

# THE CLASS OF 1964 POLICY RESEARCH SHOP **REGIONAL FOOD SUPPLY SYSTEMS**



## **PRESENTED TO THE VERMONT HOUSE COMMITTEE ON AGRICULTURE AND FORESTRY**

**Rep. Carolyn Partridge, Chair, and Rep. Rodney Graham, Vice Chair**

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## EXECUTIVE SUMMARY

From 2007 to 2017, the economic output of the Vermont food system expanded by 48 percent.<sup>1</sup> The increase in local food products parallels the increasing consumer demand for local food throughout the state.<sup>2</sup> The goal of this report is to understand the current regional food supply systems in Vermont and assess how the state government might support the expansion of these systems. The development of local and regional food systems has tremendous economic, environmental, and social benefits for both urban and rural communities. However, barriers such as high transaction costs, limited infrastructure, and insufficient intermediaries make it challenging to connect small, local farms with retailers and consumers. Our analysis surveys existing literature about local food supply chains and food hubs, which improve local food distribution by aggregating local products for sale to large buyers. We then present the methodology to explore further this research question following a case study approach. By comparing food hubs and distribution networks in Vermont with those in Iowa, interviewing stakeholders, and analyzing government involvement, we aim to address how the Vermont House Committee on Agriculture and Forestry may best support the growth of the local and regional food industry in Vermont.

## 1 INTRODUCTION: REGIONAL FOOD SYSTEMS

Local and regional food systems provide a wealth of benefits to both rural and urban communities. These benefits apply to all levels of the supply chain, from growers to consumers. When growers sell their products locally, they are able to meet market demand and strengthen relationships with consumers.<sup>3</sup> Additionally, when consumers buy locally, they have access to fresher products and simultaneously support their neighbors. These food systems are integral for building and retaining community wealth, since they keep revenue within the region and create community-based jobs. Local food systems connect consumers with healthier and fresher food options, and farm to school programs have played an integral role in promoting youth consumption of healthy, local food.

While local food systems offer numerous benefits to communities, it is often cheaper for large retailers and institutions of all sizes to receive a shipment of produce from a farm in California than from down the road in Vermont.<sup>4</sup> This is because large, out-of-state producers take advantage of economies of scale, while small and medium sized farmers in Vermont face relatively higher transportation and distribution costs per unit sold. The main crops for the state are hay, maple products, apples, and sweet corn; there are approximately 6,800 farm operations in the state of Vermont, covering more than one million acres.<sup>5</sup> Given the benefits of local and regional food supply systems and the current state of agriculture in Vermont, state legislators are increasingly interested in identifying ways to expand local food distribution systems. In this report, we focus on food hubs specifically as important tools for aggregating and distributing local products across the state.

## 2 PURPOSE STATEMENT

In recent years, consumers across the United States have become increasingly interested in learning where their food is produced and supporting their communities by “buying local.” Many local farmers, however, are unable to access these markets because they lack the necessary scale to take advantage of the existing distribution networks and infrastructure in Vermont. Following successful implementation in other states, regional food hubs have received attention as an especially effective way to connect producers and consumers within communities and to increase access to local food.

The purpose of this report is to investigate how Vermont may strengthen its regional food supply system and encourage the development of stronger distribution networks, thereby connecting local farmers with retailers and consumers in a cost-effective manner. Given the significant role that food hubs have in increasing producer access to retail markets, the focus of our research will be on this specific component of regional food supply systems.

While many food hubs are currently operating successfully as nonprofits and businesses, we explore how the Vermont government may be able to facilitate the development, operation, and growth of regional food hubs. In the process, we also assess whether a regional food system is to be implemented through statewide or regional initiatives. Given the extensive research analyzing the role that the Vermont government may have in direct-to-consumer markets and in farm to school programs, we will focus on distribution networks and food hubs to best assist producers in expanding their market access.

The Vermont Legislature may conclude that the regional food supply system in Vermont is sufficiently supported through nonprofit organizations, grant funding, and private businesses, and that state involvement would do more to hinder than help its progress. By assessing relevant literature and conducting a thorough case study of existing food hubs with varying forms of government involvement in other states, we seek to understand how Vermont may strengthen the regional food supply system and aid future policy development.

## 3 LOCAL AND REGIONAL FOOD SYSTEMS

It is important to contextualize the current state of local and regional food supply systems in Vermont and across the United States. There are numerous types and components of regional supply chains in Vermont. The following section discusses important terminology and provides a framework for assessing the local and regional food supply system in Vermont.

### 3.1 WHAT ARE LOCAL AND REGIONAL FOOD SUPPLY SYSTEMS?

Unlike the terms “organic” or “natural,” the United States Department of Agriculture (USDA) does not have standardized geographic definitions for “local” or “regional” food supply systems.<sup>6</sup> According to the 2008 Farm Act, a locally or regionally produced agricultural food product must be transported less than 400 miles from its origin or within the same state.<sup>7</sup> Across the different state and geographic definitions, the important component of local food supply systems is that they involve

food produced near the place of consumption. Population density is also critical, with the accepted distance for regional systems generally decreasing in high-density areas.<sup>8</sup> Many local foods involve small farms and short supply chains.

According to the Farm to Plate Strategic Plan for 2021 to 2030, local food in Vermont is any commodity produced or processed in Vermont plus 30 miles outside state lines.<sup>9</sup> In July 2020, Governor Scott signed Act 129 into law, establishing the official definition of local foods based on product type.<sup>10</sup> For raw agricultural products, including fruit, vegetables, dairy, and meat, these products must be grown in the state of Vermont to be considered “local.”<sup>11</sup>

Regional food networks involve the distribution of local foods throughout regions in Vermont. Specifically, these networks and aggregation centers are called “food hubs.” According to the USDA working definition, “A regional food hub is a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand.”<sup>12</sup> Food hubs in Vermont are largely concentrated around the major population centers of Montpelier, Burlington, and the western part of the state (see Figure 3.1.1). Existing Food Hubs in Vermont include ACORN Wholesale Collaborative in Addison, Green Mountain Farm Direct in Orleans, Intervale Food Hub in Burlington, Mad River Food Hub in Waitsfield, and Windham Farm and Food Network in Windham.<sup>13</sup>

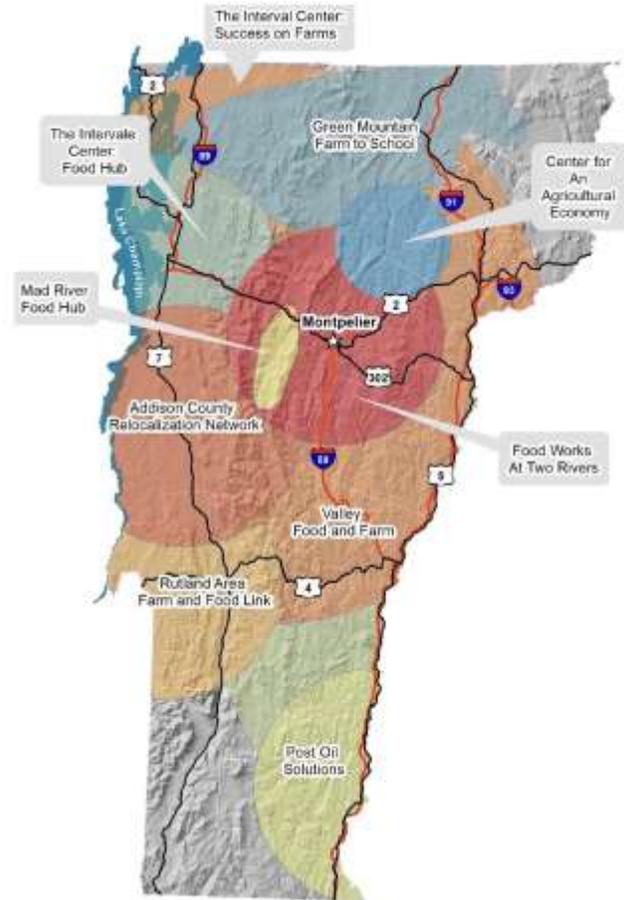


FIGURE 3.1.1 Existing food distribution networks in Vermont.  
Source: Vermont Center for Geographic Information.  
The University of Vermont – Center for Sustainable Agriculture.

## 3.2 TYPES OF LOCAL FOOD MARKETS

The USDA identifies two major types of local food markets: direct-to-consumer and direct-to-retail.<sup>14</sup> Direct-to-consumer markets involve transactions conducted directly between consumers and farms. Examples include U-Pick operations, farmers markets and Community Supported Agriculture (CSA) models. Direct-to-retail food markets establish direct sales by farmers to restaurants, retail stores and institutions, such as government entities, hospitals, and schools. In the U.S., these markets include farm to school programs, local food initiatives with retailers including Walmart, Safeway, and Publix, and restaurants serving local food.<sup>15</sup> In 2007, 87 percent of U.S. “fine dining establishments” served local items.<sup>16</sup> Local foods include traditional produce, in addition to other products such as meat, dairy, eggs, grains, and slightly processed items.

### 3.2.1 DIRECT-TO-CONSUMER MARKETS IN VERMONT

Over 25 percent of farms in Vermont sell products through direct-to-consumer channels, with sales totaling \$49.9 million.<sup>17</sup> These direct markets require low up-front investments, increase customer relationships, and give producers greater autonomy over their products.<sup>18</sup> Direct-to-consumer sales accounted for over 24 percent of local food and beverage sales in 2017.<sup>19</sup> In Vermont, the 70 farmers markets and 104 CSAs dominate the direct-to-consumer market.<sup>20</sup> However, farmers are frequently limited by underdeveloped marketing skills, technology weaknesses, and insufficient funding to reach most consumers.

### 3.2.2 DIRECT-TO-RETAIL MARKETS IN VERMONT

In Vermont, the direct-to-retail market is dominated by four major categories: farm to school programs, college and hospital procurement, retail stores and grocers, and distribution networks. The Vermont Food System Plan Market Brief from 2019 establishes the current status for each.<sup>21</sup>

#### 3.2.2.1 Farm to School Programs

In Vermont, approximately 250 public schools serve meals to pre-K to Grade 12 students.<sup>22</sup> During the 2016-2017 school year, 87 percent of Vermont schools purchased food from a local source.<sup>23</sup> In 2014, Vermont schools spent \$915,000 on local foods, equating to 5.6 percent of all food dollars spent.<sup>24</sup> If Vermont schools were to double this amount of local food spending, the total annual economic impact would be \$2.1 million.<sup>25</sup> Significant obstacles remain for increasing local food purchases including delivery and storage considerations, inconsistent supply, and cost constraints. Additionally, most schools purchase up to 95 percent of their supplies and food from large distributors.<sup>26</sup> To meet farm to school purchasing goals, schools need to have better access to local distribution networks, such as food hubs or aggregate buyers.

#### 3.2.2.2 Colleges and Hospital Procurement

The 16 colleges and 16 hospitals in Vermont account for thousands of meals per day.<sup>27</sup> Additionally, the demand for local products is expected to increase significantly in future years. Vermont colleges spend the highest percentage of their food budgets on local products, compared to the other six New England states.<sup>28</sup> While college and hospitals account for 41 percent of total New England direct-to-institution sales (see Figure 3.2.2), many barriers remain to increasing the purchase of local food.<sup>29</sup> Constraints on college and hospital budgets add to these barriers. The Vermont Food System Plan Market Brief recommends providing greater support to connect Vermont producers with distributors and institutions.<sup>30</sup>

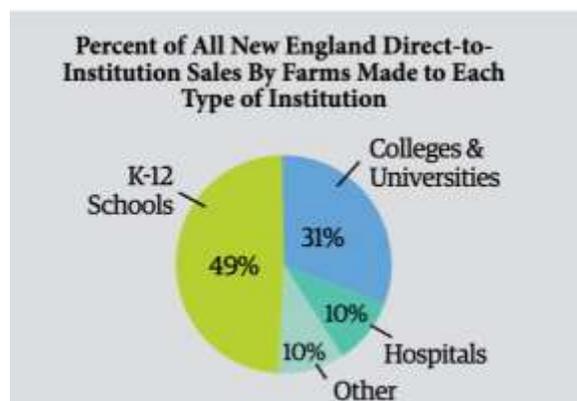


FIGURE 3.2.2 Breakdown of direct-to-institution sales in New England. Source: *The Vermont Food System Plan Market Brief*.

#### 3.2.2.3 Retail Stores and Grocers

Retail stores and grocers are the primary sales outlets for Vermont farms and local foods.<sup>31</sup> In 2017, Vermont consumers purchased 32 percent of their local food at food cooperatives (co-ops) and grocery stores, totaling \$98.5 million in revenue.<sup>32</sup> There are currently 737 Vermont farms selling

directly to retail markets, institutions and food hubs.<sup>33</sup> However, grocery sales are complex and difficult to navigate; with all of the expenses, a producer selling into retail markets might receive 30 percent or less of the retail value of a product.<sup>34</sup> Competition from large-scale retail and distribution services (such as Amazon and Whole Foods), creates additional barriers to entry. However, co-ops and partnerships with local grocery stores, such as Price Chopper Supermarkets, help supply local foods where demand is high.

#### *3.2.2.4 Distribution Networks*

Food distributors transport local food products from producers to stores and are a key link in the direct-to-retail supply chain. In Vermont, it can be difficult to access infrastructure for distribution, including trucking, trucking routes, loading docks, and pallet-sized volumes of products.<sup>35</sup> For small, local farmers that lack the scale of big producers, the fixed costs to connect their products to retailers limits their ability to compete in the food market. However, alternative distribution models, including food hubs (see Section 5.1), have the potential to address this gap. GrowersHub.com is a New England based virtual marketplace that connects growers with large supermarket chains.<sup>36</sup> In 2015, GrowersHub.com and Price Chopper Supermarkets pioneered a new process to get local food into stores. The process uses backhaul logistics: when an empty truck returns from its daily distribution routes, it stops at Upper Valley Produce, a food hub in White River Junction, to fill its truck with local orders.<sup>37</sup> The next day, Price Chopper trucks distribute the local product to the distribution center. As of 2017, five hubs around New England actively bring local products to the Price Chopper Warehouse.<sup>38</sup>

## 4 METHODOLOGIES

Research for this report includes a comprehensive investigation regarding the current regional food distribution systems in the state of Vermont at every level, from growers to consumers. This analysis is crucial to understand how these systems operate in the state, where gaps exist, and how intervention can best support these stakeholders. Beginning with a review of past literature, we focus on the impacts of food hubs in Vermont and across the U.S. After conducting research on existing literature, we compiled a comprehensive list of growers, food hubs, retailers, and farm to school partners in the state of Vermont. Then, we reached out to these stakeholders and scheduled phone and Zoom meetings with those who responded and were willing to be interviewed. These stakeholders consisted of: Justin Rich of Burnt Rock Farm, David Marchant of River Berry Farm, Sales and Marketing Manager, S.P. Reid, of Intervale Food Hub, Director of Public and Government Affairs, Allan Reetz, of the Hanover Co-op, Assistant Director Rebecca Bishop of Bennington County Head Start, and Principal Herve Pelletier and Sustainability Coordinator Steve Head of Putney Central School. Our methodology also involved a case study of local food distribution in Iowa in order to gain insight from a well-established agricultural regional food distribution system. To understand the policies and practices in Iowa, we conducted research through the Iowa State University Farm, Food and Enterprise Development (FFED) Extension. Interviews were conducted with subject matter experts from FFED: Program Coordinator Courtney Long and Education Extension Specialist Teresa Wiemerslage. After these interviews, parallels and opportunities for intervention were identified and synthesized. We analyzed the potential impacts, benefits, and costs of implementing practices that have proven successful in Iowa to the state of Vermont.

## 5 EXISTING LOCAL FOOD SYSTEM IN VERMONT

To compare the Vermont local food system to those of other states, we first consider the current state of food systems in Vermont. The supply chain can be broken down into four main categories:

- ❖ Growers and farmers in Vermont only make up about four percent of total state gross domestic product.<sup>39</sup> A common challenge that they face surrounds distribution of goods. Refrigerated trucks are the main form of transportation, but they are quite expensive for small-scale farmers to use, which makes the journey from farm to shelf especially difficult.
- ❖ Food hubs and other intermediaries consist of the means through which produce reaches consumers. Food hubs allow for aggregation of products from various different growers, addressing the challenge cited above with distribution.
- ❖ Retailers such as Price Choppers Supermarkets and food cooperatives (co-ops) may work with distribution networks to obtain local produce and products. They may also work directly with growers to obtain wholesale products.
- ❖ Consumers range in size and organization. They can be individuals at farmers markets or larger institutions such as schools or hospitals with farm to school or farm to hospital programs. They serve as the last stage of the regional food supply chain.

In this report, food hubs are the point of focus given their limited attention in the current literature regarding local food systems in Vermont coupled with their large potential for connecting growers and consumers.

### 5.1 REGIONAL FOOD HUBS

Food hubs play an important role in distribution networks by connecting small local producers with the wholesale market. In this section, we will review regional food hubs and their benefits in the state of Vermont.

#### 5.1.1 INTRODUCTION TO REGIONAL FOOD HUBS

In recent years, regional food hubs have received increased attention as a way to increase market access for local food producers and bring more local food to consumers. Regional food hubs serve an important function in the supply chain and offer both economic and environmental benefits. The primary challenge that smaller-scale producers face, especially in the state of Vermont, is the lack of distribution infrastructure necessary to transport their produce to the consumer.<sup>40</sup> Demand for local produce continues to increase, but farmers struggle to take advantage of it because they do not have the capacity to attract large distributors. By aggregating produce from various producers, food hubs also tackle one of the biggest challenges small and mid-sized farms face: they are unable to meet the demand for a steady stream of produce throughout the year.<sup>41</sup>

The University of Vermont recognizes five food hubs in the state of Vermont.<sup>42</sup> These hubs are integral to the regional food system because the consolidation and concentration of retailing, distribution, and processing over the past two decades has made it difficult for small and medium sized farms to gain access to larger markets.<sup>43</sup> Since agriculture does not comprise a large portion of the economy or workforce in Vermont, competing in a volume-oriented and low-cost environment is challenging for Vermont farmers.<sup>44</sup> The existence of food hubs in conjunction with rising demand for

locally sourced food provides an avenue for Vermont farmers to get their products on grocery store shelves within their own state.

### 5.1.2 ECONOMIC AND SOCIAL BENEFITS OF REGIONAL FOOD HUBS

Food hubs bring economic benefits to producers, distributors and communities as a whole while also making healthy, local food more accessible. From an economic perspective, food hubs provide opportunities for job creation and generate earnings that are retained locally as food purchases shift and consumer dollars are spent locally.<sup>45</sup> Food hubs generate considerable revenue in local and regional economies; the Intervale Food Hub in Vermont is just one example. In 2008, Intervale reported \$93,000 in gross revenue and was on track to generate \$1 million in sales by 2015.<sup>46</sup> The food hub has exceeded expectations and generated \$2.54 million in revenue in 2018.<sup>47</sup> Moreover, research has found that each regional food hub creates an average of seven full-time jobs and five part-time jobs, and the number of jobs created will only increase as food hubs expand their operations.<sup>48</sup> As food hubs help agriculture to become more profitable, they will also help to improve economic opportunities for local producers and related businesses. The creation and retention of community wealth, job opportunities, and workforce development are all economic effects of regional food hubs that will directly result in social benefits for local residents.

Many food hubs also help producers expand their market reach to consumers who do not currently have access to healthy local food by participating in community-based initiatives like farm to school programs and food assistance programs like food banks and hunger relief initiatives. Food hubs will also actively distribute local food to “food deserts” where fresh produce typically is not currently available and accept SNAP (the USDA Supplemental Nutrition Assistance Program) benefits.<sup>49</sup> Each of these functions are highly impactful in making locally grown food more widely available.

### 5.1.3 ENVIRONMENTAL BENEFITS OF REGIONAL FOOD HUBS

In addition to economic and social benefits, regional food hubs also have positive environmental impacts. According to the USDA, environmental benefits include “training and professional development for those interested in pursuing or expanding agricultural careers, increasing the availability of fresh healthy food sold in retail and institutional markets, and promoting the adoption or use of sustainable or environmentally sound agricultural production practices.”<sup>50</sup> Food hubs may play an integral role in encouraging the adoption and implementation of sustainable production practices among their producers. By only sourcing from these trained producers, regional food hubs support the growth of sustainable agriculture.

Food hubs may also offer training in sustainable agricultural practices. The Local Food Hub in Charlottesville, Virginia provides its producers with workshops for Integrated Pest Management (IPM).<sup>51</sup> Regional food hubs also actively participate in the conversion of land into sustainable agriculture. For example, the Intervale Center Farm Program in Vermont provides farmers with the necessary tools to establish businesses and has converted over 120 acres of land into organic agriculture.<sup>52</sup> Another way in which regional food hubs assist in environmental improvements is through their efforts to reduce waste and energy use. A crucial aspect of the role food hubs play is acting as intermediaries, aggregating producers and streamlining distribution, thereby cutting costs associated with unnecessary trips to deliver products. In addition to reducing energy usage and waste generated in their operations, regional food hubs have proven to be more fuel-efficient than typical

mainstream supply chains because they strike the balance between transporting large loads and traveling fewer total miles.<sup>53</sup>

## 5.2 GOVERNMENT INVOLVEMENT IN LOCAL FOOD SYSTEMS

In the past two decades, federal, state, and local policies have expanded to support local and regional food systems. At the federal level, the Agricultural Act of 2014 provides greater support for intermediated marketing channels including food hubs.<sup>54</sup> For regional and local governments, examples of increased regulation, funding, and infrastructure highlight local food support at a smaller scale.

To encourage the purchase of local foods, regional and local governments across the country have adopted resolutions to support procurement policies. One example is the “10% Campaign” in North Carolina. The campaign encourages individuals, businesses, organizations, and institutions to spend at least ten percent of their food budget on foods grown in North Carolina.<sup>55</sup> In 2010, Cabarrus County officially joined the “10% Campaign” and implemented a Local Food Purchasing Policy, requiring that ten percent of food for catered events and meetings is locally sourced.<sup>56</sup> On the distributor side, food hubs have also identified the need for government support in local food systems. SARE GrowFood Carolina, a food hub based in South Carolina, describes how “we need laws and regulations that accommodate small farmers selling locally; educational resources to provide farmers to tap into new metropolitan markets; and physical facilities and places for local processing and distribution.”<sup>57</sup> This highlights the potential for government involvement, particularly with legislation or USDA funding for educational programs.

Another route for government involvement is through local policy to subsidize the costs of local food production. In Marquette, Michigan, the city set up a Commercial Rehabilitation District, which froze tax increases on property improvements for five years for the expansion of a local co-op and food hub.<sup>58</sup> New York expanded the New York State Urban Development Corporation Act to help finance the distribution of produce to underserved communities.<sup>59</sup>

Direct government funding can also support the local food system. In 2012, the state legislature in Michigan redirected nearly \$2 million to develop a grant program for food hub development in addition to helping farmers add value to their local crops.<sup>60</sup>

### 5.2.1 CURRENT LEGISLATION AND SUPPORT

In the state of Vermont, there is no current legislation or bills under consideration specific to the development of food hubs. The Vermont legislature continues to support local food production and distribution, through S.100 and H.150 (see Section 7 - Recommendations), yet does not directly identify support mechanisms or funding opportunities for food hubs across the state.

Legislation supporting the development of food hubs at the state level has increased in the last several years across the country. In 2018, State Senators in New Jersey introduced a bipartisan bill supporting food hub development.<sup>61</sup> On January 13, 2020, the New Jersey Governor signed New Jersey Senate Bill 1953 into law.<sup>62</sup> This Act directs the New Jersey Department of Agriculture to “authorize the establishment of food hubs in the State and establish guidelines to assist and support farms and farmers seeking to belong to food hubs in their area of the State.”<sup>63</sup> Additionally, the Department is

instructed to adopt rules and regulations needed to allow for the successful establishment and operation of these hubs.

In January of 2020, a bipartisan bill was introduced in the Hawaii State Senate and House of Representatives to establish a five-year food hub pilot program.<sup>64</sup> The language of the bill recognizes the financial challenges many food hubs face, proposing that “a funding source is needed to support the establishment and growth of food hubs on a scale that meets demand by state institutions such as schools, hospitals, and correctional facilities.”<sup>65</sup> Due to COVID-19, both the Hawaii House and the Senate pushed the bills to the current legislative session (HB1882 and SB338), with both passing the first reading and SB338 passing the second reading as of March 23, 2021 with unanimous support.<sup>66</sup> Should the bills pass, the program will award grant funding to qualifying food hubs and appropriates \$1 million from the general revenues of the State of Hawaii for FY2022 to establish the grant program.<sup>67</sup> Nicholas Comerford, Dean of the College of Tropical Agriculture and Human Resources at the University of Hawaii at Mānoa, testified before the Hawaii State Senate on February 5, 2021 in support of the bill and specifically recommended that the Department of Agriculture “should not administer, but more correctly help ‘initiate’ food hubs.”<sup>68</sup> Dean Comerford argues this would ensure food hubs are competitive and operate efficiently.

In addition to Hawaii, other state legislatures are currently developing bills to support local food production with a specific focus on food hubs. California Assembly Bill 1009 (AB-1009) would establish a state Farm to School Food Hub Program, set to be administered by an office within the California Department of Agriculture.<sup>69</sup> The program would incentivize the creation of nonprofit aggregation and distribution centers, called farm to school hubs, which would help aggregate and distribute products from farms to public institutions and nonprofit organizations. For the first phase of this proposed program, the office would receive hub proposals through June 30, 2022 and would award grants of \$150,000 to the nine selected proposals by December 2022.<sup>70</sup> In the second phase, the office would distribute grants of up to \$5 million to three farm to school hubs before December 2023.<sup>71</sup> Through this program, California seeks to bridge the critical gap between local food production and large institutions.

## 5.2.2 CURRENT GRANT PROGRAMS

In the state of Vermont, current government involvement in local food systems is manifest in Agency of Agriculture grants. Grants specific to incorporating local food into Vermont operations include: Community Supported Agriculture Grants, Farm to School and Early Childhood: Child Nutrition Grants, Farm to School Vision Grants, Local Food in Your Community Grants, and Multi-business Dairy Agritourism Grants.<sup>72</sup> These grants focus mainly on connecting producers to consumers and overcoming the gap that exists between the two. There does not currently exist a grant to support intermediary actors like food hubs, food shelves, or other retailers whose specific purpose is to address the challenges of connecting producers and consumers. Further, many Vermont Agency of Agriculture grants operate on a reimbursement scheme, which means that recipients must first provide the capital in order to receive the funds.<sup>73</sup> This poses a challenge for many potential participants, especially those that operate on a small scale without the readily available disposable capital.<sup>74</sup>

In response to the COVID-19 pandemic, the Vermont Agency of Commerce and Community Development authorized \$6.4 million from the Coronavirus Aid, Relief, and Economic Security (CARES) Act to establish Vermont Everyone Eats.<sup>75</sup> This program provides food assistance to local communities by creating community hubs where restaurants and local producers provide meals free of charge (see Figure 5.2.2).<sup>76</sup> The program then reimburses farmers and restaurants to support their longevity during the pandemic. Vermont Everyone Eats requires that restaurants source at least 10 percent of their products from local farms.<sup>77</sup> From August 2020 to December 2020, this program distributed more than 500,000 meals across the state of Vermont.<sup>78</sup> More details about the success of this program are found in the December 2020 Vermont Everyone Eats Formative Evaluation.<sup>79</sup>



FIGURE 5.2.2 Map identifying the community hubs under the Vermont Everyone Eats Program. Source: Vermont Everyone Eats Formative Evaluation.

At the federal level, the Economic Development Administration within the U.S. Department of Commerce provides grants and loans to support local food innovation districts. For example, the Vernon Economic Development Association in southwestern Wisconsin received funding to renovate a building for a business development center, which includes a regional food hub.<sup>80</sup>

Many states also offer grants targeting the local food system. “Buy Local, Buy Wisconsin” is a grant program that awards grants up to \$50,000 to individuals or organizations to fund projects designed to increase the sale of Wisconsin agricultural or food products to local purchasers.<sup>81</sup> This includes grants for projects to create, expand, diversify, or promote any of the following: local food marketing systems and market outlets; local food and cultural tourism routes; and production, processing, marketing, and distribution of Wisconsin food products primarily for sale to local purchasers.<sup>82</sup> Since 2008, the grant program has supported 76 programs exceeding \$2.1 million in total funding; grant recipients have directly generated more than \$10 million in new sales of Wisconsin food products.<sup>83</sup> Several funded projects have strengthened local food distribution networks. For example, in 2019, Enos Farm received \$18,000 in funding to develop the Wisconsin Farm-to-Freezer program that involved purchasing locally grown organic vegetables in bulk through contracts with farmers and preserving them.<sup>84</sup> This allowed for future purchase by local restaurants and other food establishments committed to local sourcing. This aggregation operation is parallel to that of a food hub.

### 5.3 OTHER NON-GOVERNMENTAL INVOLVEMENT

A number of non-governmental programs and organizations support local and regional food systems. As of 2014, farmers market associations existed in 26 states.<sup>85</sup> In Pennsylvania, the nonprofit FoodRoutes Network promotes local food systems and oversees Buy Fresh Buy Local® chapters.<sup>86</sup> These chapters organize educational materials, outreach events, and local food guides to support local food and farmers. Many food hubs are also private for-profit companies; of the 302 food hubs in the U.S., 40 percent operate as private businesses.<sup>87</sup> Some private firms provide independent third-party food safety audits for produce.<sup>88</sup> Food hubs in Iowa operate largely without direct government drivers and directly compete in the local foods market.<sup>89</sup>

Community organizations have played an integral role in spreading the message of the importance of locally sourced foods. In Topsham, Maine, residents identified the closed Brunswick Naval Air Station facility as a desirable location for a food hub.<sup>90</sup> A local fair trade coffee roaster purchased the entire facility in support of the eventual creation of a food hub.<sup>91</sup> While the community is still securing the necessary funds, the effort organizers, spearheaded by local residents who share a commitment to the local food system, seek government support to match their enthusiasm.

## 6 CASE STUDIES

To understand the regional food supply system in Vermont from a variety of vantage points, we conducted structured interviews with representatives from local farms, food hubs, schools, and supermarkets. Additionally, we contacted subject matter experts for their insights and knowledge. The goal was to obtain a comprehensive view of the food supply system at all levels across the entire state.

### 6.1 GROWERS

Growers and farmers in Vermont make up about four percent of total state gross domestic product.<sup>92</sup> The average farm size is 185 acres, compared to the national average of 444 acres, meaning Vermont farmers operate at much smaller scales on average (see figure 5.1).<sup>93</sup>

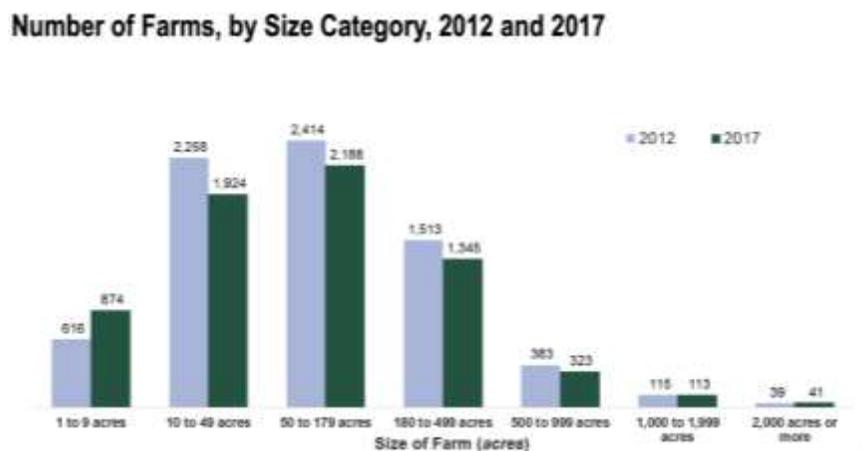


FIGURE 5.1 *Size of farms in Vermont in 2012 (blue) and 2017 (green). Source: USDA 2017 Census of Agriculture.*

In our analysis we interviewed several small local farmers to understand their production and distribution processes. We focused specifically on two farms in our case study: Burnt Rock Farm in Huntington, Vermont and River Berry Farm in Fairfax, Vermont. This analysis revealed several common barriers to expanding the local food market, including transportation costs, competition with cheaper large-scale production, and identifying markets for their products.

### 6.1.1 TRANSPORTATION

Our literature review revealed that transportation and the distribution of goods is a common struggle for small farmers. Refrigerated trucks are the main form of transportation, but they are quite expensive for small-scale farmers to use.<sup>94</sup> However, our discussions with local growers highlighted that these costs are somewhat expected in the local foods market and are not the biggest barrier to growing the local foods market.<sup>95</sup> Justin Rich, the owner of Burnt Rock Farm—a 20-acre organic vegetable farm in Huntington, Vermont—described his distribution route.<sup>96</sup> His farm runs a box truck three days a week, filled with winter storage crops, including potatoes, squash, onions, and summer greenhouse crops depending on the season. Their main markets are Burlington and Middlebury, both of which are about 40 minutes away by truck (see Figure 6.1.1).<sup>97</sup> About 30 percent of their sales occur out of state. Mr. Rich described how his relationship with Intervale Food Hub plays an important role in his aggregation and distribution process. By streamlining the distribution to one location, Mr. Rich is able to save additional transportation costs.<sup>98</sup>

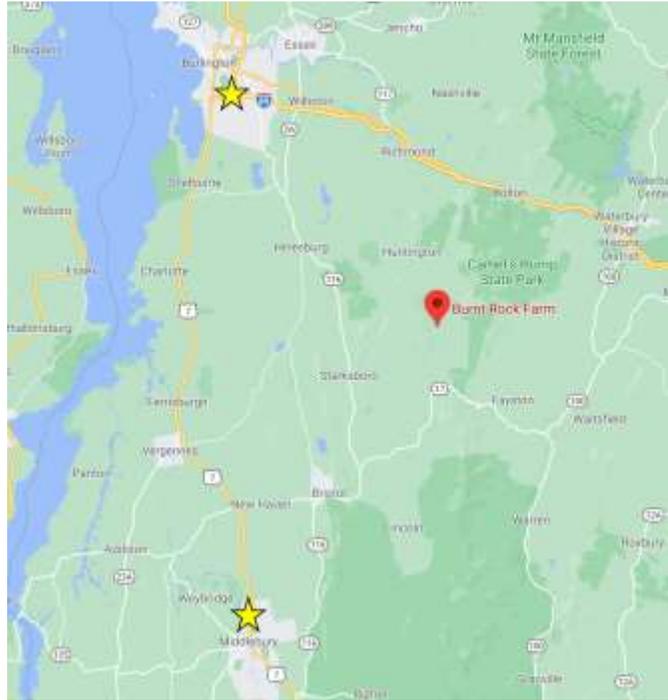


FIGURE 6.1.1 Map identifying the major food distribution routes for Burnt Rock Farm. Source: Google Maps.

David Marchant, the owner of River Berry Farm in Fairfax, Vermont, described a similar experience with transportation costs. Mr. Marchant and Jane Sorensen grow 50 acres of organic vegetables, three acres of strawberries, and 1.5 acres of organic raspberries; they also maintain an 18,000 square foot greenhouse.<sup>99</sup> Their products largely go to Burlington, which is about 30 minutes away by truck.<sup>100</sup> Additionally, they ship products to New York and Boston about two times a week.<sup>101</sup> Like Burnt Rock Farm, Mr. Marchant described the importance of their relationship with food hubs and wholesale distributors for accessing the larger local foods market. River Berry Farm has close connections with Intervale Food Hub and Deep Root Organic, a cooperative with 24 member-farmers acting as an intermediary distributor to stores in the area.<sup>102</sup> Mr. Marchant shared the classic dilemma for small farmers: “more markets means more transportation.”<sup>103</sup> Because small farms, like River Berry Farm, are responsible for transporting their own products, growers must consider the cost-benefit analysis of selling to other stores and markets.

### 6.1.2 SCALE AND MARKET ACCESS

An inherent challenge with small farms and production is the lack of economies of scale. Farmers growing several acres of a certain crop are unable to compete with large scale out-of-state producers. For example, Mr. Rich with Burnt Rock Farm shared that “Sysco wouldn’t buy from us” since their production is not big enough to fill their trucks.<sup>104</sup> Mr. Rich also emphasized how his farm cannot

compete for price with California growers selling ten thousand acres of carrots, sharing that “small-scale farming is always about matching production with pricing.”<sup>105</sup> Instead, his business model is relationship based with consumers who are willing to pay extra for the local product.<sup>106</sup> In this way, Mr. Rich captures the local premium. Because of the difficulties competing with large-scale producers, they have to tap into other markets. Burnt Rock Farm and River Berry Farm both operate active CSA programs, where local consumers can purchase a “share” of the weekly products from the farm. While not the focus of their sales, Mr. Rich highlighted how their CSA business did well during COVID-19. Winter is the only season where they host the CSA on the farm, and this year 140 people came every other Wednesday to collect their shares.<sup>107</sup> In the summer, River Berry Farm is a part of a multi-farm CSA, which had a strong season this past year. While some small farms choose to participate in farmers markets, neither of these growers sell products directly in these markets. Mr. Marchant highlights that it comes down to costs and transportation.<sup>108</sup> Ultimately, these growers cannot achieve a large scale at farmers markets and they frequently operate as opportunities to build relationships with the community. For Mr. Marchant and his employees, transportation and staffing costs do not make it an efficient option compared to their other distribution processes.<sup>109</sup>

In terms of pricing, both growers highlight that in the commodities market, most producers are price takers. They are aware of the standard retail price for a case of a product based on the competitive prices set across the country and in the Northeast.<sup>110</sup> Then, they must consider the additional costs of being local (operating on a smaller scale and transportation) that increase their prices. Because of these higher prices, farmers operating at this small scale frequently face challenges with breaking into the markets. Mr. Rich shared that their most valuable customers are those that allow farmers to achieve economies of scale but are willing to pay the higher price.<sup>111</sup>

## 6.2 FOOD HUBS

After speaking with farmers who provide their products to Intervale Food Hub, we had an opportunity to meet with S.P Reid, the sales and marketing manager at Intervale. Intervale works with over 70 growers and has offered home delivery to the Burlington area for more than four years.<sup>112</sup> Intervale maximizes its scale by bringing together different products and maintaining wide selection.

As a food hub, Intervale aggregates and distributes products to the local Burlington area. Vendors are responsible for bringing their products to Intervale, where they will find truck docking stations and storage facilities.<sup>113</sup> At these stations, Intervale also allows for cross-docking, where vendors can hold produce for other buyers to pick up. In general, they charge a flat fee for pallets. As Reid noted, “the number of times you touch produce you lose money.”<sup>114</sup> Intervale adds a margin to the prices that vendors set, and then retailers pay the increased price.<sup>115</sup>

### 6.2.1 LACK OF INSTITUTIONAL INFRASTRUCTURE

Institutions, including hospitals, schools and universities, have the potential to purchase large quantities of local food. However, many do not have the capacity or infrastructure to process this food.<sup>116</sup> For Intervale specifically, this is one of the largest ongoing obstacles to creating a sustainable local food market. Reid described how there are not sufficient facilities to process food cheaply or make it possible for institutions without kitchens to purchase local food.<sup>117</sup> Reid also discussed how hospitals and schools have much more purchasing power. Intervale has successfully incorporated dairy in their operations, but they do not have the staff to cut and peel potatoes for the institutional

customers.<sup>118</sup> Additionally, there is simply not enough space and coolers to store the food they receive. When selling to institutions, Intervale must adhere to safety guidelines and regulations, requiring staff to check all products.<sup>119</sup> While currently part of their process, it is costly and takes time.

Intervale addresses the challenges facing the local food market by maintaining close relationships with buyers and sellers. Their team has successfully maximized their scale, with 95 percent of their operation focused on retail products.<sup>120</sup> Reid noted that Intervale is not seeing any major challenges with their business model and the supply of local products is there. To increase efficiency, Reid proposes using existing relationships with farmers to create a more cohesive network.<sup>121</sup> Additionally, there is a possible route of expansion into charitable food systems to reach individuals of all socioeconomic levels. Reid shared that “we’re not serving the community members that actually need to be served” with their current direct to retail framework.<sup>122</sup>

## 6.3 FARM TO SCHOOL PROGRAMS

The Vermont Farm to School Network is a statewide organization dedicated to providing leadership, coordination, and advocacy to advance new and existing farm to school efforts in Vermont classrooms, cafeterias, and communities. Schools and institutions take varying approaches and commitments when integrating local food into the classroom.

### 6.3.1 BENNINGTON COUNTY HEAD START

Through an interview conducted with Assistant Director Rebecca Bishop of Bennington County Head Start, we learned about the curricular and social benefits of integrating local food into the curriculum, along with the challenges of operating at a small scale in trying to procure local foods. Bennington County Head Start is an early childhood care center that works with 121 preschoolers, 48 infants and toddlers, and 60 staff.<sup>123</sup>

When the food services coordinator enters the bid procurement process, the staff member is competing with institutions that might have hundreds or thousands of more individuals that are being fed. As such, Bennington County Head Start faces a disadvantage in both price per unit and total volume demanded.<sup>124</sup> The fundamental challenge, according to Ms. Bishop, is that local food is much more expensive than food sourced from large wholesale suppliers or the grocery store. Only five percent of the entire food budget at the center is utilized for procuring local food, which by the definition of Bennington County Head Start, means within a 30-minute drive from any of their locations.<sup>125</sup> This does not exclude crossing the state border into New York or Massachusetts, though there is a preference for Vermont growers.

The main source of outside financial support that Bennington County Head Start receives in order to integrate local food comes from Vermont Agency of Agriculture grants.<sup>126</sup> The center has received two Agency of Agriculture grants: one was used to purchase kitchen equipment; the other was awarded to the discretion of the center; Bennington County Head Start chose to use it to build its garden through training staff and purchasing supplies and tools.<sup>127</sup> Ms. Bishop is also in the process of applying for a Community Supported Agriculture (CSA) Grant, which would be the third Vermont Agency of Agriculture grant. This grant would allow the center to purchase a CSA share and receive an 80 percent reimbursement, which would allow the center to spend more money per child on local foods.<sup>128</sup>

Ms. Bishop discussed the cost prohibitions reflected in the effort to acquire dairy products from the local dairy farm where many of the parents of their students work. To address the financial barriers associated with scale regarding the procurement of local foods, Bennington County Head Start initiated efforts to partner with the local elementary school that is located on the same road.<sup>129</sup> This would allow the two to jointly order food in bulk which would lower the per unit cost. However, the partnership was not finalized at the time of the COVID-19 pandemic and plans have thus been halted indefinitely.

### 6.3.2 PUTNEY CENTRAL SCHOOL

We conducted an interview with Principal Herve Pelletier and Sustainability Coordinator Steve Head from Putney Central School. The school is K-6 and serves 175 students.<sup>130</sup> Through this interview, we gained insight into the extensive number of resources that are necessary to move away completely from a third-party food services vendor, and accomplish all food procurement, preparation, and service in-house. According to a 2018 case study, 30 percent of the food budget at Putney Central School goes towards procuring local foods.<sup>131</sup>

The main source of financial support outside of the food budget that allows Putney Central School to allocate resources towards local food is an Agency of Agriculture grant, specifically a Farm To School And Early Childhood: Child Nutrition Implementation Grant.<sup>132</sup> The school also works with several growers and food distributor intermediaries throughout the state of Vermont. These are chiefly: Thomas Dairy, Black River Produce, the Putney Food Shelf, Food Connects, and Upper Valley Produce.<sup>133</sup>

A challenge that Putney Central School faced in the transition to away from a third-party vendor was the additional labor cost.<sup>134</sup> When sourcing from large wholesale retailers that have the capacity and scale to operate large processing centers, produce typically arrives already washed, cut, and prepared. This means that it is ready to cook and serve upon acquisition. Many smaller farms do not have the ability to do this, and their products are shipped unprocessed. Putney Central School currently employs two staff members in the kitchen. Because the school is committed to lunch services like salad bars, staff members incur more labor like manually shredding carrots rather than receiving pre-shredded carrots packages.

An advantage that smaller institutions, like Putney Central School, encounter in handling food acquisition within themselves is that they can partner with smaller farms and growers that normally would not get picked up by larger food hubs.<sup>135</sup> Principal Pelletier specifically referenced how the school partners with Thomas Dairy, which operates at too small of a scale to work with organizations like the Abbey Food Group. Additionally, the location of Putney Central School has meant that transportation, which is a challenge that many other actors involved in regional food distribution systems face, is fairly seamless. Because the school is located just off Route 91, farmers and food hubs can easily deliver to the school on their way to Burlington, Concord, or other larger cities.<sup>136</sup> The most meaningful value added, according to Principal Pelletier and Mr. Head, is the social and lifestyle benefits that buying and eating local instills in the students.

## 6.4 RETAIL: HANOVER CO-OP

A key component of the local food system is retail operations. This includes smaller grocery stores and co-ops to larger stores such as Hannaford's and Price Chopper. Allan Reetz is the Director of Public and Government Affairs at the Hanover Co-op Food Stores & Auto Service Centers. This Upper Valley based co-op adheres to a commitment to selling local foods to its customers. The Hanover Co-op stores adhere to the legal definitions of "local food" as defined by state statutes in Vermont and in New Hampshire.<sup>137</sup> The Co-op also uses the term "regional" for products originating from inside a 100-mile radius from the stores.<sup>138</sup> In total, 19 percent of products are considered local, and vendors can submit their product information if interested in selling their products at the Co-op locations.<sup>139</sup> Mr. Reetz describes how the Hanover Co-op does not currently maintain a business relationship with food hubs, although the director supports "food hubs, small-scale aggregation, distribution, state and federal legislative policies, and farm bill funding."<sup>140</sup>

The largest barrier that prevents the Hanover Co-op from selling more local products comes down to shelf space.<sup>141</sup> While the Co-op does not charge vendors for shelves, known as slotting fees, the Co-op stores still face challenges with space. When asked where state support would be helpful, Mr. Reetz listed two major areas of concern: "Greater funding at the state level for small start-up farms, land access negotiations, training programs, programs to foster regional distribution, and improved monitoring and action against improper use of the term "local," and its variations as protected by state law."<sup>142</sup> While the Hanover Co-op locations have been very successful in supporting local food markets in the Upper Valley, Mr. Reetz reaffirmed their goals to continue to expand the local products sold in stores.

## 6.5 FOOD HUBS IN IOWA

To identify potential opportunities for government involvement in regional food supply systems in Vermont, it is necessary to examine how Vermont compares with other states on the issue. After extensive research, we identified Iowa as a state with an extensive food hub network. The Hawkeye State is a major agricultural center; in 2019, the revenue from agricultural production in Iowa was the second highest in the United States.<sup>143</sup> Over 30.6 million acres of land are farm operated in Iowa, accounting for more than 85 percent of the total state area.<sup>144</sup> Corn and soybeans are the most profitable crops in Iowa, generating over \$14 billion in value as of 2019.<sup>145</sup> The Iowa State Food Hub Directory identifies eight food hubs in Iowa, clustered primarily around the Des Moines Metro area, major interstates, and in rural Eastern Iowa (see Figure 6.5.1).<sup>146</sup> The well-studied Iowa food system is helpful to assess the infrastructure and incentives needed to strengthen local food distribution on a large scale. Our cross-state analysis employs a case study approach to evaluate the components of existing programs.

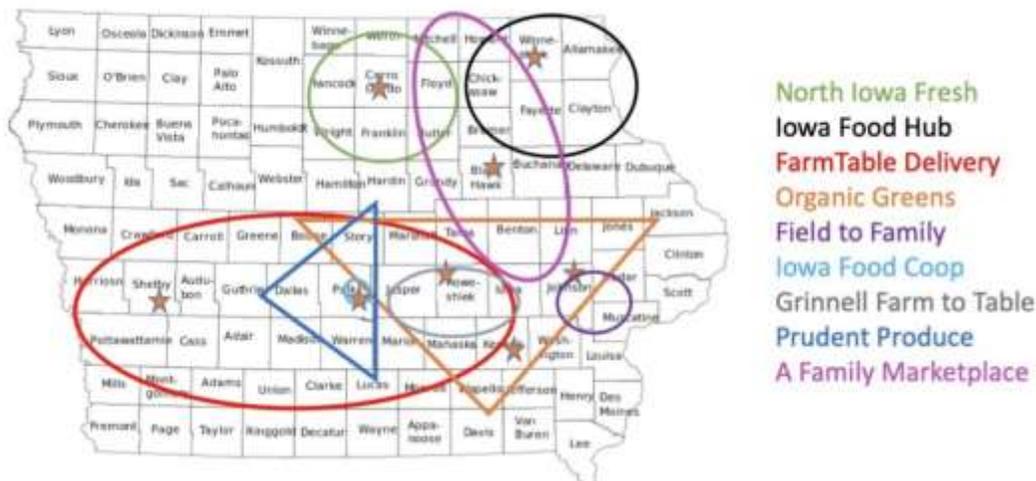


FIGURE 6.5.1 Map identifying the eight major food hubs in Iowa. Source: Iowa State FFED — Food Hub Directory

The Iowa State University Extension and Outreach Farm, Food and Enterprise Development (FFED) program was created in 2017.<sup>147</sup> FFED, formerly the Local Foods and Value Added Agriculture Programs, was originally part of the Leopold Center for Sustainable Agriculture.<sup>148</sup> FFED works to support value-added agriculture enterprises, businesses and regional food systems through research, education, and community engagement.<sup>149</sup> In order to learn more about the current state in Iowa, we conducted interviews with Program Coordinator Courtney Long and Education Extension Specialist Teresa Wiemerslage from FFED.

There are two networks organized by FFED that specifically support local food distribution. One is the Regional Food Systems Working Group (RFSWG). RFSWG engages stakeholders at all levels of regional food systems to create a community where they can communicate with and learn from one another.<sup>150</sup> It provides an opportunity to aggregate all of these actors in one place. The second network facilitated by FFED is the Iowa Food Hub Managers Working Group, which was created in 2015.<sup>151</sup> The purpose of the group is to improve its technical knowledge of aggregation and distribution systems, source more local products, leverage funding, build partnerships, and grow opportunities for farmers.

Research conducted by FFED is used to advise and make recommendations to stakeholders including legislators for local food distribution systems. In 2018, FFED published a report detailing the path for partnerships between local food hubs and school district nutrition programs through a pilot program that offered grant funding to four schools in four different districts.<sup>152</sup> Funding was directed to hire staff to provide assistance to participating schools to procure local products, create weekly delivery routes and evaluate delivery costs, and investigate costs for minimally processed food items for schools. The program reflected a sharp increase in local food purchase not only in the four pilot schools that were the focus of the study, but also for 14 schools in six other districts, as services and products developed from the grant funding were offered to any school district that chose to participate. The total local food purchases by the four pilot schools increased from \$10,451 to \$52,401 from the baseline (2012-13 school year) to the end of the project (2014-15 school year).<sup>153</sup> This increase is visualized in Figure 6.5.2. Additionally, there was a \$20,236 to \$71,761 increase in local food purchases throughout the six observed counties.<sup>154</sup> This reflects the spillover effects of facilitating individual relationships between food hubs and schools. Based on these findings, when schools are

given the opportunity and pathway they will purchase more local products, but it requires some intermediary like a food hub to coordinate the connections.<sup>155</sup>

Because there exists a centralizing body, FFED, that possesses institutional support and resources to strengthen regional food systems, there are many collaborations and relationships that are born from these networks, according to Ms. Long and Ms. Wiemerslage.<sup>156</sup> This allows actors of all sizes to benefit from one another. Additionally, these networks allow various food hubs to establish their own transportation routes that allows them to reach growers and farmers that might otherwise be unable to transport their own goods because of the high cost of refrigerated trucking and storage.<sup>157</sup>

### Local Food Purchases of Pilot Schools

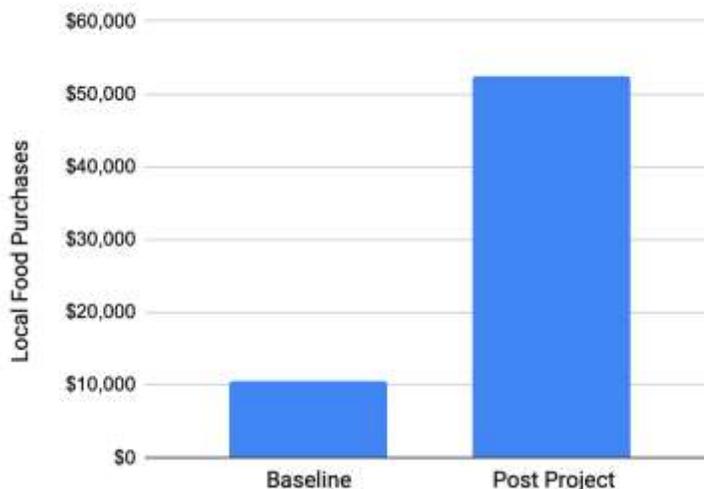


FIGURE 6.5.2 *Local food purchases in pilot schools from 2012-2015. Data from Iowa State University FFED.*

## 7 RECOMMENDATIONS

Following our analysis of the local and regional food supply system in Vermont, we present several recommendations that the State Legislature may consider to support the local food market.

### 7.1 LOCAL FOOD BILLS IN THE 2021-2022 LEGISLATIVE SESSION

Two relevant bills are currently under consideration in the Vermont Senate and House of Representatives during the 2021-2022 legislative session regarding local food systems. Senate Bill 100 and House Bill 150 are jointly important for supporting farm to school programs in Vermont. However, no legislation specific to food hubs has been introduced. Considering the findings of this report, we recommend the State consider food hub development and expansion through specific grant programs and legislation.

#### 7.1.1 VERMONT SENATE BILL 100: FARM FRESH SCHOOL MEALS FOR ALL

The Senate Committee on Agriculture introduced Senate Bill 100 in February of 2021, which supports the development and sustainability of farm to school programs.<sup>158</sup> As of March 25, 2021, this bill received a favorable report with recommendation of an amendment by the Committee on Appropriations.<sup>159</sup> S.100, titled “Farm Fresh School Meals for All,” is comprised of two main components. The first section proposes a requirement that all public schools in Vermont provide breakfast and lunch to all students free of charge. The costs for the universal breakfast and lunch program that are not covered through federal or state funds would be reimbursed by school districts.<sup>160</sup> Currently, about 18 percent of students attend a Vermont public school that offers universal meals

through a USDA program.<sup>161</sup> However, increasing the universal meals program for all public schools will cost an estimated \$24-40 million per year to the Education Fund.<sup>162</sup>

The second component proposes a new grant program to be administered by the Agency of Education, incentivizing schools to purchase locally produced food.<sup>163</sup> Additionally, the bill proposes increases in appropriations for the Farm to School and Early Childhood Grant Program. The funding mechanism for the locally produced food grant is as follows: for FY2022, \$1 million from the education fund and \$500,000 from the general fund, then \$600,000 annually from the Agency of Education Budget. Funding for the Farm to School and Early Childhood Grant will be an increase of \$328,125 in FY2022 from the general fund.<sup>164</sup>

The bill identifies the goal that by 2023, at least 20 percent of all food purchased by supervisory unions and districts will be local products. To achieve this, the bill proposes that school boards with an active school breakfast, lunch, or summer meals program report an estimate of the percentage of local foods purchased (by cost) during a one-year period to the Agency of Education by December 31, 2021.<sup>165</sup> From there, school boards will be eligible to apply for a local foods incentive grant if the supervisory union has a local purchasing plan, food coordinator, tracking process, and complied with all reporting requirements. There are three types of grant payments available depending on the percentage of local foods purchase by the district: (A) 15 cents for each reimbursable school lunch for supervisory unions purchasing at least 15 percent local foods; (B) 20 cents for each reimbursable school lunch for supervisory unions purchasing at least 20 percent local foods; or (C) 25 cents for each reimbursable school lunch for supervisory unions purchasing at least 25 percent local foods.

While this bill indicates support for local farm to school programs, based on the findings of this report and our conversations with local schools, we share several concerns about the effectiveness of the reporting and grant requirements.<sup>166</sup> Annual reporting to the Agency of Education in addition to a separate yearly grant application creates additional paperwork that could burden the schools in question. Principal Pelletier of Putney Central Schools discussed in an interview how the paperwork and grant applications are already difficult for small schools to manage, which serves as a barrier to attaining support.<sup>167</sup> We are concerned that dividing the reporting mechanism and grant application into two separate pieces would discourage schools from pursuing these opportunities. There may also be situations where schools with small percentages of local products might decide to not report their percentages to the Agency of Education knowing there is no prize or penalty to do so. Since many of the questions in the application likely overlap with the reporting questionnaire, we recommend the reporting and application questions are combined into one document for the schools to submit.

Additionally, schools that already purchase greater than 15 percent of local products are at a substantial advantage over schools with less than 15 percent. For example, consider Bennington County Head Start, which was one of the educational programs we focused on in this report. For their current yearly food budget, only five percent of their purchases are of local products.<sup>168</sup> While this program encourages deep integration of local food systems through field trips and partnerships with local gardens in the surrounding community in Bennington with hopes to expand their local food budget further, S.100 would exclude the current program from additional grant funding. While S.100 may work as an incentive to encourage schools to reach the 15 percent level, many schools that are currently far below the standard will be unable to receive the support necessary to achieve that level. Because reimbursement only begins at the 15 percent level, these schools would likely face funding issues before they reach these additional grant opportunities.

It is important to recognize that this bill is still in the Vermont Senate, meaning that currently the House Committee on Agriculture and Forestry is not directly involved. However, should this bill pass through the Senate and go to the House, these considerations will become relevant.

### 7.1.2 VERMONT HOUSE BILL 150

The Vermont House Committee on Education introduced House Bill 150 in January 2021. The bill proposes the creation of incentives for schools to purchase local foods.<sup>169</sup> H.150 also establishes the goal that at least 20 percent of all foods purchased for correctional facilities (measured by either cost or volume) is locally produced by 2024.

H.150 uses the same language as S.100 to identify the State goal that all school supervisory unions and districts purchase at least 20 percent of their food budgets locally. Additionally, the reporting requirement to the Agency of Education and subsequent grant applications are consistent with S.100. However, under H.150 section 3(4), if a school district is eligible for a grant (meaning the supervisory union has a local purchasing plan, food coordinator, tracking process, and complied with all reporting requirements), the district will receive 15 cents per reimbursable school lunch regardless of the current level of local food purchased.<sup>170</sup> This would mean that a school program like Bennington County Head Start that only purchases five percent of its foods locally would still be eligible for this grant opportunity. A district or program can only apply for this grant and receive funding once. However, after receiving this initial grant, districts would be able to apply for an additional grant for local food depending on their levels of local food purchased. This follows the same language of S.100 (schools with 15 percent local food would be reimbursed by 15 cents per meal, 20 percent local food reimbursed by 20 cents per meal etc.). Considering our analysis, we strongly support this bill since it supports school programs that do not currently purchase greater than 15 percent of their foods locally. Instead of widening the stratification between schools with significant local food consumption and those with limited levels, this program provides local food funding for all schools. With this additional funding in 2022, schools would be more likely to increase their local foods budgets to access future grants for subsequent years.

## 7.2 DEVELOPMENT OF A FOOD HUB TO SCHOOL PROGRAM

We recommend that the State investigate the feasibility of developing a food hub to school program. Because farm to school partnerships can only facilitate the distribution of products that are produced at that one farm, schools must still rely on larger third-party commercial retailers to procure much of their food or undergo laborious efforts to initiate, coordinate, and sustain multiple relationships with several different farms at any given time. They must also arrange appropriate transportation and storage if they choose to engage with many farms. This is a disincentive for schools to seek out more than one farm to school relationship.

A food hub to school program, by contrast, eliminates the labor required by the school because the food hub would become responsible for acquiring and gathering all of the food requests that a school might submit. The school would then only have to work with one food hub rather than multiple farms. Food hubs by nature are designed to handle food aggregation, which would allow them to effectively work with schools that require a myriad of different foods to serve in their cafeterias. This is a motivating factor in California AB-1009, which proposes the development of a farm to school food hub program to be administered by the California Department of Agriculture (see section 5.2.1).<sup>171</sup> A

successful pilot model implemented by the state of Iowa (see section 6.5) also reflects spillover costs associated with just establishing an avenue for a single school district on schools in surrounding areas.<sup>172</sup>

A food hub to school program would address the challenges cited by Putney Central School associated with making relationships and connections with various farms and growers by centralizing these transactions through a single intermediary.<sup>173</sup> This also addresses the desire cited by Reid from Intervale Food Hub to partner with larger institutions that have more purchasing power than a single restaurant or consumer.<sup>174</sup> This system could drastically reduce the amount of food dollars sent by Vermont institutions out of state, as the food hub to school program in Iowa increased local food expenditures by more than three-fold.<sup>175</sup>

### 7.3 GREATER SUPPORT THROUGH GRANT AWARDS

The Vermont legislature may consider allocating more funding to support local food systems, specifically in the Agency of Agriculture grants. Of the Vermont Agency of Agriculture grants that directly cite increasing local food systems as a stated purpose, the award amounts are relatively small, averaging around \$10,000, and ranging from \$1,000 (Community Supported Agriculture Grants) to \$25,000 (Dairy Agritourism Grants).<sup>176</sup> By comparison, the Buy Local, Buy Wisconsin grant amounts average roughly \$28,000 per grantee.<sup>177</sup> While the average size and scale of Wisconsin farms are larger than those of Vermont, most of the Buy Local, Buy Wisconsin grant awardees are small and medium sized enterprises.<sup>178</sup>

In particular, a gap exists in grant support for the intermediaries in regional food supply systems like food hubs and retailers. Supporting these intermediaries through Agency of Agriculture grants could potentially eliminate additional costs that stakeholders like growers and institutional consumers currently incur in the local food system. Investing in food hubs, whose main purpose is to facilitate connections and fill current gaps that exist between producers and consumers, increases the resources that growers and institutions can dedicate to their specific internal operations. For example, a school like Putney Central would not have to maintain individual relationships with multiple farms across the state and instead could allocate that time and energy to serving meals to their students.

Larger amounts of capital will allow stakeholders to break into larger economies of scale and expand their foundations for sustained relationships and growth. While this requires greater upfront investment, these grants will likely generate increased revenue purely from local food systems by keeping food dollars within the state, as has been observed with the \$10 million revenue increase in Wisconsin attributed to this grant program.<sup>179</sup>

### 7.4 SUPPORT LOCAL PROCESSING FACILITIES

A common concern noted throughout our interviews with relevant stakeholders was the limited infrastructure for processing local produce. The responsibility often lies in the consumer to wash, cut, and prepare produce for cooking when using local foods, which entails a greater amount of labor. This becomes even less feasible if they are preparing hundreds or thousands of meals. In particular, Principal Pelletier and Mr. Head discussed the large amount of labor that is required to prepare the salad bar for lunch every day.<sup>180</sup> Reid from Intervale Food Hub also discussed this challenge with respect to large institutions whose kitchens and staff are not equipped for food preparation.<sup>181</sup> Larger commercial processors have the ability to supply produce pre-washed and pre-cut so that they are

ready to use, which provides a comparative advantage that makes it difficult for local actors to compete. This is even a challenge in Iowa, according to Ms. Long, who cited the need for more processing facilities.

The interview findings are consistent with Section 3.4 Food Processing and Manufacturing in the Vermont Farm to Plate Strategic Plan.<sup>182</sup>The report details the potential benefits to local stakeholders in expanding the current food processing facilities in Vermont. This would include stronger product lines, greater control over the process of bringing food to market, and capitalizing on local branding and certifications. We recommend conducting additional research into available food processing facilities and opportunities for capacity building to strengthen local produce chains in the state of Vermont.

## 8 CONCLUSION

This report aims to inform the Vermont House Committee on Agriculture and Forestry about the nuances of regional food systems in Vermont, and how the state may support stakeholders at all points along the supply chain. The report begins by introducing the significance of regional food supply systems, and the different mechanisms by which products travel from producers to consumers. Through a comprehensive review of existing literature, including examples of government involvement, the report creates a foundation for cross-state comparisons between programs and legislation in other states and regions. Interviews and meetings with key stakeholders, including growers, Intervale Food Hub, Hanover Co-op, Vermont schools, and experts in Iowa, provided clear insight into the current barriers to market expansion. The largest recurring concern originates from high prices. Given the barriers present, there is likely an opportunity for the Vermont State Legislature to become further involved in the local food systems, especially through increased support for local food hubs. This report provides a framework for understanding the current state of regional food systems in Vermont, the obstacles that stakeholders face, and opportunities for action and improvement. The analysis and recommendations seek to support Vermont legislators in making informed and sound policy decisions regarding regional food systems.

## 9 REFERENCES

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- <sup>1</sup> Willard, Abbey, et al. "Vermont Agriculture and Food System Plan: 2020." Vermont Agency of Agriculture, Food and Markets, January 15, 2020. [www.agriculture.vermont.gov/administration/annual-report](http://www.agriculture.vermont.gov/administration/annual-report). 8.
- <sup>2</sup> Ibid, 81.
- <sup>3</sup> Grubinger, Vern. "Ten Reasons to Buy Local Food." The University of Vermont, April 2010. [www.uvm.edu/vtvegandberry/factsheets/buylocal.html](http://www.uvm.edu/vtvegandberry/factsheets/buylocal.html).
- <sup>4</sup> "The Local Motive - Distribution." Vermont PBS, February 2, 2017. [www.vermontpbs.org/localmotive](http://www.vermontpbs.org/localmotive).
- <sup>5</sup> "2019 State Agriculture Overview Vermont." U.S. Department of Agriculture, 2019. [www.nass.usda.gov/Quick\\_Stats/Ag\\_Overview/stateOverview.php?state=VERMONT](http://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=VERMONT).
- <sup>6</sup> Martinez, Steve, et al. "Local Food Systems: Concepts, Impacts, and Issues." United States Department of Agriculture, May 2010. 2.
- <sup>7</sup> Food, Conservation, and Energy Act of 2008, 122 Stat. 1651 (2008). [www.congress.gov/bill/110th-congress/house-bill/2419/text](http://www.congress.gov/bill/110th-congress/house-bill/2419/text).
- <sup>8</sup> Martinez, 3.
- <sup>9</sup> Claro, Jake. "Economic Development in the Local Food Economy." Vermont Farm to Plate. Accessed November 1, 2020. [www.vtfarmtoplate.com/features/economic-development-in-the-local-food-economy](http://www.vtfarmtoplate.com/features/economic-development-in-the-local-food-economy).
- <sup>10</sup> VT Agency of Agriculture. "Vermont's New Local Food Definition - What Does It Mean and What Has Changed?" July 2, 2020. [agriculture.vermont.gov/sites/agriculture/files/documents/Business\\_Development/Changes%20to%20VT%27s%20Definition%20of%20Local%20Food.pdf](http://agriculture.vermont.gov/sites/agriculture/files/documents/Business_Development/Changes%20to%20VT%27s%20Definition%20of%20Local%20Food.pdf).
- <sup>11</sup> Ibid.
- <sup>12</sup> Barham, James, et al. "Regional Food Hub Resource Guide." United States Department of Agriculture, April 2012. [www.ams.usda.gov/sites/default/files/media/Regional%20Food%20Hub%20Resource%20Guide.pdf](http://www.ams.usda.gov/sites/default/files/media/Regional%20Food%20Hub%20Resource%20Guide.pdf).
- <sup>13</sup> "Food Hub Programs Relevant to Vermont." University of Vermont, Accessed October 28, 2020. [www.uvm.edu/vtvegandberry/FoodHubs](http://www.uvm.edu/vtvegandberry/FoodHubs).
- <sup>14</sup> Martinez, 4-5.
- <sup>15</sup> Ibid, 11.
- <sup>16</sup> Ibid, 12.
- <sup>17</sup> Willard, 45.
- <sup>18</sup> Ibid, 45.
- <sup>19</sup> Ibid, 45.
- <sup>20</sup> "Farm Stands, CSAs & Farmers Markets." State of Vermont Agency of Agriculture, Food and Markets, Accessed November 1, 2020. [www.agriculture.vermont.gov/farm-stands-csas-farmers-markets](http://www.agriculture.vermont.gov/farm-stands-csas-farmers-markets).
- <sup>21</sup> Willard, 45.
- <sup>22</sup> Ibid, 47.
- <sup>23</sup> Ibid, 47.
- <sup>24</sup> Ibid, 47.
- <sup>25</sup> Ibid, 47.
- <sup>26</sup> Ibid, 47.
- <sup>27</sup> Ibid, 51.
- <sup>28</sup> Ibid, 52.
- <sup>29</sup> Ibid, 51.
- <sup>30</sup> Ibid, 54.
- <sup>31</sup> Ibid, 55.
- <sup>32</sup> Ibid, 55.
- <sup>33</sup> Ibid, 56.
- <sup>34</sup> Ibid, 56.
- <sup>35</sup> Ibid, 56.
- <sup>36</sup> "About Us." GrowersHub. Accessed October 28, 2020. [www.growershub.com/about](http://www.growershub.com/about).
- <sup>37</sup> "The Local Motive - Distribution."
- <sup>38</sup> Ibid.
- <sup>39</sup> "Vermont Economic Contribution and Impact Research." University of Arkansas Division of Agriculture. Accessed October 31. [www.economic-impact-of-ag.uark.edu/vermont/](http://www.economic-impact-of-ag.uark.edu/vermont/).
- <sup>40</sup> The Local Motive - Distribution."
- <sup>41</sup> Barham, 4-5.

- <sup>42</sup> “Food Hub Programs Relevant to Vermont.”
- <sup>43</sup> “Analysis of Vermont’s Food System — Overview.” Vermont Sustainable Jobs Fund, February 2013. [www.legislature.vermont.gov](http://www.legislature.vermont.gov).
- <sup>44</sup> Ibid.
- <sup>45</sup> Barham, 10.
- <sup>46</sup> Ibid, 14.
- <sup>47</sup> Dun & Bradstreet. “Intervale Center Inc.” Dun & Bradstreet, Inc. Accessed 25 February 2021. [www.dnb.com/business-directory/company-profiles.intervale\\_center\\_inc.60f43ef5c311428409181fa569219f39.html](http://www.dnb.com/business-directory/company-profiles.intervale_center_inc.60f43ef5c311428409181fa569219f39.html)
- <sup>48</sup> Barham, 15.
- <sup>49</sup> “3SquaresVT/EBT at Farmers Markets.” Northeast Organic Farming Association of Vermont, May 2020. [www.nofavt.org/croptcash/participatingmarkets](http://www.nofavt.org/croptcash/participatingmarkets).
- <sup>50</sup> Barham, 18,
- <sup>51</sup> Ibid, 22.
- <sup>52</sup> Ibid, 22.
- <sup>53</sup> Ibid, 22-23.
- <sup>54</sup> Agricultural Act of 2014, 128 Stat. 649 (2014). [www.congress.gov/bill/113th-congress/house-bill/2642/text](http://www.congress.gov/bill/113th-congress/house-bill/2642/text).
- <sup>55</sup> “A Guide for Governments on Building Local Food Economies.” Center for Environmental Farming Systems, 2016. [www.cefs.ncsu.edu/food-system-initiatives/local-food-economies/a-government-guide-on-building-local-food-economies](http://www.cefs.ncsu.edu/food-system-initiatives/local-food-economies/a-government-guide-on-building-local-food-economies).
- <sup>56</sup> Ibid.
- <sup>57</sup> “GrowFood Carolina: Project Overview.” Sustainable Agriculture Research and Education, 2010. [projects.sare.org/sare\\_project/cs10-078](http://projects.sare.org/sare_project/cs10-078).
- <sup>58</sup> Cantrell, Patty et al. “Food Innovation Districts: An Economic Gardening Tool.” March 2013. [www.nwm.org/food-innovation-districts](http://www.nwm.org/food-innovation-districts). 53.
- <sup>59</sup> Martinez, 59.
- <sup>60</sup> Ibid, 59.
- <sup>61</sup> Oroho, Steven, and Nilsa Cruz-Perez. Directs Dept. of Agriculture to authorize and advise food hubs., Pub. L. No. 1953 (2020). <https://legiscan.com/NJ/bill/S1953/2018>.
- <sup>62</sup> Ibid.
- <sup>63</sup> Ibid.
- <sup>64</sup> Gabbard, Tulsii, and Les Ihara. Relating To A Food Hub Pilot Program, Pub. L. No. 338 (2021). <https://openstates.org/hi/bills/2021%20Regular%20Session/SB338/>.
- <sup>65</sup> Ibid.
- <sup>66</sup> Ibid.
- <sup>67</sup> Ibid.
- <sup>68</sup> Comerford, Nicholas. Testimony Presented Before the Senate Committee on Agriculture and Environment, § Senate Committee on Agriculture and Environment (2021). [https://www.hawaii.edu/govrel/docs/senate/2021/sb0338\\_uoh\\_02-05-21\\_aen\\_support.pdf](https://www.hawaii.edu/govrel/docs/senate/2021/sb0338_uoh_02-05-21_aen_support.pdf).
- <sup>69</sup> Bloom, Richard. Farm to School Food Hub Program, Pub. L. No. Assembly Bill 1009 (n.d.). [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202120220AB1009](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB1009).
- <sup>70</sup> Ibid.
- <sup>71</sup> Ibid.
- <sup>72</sup> Agency of Agriculture. "Funding Opportunities: Grants, Loans & Financial Assistance." <https://agriculture.vermont.gov/grants>
- <sup>73</sup> Ibid.
- <sup>74</sup> Bishop, Rebecca. Personal interview. 1 February 2021; Vanessa Haggans and Kate Yuan.
- <sup>75</sup> “Vermont Everyone Eats Formative Evaluation: Community Hub and Restaurant Experience.” Everyone Eats, December 2020. [img1.wsimg.com/blobby/go/a925333d-65bb-4391-b6e8-b1c6258363bc/downloads/VEE%20Final%20Report%201.15.21%20\(1\).pdf?ver=1612277552121](http://img1.wsimg.com/blobby/go/a925333d-65bb-4391-b6e8-b1c6258363bc/downloads/VEE%20Final%20Report%201.15.21%20(1).pdf?ver=1612277552121). 2.
- <sup>76</sup> Ibid, 5.
- <sup>77</sup> Ibid, 2.
- <sup>78</sup> Ibid, 5.
- <sup>79</sup> Ibid, 1.
- <sup>80</sup> Martinez, 58.
- <sup>81</sup> Department of Agriculture, Trade, and Consumer Protection. “Buy Local Buy Wisconsin Grant Program’s Producer and Processor Grants.” State of Wisconsin, n.d. <https://datcp.wi.gov/Pages/BuyLocalBuyWisconsinGrants.aspx>.
- <sup>82</sup> Ibid.

- 
- 83 Ibid.
- 84 “Buy Local, Buy Wisconsin Grant Program - 2019 Impact Report.” Wisconsin Department of Agriculture, Trade and Consumer Protection, 2019. [https://datcp.wi.gov/Documents/BLBW\\_Grant\\_Impact\\_Report.pdf](https://datcp.wi.gov/Documents/BLBW_Grant_Impact_Report.pdf).
- 85 Economic Research Service. “Trends in U.S. Local and Regional Food Systems: Report to Congress.” United States Department of Agriculture, January 2015. [www.ers.usda.gov/webdocs/publications/42805/51173\\_ap068.pdf](http://www.ers.usda.gov/webdocs/publications/42805/51173_ap068.pdf). 60.
- 86 Ibid, 60.
- 87 Ibid, 4.
- 88 Ibid, 21.
- 89 Long, Courtney. Personal interview. 9 February 2021; Vanessa Haggans and Kate Yuan.
- 90 Goddeeris, L., Rybnicek, A. and Takai, K. "Growing Local Food Systems: A case study series on the role of local governments." International City/County Management Association. 2015.
- 91 Ibid.
- 92 “Vermont Economic Contribution and Impact Research.”
- 93 “2017 Census of Agriculture Data Release: Vermont.” United States Department of Agriculture, April 2017. [agriculture.vermont.gov/sites/agriculture/files/documents/CENSUS%20State%2050%20Census%20Briefing%20Updated%20-%202017.pdf](http://agriculture.vermont.gov/sites/agriculture/files/documents/CENSUS%20State%2050%20Census%20Briefing%20Updated%20-%202017.pdf). 9.
- 94 Rich, Justin. Personal interview. 5 February 2021; Vanessa Haggans and Kate Yuan.
- 95 Ibid.
- 96 Ibid.
- 97 Ibid.
- 98 Ibid.
- 99 River Berry Farm. "About River Berry Farm" <http://www.riverberryfarm.com/about/>.
- 100 Marchant, David. Personal interview. 23 January 2021; Vanessa Haggans and Kate Yuan.
- 101 Ibid.
- 102 Ibid.
- 103 Ibid.
- 104 Rich, 5 February 2021.
- 105 Ibid.
- 106 Ibid.
- 107 Ibid.
- 108 Marchant, 23 January 2021.
- 109 Ibid.
- 110 Rich, 5 February 2021; Marchant, 23 January 2021.
- 111 Rich, 5 February 2021.
- 112 Reid, S.P. Personal interview. 5 February 2021; Vanessa Haggans and Kate Yuan.
- 113 Ibid.
- 114 Ibid.
- 115 Ibid.
- 116 Ibid.
- 117 Ibid.
- 118 Ibid.
- 119 Ibid.
- 120 Ibid.
- 121 Ibid.
- 122 Ibid.
- 123 Bishop, Rebecca. Personal interview. 1 February 2021; Vanessa Haggans and Kate Yuan.
- 124 Ibid.
- 125 Ibid.
- 126 Ibid.
- 127 Ibid.
- 128 Ibid.
- 129 Ibid.
- 130 Pelletier, Herve; Head, Steve. Personal interview. 4 February 2021; Vanessa Haggans and Kate Yuan.
- 131 “Vermont Farm to School Case Study: Putney Central School.” Vermont Farm to School Network, 2018. <https://vermontfarmtoschool.org/2018-vermont-farm-school-case-studies>.
- 132 Pelletier, Herve; Head, Steve, 4 February 2021.
- 133 Ibid.

- 134 Ibid.
- 135 Ibid.
- 136 Ibid.
- 137 Reetz, Allan. Personal interview (email). 25 March 2021; Vanessa Haggans and Kate Yuan.
- 138 Ibid.
- 139 Ibid.
- 140 Ibid.
- 141 Ibid.
- 142 Ibid.
- 143 “Economic Research Service.” United States Department of Agriculture, September 2, 2020. [www.ers.usda.gov/faqs/#:~:text=In%202019%2C%20the%20top%2010,%2C%20North%20Carolina%2C%20and%20Indiana.](http://www.ers.usda.gov/faqs/#:~:text=In%202019%2C%20the%20top%2010,%2C%20North%20Carolina%2C%20and%20Indiana.)
- 144 Ibid.
- 145 “2019 Sate Agriculture Overview Iowa.” U.S. Department of Agriculture, 2019. [https://www.nass.usda.gov/Quick\\_Stats/Ag\\_Overview/stateOverview.php?state=IOWA.](https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=IOWA)
- 146 Enderton, Arlene and Corene Bregendahl. “Food Hub Development in Iowa.” Leopold Center Pubs and Papers, 2015. [www.lib.dr.iastate.edu/leopold\\_pubs/papers/16.](http://www.lib.dr.iastate.edu/leopold_pubs/papers/16)
- 147 Long, Courtney. Personal interview. 9 February 2021; Vanessa Haggans and Kate Yuan.
- 148 Ibid.
- 149 “Farm, Food and Enterprise Development.” Iowa State University Extension and Outreach, n.d. [https://www.extension.iastate.edu/ffed/about-us/.](https://www.extension.iastate.edu/ffed/about-us/)
- 150 “Regional Food Systems Working Group (RFSWG).” Iowa State University, n.d. [https://www.extension.iastate.edu/ffed/regional-food-systems-working-group/.](https://www.extension.iastate.edu/ffed/regional-food-systems-working-group/)
- 151 “Iowa Food Hub Managers Working Group.” Iowa State University Extension and Outreach, n.d. [https://www.extension.iastate.edu/ffed/iowa-food-hub-managers-working-group/.](https://www.extension.iastate.edu/ffed/iowa-food-hub-managers-working-group/)
- 152 Wiemerslage, Teresa, and Catherine Strohbehn. “Increasing the Capacity of a Local Food Hub to Service School District Nutrition Programs.” Iowa State University Extension and Outreach, September 2018. [https://store.extension.iastate.edu/product/15470.](https://store.extension.iastate.edu/product/15470)
- 153 Ibid.
- 154 Ibid.
- 155 Ibid.
- 156 Wiemerslage, Teresa. Personal interview. 23 February 2021; Vanessa Haggans and Kate Yuan.
- 157 “Farm, Food and Enterprise Development.”
- 158 Senate Committee on Agriculture. Farm Fresh School Meals for All, Pub. L. No. SB 100 (2021). [https://legislature.vermont.gov/Documents/2022/WorkGroups/Senate%20Appropriations/Bills/S.100/S.100~Senator%20Robert%20Starr~An%20act%20relating%20to%20universal%20school%20breakfast%20and%20lunch%20for%20all%20public%20school%20students~3-18-2021.pdf.](https://legislature.vermont.gov/Documents/2022/WorkGroups/Senate%20Appropriations/Bills/S.100/S.100~Senator%20Robert%20Starr~An%20act%20relating%20to%20universal%20school%20breakfast%20and%20lunch%20for%20all%20public%20school%20students~3-18-2021.pdf)
- 159 Ibid.
- 160 Ibid.
- 161 Parker, Breanna. “S. 100.” Vermont Legislative Joint Fiscal Office, March 10, 2021. [https://ljfo.vermont.gov/assets/Publications/Senate-Bills/71933a7238/GENERAL-353887-v8-FiscalNotes\\_S.100\\_031021-002.pdf.](https://ljfo.vermont.gov/assets/Publications/Senate-Bills/71933a7238/GENERAL-353887-v8-FiscalNotes_S.100_031021-002.pdf)
- 162 Ibid, 1.
- 163 Senate Committee on Agriculture.
- 164 Parker, 1.
- 165 Senate Committee on Agriculture.
- 166 Raines, Arthur, Sasse, Alex and Sachin Shiva. “Local Food in Vermont Schools: Barriers, Impacts, and Solutions for Local Food Acquisition.” The Class of 1964 Policy Research Shop. [https://rockefeller.dartmouth.edu/sites/rockefeller.drupalmulti-prod.dartmouth.edu/files/prslocal\\_foods\\_vt\\_schoolsfinal.pdf.](https://rockefeller.dartmouth.edu/sites/rockefeller.drupalmulti-prod.dartmouth.edu/files/prslocal_foods_vt_schoolsfinal.pdf) 18.
- 167 Pelletier and Head, 4 February 2021.
- 168 Bishop, 1 February 2021.
- 169 Vyhovsky, Tanya. Education; school food programs; correctional facilities; locally produced foods, Pub. L. No. HB 150 (2021). [legislature.vermont.gov/Documents/2022/Docs/BILLS/H-0150/H-0150%20As%20Introduced.pdf.](https://legislature.vermont.gov/Documents/2022/Docs/BILLS/H-0150/H-0150%20As%20Introduced.pdf)
- 170 Ibid.
- 171 Bloom, Richard. Farm to School Food Hub Program, Pub. L. No. Assembly Bill 1009 (n.d.). [https://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=202120220AB1009.](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB1009)

<sup>172</sup> Wiemerslage, Teresa, and Catherine Strohbehn.

<sup>173</sup> Pelletier and Head, 4 February 2021.

<sup>174</sup> Reid, 5 February 2021.

<sup>175</sup> Wiemerslage, Teresa, and Catherine Strohbehn.

<sup>176</sup> Vermont Agency of Agriculture. "Funding Opportunities: Grants, Loans & Financial Assistance."

<https://agriculture.vermont.gov/grants>.

<sup>177</sup> Ibid.

<sup>178</sup> "Buy Local, Buy Wisconsin Grant Program - 2019 Impact Report." Wisconsin Department of Agriculture, Trade and Consumer Protection, 2019. [https://datcp.wi.gov/Documents/BLBW\\_Grant\\_Impact\\_Report.pdf](https://datcp.wi.gov/Documents/BLBW_Grant_Impact_Report.pdf).

<sup>179</sup> Ibid.

<sup>180</sup> Pelletier and Head, 4 February 2021.

<sup>181</sup> Reid, 5 February 2021.

<sup>182</sup> "Strategic Plan: Food Processing and Manufacturing." Vermont Farm to Plate, May 2013.

[https://www.vtfarmltoplate.com/assets/plan\\_sections/files/3.4\\_Food%20Processing\\_MAY\\_13.pdf](https://www.vtfarmltoplate.com/assets/plan_sections/files/3.4_Food%20Processing_MAY_13.pdf).