sprakers, N.Y.*

Ms. Heidi Quinn, *Rhode Island Raised Livestock Association, North Scituate, R.I.*

Dr. Arion Thiboumery, *Niche Meat Processor Assistance Network, Cannon Falls, Minn.*