

# Mobile Processing: Opportunities in the Local Meat Sector

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Mobile Abattoirs in the Context of Canadian Local Food System Development: Niches and the Potential for Local Food System Resiliency

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# Table of Contents

<b>List of Images</b> .....	1
<b>List of Figures</b> .....	2
<b>Chapter 1.0 Introduction to the Research Project</b> .....	3
1.1. Research Goal, Objectives, and Justification .....	4
1.2 Methods .....	5
<b>Chapter 2.0 Local Food and the Canadian and Ontario Contexts</b> .....	8
<b>Chapter 3.0 Ontario’s Local Livestock Processing and Slaughtering Sector</b> .....	11
3.1 An Introduction to the Challenges in the Ontario Local Meat Sector .....	11
3.2 Meat Inspection in Ontario .....	12
3.3 Business Viability in the Local Meat Sector in Ontario .....	13
3.4 A Quick Look at Mobile Abattoir Potential in Ontario .....	15
<b>Chapter 4.0 Jurisdictional Scans of Mobile Abattoirs in North American</b> .....	17
4.1 Mobile Abattoirs in Alberta .....	17
4.1.1 Alberta’s Local Food System .....	17
4.1.2 Alberta’s Regulatory Context .....	19
4.1.3 Alberta’s Mobile Abattoir Inventory .....	20
4.1.4 Conclusion of Mobile Abattoir Development in Alberta .....	22
4.2 Mobile Abattoirs in The Yukon .....	23
4.2.1 The Yukon’s Local Food System .....	23
4.2.2 The Yukon’s Regulatory Context .....	24
4.2.3 The Yukon’s Mobile Abattoir Inventory .....	25
4.2.4 Conclusion of Mobile Abattoir Development in The Yukon .....	27
4.3 Mobile Abattoirs in British Columbia .....	27
4.3.1 British Columbia’s Local Food System .....	27
4.3.2 British Columbia’s Regulatory Context .....	29
4.3.3 British Columbia’s Mobile Abattoir Inventory .....	32
4.3.4 Conclusion of Mobile Abattoir Development in British Columbia .....	34
4.4 Mobile Abattoirs in Washington .....	35
4.4.1 Washington’s Local Food System .....	35
4.4.2 Washington’s Regulatory Context .....	37
4.4.4 Conclusion of Mobile Abattoir Development in Washington .....	42
4.5 Mobile Abattoirs in Quebec .....	43
4.5.1 Quebec’s Local Food System .....	43

4.5.2 Quebec's Regulatory Context .....	45
4.5.4 Conclusion of Mobile Abattoir Development in Quebec .....	51
<b>Chapter 6.0 Analysis of Primary Data .....</b>	<b>53</b>
6.1 Mobile and Modular Owners and Operators in British Columbia .....	53
6.1.1 Geographic Range of Case Studies .....	53
6.1.2 Business Structure of Case Studies .....	53
6.1.3 Business Success, Challenge, and Overall Viability .....	58
6.2 Ontario Abattoir, Processor, and Butchering Facility Owners .....	62
6.3 Regulators in British Columbia .....	64
6.4 Discussion of British Columbia Case Studies .....	64
6.5 Mobile and Modular Owners and Operators in Alberta .....	66
6.5.1 Business Structure and Geography of Case Studies .....	67
6.6 Discussion of Case Studies in Alberta .....	70
<b>Chapter 7. 0 Conclusion .....</b>	<b>71</b>
7.1 Considerations for Moving Forward in Ontario and Beyond .....	71
7.2 Conclusion and Final Reflections .....	73
<b>References .....</b>	<b>79</b>

**List of Images**

**Image 1.0-Mobile Abattoir**

Sustain Ontario. (2013). "Mobile Abattoir". Retrieved From:

<http://sustainontario.com/2013/04/21/15661/news/mobile-abattoirs-lessons-from-quebec/attachment/mobile-abattoir>

.....32

**Image 2.0**

Abitibi-Témiscamingue Location.....47

**Image 3.0**

Abitibi-Témiscamingue Urban Centers .....47

## List of Figures

### Figure 1.0

Meat Regulation in British Columbia

British Columbia Ministry of Health. (2013).

.....31

### Figure 2.0

WSDA Food Processor License Fee Schedule

.....38

### Figure 3.0

Québec Operating Permit Costs

.....46

### Figure 4.0

Business Ownership Structure

.....53

### Figure 5.0

Type of Livestock Serviced

.....55

### Figure 6.0

Level of License

.....55

## **Chapter 1.0 Introduction to the Research Project**

Agricultural development has initiated profound changes since the end of WWII, transforming the way that food is regarded through the creation of an international food system. Characterized by consolidation and intensification and catalyzed by market liberalization, the international food system has resulted in a myriad of complex issues that are of increasing concern to citizens worldwide. Persistent environmental threats due to modes of production, health concerns over the use of biotechnology, additives and further processing, and increasing social and food-related disparities are some of the most prominent issues faced at present. While the conventional food system has effectively increased the distance between producer and consumer, or between farm to plate, an increasingly prominent interest in fostering localized food systems has been documented across the globe.

The push towards localized food systems has come forth from a broad range of stakeholders and reflects an equally broad range of intentions. For some, the development of local food systems means the ability to support local economies, eat fresher foods and ultimately have a higher degree of control over personal consumption. For others, localized food systems are a means of creating more resilient food systems that are not reliant on outside actors, such as large agro-food corporations or trading partners. Despite the intentions behind the development of local food systems, however, they all rely on the sufficient functioning of local food supply chains in order to exist, much in the same way that the conventional food system relies on its respective food supply chain. While in provinces such as Ontario, development of the local food sector has taken a stronghold in terms of labeling programs, research, and a diversity of local food initiatives, there are other areas within the sector that require continued attention and development. One area of the local supply chain that continues to require development in Ontario and many Canadian provinces and territories is that of local meat slaughtering and processing. Indeed, challenges faced by producers (in accessing local meat slaughtering and processing services) and consumers (in accessing local meat) are documented across the country. These challenges tend to be particularly

marked in more rural and remote regions, where spatial distance often results in a low density of available slaughtering and processing infrastructure. Other factors, however, play a part in this experienced lack of access including consolidation of the marketplace, capital costs, and regulatory frameworks. Nonetheless, demand for local meat continues to grow as people become increasingly invested in the concept of local food.

One unique and novel approach currently being utilized by several Canadian jurisdictions in attempt to overcome some of the challenges related to a lack of access to local meat slaughtering and processing services is the mobile or modular abattoir slaughtering and processing model. Currently present across several Canadian provinces and territories, as well as many United States' jurisdictions, this business model has been documented as a potential opportunity to facilitate expansion within rural and local meat sectors. Given the range of challenges faced within the local meat sector in Ontario, including the sweeping loss of small, local slaughtering and processing facilities across Southern Ontario and an extremely underdeveloped local meat sector in Northern Ontario, this research sought to examine the unique business model of mobile abattoirs within the broad context of rural community economic development. More specifically, the research aimed to create a vigorous exposition of mobile abattoir business development within North American jurisdictions, with a special focus on Canadian geographies, through a comparative lens that would serve to further elucidate whether the mobile abattoir business model would be useful for consideration in the Ontario context.

### **1.1. Research Goal, Objectives, and Justification**

Given the range of challenges within Ontario's local meat processing sector identified by the current available research, this research intended to probe further into the alternative processing model of mobile and/or modular abattoirs and mobile butcher businesses, given the introduction of such mobile units in several other North American jurisdictions where similar challenges to Ontario have been noted. From this perspective, the research sought to create a comparative analytical framework that would be capable of providing a) a review of mobile abattoir businesses and their



relative successes, or lack thereof, across several North American jurisdictions; and b) a high-level overview of how the mobile businesses fit and functioned within their respective jurisdictions' economic, regulatory, and geographical contexts. Therefore, by revealing a broader understanding of mobile abattoir business opportunity and challenge within place-specific contexts, the research project strived to create an evidence-based review that would function to inform both policy makers and potential business owners in Ontario as the discussion surrounding mobile abattoir development within the province continues. The central research question was therefore, do mobile or modular abattoirs present potential for Ontario in terms of a) increasing access to local livestock slaughtering and processing and b) contributing to an overall more robust local food system?

## **1.2 Methods**

The research discussed here was undertaken using a mixed methods approach with a weighted focus on qualitative data collection. Using a descriptive, exploratory approach, data collected aimed to contribute to the understanding of the current state of mobile abattoir businesses in Alberta, Quebec, the Yukon, British Columbia, and Washington State. Because this information would be used for a comparative analysis to inform decisions within Ontario's local meat processing sector, the first method used was a review of the literature as it relates to the current state of local food system development within Ontario and more specifically, the challenges faced within Ontario's local meat sector. A review of the regulatory context in Ontario as it relates to the local meat-processing sector was also provided. In order to further enhance the research data as it related to the challenges within the local meat sector for Ontario, key informant interview with Ontario abattoir, processing facility, and butcher shop owners were also undertaken. These interviews were also designed to gain an increased understanding of the potential demand for mobile abattoirs within Ontario.

In order to identify existing mobile abattoir businesses and the context and frameworks that they function within, North American jurisdictional scans were conducted for British Columbia, The Yukon, Quebec, Washington State, and Alberta. In order to

provide insight into the similarities and differences of the various jurisdictions' characteristics as they relate to mobile abattoir development, a variety of research areas were identified in order to enhance the robustness of the comparative, evidence-based framework of the research. Jurisdictional scans therefore reviewed local food system development, the local meat sector, the existing number of mobile abattoirs, mobile abattoir business challenge and success, and finally, the regulatory context for each jurisdiction. Conducting jurisdictional scans served to identify the current state of mobile abattoir businesses in each province, state or territory, as well as to situate their development within their relative economic, geographic, and regulatory contexts. More specifically, analysis of each jurisdiction's local food system and regulatory framework aided in understanding the development of mobile abattoirs within the context of rural economic community development and regulatory change, while analysis of the regulatory frameworks also functioned as a way of providing Ontario regulators with information on various policy approaches. The jurisdictional scans also helped to identify where the most robust primary data collection could occur.

Given that the highest number of provincially or territorially based mobile abattoirs are found in British Columbia, it was in this province that primary data was collected for this business type. During the Alberta jurisdictional scan, it was revealed that the province is home to numerous mobile butcher facilities and therefore a second set of primary data was collected on this business type. Primary data collection of mobile and modular<sup>1</sup> abattoir and butcher facility businesses was conducted in the form of case studies. Case studies focused on several aspects of each business and included semi-structured key informant interviews with business owners as well as photo documentation of facilities and equipment. For each case study, the mobile or modular abattoir or butcher facility was examined according to geographic location, agricultural community needs and the regulatory environment. Interviews with business owners focused on operational capacity and utilization, value-added and niche market access,

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<sup>1</sup> While conducting a jurisdictional scan of British Columbia, it was revealed that not all moveable processing facilities were mobile, but that there were instances of partially mobile abattoirs (called modular abattoirs).

interaction with the relevant policy framework and regulators, and overall business model and capital costing.

In addition, case studies were supplemented with financial data from those businesses willing to share such information. Financial data provided evidence-based quantitative measures of business success. In some cases, data on the financial state of a business was supplied through official financial documentation such as cash flow statements and balance sheets, while in other cases it was supplied orally. Utilizing a case-study approach in order to better understand the current state of mobile and modular abattoir businesses within British Columbia and Alberta led to a robust collection of data that often captured an in-depth understanding of each business. Providing confidentiality to the extent of amalgamated research findings also helped to enhance the research findings, as business owners were admittedly candid about various aspects of their businesses that were perceived as sensitive such as financial information, ownership structure and change, and regulatory compliance.

In order to supplement the secondary data collected regarding the regulatory context as it relates to local meat processing and slaughter in British Columbia, key informant interviews and informal discussions with policy and program government officials were also conducted. This primary data aided in identifying policy options and in the case of British Columbia, clarified the vast amount of change that has occurred within the province's meat regulatory framework. It also provided insight into the regulator perspective towards mobile units throughout with regards to regulatory ease (in comparison to stationary abattoirs and processing facilities), business model capacity for regulatory compliance and overall interaction with business owners.

## **Chapter 2.0 Local Food and the Canadian and Ontario Contexts**

Increasingly, the push for local and alternative food systems has been spawned from a growing list of both global and local uncertainties. Indeed, consumer concerns over the conventional food system continue to become aggravated by factors such as climate change, new production modes and technologies, environmental health and food access, security, and equity. Increasingly, movements towards alternative food systems respond to both local and global issues through community and place-based initiatives and solutions that are capable of addressing this wide range of concerns (Blouin et al., 2009; Sage, 2010).

Local food initiatives and systems in the modern day do not come without their own set of challenges, however. Blouin et al., (2009) discuss the three most common barriers for local food system development as lack of financing, economic power, and knowledge. For local and regional food initiatives, capital and operating costs can pose significant challenges. Given that many local food initiatives are built and developed on the basis of creating more just food systems (as opposed to profit-making) creating and maintaining a viable business model can be difficult. In addition, external funding can be hard to find, and microloans can come with high interest rates depending on their source (Blouin et al., 2009). In terms of economic power, there is widespread agreement that the conventional markets create an unfair advantage to small and medium sized agricultural enterprise through the continued vertical integration and corporate consolidation within the food system. Moreover, advantage in the conventional sector is further aggravated by the continuous externalization of negative environmental and social outputs, which effectively creates disadvantages those food systems functioning from environmentally and socially responsible practices and modes of production (Allen, 2010; Blouin et al., 2009; Chen and Stamoulis, 2008; Erickson, 2008; Martinez; 2010; McCullough et al., 2010; Winson, 2010).

In Canada, a recent review by the Canadian Co-operative Association (2009) of local food developments identified over 2300 local food initiatives nation-wide. Initiatives listed from highest to least occurring included: restaurants and chef initiatives, farmers' markets, retail stores, community supported agriculture programs, food box programs, food security and policy groups and councils, regional culinary tourism, institutional procurement, and regional value chains.

In Ontario, the provincial local food system as a whole has experienced substantial development. Provincial and community-based efforts directed at fostering local food system development have resulted in impressive growth within the local food sector. While a study undertaken by the Canadian Co-operative Association in 2009 showed that Ontario held a 25 per cent share of all local food initiatives nation-wide (Canadian Co-operative Association, 2009), it must also be noted that Ontario holds 38.5 per cent of the total Canadian population (Ontario Ministry of Finance, 2014), suggesting that in terms of local food initiatives relative to population, that this number should be even greater. Nonetheless, in Ontario, common types of local food initiatives include restaurants serving local food, farmers markets, community supported agricultural programs (CSA's), foodbox programs, food security and policy groups, culinary and regional cuisine, and institutional procurement (Canadian Co-operative Association, 2009; Landman et al., 2009).

Local food system development and enhancement within Ontario in recent years is a result of initiatives at the provincial, regional, and community levels. Provincial marketing programs such as Foodland Ontario, Pick Ontario Freshness, Savour Ontario, and Local Food Plus have resulted from the provincial mandate to support local food development. These provincial efforts have focused on educating consumers about the benefits of eating local food and have resulted in an increased awareness and demand for local food products (Canadian Co-operative Association, 2009; Landman et al., 2009). The province has also committed to increasing institutional procurement of local foods (Landman et al., 2009; Whitney, 2008). The introduction of Ontario's Local Food Act in 2013 further reinforced the provincial commitment to invest in local food system

development. At the community and regional levels, a multitude of community and organizational-based initiatives have formed to support the development of local food systems, making up a significant share of both provincial and national local food system development initiatives (Landman et al., 2009; Whitney, 2008).

As the development of the provincial food system has become an important agenda item at both the community and provincial levels, areas of strength and weakness within the local food system have become easier to identify. Some of the strengths of Ontario's local food system include the diversity of local food initiatives and the high national share of these held by the province, heightened consumer awareness and demand for local food, and community economic benefit as a result of emerging local food markets (Whitney, 2008). One of the more prominent challenges that has been identified revolves around access and viability within the local meat slaughtering and processing sector (Hand, 2010; Whitney, 2008).

## **Chapter 3.0 Ontario's Local Livestock Processing and Slaughtering Sector**

### **3.1 An Introduction to the Challenges in the Ontario Local Meat Sector**

The challenges and concerns over local livestock slaughtering and processing within Ontario have come at a time when the importance of local food system development has been realized by a multitude of stakeholders including: government agencies and ministries, community groups, food and agriculture-related organizations, producers, processors, food retailers, and consumers (Landman et al., 2009; Perth County, 2013; Whitney, 2008). Producer access to local livestock processing and slaughtering, as well as the viability of this industry generally, are very serious areas of concern that have emerged across Ontario within the past decade (Landman et al., 2009; Municipality of Bluewater, 2013; Perth County, 2013; Whitney, 2008).

In a study conducted by the Canadian Institute for Environmental Law and Policy (Whitney, 2008) local producers identified local, provincially inspected abattoirs and processing facilities as integral components to their local food networks, allowing their operations to remain diverse and viable. This reliance stems from the fact that meats demanded within the local food sector require services such as product separation (ensuring no cross-contamination between different types or sources of carcasses), custom cutting, and packaging or labeling. These services make it possible for producers to gain access in niche markets, as well as supply local retail outlets such as farm-gate, local grocery stores, and farmers' markets. For local producers, small to medium sized provincially inspected abattoirs are almost always the only place where such services can be acquired, as large-scale provincially inspected facilities, and essentially all federally-inspected facilities, will only deal with large animal quantities and cannot provide custom cutting or product separation. As such, access to local abattoirs and

processing facilities remains a critical feature of local food supply chains and is therefore essential to the functioning of robust local food systems as a whole (Haines, 2004; Perth County, 2013; Whitney, 2008).

### **3.2 Meat Inspection in Ontario**

Within Ontario, livestock slaughtering and processing facilities are inspected at either a federal, provincial, or regional (health board) level. The type of inspection undertaken for processing and slaughtering facilities dictates the range of activities they may undertake as well as which markets they may sell within. For instance, products that come out of federally inspected facilities may be sold both inter-provincially and internationally. At the federal level, inspection is undertaken by the Canadian Food Inspection Agency (CFIA) (Haines, 2004; Whitney, 2008).

Abattoirs and processing facilities inspected at the provincial level are overseen by the Ontario Ministry of Agriculture and Food's Food Inspection Branch. Products that have come from provincially inspected facilities may be sold within the Ontario market only. In both the provincial and federal systems, an inspector is required to be present each time an animal is slaughtered (Haines, 2004; Whitney, 2008). Given that the provincial regulatory framework for meat inspection has continued to undergo revisions aimed at harmonizing provincial regulation with federal regulation, however, there may be opportunity in the future for provincially inspected meats to be sold inter-provincially (Whitney, 2008).

Processing facilities that do not offer slaughtering services may be inspected by their Regional Health Unit. The majority of meats processed at municipally inspected facilities must be sold to individual consumers for personal consumption. While non-inspected on-farm slaughter for the purpose of sale is prohibited in Ontario, farmers may slaughter their own animals on-farm for the purpose of personal and direct-family consumption (Haines, 2004; Whitney, 2008).



### **3.3 Business Viability in the Local Meat Sector in Ontario**

The challenges facing the local meat slaughtering and processing sector throughout Ontario continue to be experienced within the agriculture and local food sectors province-wide, with a reported 40 per cent decline in provincially inspected abattoirs between 1991 and 2008 (Whitney, 2008). For the small and medium sized abattoirs that remain, the amount of capital investment required for regulatory compliance continues to be burdensome. These economic challenges have resulted in concern over business viability for many business owners. In an Ontario Federation of Agriculture (OFA) survey of licensed abattoirs, processors and free standing meat processors, over 60 per cent of respondents indicated that they have invested over \$50,000 into their business within the last ten years in order to maintain regulatory compliance. Many of these processors identified that they fear they may not be able to recover the invested value in their operations (OFA, 2010). Since small to medium sized processing and slaughtering facilities have faced severe decline in recent years, local processing and slaughtering services are becoming more difficult to locate and producers face increasingly limited processing options (Landman et al. 2009; Perth County, 2013; Whitney, 2008).

The increasing loss of choice when it comes to the processing and slaughter of animals sold within local food systems negatively affects producers in a variety of ways. For instance, producers surveyed in a 2013 joint Perth County/University of Guelph study identified that the loss of options in terms of animal slaughtering and processing has meant increased vulnerability of their businesses. Where producers are still able to access the services they require within a reasonable travelling distance, they fear that one day these options will too be gone, and this poses a severe threat to the future viability of their operations and livelihoods (Perth County and University of Guelph, 2013). For many producers, the decline in processing facilities results in long travel times to multiple facilities in order to have animals slaughtered and processed according to consumer demand. In some instances, producers of local meat in Ontario have reported traveling up to twelve hours one-way in order to access the services they require (Perth County and University of Guelph, 2013). Traveling long distances to have

livestock slaughtered and/or processed results in larger transport costs for producers. In addition, long travel times increase animal stress, affecting the quality of meat and further decreasing producers' margins (Evans, 2011; Whitney, 2008).

Lack of access to processing facilities is a distinct problem for particular producer groups, such as sheep producers, as outlined by Whitney, (2008). Many livestock producers, however, are expressing concern over their lack of access to slaughtering and processing facilities. In a recent Business Retention and Expansion study conducted by the County of Perth, over 50 per cent of producers identified that they have considered pursuing niche markets and value-added products as a way of diversifying their operation. More than half of the producers surveyed said that access to a local abattoir would enhance their business through increasing market potential and over 70 per cent of producers indicated that access to local abattoirs is a high priority issue for their business (Perth County, 2013). Lack of access to killing and processing facilities suppresses potential viability and diversity not only of individual businesses, but of the agricultural sector as a whole. The success of value-added, niche and local markets are important aspects of Ontario's agricultural diversity, and adequate access to local meat slaughtering and processing is an essential component to these markets' supply chains (Perth County, 2013; Whitney, 2008).

For many local food stakeholders, the reduction in provincially inspected abattoirs is perceived to be the result of an increasingly *scale-insensitive* regulatory framework that creates particular challenges for small to medium sized local food businesses (Landman et al., 2009; Whitney, 2008). Although processors and producers alike confirm the need for a high standard of food safety for the Ontario meat industry, they also express concern over the nature of certain process-based regulatory standards and their relation to food safety (OFA, 2010; Whitney, 2008). Processors and abattoir owners remain concerned over the viability of their businesses in lieu of the continuous capital investments required in order for their operations to remain compliant with meat regulation, and many perceive the reduction in abattoir facilities across Ontario to be a result of such policy (OFA, 2010; Whitney, 2008). Other perspectives, however, point to

the loss of local livestock processing and slaughtering businesses as a market-based outcome, resulting from consolidation in the meat sector at large (Perth County and University of Guelph, 2013).

### **3.4 A Quick Look at Mobile Abattoir Potential in Ontario**

Given the reduction in provincially inspected abattoirs across Ontario, the vulnerability of small, medium, and diversified farmers remains a significant challenge (Haines, 2004; Landman et al., 2009; Municipality of Bluewater, 2013; Whitney, 2008). As the existing small and local abattoirs continue to experience challenges related to financial viability (OFA, 2010), local producers and the local meat supply chains remain susceptible to further decline.

As other jurisdictions across North America have experienced similar challenges, various approaches have emerged in an attempt to provide a more robust local meat sector infrastructure. One example of such an approach is that of mobile abattoirs. Mobile abattoirs have been noted as having unique potential to overcome some of the significant challenges related to local livestock processing and slaughtering, particularly in the rural and remote contexts. For instance, mobile abattoirs are able to service a wide geographic area. This may be attractive where a lack of local processing and slaughtering facilities is experienced, yet where the demand for processing and slaughtering services does not justify the development of a stationary facility. Mobile abattoirs are also particularly attractive to farmers whose production methods pay particular attention to animal husbandry, where animals can be slaughtered on site, effectively reducing the stress caused by transport and therefore improving product quality and price. Mobile processing facilities may also be attractive for niche and specialty livestock producers such as that of buffalo, which can be particularly prone to stress during transport (Alberta Agriculture and Rural Development, 2010; Expansion Strategies Incorporated, 2011; Evans, 2011).

While the possible benefits of mobile processing technology have been noted by some studies (Alberta Agriculture and Rural Development, 2010; Expansion Strategies

Incorporated, 2011), and while many mobile processing facilities exist successfully across both Canada and the United States, little research has been done on their potential within Ontario. Given that mobile abattoirs are used successfully in the Yukon, Alberta, and British Columbia, it is important that Ontario explore this technology as a possible improvement to the current state of local meat processing and slaughter within the province. Research questions derived from this lack of research may include those such as: How would mobile abattoirs fit within the meat regulatory framework in Ontario? How do the challenges faced in Ontario's local meat sector relate to those in other jurisdictions where this technology has been successful? How does the cost of mobile slaughtering and processing compare to that of stationary facilities?

As alternative food systems continue to develop across the globe, so will Ontario's local food system. Given the expressed consumer demand for local food products, and the impressive growth already accomplished in this regard within Ontario, it is important that areas of weakness and vulnerability are attended to. Exploring local slaughtering and processing alternatives for Ontario will enable the local food system to continue to expand and diversify, and allow Ontario to keep momentum in the context of alternative food system development at the national and international scales.

## **Chapter 4.0 Jurisdictional Scans of Mobile Abattoirs in North American**

Mobile abattoir development was examined through the use of jurisdictional scans in four Canadian and one American jurisdiction where development and utilization of the mobile model is relatively prominent. Surveying the development of mobile abattoirs in Alberta, The Yukon, British Columbia, Quebec, and Alberta within the context of each jurisdiction's local food system development, as well as the relevant regulatory context, also provided crucial information, such as level of business activity and diversity, for the selection of case studies.

### **4.1 Mobile Abattoirs in Alberta**

#### ***4.1.1 Alberta's Local Food System***

Albert has a highly productive agricultural sector accounting for over 20 per cent of total national primary production. The province hosts 21 million hectares of agricultural land, or 31.3 per cent of all Canadian farmland, with its beef cattle production comprising the largest agricultural sector within the province. It is also the province's largest agri-export. Moreover, Alberta has the largest cattle and calf industry in all of Canada, producing approximately 40 per cent of all Canadian beef. Based on 2009 statistics, 16 per cent of beef produced in Alberta is sold within the province and 45 per cent is sold nationally, with the remaining 39 per cent sold internationally (Alberta WaterPortal, 2013). While Alberta is a significant producer of agricultural goods, with over 50,000 producers across the province, the majority of these operations are large-scale, with their goods sold in the export market (Parkland Institute, 2013).

While Alberta's significant, conventional agricultural sector continues to grow and expand, Alberta's local food stakeholders increasingly express concern over provincial reliance on imported foods from countries such as the United States, China, and Japan. This poses a certain degree of vulnerability to Alberta's food sovereignty, as barriers to

these exchanges have the potential to emerge in lieu of ever-changing global economic and political dynamics. As such, community-based approaches to the production and distribution of food are becoming progressively frequent. Indeed, the growth of urban agriculture, farmers' markets, and community gardens is documented across the province. According to the Alberta Farmer's Market Association, for instance, Alberta is home to over 100 registered farmer's markets (Parkland Institute, 2013).

Concerns over food security and resiliency throughout Alberta arise from more than unease over import reliance, however, and is also related to issues such as poverty, food access, and the presence, or lack thereof, of supportive local food policies. For instance, low-income households remain particularly vulnerable to food insecurity within Alberta, while many of the efforts geared towards maintaining some degree of food security are undertaken at the community level. Community-based local food-related organizations in Alberta, such as Alberta Food Matters, play a significant role in developing and managing various community-based initiatives and projects aimed at fostering food security for Alberta's communities (Growing Food Security in Alberta, 2013). Food banks also play an integral role with regards to food security and access within the province. In 2007, for instance, 39,000 Albertans utilized food banks, 43 percent of which were children. Given that a large percentage of food bank staff are unpaid volunteers, however, there is growing consensus towards the need for increased government support and funding for food access and security projects and initiatives (The BC-Alberta Social Economy Research Alliance, 2010).

Indeed, many Alberta local food stakeholders point to the lack of government involvement in creating a robust, local food system. With agricultural policy and regulatory effort in Alberta focused to such a large extent on food safety regulations, local food stakeholders fear the persistent loss of other agricultural policies and subsequent programs. For instance, there is consensus over the need for policies and programs focused on supporting small-scale agricultural business start-ups, direct marketing, and regional processing infrastructure, particularly in light of the increasing demand for local food. The lack of a comprehensive policy to protect the province's

farmland is also stated as a concern in this context (The BC-Alberta Social Economy Research Alliance, 2010). Overall, while the Alberta Ministry of Agricultural and Rural Development does offer some materials and information regarding topics such as agricultural tourism, farmers' markets, food hubs, food safety, regional cuisine, and farm direct marketing, programs and policies in place to facilitate local and regional food system development appear to be somewhat limited (Alberta WaterPortal, 2013).

#### ***4.1.2 Alberta's Regulatory Context***

Over the past decade, meat regulations have changed significantly in Alberta. Changes of note have included the transfer of oversight of provincially regulated abattoirs and processing facilities from the Ministry of Health to the Ministry of Agriculture and Rural Development, as well as the introduction of the Meat Facility Standards. At present, regulatory authority over the inspection of provincial abattoirs and provincially inspected meat processing facilities is set by the Meat Inspection Act and its regulations. Provincially licensed abattoirs, meat processing facilities, and mobile abattoirs operate under this Act, and its regulations are administered by the Ministry of Agriculture and Rural Development. Under the Meat Inspection Branch, the Ministry of Agriculture and Rural Development regulates 125 abattoirs, 55 mobile butcher facilities, and 99 mobile butchers. Freestanding meat processing facilities and multi-food vendors in Alberta are regulated by the Alberta Ministry of Health under the Public Health Act and its Food Regulation, and are therefore not subject to Meat Inspection Act (Alberta Ministry of Agriculture and Rural Development, 2013; Cuff, 2012).

Interestingly, Alberta is home to over one hundred mobile butchers and mobile butcher facilities. These butchers and facilities offer on-site processing and/or slaughtering services to producers. Meats slaughtered through these services, however, may only be consumed by the producer of the animal and their immediate family, and specific definitions of what constitutes a 'producer' are provided in this context. If producers have their livestock slaughtered in a provincially inspected facility, however, and then use a mobile butchering service for further processing, the meat produced is considered inspected, and can be sold within the province. While mobile butchers who offer

slaughtering services are licensed through the Ministry of Agricultural and Rural Development, those who offer processing services only, are overseen by the Ministry of Health (Alberta Ministry of Agriculture and Rural Development, 2013; Cuff, 2012). Currently, the Alberta government is taking action to respond to industry complaints regarding meat regulation in the province and in 2012, hired a consulting firm to undertake a review of meat inspection in the province. Processor concerns towards the current regulatory framework revolve around issues such as high regulatory compliance costs, poor communication between the sector and inspectors, and a perceived unfair advantage among those processors inspected at a provincial level. Arguments related to the latter suggest that regulatory compliance is more relaxed for those facilities that fall under the jurisdiction of the Ministry of Health, creating an unfair market advantage for those inspected by the Ministry of Agriculture and Rural Development (Cuff, 2012).

#### ***4.1.3 Alberta's Mobile Abattoir Inventory***

Beginning in 2005, the Alberta Ministry of Agriculture and Rural Development began a four-year project aimed at understanding the technical feasibility and business viability of mobile abattoirs. Working together with Olds College, the project achieved the construction of a red meat mobile abattoir in order to assess whether this type of unit could have the technical capacity to operate within the relevant regulatory standards. For the business feasibility portion of the study, the units' capital cost and operational costs were analyzed using various hypothetical business models and situations (Alberta Agriculture and Rural Development Local Market Expansion Branch, 2010).

During the technical capacity assessment portion of the project, 154 animals were slaughtered across 11 locations in the unit including bison, deer, sheep, cattle, and hogs. The results of the field tests demonstrated that the unit was able to technically operate with only minor equipment-related obstacles, and that the resulting meat products complied with Alberta's meat regulations. While the business viability analysis portion of the project did present complexity and demand estimations, it was concluded that through several hypothetical business scenarios the mobile abattoir could provide a



viable business opportunity. Furthermore, it was found that the greatest opportunity for mobile abattoirs is in supplying niche products that are increasingly in demand by consumers, with a specifically high demand coming from urban centres (Alberta Agriculture and Rural Development Local Market Expansion Branch, 2010).

One of the most significant challenges presented with the use of a red meat mobile abattoir proved to be the necessary reliance on, and coordination with, further processing and cold storage facilities. For seasonally produced red meats, a complex supply chain is necessitated where freezing is required. With the larger size of red-meat animals and the resulting need for further processing, cold storage space, or freezing presenting particular challenges, project leads became curious about how these challenges may be changed or mitigated in the case of a mobile abattoir servicing poultry (Alberta Agriculture and Rural Development Local Market Expansion Branch, 2010).

As such, in 2008 the project was expanded to include the testing of a poultry mobile abattoir. The findings of the poultry mobile abattoir portion of the study mirror those of the red-meat abattoir in that both units proved to be able to produce meats that comply with all Alberta regulations pertaining to the slaughter of animals. Cost analysis through various hypothetical business cases for the poultry unit also showed that the abattoir can be viable as a business. Minor problems reported with regards to the poultry unit were minor technical glitches and suggested improvements included limiting the processing season due to the cold winter climate, increasing fresh water holding capacity, and adding a retractable roof over the unit's entrances (Government of Alberta, 2013).

While the red meat abattoir created by the project was sold to the Northern Alberta municipality of Big Lakes in 2011, the unit is not yet operational. Given regional producers' eagerness to have access to processing infrastructure, the intention of the municipality in purchasing the unit was to sell the unit to the area's farmers. Joint sector/municipal initiatives are striving to facilitate the development of a producer co-

operative that would own and operate the unit. Given the relative remoteness of the region, with the closest provincially inspected abattoir located over 100 kilometers away, the economic development officer of the region pointed to the benefits that the unit could bring to the region. Barriers to getting the unit up and running may be related to the difficulty in coordinating various stakeholders, as well as accessing funding for initial operation or unit modifications. The municipal district, however, still maintains the intention of eventually having the unit in service (MacArthur, 2011; Municipal District of Big Lakes, 2013).

#### ***4.1.4 Conclusion of Mobile Abattoir Development in Alberta***

While currently no mobile abattoir in Alberta is being utilized, there are several lessons from Alberta's experiences thus far that should be taken into consideration. The abattoir feasibility and viability project undertaken by the Alberta government in partnership with Olds College, and its resulting two reports, present a relatively comprehensive understanding of the abilities and capacities of mobile abattoirs. Given that Alberta's approach to meat inspection appears to most closely parallel that of Ontario's out of all the Canadian provinces, research such as this should serve to contribute important information to any discussions considering the development or approval of mobile abattoirs in Ontario. In addition, despite criticisms regarding the regulatory approach to local food and more particularly meat inspection in Alberta, it should be noted that a project of this magnitude required considerable government resources in order to come to fruition. These efforts may result in the increased ability of Alberta consumers to be able to access local meats, while making local production more viable. Lastly, the presence of mobile butchers and mobile butcher facilities is also of particular interest, and this is a service and business model that could be further explored by provinces seeking to expand the options for local meat slaughtering and processing.

## **4.2 Mobile Abattoirs in The Yukon**

### ***4.2.1 The Yukon's Local Food System***

The Yukon's food system is increasingly considered as vulnerable, with food grown within the territory accounting for only two per cent of Yukon food expenditures. While to date there have been various efforts and initiatives geared towards facilitating the development of a more robust territorial food system, the Yukon still relies heavily on food imports and the government, agricultural sector, and citizens alike fear what this means for Yukon's capacity for food resiliency (Kwantlen Polytechnic University Institute for Sustainable Horticulture, 2012).

Yukon producers face a variety of particular challenges given the unique context of the territory, which to a large extent is characterized by a vast remoteness and low population density. In addition, while at most two per cent of the land in the Yukon is considered to be potentially arable, much of this land is negatively affected by a tumultuous climate, poor soil, and lack of water availability. While overall, 25,000 of the territory's acres are used for agricultural production of some type, 16,000 of these acres are used for pasture, woodland, or wetland. Yukon farmers also face a particularly short growing season, must compete with foodstuffs imported from large, centralized production and distribution channels, face a shortage of labour, and are increasingly facing severe succession issues (Serecon Management Consulting Inc., TransNorthern Management Consulting, and Research Northwest, 2007; Zapisocky and Lewis, 2010)

While the most productive land in the Yukon is located in the Dawson region, most farms are located close to Whitehorse where there is greater market access and additional off-farm job opportunities. Making a living as a farmer in the Yukon poses a distinct set of challenges, with many farmers supporting their households through secondary or full-time work. Indeed, overall Yukon-based producer expenses outweigh producer revenues. Not surprisingly, Yukon farms on the whole are facing a gradual decline. Furthermore, land costs remain prohibitive for farmers looking to expand or start up businesses (Serecon Management Consulting et al., 2007; Zapisocky and Lewis, 2010).

Within the territorial meat sector, livestock producers face an additional set of challenges in attempting to supply the market and remain viable, with small scale food processing infrastructure as a whole ranging from severely limited to completely absent. Lack of access to processing facilities has thereby limited the growth of livestock operations, and has been met with frustration by producers who are eager to increase the scale of their operation. While some efforts to this end have been made, such as the introduction of a mobile abattoir discussed below, livestock producers still face major challenges related to accessing processing and slaughter services. Despite the myriad of barriers faced by producers within the Yukon, consumer demand for territory-produced food continues to grow with consumer demand for Yukon-grown food remaining higher than supply (Serecon Management Consulting et al., 2007; Zapisocky and Lewis, 2010).

#### ***4.2.2 The Yukon's Regulatory Context***

Similar to most Canadian jurisdictions, meat for retail sale within the Yukon must be slaughtered in the presence of an inspector. The *Yukon Agricultural Products Act, 2002* sets the regulations and rules for the territory's abattoirs and processing facilities and their practices. The Act, only twelve pages in length, does make a quasi-exception to the standardized practice, however, allowing for the occasional sale of a live animal even if the producer/seller assists with the slaughtering and processing of the animal. This regulation has allowed for some farm-gate type sales, but meats to be sold through retail locations must be inspected at slaughter and if further processed, this also must be done at an approved facility (Agriculture and Agri-Food Canada, Government of Canada and Yukon Energy Mines and Resources, unknown date).

The relative simplicity of the Yukon Agricultural Products Act in comparison to other province's meat regulation frameworks is indicative of the lack of slaughtering and processing capacity and infrastructure throughout the territory. In addition, with the lack of an export meat market, Yukon-produced meats do not face the national and international standard-related pressures that are experienced in broader markets. The

territory does, however, have a 74 page manual dedicated to the procedures and practices undertaken in its mobile abattoir.

#### ***4.2.3 The Yukon's Mobile Abattoir Inventory***

The Yukon is home to Canada's first mobile abattoir, which was introduced in 2006. The abattoir, contained within a fifth wheel trailer, offers slaughtering, cooling, and transportation services for red meats including goats, sheep, elk, pork, beef, and bison. The front of the unit contains the mechanical room as well as the cooler, which can accommodate up to eight cattle, elk, or bison, or alternatively 20 sheep or goats, and up to 15 hogs. The rest of the unit contains the technology necessary for the slaughtering of the animals. The mobile unit does not offer further processing but offers transport services to further processing facilities, cold storage, or butcher shops and is housed in Whitehorse when not in use (Yukon Government, 2006).

The facility, costing \$175,000 was funded by the Yukon government. In addition, through the Canada-Yukon Agriculture Policy Framework, federal funds helped to support the operational costs of the unit for the first five years of its existence. The government-funded initiative was aimed at facilitating growth in the livestock industry, and came in response to producer demands for increased access to processing and slaughtering infrastructure. High expectations for the mobile unit were expressed during its first few initial years, in the hope that Yukon farmers would begin to be able to meet consumer demands and invest in the development of their businesses. In addition, the high quality of Yukon-grown meats combined with the low-stress factor of on-farm slaughter was expected to allow for a particularly high quality product (Yukon Government, 2006).

Despite high hopes that the mobile unit would function as the missing link to the Yukon's meat supply chain, producers have been less responsive than anticipated. While many producers are eager to gain access to the commercial market, they also insist that the costs they incur for the mobile units' services are too high. Slaughtering costs range from \$100 to \$30 per animal head depending on the animal type and in

addition, producers must pay a \$1.30 per kilometer fee for bringing the unit to their farm and then to a further processing or cold storage facility. Because the unit is housed in Whitehorse, producers feel that the more remote and distanced they are, the more they are penalized by cost. In addition to the transportation costs, customers must also pay a \$70 cleaning charge after the use of the facility and if they are not ready when the unit arrives, a \$70 per hour charge for non-utilization is administered. In addition, producers must have an inspector-approved pit for any waste created during the slaughtering process (Keevil 2006; Whitehorse Star, 2006).

While some producers remain skeptical that they will be able to compete in the commercial market due to the high costs associated with using the mobile unit, others remain more optimistic and see the mobile unit as an opportunity to expand their business. In addition, producers do realize that there are costs incurred when transporting animals to a stationary facility, however most Yukon farmers rely on farm-gate sales of live animals, which they can then legally help a buyer slaughter and process. In this respect, some producers may be unprepared or hesitant to begin to participate in a different market where margins are lower but quantity can be increased (Keevil 2006; Whitehorse Star, 2006).

Despite the presented challenges, the unit has enjoyed some successes, as a key outcome of Growing Forward (2008-2013) for the Yukon included an increase in Yukon-grown meats in local restaurants and retail markets due to the services offered by the territory's mobile abattoir (Government of Canada, 2013). Stakeholders are insistent that the government continue to subsidize the unit, however, until producers are able to reach a scale of production that makes utilization of the unit viable. In addition, it is acknowledged that more infrastructure in the form of cold storage and further processing is necessary and that the offering of these services must work in coordination with the mobile unit (Yukon Agriculture 2020 Visioning Workshop, 2012).

Despite the continued challenges and hesitations among producers with regards to use of the mobile abattoir, efforts to see the unit succeed continue from both the public and

private spheres. Indeed, beginning in 2014, the Yukon Government announced that in an effort to increase exposure to and utilization of the mobile abattoir that its services will be offered to producers at no cost over the next year (Pope, 2013). In addition, a privately owned processing and cooling facility was recently opened in the Whitehorse Region, and will work in coordination with the territory's mobile abattoir, renting out the facility for further processing and cooling for a fee (Circle D Ranch, 2013).

#### ***4.2.4 Conclusion of Mobile Abattoir Development in The Yukon***

Given the particular extremes faced in the Yukon, the continued efforts and initiatives aimed at fostering a Yukon-based food system are impressive. While the introduction of a mobile abattoir into the territory over seven years ago has not solved all of the problems and complexities related to the territory's meat supply chain, it has been successful in increasing access to slaughtering services for producers. The development of the unit has also made it clear what other infrastructures, services, and capacities will be necessary in order for the territory to continue to increase the availability of Yukon-grown meats. In addition, with the offering of free services from the mobile unit over the next year, producers who are considering increasing their amount of livestock may be more willing to do so with the confidence that their government is committed to finding a way to ensure that slaughtering services are available.

### **4.3 Mobile Abattoirs in British Columbia**

#### ***4.3.1 British Columbia's Local Food System***

Local and regional food systems have been of particular importance for rural and remote communities within British Columbia (B.C.) for decades. For many rural and remote locations, including island communities, topography and geographic location can make centralized, conventional food system distribution a significant challenge. When these communities are able to find access to food distributed through major, centralized channels, they typically pay a premium on foodstuffs due to the additional costs incurred in getting food to their communities. Through local production, processing and distribution, however, rural and remote communities throughout the province are able to strengthen their food systems while creating or sustaining jobs.

Therefore, for many rural and remote communities, the presence of a local or regional food system provides not only food resiliency but serves also as an important component to economic development (British Columbia Food Systems Network, 2012; Marrapese, 2012).

Developing a local or regional food system can present its own set of challenges in the rural and remote contexts as the absence of critical links within the supply chain, such as distribution channels and processing facilities, can make it difficult for producers to move their goods. Rural and remote farmers also face viability concerns due to high property costs, unpredictable weather, price competition, and high production costs. In addition, challenges related to production in the province are presented by the province's complex terrain, which beyond making coordination among the supply chain difficult, also presents a unique set of challenges when attempting to develop province-wide agricultural policies (British Columbia Food Systems Network, 2012; Marrapese, 2012).

Issues of food security and the importance of fostering healthy food systems are also of increasing concern to the urban environments of B.C., where healthy and local food access is limited by available household food dollars due to high housing costs, rising food and energy prices and poor wage growth. In fact, as of 2010, eight per cent of all B.C. households were considered 'food insecure' and it is estimated that due to both local and global characteristics, British Columbians will increasingly face issues related to food insecurity (Hild, 2009; British Columbia Food Systems Network, 2012).

In response to food access challenges presented in urban centres, local governments are becoming increasingly engaged in planning for food resiliency. In Metro Vancouver for instance, there has been a major push for investing in the city's urban food system with recent planning proposals aimed at promoting public investment into planning for urban food systems at the municipal level (Hild, 2009). Indeed, Vancouver has recently set the goal of becoming a global leader in urban food systems by the year 2020 and as



such the city is currently discussing the adoption of a local food strategy (BC Food Systems Network, 2013, CBC News, 2013).

Regardless of the different types of challenges faced in rural, remote, and urban food systems within B.C., it cannot be denied that they remain interconnected. These communities, systems and contexts do not function in isolation. While initiatives aimed at developing more robust food systems in the urban context will continue, urban centres will still rely on their rural and remote counterparts to provide them with food. Similarly, rural and remote food supply chains will continue to rely on the demand created by urban centres.

#### ***4.3.2 British Columbia's Regulatory Context***

The reliance on rural communities to produce food is especially true of meat, whose production is constrained by a variety of factors in the urban context. For producers, responding to consumer demands for local, traceable meats has been met with some degree of challenge, specifically with regards to access to livestock slaughtering and processing services. In the early 2000's, national and international precedents began to demand a higher degree of due diligence in livestock slaughtering and processing. This, combined with the 2003 Canadian bovine spongiform encephalopathy (BSE) scare prompted a significant shift in the way that British Columbia dealt with the issue of meat inspection and while the changes affected producers and processors of all types and scales, the impact on local and regional meat supply chains was particularly harsh (Martin, Ostry and MacDonald, 2010; Marrapese, 2012).

Up until the introduction of the British Columbia Meat Inspection Regulation (MIR) in 2004, uninspected on-farm slaughter for retail within the province was allowed through a decentralized system that gave municipalities reign over non-federally inspected facilities. This system underwent a significant transformation, however, when the new MIR mandated that by 2007 all meat to be sold for retail within the province would need to be slaughtered at a provincially licensed and inspected facility. Although approximately only five per cent of meats within the province were being processed in uninspected facilities in 2004, a large majority of these facilities were servicing local

and regional food supply chains. While programs at the provincial level, including a three-year phase-in stage, were created in order to ease the process of change, many smaller slaughtering and processing facilities could not sustain the various financial and economic pressures they were facing, and closed their doors. This created significant impact on the producers who relied on the services of their local abattoirs, and in some communities facing a lack of access to slaughtering and processing services, farmers drastically reduced their number of livestock or stopped producing animals altogether (Martin et al., 2010; Sustain Ontario, 2012).

While the implementation of the new MIR did present new challenges for producers and processors, particularly those within local and regional food supply chains, the provincial government continued to adapt its approach to meat safety and in 2010 implemented a considerable change to its MIR. The change came in the form of two additional licensing types, 'Class E' and 'Class D', both in the form of allowed on-farm, uninspected slaughter. Still utilized to date, Class E licensing allows for the on-farm slaughter of one to ten animal units for direct sale to consumers. Under a Class E license, meats sold to consumers must be produced by the same farmer who slaughters them and the products can only be sold within the farmers 'regional district'. Class D licenses allow for the on-farm slaughter of one to twenty-five animal units, and while products are also limited to their originating regional district, they can be sold to 'secondary food establishments' such as retail locations and restaurants. In addition, with a Class D license, producers are allowed to slaughter animals produced by other farmers. Class D licenses are restricted to predefined regions within the province, of which there are ten. The ten regions, designated by the provincial government based on population density, livestock numbers, transportation barriers, and the absence of licensed slaughter facilities are also applicable to class E licenses. For Class E licensing, however, producers outside of the designated regions may apply to become licensed, but must demonstrate that they require services (such as custom or niche slaughter and processing) not available to them via the existing, fully licensed facilities in their region (B.C. Ministry of Health, 2013). *Figure 2.0* below outlines B.C.'s current meat licensing classes, including Classes D and E.

## Figure 1.0 Meat Regulation in British Columbia

(British Columbia Ministry of Health, 2013)



The issues surrounding meat inspection regulations and how they apply to the local food and community resiliency contexts are not necessarily unique to the province of British Columbia. Indeed, many Canadian territories and provinces face a myriad of challenges when it comes to the regulation of meat sold for human consumption. These common challenges tend to intersect between the interests of fostering healthy and resilient local food systems, protecting the public health and safety, maintaining and facilitating small business diversity and viability, and effectively building and maintaining the trust of international buyers. It is at this intersection that governments must make decision on how meats will be regulated.

While it has been a long public process, regulatory adaptability within British Columbia's MIR is facilitating growth in the local food sector. While B.C.'s MIR has been

criticized for its outcome-based approach to meat inspection, the regulatory framework has maintained a level of overarching broadness that has made it possible to adapt to meet the particular needs of its different contexts. Interestingly, B.C.'s MIR will undergo further revision and possibly even remodeling, as the province recently took over its own meat inspection, formerly operated by the CFIA.

#### **4.3.3 British Columbia's Mobile Abattoir Inventory**

While the road to legal, local livestock slaughtering and processing across B.C. has experienced a diversity of hurdles, business opportunists and interested organizations have developed mobile and modular abattoirs as a potential solution. *Image 1.0* shows a picture of a mobile abattoir, which serves the same function as a regular, stationary abattoir except that it is built to be moveable and can therefore travel to various locations. Several mobile abattoirs and one modular abattoir now exist across the province, servicing rural, remote, and island communities alike. Mobile abattoirs differ in their approaches to mobility, with a modular example being semi-permanent, while others will travel on-farm or work in conjunction with stationary docking facilities. With at least eight of these units across B.C. at present, many communities that previously had limited or complete lack of access to livestock slaughter have been pleased to be offered the services of a mobile abattoir, making it possible to overcome barriers related to travel, distance, and topographic roughness.

#### **Image 1.0**

(Sustain Ontario, 2013)



Mobile and modular units span the British Columbia terrain from one of the most south-westerly parts of the province, Salt Spring Island, to the south-eastern Kootenay Region, all the way up in to the

interior Cariboo Region. Beyond the expansive reach of mobile abattoirs across B.C., they are also servicing a diversity of livestock types. In the more remote interior regions as well as in the island example, mobile abattoirs are multi-species, meaning they can process more than one type of animal, although they typically will specialize in either red or non-red meats. In addition, while all mobile abattoirs offer slaughtering services, some are also able to offer further processing services.

Salt Spring Island Abattoir offers a unique example, with an impressive intake ability ranging from beef to poultry. In addition, the facility offers further processing services such as grinding, boning, and cutting and wrapping. For Salt Spring Island, the introduction of the MIR resulted in a complete lack of access to on-island slaughtering and processing services. With no licensed abattoir, livestock production took a big hit after 2004, decreasing by 50 per cent by 2008. For the producers who remained, the costs of animal slaughter and processing were very high and included two ferry trips plus a driving commute, resulting in an increase in animal stress and therefore contributing to weight loss, quality reduction, and ultimately producer economic loss. With a lack of access to these necessary services threatening the viability of the small farms that remained, Salt Spring Island Agricultural Alliance, a community-based agricultural organization, took initiative to build a fully inspected multi-species abattoir. The Salt Spring abattoir services both red meat animals and poultry and has been in operation since 2012. The abattoir is modular, meaning that it is a hybrid between a mobile and stationary facility. The Salt Spring Abattoir can be moved if necessary, with a portion of it comprised of a trailer on wheels, while the rest is semi-permanent (Marrapese, 2012; Salt Spring Abattoir, 2013; Sustain Ontario, 2013).

While mobile abattoirs appear to be enjoying success across British Columbia, the new model does not come without its own set of challenges. In interior regions, those who had invested in mobile abattoir technology were frustrated at the introduction of Class E and D licenses, making on-farm slaughter for retail legal, and undermining the basis for the viability of mobile units (Luymes, 2010). Regulatory challenges are not limited to this, however, and even B.C.'s rather flexible regulatory framework has presented

stumbling blocks for mobile abattoir owners. With limited space in mobile units, it can be difficult to meet certain rules such as the need for an office and washroom for inspectors, who similar to Ontario, must be present during the slaughtering of animals. Even when having a more compact facility seems to offer advantages, such as opportunities related to cost and quality effectiveness, regulatory compliance can make taking advantage of these characteristics challenging. In one example, a mobile abattoir owner was told that stainless steel could not be used for the unit's interior walls because it did not appear on the 'approved materials list'. After some consideration, however, regulators decided that the stainless steel material would be acceptable (Vancouver Sun, 2011).

The cost of materials can also be an important determinant of mobile abattoir success, with mobile abattoirs across B.C. facing a wide variety of start-up costs, ranging from \$120,000 to \$500,000. This, in combination with the amount of start-up funds that is leveraged through outside funding, has an impact on financial and business viability. For one mobile abattoir owner, start-up costs were \$60,000 plus an eventual additional \$60,000 in necessary upgrades. This is especially true considering that this particular mobile abattoir owner has reached average annual business revenue of over \$100,000, and even more impressively, only operates six months of the year (between May and October) (Vancouver Sun, 2011). For some mobile abattoirs facing high start-up costs and where regional production remains depressed, such financial gains may not come with such ease.

#### ***4.3.4 Conclusion of Mobile Abattoir Development in British Columbia***

B.C. poses a unique case study into the issues surrounding local livestock slaughtering and processing. With so many changes in the regulatory context over the last decade, a particularly distinct topography, alongside a push for local and regional food system development in the rural, remote, island and urban contexts, B.C. may be positioned as a national leader when it comes to innovation in local meat supply chains. While still arguably at an experimental stage, the growth and seeming success of mobile abattoirs

in B.C. poses some important questions for consideration for provinces like Ontario such as,

- What makes a mobile abattoir viable?
- Why so much variation in start-up cost?
- Are they most effective in remote regions?
- Can mobile abattoirs help to bring back a livestock industry in communities where that industry has been lost?

While not all of the lessons that have and will be learned from mobile abattoir business growth in B.C. will be transferable, there will likely be those that are. These will be lessons that can be applied to discussions in other jurisdictions considering such alternatives and as such, it will be important to pay attention to the successes, failures, and opportunities that are experienced.

#### **4.4 Mobile Abattoirs in Washington**

##### ***4.4.1 Washington's Local Food System***

The United States of America (US) is experiencing a shift in food consumption trends. In 2008 the United States Department of Agriculture (USDA) reported local food sales totaling \$4.8 billion (Johnson, Aussenberg & Cowen, 2013). Furthermore in 2008, five per cent of farms (107,000 farms) in the US were involved in some capacity with their local food systems. The state of Washington has fully embraced the “locavore” movement. A “locavore” refers to someone who attempts to eat locally produced food whenever possible. Traditionally, producers who commit to selling locally run a small-scale operation. In Washington a small farm is defined as “those generating less than \$250K in annual revenue” (Catalano, 2007). Roughly 87 per cent of all Washington growers fall under the small farm category (Catalano, 2007).

Washington State is home to a growing community of local food producers and consumers. In 1998 there were 60 registered farmers markets in the state. Today there are 125 registered farmers markets across the state representing a 108 per cent

increase (Catalano, 2013). It is estimated that a farmers' market in the US has an average of 31 vendors at any given time. This would suggest that upwards of 3,875 farms take part in Washington-based markets. Community supported agriculture (CSA) is also a popular local food initiative. Washington joins six other states as boasting at least 400 CSA programs statewide (Johnson, Aussenberg & Cowen, 2013). In the Seattle area alone, there are 14 registered CSA farms within five kilometers of the city (CSA Farms, 2013).

Outside of the traditional local food promotion methods, Washington has also backed experimental methods as well. Washington is one of six states that are currently involved with FoodHub (Johnson, Aussenberg & Cowen, 2013). FoodHub is a free to use online entity that aims to connect producers with consumers. Consumers are able to browse thousands of products on the FoodHub site from consumers and purchase what they wish. The products are then sent to the consumer from the producer. The project currently has 3,000 users across the six participating states, including 20 elementary schools (Johnson, Aussenberg & Cowen, 2013).

Urban centers in Washington have taken steps towards promoting local food systems. The City of Seattle, the state's largest urban center, passed the "Local Food Action Initiative" in 2008 (City of Seattle, 2013). The initiative aims to promote having local food readily available to Seattleites. Projects under the initiative include the expansion of the city's P-Patch community gardens and converting the former Atlantic City Nursery into an urban farm for residents (City of Seattle, 2013). The city has also begun campaigns to help encourage Seattle residents to grow their own food at home. This can be done through urban rooftop gardens or traditional backyard gardens where space permits (City of Seattle, 2013).

It is not only local fruits and vegetables that are popular amongst Washington residents. Local meat is also an important part of the local food system in Washington State. Since 2002 the state has introduced four successful mobile abattoirs in three separate regions



becoming the first state to do so. Washington has since become a positive model for other states aspiring to establish mobile abattoirs in their jurisdiction.

#### ***4.4.2. Washington's Regulatory Context***

In Washington State if a producer wishes to sell across state lines they are required to have their livestock slaughtered in a USDA inspected facility. There is however a program offered by the Washington State Department of Agriculture (WSDA) that allows for the sale of meat within Washington State. The WSDA's *Custom Exempt* program allows the sale of meat by the producers to consumers in Washington State with strict guidelines. Producers are to sell the animal of focus to the end consumer before the animal is slaughtered (WSDA, 2010). Once the sale has taken place the animal is to be slaughtered in a WSDA licensed facility, which may be either a mobile unit or a fixed facility. Following slaughter, the carcass must be transported to a WSDA licensed custom meat facility where it can be cut into halves, quarters, or simply be sold whole (WSDA, 2010). The customer is then responsible for collecting the meat after processing.

The WSDA's *Custom Exempt* program, while at least offering some sort of a market for producers, provides more obstacles than answers. Producers using this program are prohibited from selling their meat following slaughter. If the animal is *not* sold to the end consumer prior to its slaughter, the meat is *not* to be sold after either (WSDA, 2010). Sales of the meat at farmers markets, grocery stores, and restaurants are strictly prohibited. The producer and the producer's immediate family can however consume unsold livestock that is slaughtered (WSDA, 2010).

Poultry has separate guidelines from those of red meat in Washington State. Under the WSDA there are two poultry processing options for producers: a *Special Poultry Permit* or a *Food Processor License*. The *Special Poultry Permit* is geared towards producers on a small scale. The permit, costing \$75.00 annually, allows for the producer to slaughter up to 1,000 birds annually (Washington State University, 2009). If producers wish to sell the slaughtered birds while holding a *Special Poultry Permit* there are strict guidelines

they must conform to. Birds are to be sold whole to consumers as the permit prohibits further processing for the purpose of sale. Any birds that are to be sold must be sold within 48 hours of slaughter while being sold directly from the farm where the bird(s) were raised (Washington State University, 2009). Consumers must come to the farm to purchase the birds as sale through farmers markets, grocery stores, and restaurants is strictly prohibited.

The *Food Processor License* allows for a higher volume of slaughtered birds while also expanding marketing potential for producers. The cost of the license is determined by the producer’s annual sales as Image 1 illustrates. A producer who holds a *Food Processor License* is entitled to slaughter up to 19,999 birds annually (Washington State University, 2009). Unlike the *Special Poultry Permit*, the *Food Processor License* allows for further processing to occur on slaughtered birds. Birds for sale can be cut and packaged, including vacuum sealing if so desired. Consumer sale restrictions are also eased for those who hold a *Food Processor License*. Producers are able to sell their product to consumers via their farm, farmers markets, through the Internet, or to establishments such as grocery stores and restaurants (Washington State University, 2009). This license does not however allow for sales outside of Washington State.

**Figure 2.0**

**WSDA Food Processor License Fee Schedule**

If gross annual sales are:	The license fee is:
\$0 to \$50,000	\$ 55.00
\$50,001 to \$500,000	110.00
\$500,001 to \$1,000,000	220.00
\$1,000,001 to \$5,000,000	385.00
\$5,000,001 to \$10,000,000	550.00
Greater than \$10,000,000	825.00

**5.4.3**

**Washington’s  
Mobile  
Abattoir  
Inventory**

In 2002, San

Juan County became the recipient of the first USDA approved mobile abattoir (Layton, 2010). San Juan County, an archipelago of islands, is located in northwestern Washington. With a population of 15,824 San Juan County consists of more than 400 islands, the majority of which are uninhabited. Producers were faced with a 200-mile

trip to the nearest USDA inspected abattoir in Sumner, Washington to have their livestock processed (Gustafson, 2012). During the journey to the Sumner facility a 45-minute ferry ride was required, adding further stress to the animals (Etter, 2008). To combat this, the Island Grown Farmers Cooperative spearheaded an ambitious grassroots project to bring a mobile meat-processing unit (MMPU) to the region (Gustafson, 2012).

Constructed at a cost of \$250,000, the mobile abattoir began operations in 2002 (Layton, 2010). The San Juan County MMPU is housed in a 53-foot bottleneck trailer fitted with the necessary tools for slaughter and cleaning up the property following the slaughter. The mobile abattoir services all of San Juan County, including major islands: Orcas Island, Lopez Island, San Juan Island, and Shaw Island (Gustafson, 2012). Producers wishing to acquire the services of the MMPU are required to set up an appointment in advance. The MMPU will then come to the producer's farm on the arranged date. Producers who use the MMPU are able to have their livestock slaughtered before the unit refrigerates the carcasses and transports them to Bow, Washington for butchering and processing. The MMPU visits approximately 30 different farms annually.

The MMPU of San Juan County is capable of slaughtering traditional livestock, including cattle, pigs, goats, and sheep. The facility has a daily processing capacity of 40 sheep or 24 pigs (Thompson, 2012). Up to 10 head of cattle can be processed daily in the MMPU alternatively. Prices for livestock processing in the MMPU in San Juan County, while slightly higher than permanent facilities, are reasonable: Cattle are \$105 per head, pigs are \$52 per head, and sheep are \$37 per head (Etter, 2008).

A USDA inspector, who travels with the vehicle throughout the county, oversees every slaughter in the San Juan County MMPU (Gustafson, 2012). The fact that a USDA inspector is present instead of a state appointed inspector is beneficial for producers. A USDA inspector allows for meat slaughtered under their watch to be sold nationwide. If a state appointed inspector is present at the time of slaughter then the meat is only to

be sold within the state of slaughter (Etter, 2008). The fact that a USDA inspector accompanies the San Juan County MMPU gives producers more opportunities for sales long-term.

The Island Grown Farmers Cooperative was able to overcome the challenges of being producers while living in a rural island community. 11 years on, the San Juan County MMPU is seen as a model for other communities in the state of Washington and across the United States of America. The project in San Juan County has prompted three other MMPUs in Washington alone. Producers are buying into the idea of producing locally and processing locally for a variety of reasons and there appears to be little evidence of the San Juan County MMPU's businesses slowing anytime soon.

To the south of the San Juan Islands rests Pierce County. Home to 811,681 residents, the county is also headquarters for another of Washington's MMPUs. Like San Juan County, Pierce County turned to a mobile abattoir to offset the obstacles facing producers in the region. In 2009, the region's MMPU was put into commission. Operated by the Pudget Sound Meat Producers Cooperative (PSMPC), the unit rests inside a 45-foot bottleneck trailer (PSMPC, 2013). The MMPU is based in Pierce County while expanding its services to the surrounding counties of King, Kitsap, Thurston, Lewis, Mason, Clallam, Jefferson, and Grays Harbor (PSMPC, 2013).

Similar to San Juan County's MMPU a USDA inspector travels with the MMPU in Pierce County (PSMPC, 2013). Unlike San Juan County, Pierce County's MMPU does not make individual house calls for customers. Instead, the MMPU visits three venues approved by the USDA that the MMPU is able to use for slaughter (Thompson, 2012). Those three USDA approved sites are located in Port Orchard (Kitsap County), McKenna (Pierce County), and Bothell (King County) (PSMPC, 2013). Customers are then required to bring their livestock to the venue that is closest to their farmstead, where they are slaughtered on site. The carcasses are then refrigerated and transported to a USDA inspected cut and wrap facility (PSMPC, 2013).

The MMPU operated by the PSMPC has designation to slaughter using both organic and non-organic methods. The Washington State Department of Agriculture (WSDA) has provided the organic designation for the facility through its Organic Program (PSMPC, 2013). Standard slaughtering capabilities of the MMPU include: cattle, sheep, pigs, and goats. Organic slaughtering capabilities are currently limited to that of cattle, but an application to expand to pigs is currently being considered (PSMPC, 2013). The MMPU's current operation is capable of processing 10-15 animals per day. Presently, the MMPU operates one to two times a week, while each operation day spans eight hours (PSMPC, 2013).

Based out of Colville, Washington, the Community Agricultural Development Center (CADC) is a not for profit organization. The CADC is focused on promoting the local food movement in Northeastern Washington through local production, processing, and market distribution. To further assist its local food movement, the CADC purchased two MMPUs for local producers to use when processing their livestock. Producers in Stevens County, Pend Orielle County, and Ferry County to date have used the MMPU (CAC, 2013a).

Purchased in 2002 for \$30,000 by the CADC, with assistance from the WSDA, the MMPU is housed in a 20-foot trailer (CAC, 2013a). The MMPU has the ability to process poultry and rabbits (CAC, 2013a). Annually, it is estimated that between 3,000 and 5,000 birds are processed in the CADC's MMPU (Stokes, 2006). While each year varies, there are generally two to six producers who use the MMPU annually. Producers who wish to process their poultry in the MMPU pay a yearly membership fee of \$200 plus \$0.75 per bird that is processed (Extension, 2009). With a crew of three employees, a producer is able to process between 150 and 200 birds on a daily basis. The meat processed in the CADC's MMPU is entitled to be sold to restaurants, retail facilities, or to the consumer directly (Stokes, 2006).

The unit is located at the CADC's headquarters in Colville. When a producer wishes to use the MMPU they are required to come to Colville to pick up the trailer and transport

it to their farm. Before a producer is entitled to use the MMPU there is a short process they must go through. First, the producer must obtain a food-processing license, which can be acquired through the CADC (CAC, 2013a). Second, a water sample must be taken before the producer is given the right to continue. Finally, if the producer wishes to sell the meat commercially, an inspection from the WSDA Food Safety Department is required to ensure guidelines are followed (CAC, 2013a).

Building from the success that greeted the poultry MMPU, the CAC of Colville, Washington invested in a second MMPU. The unit was partially funded through a grant from the USDA-Rural Development (CAC, 2013b). The most recent MMPU is designed to handle large livestock including cattle, pigs, sheep, and goats. The MMPU is capable of handling six to seven cattle per day, or 20-25 sheep or hogs per day (Extension, 2013). Like the CAC's poultry MMPU, the red meat MMPU is USDA inspected, meaning that meat from the unit can be sold across state lines (Extension, 2013).

The CAC has contracted S & K Processing, an operation based out of Chewelah, to operate the MMPU on a daily basis (CAC, 2013b). S & K Processing is qualified by the USDA regarding Hazard Analysis Critical Control Points (HACCP). The company was responsible for developing the HACCP plan for the CAC's large livestock unit. The MMPU is located on the property of Smokey Ridge Meats, also of Chewelah (CAC, 2013b). By using Smokey Ridge Meats' property, the MMPU gains a couple of benefits. Existing water and waste management facilities on site can be used for the MMPU during operation (CAC, 2013b). There are also existing livestock receiving and handling facilities on the Smokey Ridge Meats site that can be used. Following slaughter in the MMPU, producers are able to have their meat conveniently processed in the Smokey Ridge Meats facility (CAC, 2013b).

#### ***4.4.4 Conclusion of Mobile Abattoir Development in Washington***

The State of Washington can only be seen as a success story with MMPUs. Being a trailblazer in a business is a risky venture as there are few models to go on and little to base your judgment on. Despite this, Washington has MMPUs that are serving as models of success nationally and internationally. The state has two types of MMPUs: those that

come directly to the farm and those that require producers to come to the MMPU. Both models appear to be valued by the producers in Washington. Washington's success depended on having operators who understood the market and implementing what producers demanded, starting in the San Juan Islands. The first MMPU was a result of producers on islands facing transportation barriers due to their location. Thus the Island Grown Farmers Cooperative devised a plan to bring the abattoirs to the producers through a MMPU. If future MMPUs are to succeed in either Canada or the United States, the recognition of market needs beforehand is essential.

## **4.5 Mobile Abattoirs in Quebec**

### ***4.5.1 Quebec's Local Food System***

Canada, as a whole, is active in promoting and supporting local food systems. It is estimated that 20 per cent of all food consumed in Canada is done so in the same province in which it is produced (Dowdall, 2013). The province of Québec leads all Canadian provinces in local food consumption, with 29 per cent of food consumed in the province being produced in Québec (Dowdall, 2013). Ontario is the next closest with 24 per cent of food consumed in Ontario being produced in Ontario (Dowdall, 2013).

In 1996 the program *Aliments du Québec* was founded. The *Aliments du Québec* program promotes and regulates the local food demand in the province of Québec (Aliments du Québec, 2014). The *Aliments du Québec* program trademark has become the only accepted certification in Québec when identifying local foods in the consumer market. The program offers two distinct certification designations for food products: *Aliments du Québec* and *Aliments préparés au Québec* (Aliments du Québec, 2014). The *Aliments du Québec* designation is reserved for products that are made up ingredients of which at least 85 per cent were grown in Québec. The product's processing and packaging must also occur within the province. The *Aliments préparés au Québec* designation is awarded to products that may have been grown outside of the province but were processed and packaged in Québec. The program currently has 15,500 registered food products (Aliments du Québec, 2014).

A shift in Québec's farming practices can be attributed to the province's love affair with local food. The number of large farms in Québec has steadily declined in recent years while the number of small farms has actually increased. This trend could suggest that the small farms are focusing their efforts on niche and local market production (Ashraf, Konforti & Lemay, 2010). A focus on quality is a benefit for small-scale farming operations.

Local Québec products are readily available to Québeckers. Farmers markets are a key component of the local food movement. In Québec, the *Association des marchés publiques du Québec* is the governing body for farmers markets. The *Association des marchés publiques du Québec* represents 82 markets province wide (Ashraf, Konforti & Lemay, 2010). Montréal, a city popular with farmers markets, has its own market governing body known as *Nourir Montréal*, which represents 30 markets (Ashraf, Konforti & Lemay, 2010).

CSA also plays an important role in Québec's local food systems. A CSA is a program where residents sign a contract with local producers. Under the contract the producer delivers the product to the residents on a regular schedule. Users of a CSA pay a pre-payment at the start of the season to cover the duration of the CSA scheme. In Montréal alone, there are over 90 farms that participate in various CSA programs (Berger, 2009). One such CSA in Québec is operated by *Équiterre*, a Montréal based local foods non-governmental organization (NGO). *Équiterre's* CSA has 100 farms and 30,000 consumers actively registered (Our Little Farm, 2013). Weekly deliveries cost consumers \$576 while bi-weekly deliveries cost \$306 (Our Little Farm, 2013).

Québec has also been experimenting with a new local food initiative. The initiative entitled "solidarity markets," bares some resemblance to a CSA. A solidarity market allows consumers to go online and put in an order of what products they would like delivered (Ashraf, Konforti & Lemay, 2010). Unlike a CSA consumers are paying per use rather than a lump sum upfront. This new approach is quickly catching on amongst



Québeckers. According to Équiterre, Québeckers favor the solidarity market approach as it benefits both producers and consumers. Consumers prefer the system as it allows them to select the food they like, the quantities desired, and when the deliveries will occur. Producers are supportive of the initiative as it allows them to sell stock to consumers that may otherwise go unsold (Ashraf, Konforti & Lemay, 2010).

While being a leader in Canada's local food movement, it is evident that Québec is not afraid to try new and innovative ideas. While some ideas have gained traction, such as the solidarity market approach, others have come and gone without much fanfare for various reasons. Mobile meat processing units (MMPU) have fallen under the latter category. Québec has dabbled with the idea of introducing MMPUs over the past decade. Results of the province's efforts have however, been less than promising.

#### ***4.5.2 Quebec's Regulatory Context***

The province of Québec holds similar guidelines as other Canadian provinces when it comes to the regulatory efforts concerning meat products. Presently, Québec's *Food Products Act* sets the regulations for slaughterhouses within the province (Government of Québec, 2014). If a producer wishes to sell a product directly to consumers in Québec following slaughter, the animal must be slaughtered in a provincially licensed facility. Under the Food Products Act, it is established that "the slaughter of an animal must be done only in a slaughterhouse in a conformity with this Regulation if the meat of the said animal is intended for sale for human consumption or to serve as food for a person other than the person is slaughtering" (Government of Québec, 2014). The *Food Products Act* currently designates five permits for slaughterhouses in Québec including:

- A-1: cattle, horses, swine, goats, sheep and deer;
- A-1B: cattle, horses and deer;
- A-1P: swine and deer;
- A-3: rabbits and poultry;
- A-4: pheasants, guinea fowl, partridge and quail.

In Québec, it is essential that the operator of a slaughterhouse holds a permit issued by the provincial agricultural department, known locally as *Ministre de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ)*. The permits, excluding the A-4 permit, allows for the slaughterhouse to be continuously inspected by provincial inspectors to ensure operations are up to the appropriate standards (Government of Québec, 2013).

Operating under an MAPAQ permit allows for the operator to use the “Approuvé Québec” stamp, meaning “Québec Approved”, a provincially recognized label indicating that the product meets the standards set forth by the Québec government (Government of Québec, 2013). The A-4 permit is also forbidden from using the “Approuvé Québec” stamp as well as not being continuously inspected.

**Figure 3: Québec Operating Permit Costs** (Government of Québec, 2013)

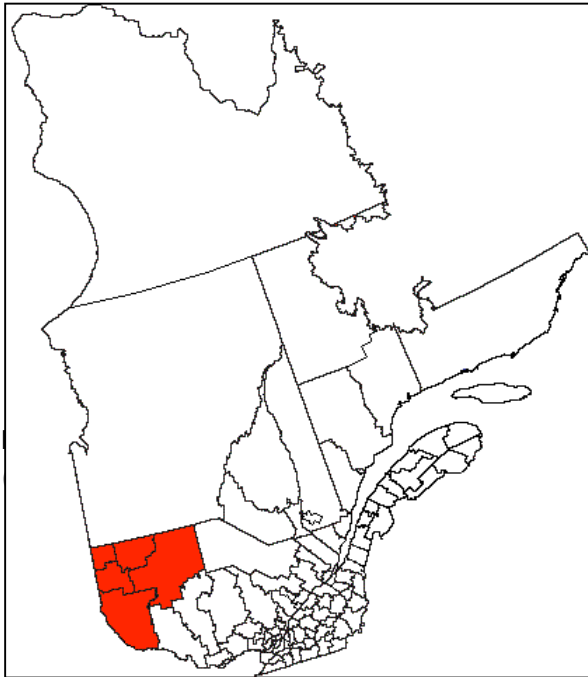
Slaughterhouse permit	2013-2014
Slaughterhouse A-1	\$ 525
Slaughterhouse A-1B	\$ 525
Slaughterhouse A-1P	\$ 525
Slaughterhouse A-3	\$ 525
Additional license (above named)	\$ 233
Local slaughterhouse	\$ 642

#### **4.5.3 Quebec’s Mobile Abattoir Inventory**

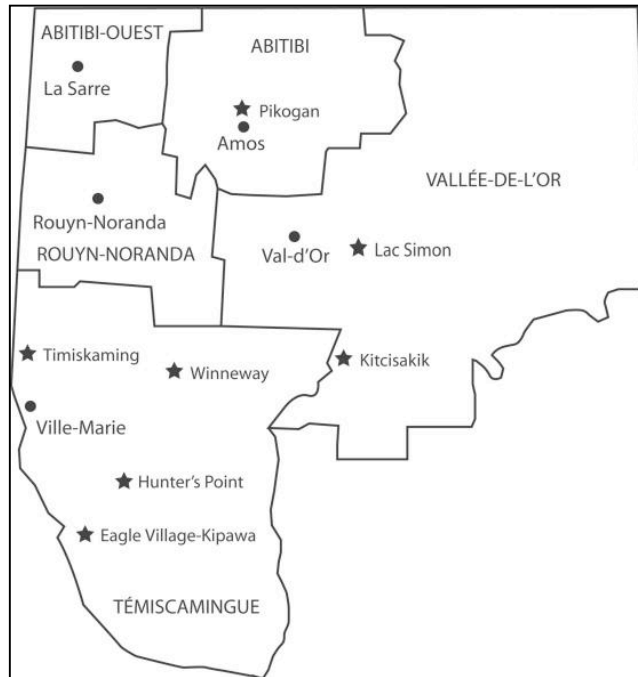
In 2005 Canada’s first MMPU operating east of Alberta was established in the Abitibi-Témiscamingue region (Barter, 2013). Abitibi-Témiscamingue is a region in the western portion of Québec (see Image 2). The region shares a political border with the province of Ontario. According to the 2011 Canadian Census, the Abitibi-Témiscamingue region

has 145,690 residents within its boundaries. Major urban centers within the Abitibi-Témiscamingue region include: Amos, Rouyn-Noranda, and Val-d'Or (see Image 3). As of 2013, there are a total of 715 farms registered in the Abitibi-Témiscamingue region.

Roughly 50 per cent of all Abitibi-



**Image 2: Abitibi-Témiscamingue Location**



Témiscamingue farms are cattle farms

(Barter, 2013). Measuring roughly 58,000 km<sup>2</sup>, Abitibi-Témiscamingue's large size has caused local producers challenges in terms of accessing provincially and federally inspected processing facilities.

Costing roughly \$480,320, the Abitibi-Témiscamingue MMPU was a product of multiple organizations' contributions (Robert, 2005). The project was awarded numerous grants from both the federal and provincial levels. Québec's agricultural department, MAPAQ, was the largest supporter of the project awarding a \$200,000 grant for the construction (Le Bulletin, 2005). The Canada Economic Development Fund, a federal entity, contributed \$54,000 towards the project as well (Le Bulletin, 2005). Further contributions came in the form of grants from other organizations including SADC

Vallée-de-Gold amongst others. Contributions also came in the form of down payments from the project's shareholders (Le Bulletin, 2005).

Housed in a trailer, the abattoir visited two docking stations located in Macamic and St-Bruno-de-Guigues, in the Abitibi-Témiscamingue region with an inspector from the province of Québec (Le Bulletin, 2005). Each docking station featured a platform for the MMPU, a slaughter room, and an enclosure for the livestock. Livestock would be slaughtered within the facility before the carcasses were refrigerated in the trailer. Following the slaughter, the carcasses were transported to Val-d'Or for processing and packaging (Barter, 2013). Val-d'Or's Au Grenier des Saveurs processing facility was responsible for processing the MMPU's business.

The purpose of the Abitibi-Témiscamingue MMPU was to assist both traditional and non-traditional livestock farmers. The mobile abattoir was able to slaughter both non-traditional and traditional livestock. Non-traditional livestock included deer, fallow deer, ostrich, emu, and wild boar. Traditional livestock that could be slaughtered in the MMPU included calves, lamb, sheep, and pigs (Robert, 2005).

The project was discontinued in 2008 however. Following a lack of interest and never operating at full capacity, the Abitibi-Témiscamingue MMPU was bankrupt. At the time of the mobile abattoir's inception, there were up to 25 producers actively using the facility. However, over the life of the abattoir that number steadily dropped. Sustain Ontario believes that the Abitibi-Témiscamingue mobile abattoir failed because of the region's size and its lack of interest in local foods (Barter, 2013).

Abitibi-Témiscamingue's extensive size ended up creating problems that would prove costly for the mobile abattoir. What is described as "location-related politics" was one obstacle that resulted in the mobile abattoir ceasing operations (Barter, 2013). The abattoir would not come to one of the docking stations if there were not enough producers requiring the abattoir at the same time. This resulted in producers having to drive to permanent abattoirs if other producers did not require the mobile abattoir at

the same time. It seemed at times that the Abitibi-Témiscamingue producers were back to where they started. This type of service caused portions of Abitibi-Témiscamingue to feel underserved by the mobile abattoir project (Barter, 2013).

The region of Abitibi-Témiscamingue suffers from demographic issues that made the viability of the MMPU difficult to begin with. Traditionally, local food has been priced higher than that which is commercially produced. This could be seen as a difficulty for Abitibi-Témiscamingue. The Abitibi-Témiscamingue region has an unemployment rate of 9.6 per cent and a personal disposable income per capita rate of \$24,610 (Canada Economic Development, 2010). Spending more money on local products over cheaper alternatives is not justifiable for some families who are facing financial uncertainty. The region of Abitibi-Témiscamingue's low population density also posed as problem for the local food movement as there was very little potential for a market for the meat. A failure to promote the local food movement before the abattoir was introduced was a mistake that the abattoir would not be able to overcome (Barter, 2013).

A less well-known MMPU is currently operating in proximity to Montréal in the Montérégie region. Located in the southwestern portion of Québec, the Montérégie region is roughly 11,131 km<sup>2</sup> in size, just a fifth of the size of Abitibi-Témiscamingue (Statistics Canada, 2011). The Montérégie region also has a relatively large population of 1,442,433 residents (Statistics Canada, 2011). Notable urban centers within the Montérégie region include Brosard, Granby, Saint-Jean-sur-Richelieu, and Saint-Hyacinthe. The region has traditionally been an agricultural one and continues to be to this day. In 2011 it was estimated that there were 6,850 farms within the Montérégie region, which is the most in the entire province of Québec (Service Canada, 2012). It is also estimated that 30 per cent of all Québec produced cattle and pigs come from the Montérégie region. Thus it is no surprise that the agricultural sector is the largest employer in the region with over 15,000 employees (Service Canada, 2012).

Headquartered in Napierville, the MMPU is a private entity run by Raynald Gagnon. The MMPU's website states that Mr. Gagnon created the MMPU to "provide all small and

medium poultry producers the exceptional service they deserve and constantly look for” (Gagnon, 2011). Mr. Gagnon constructed the MMPU himself for a total cost of \$250,000 while working closely with MAPAQ to ensure standards were met (Gagnon, 2013). Inspected by provincial inspectors, the MMPU also holds the appropriate licenses required (Gagnon, 2013). Though chicken producers are the main clientele, the MMPU is capable of handling other fowl including turkeys, pheasant, guinea fowl, and others (Gagnon, 2013). In order to meet the demands of processing unique fowl, the MMPU requires additional equipment including the use of hot wax.

The unit travels directly to farms throughout the Montérégie region, extending as far east as Sherbrooke (Gagnon, 2011). Operating every two weeks, the MMPU takes a list of orders in advance of its tour and then stops at each requested location along the way. During the tour, the MMPU will be in operation for either one or two consecutive days at a time. In order for Mr. Gagnon’s MMPU to stop at a location, there must be a minimum of 50 chickens that are to be slaughtered and can be up to 400 for the day (Gagnon, 2011). The MMPU has the capability of refrigerating the slaughtered birds within the unit if consumer so desired. The MMPU also offers consumers vacuum packaging of their product (Gagnon, 2011).

In comparison to the Abitibi-Témiscamingue MMPU the Montérégie MMPU appears to be in a promising region. Montérégie has shown that the region relies heavily on the agricultural sector and would have interest in investing in the long-term local success of its producers. With such a high concentration of both producers and consumers within the region, it is more likely that a local food market is established in the region than in Abitibi-Témiscamingue. While not enormous, Montérégie also has a better socio-economic profile than that of Abitibi-Témiscamingue, which may contribute to the demand for local foods. Montérégie has an unemployment rate of 7.6 per cent compared to Abitibi-Témiscamingue’s 9.6 per cent and a personal disposable income per capita rate of \$26,506 compared to Abitibi-Témiscamingue’s rate of \$24,610 (Canada Economic Development for Quebec Regions, 2010). The long-term success of the

Montréal abattoir however, is still up for debate and will require a revisited case study in the future.

#### ***4.5.4 Conclusion of Mobile Abattoir Development in Quebec***

While Québec's first experience with MMPUs may have ended on a sour note, it was not a complete failure. In the case of Abitibi-Témiscamingue, the market for a MMPU was simply undeveloped at the time of implementation. The region the abattoir was to serve was extensive and had a low population density, bringing into question logistics. Furthermore, there seems to have been minimal effort to promote local food consumption in Abitibi-Témiscamingue prior to the MMPU's existence. In order for a MMPU to truly succeed, there needs to be a market for local food production and consumption to make the project viable. The lessons learned from Abitibi-Témiscamingue are valuable moving forward for Québec and any other prospective regions. MMPUs offer an invaluable service for regions if executed properly.





## **Chapter 6.0 Analysis of Primary Data**

### ***6.1 Mobile and Modular Owners and Operators in British Columbia***

#### ***6.1.1 Geographic Range of Case Studies***

A total of seven case studies of mobile and modular abattoirs were conducted throughout British Columbia in March of 2014. The geographic range of case studies spanned from the southerly west coast to the far southeast of the province. Case studies therefore represented varying degrees of rural and remoteness. All case studies undertaken, however, were geographically located within 200 kilometers of the southern B.C. border, where it is much more developed generally than in the more northerly interior. Nevertheless, some locations hosting mobile or modular abattoirs were much more removed from urban development than others. For some of the regions where mobile and modular abattoirs were found, mobile and modular abattoir owners pointed to specific transportation challenges faced by producers in having their livestock slaughtered, where the transportation type was specialized or distance from services required in the absence of a mobile abattoir was up to more than two hours over rough terrain that can be particularly challenging to travel in during the winter months. Business owners of currently operational mobile or modular abattoirs identified the geographic region serviced by their business. In all cases, the primary area serviced was characterized dependent on the community or region that the business was located in. Respondents therefore indicated that most customers come from within a one-hour distance to access their services, although rare cases of customers travelling over two hours to access services were also reported.

#### ***6.1.2 Business Structure of Case Studies***

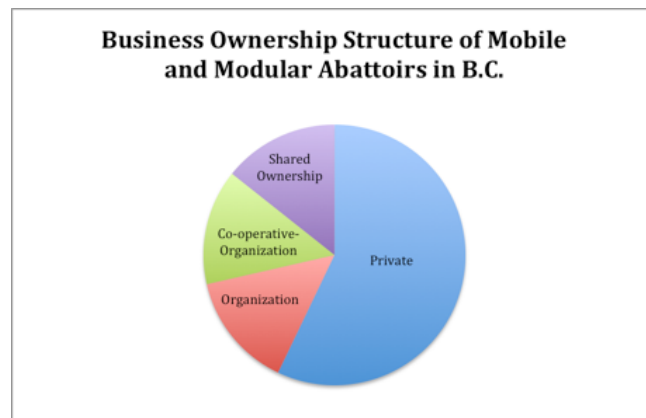
Case studies represented a range of business models. In terms of business model ownership structure, various compositions were found including shared ownership<sup>2</sup>, co-operative ownership, organizational/co-operative ownership, and private

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<sup>2</sup> Shared ownership differed from co-operative ownership primarily in that decision-making processes over the business were not necessarily democratic in nature. In addition, it is important to note that in those cases where shared ownership was documented, that non-democratic decision-making did not appear to present any issues for those involved and that the arrangement seemed to work in this sense.

ownership. In total, four of the case studies were privately owned businesses, one was under a shared ownership arrangement, one was organizationally owned and one was cooperatively owned and managed through an organization. *Figure 3.0* shows the breakdown of business ownership structure among the seven case studies. It was found that the structure of business model did impact the pace of business development. For instance, in cases where units were privately owned, development of the business took place more quickly than that of co-operatively or organizationally owned units. Respondents from all four types of ownership structures reinforced that for those businesses where decision-making is shared democratically, that decisions as they relate to business development often take relatively long periods of time, resulting in sluggish business development. Conversely, for units owned privately, respondents identified the pace of business development as more rapid.

**Figure 4.0**



The business ownership model of mobile and modular abattoirs also reflected a mixture of business development intent. For instance, for those units co-operatively and organizationally owned, business development was often cited as arising out of a personal need for slaughtering or processing services. Co-operatively owned mobile or modular abattoirs were therefore typically owned and operated by producers or agricultural groups or organizations with intent to provide members, as well as the broader local meat market, with access to slaughtering and/or processing services. Co-operatively and/or organizationally owned abattoirs therefore functioned, or intend to

function in the future, from a not-for-profit costing model. For privately owned units, initiation for business development was cited as either recognition of a market opportunity and/or out of a personal need for abattoir services. Privately owned businesses functioned from a for-profit costing model. For one respondent in the privately owned business category, the potential for profit making was identified as the main reason for business development, followed by a desire to provide abattoir services for the local meat sector. Profit making, however, was not the primary catalyst for business development for all other privately owned mobile or modular abattoir businesses, where respondents identified personal and community local food sector needs as the principal motivation, followed by the potential for profit making. For one respondent, initiation for abattoir development came solely from the desire to provide local and niche producers with access to slaughtering services with no expectations for profit making.

Case studies also revealed a range of business models in terms of livestock markets served, services offered, and overall slaughtering capacity. Out of the seven mobile and modular abattoirs studied, two of the units are considered multi-species, meaning they are capable of servicing both the poultry and red meat sectors. While in terms of the red meat, both of these units provide servicing for cattle, swine, and sheep, and one of the units will also service goats and rabbits. For this unit, further processing for all animal types is allowed through a Class A license<sup>3</sup>. For the other multi-species unit, further processing through a Class A license is allowed for poultry only. In this instance, services offered for red meat animals must comply with a Class B license, meaning that only the slaughtering (no further processing) of red meat can take place.

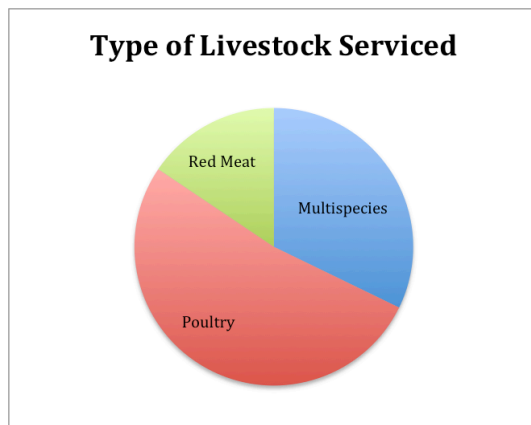
Four out of the seven units studied service the poultry market exclusively, with two of the units operating from a Class A license, allowing for further processing. The other two poultry units are regulated through a class B license, allowing slaughter only. In addition, one of the poultry units services both the organic and conventional poultry

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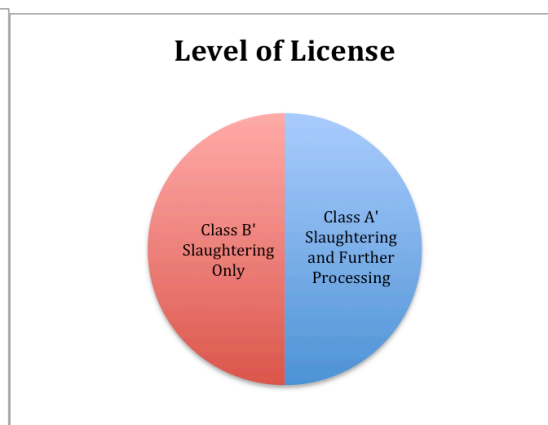
Further information on B.C. meat regulation and classification system can be found in Chapter 5.0 of this document, section 5.3.2

sectors, requiring strict product separation between organic and non-organic products to ensure organic classification. The last remaining unit out of the seven case studies was built and licensed to service red meat animals only including cows, swine, sheep, goats, bison, and buffalo and is regulated through a class B license, allowing slaughtering only. Figures 4.0 and 5.0 show a breakdown of unit type based on livestock market serviced and level of licensing.

**Figure 5.0**



**Figure 6.0<sup>4</sup>**



Respondents with currently functioning mobile and modular abattoirs identified a range of slaughtering capacities that did coincide with several factors. For poultry, respondents identified a range of slaughtering capacity between 125 and 400 birds per day. The mobile or modular abattoirs that reported the highest capacity for slaughter also tended to have experienced lower capital costs. No one single explanation was uncovered for this finding however, it was revealed that unit design did affect efficiency. In addition, it was suggested that when business owners had increased involvement in the design of their units, that innovation towards reducing capital cost and improving the outcome for practical and efficient infrastructure could be increased.

Another possible correlation with regards to unit capacity was found in terms of servicing price. For those with units with high slaughtering capacity, prices were relatively low when compared to units with lower capacities, while demand and business volume were found to be relatively high. These findings suggest that price and

<sup>4</sup> Although there were seven case studies, *Figure 5.0* shows a fifty percent breakdown for each classification due to one of the facilities having both a Class A (for poultry) and Class B (for red meat) license. Therefore, a total of eight licenses are represented here.

demand for mobile and modular abattoir services may experience elasticity. Capacity was also cited as relative to the number of employees and level of employee skill. Overall, these relationships suggest that servicing capacity for mobile and modular abattoirs is linked to a myriad of interrelated factors including availability of skilled labour, service demand, price, and physical infrastructure.

For red meat units, owners referenced the maximum capacity for red meat animals as limited by the slaughtering, processing, and cooling infrastructure of their respective unit, citing a capacity of ten or less for any large red meat animal and up to twenty per day for medium sized red meat animals. For modular units, capacities are higher because there is more room for cold storage. Mobile red meat units face relatively extreme feasibility challenges due to the limited space provided for required animal cooling. Lower holding and cooling capacity in mobile red meat units results in a lower service turnover rate, effectively reducing the cost-benefit of traveling to a farm or docking station. Potential mitigation of this challenge could come in the form of a separate cooling facility, but this would require more capital expense. One red meat unit owner also pointed to the other logistical limitations inherent when dealing with larger animal units including the size of the unit (which requires a high towing capacity vehicle and reduces on-farm mobility), higher fuel costs, longer preparation time to set the unit up before slaughter can occur, long slaughter times, and lengthy cleaning of the unit once slaughter has occurred. From the perspective of this respondent, given that the maximum number of large animals that their unit has been able to slaughter in one day is two, all of the related challenges make the unit unfeasible financially, generating overall financial loss if used to travel to individual farms for slaughter.

Interestingly, however, mobile poultry units were found to not utilize their mobility to a significant extent and in fact, two out of the four mobile poultry units now remain stationary. For one of these units, the main reason referenced for this was a highly localized consumer demand resulting in a lack of need to travel to multiple locations. This respondent indicated, however, that while traveling to various regions for extended periods can be logistically challenging in terms of finding staff

accommodations, having the option of being mobile is still a positive business characteristic that allows for adaptability should circumstances change. For the other unit, the respondent indicated a lack of intention to ever utilize the mobility of the unit, stating that having a stationary facility would have been preferred but that they perceived regulatory compliance for stationary abattoirs and processing facilities to be much more burdensome than for a mobile unit. For those respondents who did identify utilization of their unit's mobility, mobility was regarded as a key characteristic to overall business viability given the relative decentralized demand in the regions serviced.

### ***6.1.3 Business Success, Challenge, and Overall Viability***

Out of the seven case studies examined, three of the units are currently operational, viable businesses. While more than half of the units studied are not currently operational, not all of these individual business circumstances are indicative of economic business failure. In fact, in only one instance was the economic or financial feasibility of a mobile unit identified as a main reason for non-operation. For all other non-operational units, a range of non-operational causes were referred to. For instance, one out of the seven units is currently being used for personal use only, with intent to reconfigure ownership and re-establish a broader market. One of the units is currently non-operational due to owner frustration over provincial regulation, with frustration over municipal regulation referenced as a secondary reason of non-operation for the unit suffering from financial and economic non-viability. At the time of study, one unit was brand new and in the process of undergoing a change of ownership before becoming operational. For the businesses that are viable and operational however, business success has not always been inherent. Indeed, the range of business status found throughout the seven case studies represents a diversity of both challenges and successes. As such, from each case study there are practical and transferable lessons to be learned that have the potential to guide future development of mobile and modular abattoirs in British Columbia, Ontario, and beyond.

With regards to those mobile and/or modular businesses not currently functioning,

respondents pointed to some general challenges related to small business and more specifically, small agricultural business as a whole. For instance, for several business owners, demographic issues relating to personal aging and sickness alongside a lack of options for business succession resulted in the inability or disinterest in continuing with their businesses. Given that many mobile and modular owners, whether in shared, co-operative, or private ownership arrangements are producers, this finding parallels those identified among farmers across British Columbia and Canada generally - an aging demographic seeking to exit business with a lack of interested successors to take business over. This is a broad, albeit serious, reality that poses a significant degree of vulnerability to the agricultural and local food sectors as a whole, particularly with regards to small to medium sized enterprise. Furthermore, this is a challenge characterized by a myriad of macro-level factors such as the rising price of farmland, high levels of required capital investment, consolidation throughout the agricultural sector (suppressing small to medium sized agricultural enterprise viability as a whole), and a continued increase of other more secure and less expensive career options for young people. These are challenges however, that can also be addressed at the niche and micro levels through innovative and novel businesses such as mobile abattoirs.

Regulatory challenges were noted in several instances of both operational and non-operational businesses. Business owner perspective towards the regulatory environment was indeed characterized by a range, and by varying degrees, of concern. For some mobile abattoirs owners, prescriptive policies regulating infrastructure details at the micro-level caused some degree of frustration. Through communication with regulators however, instances of regulatory adaptability and reflexivity were also cited by respondents, reflecting B.C.'s results-based approach to meat safety. One respondent spoke of their continued communication with regulators in order to achieve safe food outcomes stating that, "When they would tell me that you have to put this [blah blah blah] in, I'd go, well: what would that achieve?" The respondent went on to explain that once the necessary result was clearly understood, they would work with the inspector to explore different ways of achieving that desired outcome without sacrificing efficiency or incurring unnecessary costs. For other business owners, a slight

to moderate degree of concern over regulatory and inspection inconsistency between regions was brought forth. In addition, several respondents perceived the regulatory environment as it relates to meat safety as being more adaptable for mobile and modular units than for stationary units. On the more severe side of regulatory concern, some respondents expressed extreme discontent with the introduction of D and E class licenses<sup>5</sup> within the province, pointing to the perceived double standard nature of D and E class licenses in comparison to A and B class licenses, furthermore asserting that the introduction of such licenses within their region has undermined their business viability.

In terms of financial business viability, perhaps the most important aspect for realized success is consumer demand. In several cases where businesses reported financial viability, respondents spoke of the specific demand-related challenges they had faced. In one instance, a respondent indicated that a distinct surge in demand for their service had recently been experienced due to the closure of a nearby abattoir. In other instances, respondents spoke of consumer discontent with service pricing, but also pointed out that several factors must be considered when comparing the service price of mobile and modular abattoirs to options that are further distanced, such as animal stress (and therefore quality) and transportation cost.

Available funding for capital costs has also played a significant role in the development of mobile and modular abattoirs across British Columbia. For six out of the seven case studies, provincial funding programs (the Meat Industry Enhancement Strategy and the Meat Transition Assistance Program) helped to fund the capital costs of the units to various extents. In at least one case, a loan from an organization was also used to help fund the cost of purchasing a mobile abattoir. For the majority of the businesses examined, therefore, outside funding has been a vital component to business development and success. At the same time, in those instances where business development was championed from the private sector and business owners incurred

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<sup>5</sup> Further information on B.C. meat regulation and classification system can be found in Chapter 5.0 of this document, section 5.3.2



some degree of financial risk, business success could be identified as more likely. In two of the case studies facing non-operation, these factors were identified as significant to the extent that without financial risk, business owners had less to lose. In addition, without ensuring operational capacity from an individual level, businesses face a higher risk of closure. In terms of capital cost funding, a wide range of costs for unit development was identified, ranging from \$60,000 to over \$450,000. Respondents did identify that in many cases, the cost of developing a mobile abattoir could have been reduced through initiatives such as the use of secondary materials, locally sourcing materials, and through innovative solutions to infrastructure requirements, especially given the adaptability of results-based meat regulation throughout the province. In addition, as mobile and modular abattoirs are a relatively new concept, it is also anticipated that lessons learned in terms of reducing capital costs while not sacrificing safety or efficiency will become more easily realized. Other noted business challenges reported included a lack of community support, lack of local government support, poor rural planning affecting municipal bylaw and zoning outcomes for business development, and difficulty in coordinating between groups and organizations in terms of ownership structure and ownership change.

While mobile and/or modular business across BC have faced a fair share of challenges related to both the local livestock sector and more generally, small business, much can also be learned from the successes enjoyed throughout the province. In several cases, respondents indicated that the development of mobile and modular abattoirs has been a vital aspect in bringing back a local livestock industry to many regions where that industry had been lost during the transition to fully required licensing and inspection in 2004. One respondent, in speaking about the influence of mobile abattoirs, recalled the rather devastating impact of the change on small to medium sized farmers such as themselves,

We had many, many abattoirs in the area that we could all make use of...there were so many of them that they were close to everybody, and of course then it was an unregulated business in the sense that we could all sell farm gate and we could raise as

many birds as we wanted and actually have some profit. When the rules changed, everyone closed down. We had nobody.

Due to the geographic uniqueness of BC, lending to a greater degree of remoteness and dispersed production for many regions, mobile and modular abattoirs present a unique opportunity in providing the necessary infrastructure for the development of local and resilient food systems. Moreover, several respondents pointed to the success of mobile and/or modular abattoir businesses in terms of business viability, reflecting on the fact that mobile abattoirs are capable of earning a livelihood for business owners, or non-profit businesses enough business volume to cover operating costs and sustain an employee base. In all cases of successful mobile and modular abattoir businesses, communities and regions have benefited through increased rural economic development and the local food sector has advanced through the creation of a more robust local meat supply chain.

While the concept of the mobile abattoir as a travelling abattoir that will service individual farmers on-site is not reflective of the reality of existing, feasible mobile abattoir businesses, the mobile model does provide several advantages that stationary facilities do not. Overall, while the capital costs of mobile abattoirs are less than that of stationary facilities, they also provide a degree of adaptability unique to the mobile model. For one out of two respondents whose mobile units currently remain stationary, this adaptability was still perceived as a key characteristic of their business. For the other respondent, the mobile aspect of the business was perceived to result in a higher degree of regulatory adaptability. Mobile abattoirs are also considered as extremely important in areas where production is dispersed, and through the use of docking stations, producers are able to utilize access to slaughtering and/or processing services within a reasonable, and often relatively short, distance.

## **6.2 Ontario Abattoir, Processor, and Butchering Facility Owners**

In order to better understand the market dynamics surrounding local and traceable meats in Ontario and furthermore, to gain insight towards the potential demand for

mobile abattoir services across the province, ten Ontario-based processing, abattoir, and butcher owners servicing the local meat market were interviewed. Respondents reflected a range of business geographies throughout both southern and northern Ontario.

Overall, respondents identified that there is a strong demand for local meats in Ontario and that this demand is growing. They also pointed to a lack of consumer understanding regarding the concept of traceability, stating that demand focuses more around the want for local, rather than traceable, meat products. Respondents in southern Ontario largely stated that they do not face challenges in meeting the demand for local meats, with one respondent pointing out that for small butcher facilities in the industry it can be difficult to secure a consistent supply of local meats. All respondents in northern Ontario, however, stated that they face severe challenges in responding to consumer demand for local meats, as supply is severely limited by a lack of production.

For southern Ontario respondents, the introduction of mobile abattoirs within the region is not seen as being high in demand. In addition, given the range of challenges faced by many small to medium sized abattoirs, processors and butcher shops in southern Ontario, these business owners feel that development of the local meat supply chain must first address these challenges. In addition, southern Ontario business owners expressed fear that mobile abattoirs would create stiff competition, given their low capital costs, within an already challenged market. In addition, respondents in southern Ontario stated that they would have concerns over the ability of mobile abattoirs to meet the current meat regulations and standards. Several southern Ontario respondents did however suggest that mobile abattoirs could be useful in the southern Ontario context for emergency situations, and several also pointed to their potential usefulness in the context of northern Ontario. Likewise, all respondents in northern Ontario stated that there is a high potential demand for mobile abattoirs in the northern regions of the province, given the decentralized nature of northern Ontario production. In addition, the lack of processing infrastructure in northern Ontario was seen as limiting the overall livestock sector, while at the same time it was recognized that the

development of stationary facilities in this context is not necessarily feasible.

### **6.3 Regulators in British Columbia**

Key informant interviews with one British Columbian policy official as well as one program-based employee of a quasi-regulatory body reinforced several findings pertaining to the interaction between regulators and mobile and modular abattoirs owners, as well as those findings related to the overall provincial policy approach to meat safety in BC. Respondents verified the results-based policy approach to meat safety throughout BC, referring to regulatory adaptability when possible in order to help facilitate mobile and modular abattoir business development. Respondents identified, in contrast to the perspective of some mobile and modular abattoir business owners, that the regulatory approach towards stationary versus mobile/modular facilities is uniform. At the same time, respondents pointed out that as mobile and modular abattoir businesses are a relatively new, unique, and an ever-adapting processing and slaughtering model, regulators have had to navigate through micro-level regulatory issues that have not necessarily been experienced through interactions with stationary facilities. Nevertheless, respondents identified that all provincially regulated abattoirs and processing facilities are subject to the same level of compliance for results-based regulatory outcomes.

Overall, no specific regulatory challenges were identified with regards to regulating mobile and modular businesses, and it was perceived that these business models are no less capable of complying with regulatory standards than their stationary counterparts. Respondents did recognize however, that innovation on the part of the business owners of mobile and modular abattoirs has had to occur in order to comply with regulatory standards. Therefore, it was identified that any burden of challenge or adaptation in terms of mobile and modular abattoir regulatory compliance falls largely on business owners as opposed to regulators.

### **6.4 Discussion of British Columbia Case Studies**

A review of mobile and modular abattoir development across the province of BC reveals

a myriad of successes and challenges with regards to these businesses. It also helps to clarify important questions regarding these business models, such as those related to the ability to meet regulatory compliance and overall business viability. While the case studies conducted bring to light evidence-based examples of mobile and/or modular abattoir success, they also reveal a reality that differs from the sometimes-ideological assumptions regarding how these units function. For instance, in not one case was it reported that a mobile abattoir travels to individual producer's farms to conduct slaughter. Rather, for those units where mobility is utilized, some farmers provide docking stations that can accommodate mobile abattoirs and other producers in the community then use these sites. While the actual mobility of such units is much more constricted than this, mobile and modular abattoirs do enjoy benefits from having mobility (or at least the option for mobility). Mobility allows for business adaptability and is an integral characteristic for those units that travel to multiple docking stations.

While many of the criticisms, or at minimum reservations, regarding mobile abattoirs specifically point to their perceived lack of ability to comply with regulation, the findings presented here indicate the contrary. Indeed, from both the perspective of regulators and business owners, mobile and modular abattoirs are quite capable of achieving regulatory compliance, and this is made increasingly attainable within the context of a results-based provincial meat policy framework.

Mobile and/or modular abattoirs do face challenges nonetheless, with many of these challenges similar to those faced by small to medium sized agricultural enterprise generally. From demographic and succession issues, to ownership structure issues and regulatory challenges, mobile and modular abattoirs face a range of challenges that often parallel those faced by agricultural smallholders at large. More specific issues related to the mobile or modular model largely relate to large animal slaughtering, which faces low capacity rates, resulting in financial viability issues.

Despite the challenges faced however, the case studies conducted show that mobile and modular abattoirs have been extremely influential in facilitating the development of the

local livestock industry for several BC regions, while more broadly stimulating rural economic development. Moreover, within the broader context of alternative food system development internationally, the mobile and modular abattoir models fit quite well within the concept of *niches*. Rossi and Brunori (2010) describe niches within alternative food system development as innovative developments arising as a response to crisis occurring within conventional social and technical systems. Furthermore, they suggest that while niches typically result in rather modest output within the larger context that they create a very important diversity that results in greater system resiliency. This description closely parallels the reality of successes that have been realized through the development of mobile and modular abattoirs in British Columbia, as they represent niche style business models developed largely in response to a sweeping loss of abattoir access for many British Columbian communities. In addition, they have stimulated sector growth that, albeit small in scale compared to the larger conventional system, has created a higher degree of food system resiliency across the province.

### **6.5 Mobile and Modular Owners and Operators in Alberta**

During the course of this research, it was determined that Alberta had no functioning mobile abattoirs that could be used as case studies. At the same time, it was revealed that Alberta was home to dozens of mobile butchers and mobile butcher facilities that appeared to be offering similar services and had been in existence for many years. Due to the limited secondary information available on these businesses, they were identified as a strong candidate for the Alberta case study portion of the research, effectively expanding the initial thinking behind the scope of what mobile processing businesses were and how they would be studied for the purpose of this report. In July of 2014, primary research was conducted throughout Alberta to examine and further investigate the mobile butcher business model in order to better understand how these businesses were functioning and if and how they differed from mobile abattoirs as identified in many other North American regions.

Overall, four mobile butchers business owners were interviewed. Although a provincially available list of dozens of mobile butchers and mobile butcher facilities is available, and government references speak to the existence of nearly 100 of the business models throughout the province, contacting the businesses was a challenge. While some potential participants were difficult to get in touch with, other business telephone lines had been disconnected, suggesting that either there are less mobile butcher businesses throughout Alberta than what is assumed, and/or that the current business inventory is outdated.

### ***6.5.1 Business Structure and Geography of Case Studies***

Mobile butchers and mobile butchering businesses present a distinctly different mobile processing model than mobile abattoirs. The most distinct difference is that mobile butchers and facilities service provide slaughtering and processing services for individual consumers for personal and family consumption. Therefore, resulting products are not eligible to be sold within the marketplace to any extent. Given the remoteness of many Alberta regions, mobile butcher service appears to be a popular option for the businesses interviewed.

Business geographies range from central Alberta to southern Alberta. Three of the participating businesses conduct both slaughtering and processing while one of the businesses conducts slaughtering only. Businesses surveyed ranged from 34 years old (with new ownership beginning five years ago) to less than ten years old. Businesses varied in number of employees, ranging from as few as one part-time employee to four to six full-time and part-time employees, further reflecting the range in business structure. For all three businesses, the main types of animals serviced were cattle and wild game (deer, elk). Other animals serviced included sheep, buffalo, and pigs. Businesses conducting processing offered services such as custom slaughter, and ham, bacon, sausage, and jerky processing. Mobile butchers identified three prominent costing models either charging per animal, per pound, or per hour. One participant identified that they use a mixture of charging per pound for certain animals, while charging per hour for other animals such as deer and sheep, that require significant time to process

but do not result in enough meat for a per pound costing model. At least one participant identified that they would not process pigs because the time it takes to process them results in the service being non-profitable.

One business owner expressed a relative disinterest in servicing smaller animals, in particular chickens and rabbits. This participant also stated that there is a growing demand for rabbit meat, particularly from the urban centres of the province, and that this growing demand may be beginning to present a new potential business opportunity. Part of the challenge in servicing smaller animals, it was stated, is related to the needed costing of the service required in order for the mobile butcher to make a profit.

#### ***6.5.2 Business Success, Challenge, and Overall Viability***

Participants identified that the costs of starting up a mobile butcher are varied. Overall, it was suggested that the cost of equipment required for the mobile slaughtering portion of the business is largely dependent on business owner choice and preference. For instance, one business owner identified the major cost of the slaughtering portion of the business is a vehicle (truck), which in one case was purchased for \$7,500, followed by the cost of purchasing of two saws at \$2,000 with other supply costs remaining relatively nominal. For other businesses that have more extensive equipment such as trailers and cranes, the cost of replacing one piece of equipment (example used was a trailer) can be over \$70,000. It was furthermore expressed that the infrastructure requirements for the processing facility portion of the business are quite high, requiring permanent structures that are compliant with a range of regulatory requirements such as washrooms, offices, and shower rooms in addition to basic requirements such as refrigerators, freezers, non-permeable surfaces, and cutting and processing equipment.

The varying extent of equipment and infrastructure identified was also linked to the extent of services offered and capacity of business volume. For a more simplified operation offering slaughter and processing, an average limit of two cattle per week and two pigs per day was reported, with a more capital intensive slaughtering and



processing business reporting a capacity for slaughtering one cow per 45 minutes, with processing times ranging. For businesses offering slaughter only, a maximum of 48 animals in one week was reported. The range of business type and size within the small pool of participants is reflective of the diverse opportunities of the business model. All participants reported that their business is overall profitable, but that it is important to have a good balance between capital costs, time requirements, and pricing in order to realize business success, pointing to current or past mobile businesses that were or are not able to realize profits. All participants spoke about the long hours involved in the day-to-day operation of their businesses, in addition to long travel times (longest reported being 180 kilometers), seasonal challenges, and increasingly timely paperwork requirements. Participants also spoke, however, of the unique geographic and resulting economic contexts of their businesses, with Alberta's rural and remote regions being underserved by the meat industry, creating a need/high demand for mobile butcher services. Easy traceability, animal welfare, servicing loyalty and consistency, and quality of service were all referenced as major factors contributing to business success.

All business owners pointed to a lack of butcher training as the most prominent challenge within the industry. Availability of both skilled labour and general labour were cited as a business challenge, with business owners also pointing to concern over business and industry succession as a result. A need for increased skilled labour in the meat-processing sector was the most prominent area identified as in need of further government support. All business owners also identified a strong desire and willingness to play a part in training.

Overall, however, business owners regarded the provincial government and in particular inspectors as helpful and not preventative for business success. Most participants particularly noted government support with regards to paperwork requirements. One regulatory complaint related to the time lapse of two to three weeks between inspection and inspection reporting, resulting in a delay of notification when a business is in non-compliance. This was felt to be a flaw of the system and it was stated

that there is a preference to know immediately if something is being done incorrectly in order for immediate corrective action to be taken. Another participant communicated that the inspection process had previously been a significant barrier within the sector, but that within the last year this process has improved. Because mobile butcher services are to be utilized for personal consumption products only, an inspector is not required to be present when an animal is slaughtered and period inspection and auditing is periodically throughout the year with visits being reported between two to three times per year or by request. Although the end product of mobile butcher slaughtering and further processing is restricted to personal consumption of the hunter or farmer and their immediate family, some participants do suspect that it is likely that the product is reaching beyond this point once it leaves their hands, and some suggest a quota type system that would allow for some direct-market or farm gate sales. In addition, participants pointed out that the standard of their service in addition to the traceability offered by their business should be enough assurance for the allowance of modest market expansion of the end product. Anecdotal instances of inspectors telling business owners that their facilities were to a higher sanitary standard than large, federally inspected plants was put forward as an example of the justification for consideration of such system-based changes.

## **6.6 Discussion of Case Studies in Alberta**

The mobile butcher business model in Alberta presents another unique meat processing option that is currently being utilized in regions that are currently underserved by the conventional marketplace. In addition, as demand for specialty meat such as rabbit increases, there are new opportunities that are presented, especially for mobile butchers that are reachable to urban centres where the demand is most pronounced. The range of mobile butcher businesses evidenced in this research provides a glimpse as to what is happening in rural communities throughout Alberta in order to service removed and localized communities. From the perspective of business owners, this business model is a necessity for their regions and business volume appears to be both sufficient and manageable, suggesting that this is one business model example that

Ontario could be exploring in some of its more underserved regions such as in the North.

## **Chapter 7.0 Conclusion**

### **7.1 Considerations for Moving Forward in Ontario and Beyond**

Research conducted across BC and Alberta examining mobile and modular abattoirs and mobile butcher businesses served to increase the understanding of these businesses in terms of capacity for regulatory compliance, geographic significance, financial feasibility, and the overall impact on the local food system. Findings presented above show that mobile and modular abattoirs and mobile butcher facilities can be useful and viable businesses. They also reinforce our understanding of the range of challenges faced by small and medium sized agricultural enterprise generally, as well as identifying those challenges that are specific to the mobile and modular abattoir and mobile butcher business contexts.

To return to the original objectives of this research, which were to provide information that would lead to a stronger understanding of the potential for mobile and/or modular and/or mobile butcher abattoir development within Ontario, first it is important to recall the research findings for Ontario itself. Research conducted to better understand the demand for local meats and potential demand for mobile or modular abattoirs in Ontario showed a strong reservation towards the introduction of mobile abattoirs within southern Ontario. The justifications for these reservations reinforce research findings from the literature review that highlight the variable challenges currently faced by stationary abattoirs, processing facilities and abattoirs across the region. Research conducted in Ontario also revealed, however, a strong potential demand for mobile or

modular abattoirs in northern Ontario, where an already fragmented production base is further challenged by a lack of access to livestock slaughtering and processing services. As such, potential future mobile or modular abattoir and/or mobile butcher development within Ontario should consider these north-south dynamics and furthermore ensure that the viability of existing abattoir businesses is not neglected. Some of the research findings will also have aspects of transferability for stationary facilities, such as the need for support for skilled training within the sector.

Research findings also underscore the point that initiation towards mobile and modular business or mobile butcher development must be backed by consumer demand. Furthermore, consumer demand should be understood in more specific terms such as the types of services that are in demand (slaughtering, further processing, animal type, and niche markets, among others) as well as willingness to pay. While the majority of case studies discussed here have benefited from government support, and furthermore while it is realized that government support is necessary for these business models to function, research results suggest that the development of mobile and modular abattoirs should be championed from within the private sector. Examples of these businesses being championed from the public sector in both the Yukon and British Columbia suggest that demand for mobile abattoir services cannot be stimulated alone by the creation of mobile abattoir businesses, but that the supply of mobile abattoir services must be developed in response to consumer demand.

While government assistance in the form of funding has been essential for almost all mobile and modular abattoir businesses studied throughout BC, full funding of units often results in zero financial risk from the private sector and this plays a part in short- and long-term business viability. Government support for mobile abattoir businesses has been essential not just in terms of funding but also with regards to regulation. Through a results-based, adaptable regulatory approach to meat safety at both the macro (policy) and micro (inspection) levels, mobile and modular abattoirs have been able to find ways of achieving the necessary outcomes for meat safety without compromising business viability. While fears over the mobile abattoir model's ability to

result in safe food have been forthcoming from several other jurisdictions, the experience in British Columbia of both business owners and regulators show that this fear is not justified and that furthermore, ease of traceability offered by these businesses does not compare to what is offered within the conventional system.

It must also be realized in the context of food system resiliency, rural economic development and local food system development that novel and innovative businesses such as mobile and modular abattoirs or mobile butcher businesses do create market diversification, benefitting rural communities and the agricultural sector at large. For jurisdictions and entrepreneurs considering the development of mobile and modular abattoirs, lessons learned from BC and Alberta, as well as a host of other regions, can be very useful in avoiding and overcoming a variety of challenges. In addition, as more mobile and/or modular abattoirs are built, available cost efficiencies will continue to improve.

## **7.2 Conclusion and Final Reflections**

A review of the literature in terms of the development of a globalized food system shows the inherent vulnerabilities for food security, resiliency, and sovereignty in relying on external sources for one of the most fundamental human needs - that of food. As pressures created by this system continue to result in social, environmental, economic, and political susceptibilities, alternative food systems and networks are increasingly being realized as a means of transforming food system dependence towards food system independence. From a vast array of societal contexts food system alternatives such as local food will continue to emerge in order to provide increased food justice and sovereignty. At the same time, governments must recognize the need to facilitate and adapt to changing needs in changing times. This will be a difficult task. Globally, national and regional governments must balance between complex and often competing interests that intersect between the need to support small and medium sized agricultural enterprise while functioning within a global marketplace where international pressures for food safety standards are ever-present. As novel and innovate business models such as mobile and modular abattoirs and mobile butcher

facilities emerge, they must be met with equally novel means of facilitating such business development, while still conforming to international and national standards. In the case of BC, the provincial results-based meat policy is one example of how this can be achieved.

At the same time, mobile and modular abattoir business development in various Canadian regions has shown that development within alternative food networks achieves greatest success when demand for such development is identifiable. In extreme cases such as the Yukon, such development has been initiated from the public sphere and has been met with little market interest. Each context is unique to its own characteristics, however, and it is important that all actors recognize the need for food system resilience. In this sense, development for the Yukon's local meat sector may come in due time and a lack of private interest in the introduction of a mobile abattoir is not necessarily indicative of failure, but instead could be an important step in creating a higher degree of food sovereignty as well as market access and food system development for the territory.

In order to reflect on the findings of this research, it is necessary to recall the original objectives posed at the beginning of this report which were to:

- Create a comparative research framework that would be capable of providing:
  - a) a review of mobile/modular abattoir and butcher businesses and their relative successes, or lack thereof, across several Canadian jurisdictions; and
  - b) an overview of how the mobile businesses fit and functioned within their respective jurisdictions' economic, regulatory, and geographical contexts.
- Answer the research question:
  - Do mobile or modular abattoirs present potential for Ontario in terms of
    - Increasing access to local livestock slaughtering and processing and

- Creating a more robust local food system generally?

Indeed, a review of mobile abattoir businesses and their successes and challenges, triumphs and defeats across Canada has been documented. Moreover, how these businesses fit within their respective jurisdictions' economic, regulatory, and geographical contexts has also been presented. The case studies conducted in BC and Alberta provide an in-depth review of business success and challenge as well as a close look into how these businesses interact within the BC meat regulations. While the economic and geographical contexts of BC in terms of local meat relate most closely with northern Ontario (highly localized demand and supply, little international trading, higher degrees of remoteness), the results-based approach to food safety adopted by the province offers transferable lessons to any and all jurisdictions. By providing opportunity for innovation in terms of meeting regulatory standards, BC's regulatory approach has facilitated the development of mobile and modular abattoirs, effectively stimulating increased rural economic development and greater food system resiliency. In the case of Alberta, existing and viable mobile butcher businesses that provide slaughtering and processing services to producers and hunters have been identified, showing that there is a range of mobile business types that can be adapted to an equally broad range of circumstances.

The research presented here has also functioned to debunk some of the assumptions often made regarding the mobile abattoir model. In terms of ability to provide safe food, producers and regulators jointly agreed that mobile and modular abattoirs and mobile butcher facilities are no less capable of doing so than stationary facilities. With regards to the level of mobility of the units, it is also clear that strategic planning and collaboration among actors (producers, local, provincial governments, community groups, consumers) is necessary in order for mobile abattoirs to be viable while providing the supply chain with the services required.

In Ontario, the situation for local livestock processing and slaughtering services remains complex, characterized by challenges related to corporate consolidation within the meat

industry, rising demand for local meats, a need for robust food safety policy, and the development of increasingly pronounced local food systems. Despite the complexities presented in the Ontario context, the research findings presented here are supportive that mobile/modular abattoirs and mobile butcher facilities may have the ability to increase access to local livestock slaughtering and processing throughout the province, which in result could increasing the capacity and robustness of the local food system generally. If mobile/modular abattoirs and/or mobile butcher facilities are developed within Ontario, it will be important to draw from the lessons learned from other jurisdictions. Some of the key take-away messages derived from this research in terms of mobile abattoir viability include:

- 1) Expert and evidence-based information shows that mobile and modular abattoir and mobile butcher facilities and operations are just as safe as their conventional counterparts, and in fact can offer a degree of traceability unique to their business model.**
- 2) They are diverse business models that have been adapted to fit their particular set of circumstances (economic, regulatory, geographical).**
- 3) Government support is needed, especially with regards to training of skilled workers in the industry.**
- 4) Mobile businesses show most potential for viability when they are championed within the private sector, with support from government.**
- 5) Regulations need to be adaptable, allowing different business models to meet standardized requirements through the appropriate methods.**



- 6) Co-operative mobile business models create a way for producers to pool their time and resources to meet their own processing and slaughtering needs and/or beyond. They also typically experience relatively slower business development than non-co-operative models.**
- 7) Mobile butcher facilities and operations offer a safe and high-quality alternative for producers who grow and wish to eat their own animals, as well as hunters.**
- 8) Mobile butcher facilities could be adapted to expand beyond the current limits of how they are used in Alberta, such as through a similar approach to B.C.'s class D and E licenses that allow on-farm slaughter for products sold farm gate or through local markets.**
- 9) There is a need for coordination among actors along the supply chain as well as between business owners and local and provincial/territorial governments.**
- 10) There is a need for coordination among actors along the supply chain as well as between business owners and local and provincial/territorial governments.**
- 11) Poultry mobile abattoirs face fewer challenges related to logistics and operating costs than those experienced by red meat units.**
- 12) There is a range of options in terms of level of mobility (in other**

**words, docking stations, the option of modular abattoirs).**

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