THE UNIVERSITY
of VERMONT

Maple
Mountain
Consulting

Transportation Barriers to Food Access in Vermont

Assessment and Research

Consultant:

Pablo Bose, Maple Mountain Consulting (MMC)
Isabel Dunkley, MMC
Tulley Hescock, MMC
Hanna Hartman, MMC
09 December 2022

I. Objectives & Methodology Overview

Rural Vermonters face food insecurity in multiple ways that can directly impact their health and wellbeing. Vermont has many barriers that can pose a threat to food access for a range of different communities including both its rural landscape and built environment, uneven levels of personal vehicle ownership, inadequate public transportation, a lack of culturally appropriate foods for specific populations and the stigmas often associated with utilizing food assistance. Although there are additional barriers that may impact food access, these particular obstacles stand out for a number of populations within Vermont as a primarily rural, relatively sparsely populated, and demographically homogenous state. The solutions to overcoming such challenges are both state-wide and local and begin with understanding the current infrastructure and programs already in place and exploring what initiatives might be attempted or expanded upon. There are three particular sets of opportunities to address food access through transportation that we have focused on in this study:

- **Bringing people to food**
- **Bringing food to places people already access**
- **Bringing food to people in their homes**

In our examination of the existing research on food access and transportation, of some of the community-based initiatives being undertaken to combat these challenges nationally, and through our interviews with key informants involved with the local food system, we have undertaken a holistic and comprehensive attempt to understand the dynamics involved from diverse perspectives. As part of the development of a Food Security Action Plan in Vermont, MMC was contracted to conduct secondary research on transportation-related barriers to accessing healthy and local food amongst priority populations - including BIPOC, LGTBQ+, individuals living with disabilities, living with poverty and/or live in rural areas - in Vermont as well as primary research in the form of interviews with key informants/professional stakeholders in the fields of healthcare, transportation and food systems. Included in the scope of work is a consideration of health care-based healthy food interventions as food access solutions hindered by transportation barriers. This report provides an overview of major barriers identified in relevant literature, programs and by key informants, as well as existing and potential solutions for overcoming such obstacles and promising initiatives at the local, state and national levels. There are three main data points on which the following analysis is based:

1) A review of recent studies and scholarly research focused specifically on transportation and food access.
2) A review of community-based programs meant to counter transportation barriers to food access through the Community Food Project (CFP) program of the USDA
3) Interviews with key informants across 4 specific groups involved with food systems in Vermont include:

    (a) Social service providers
    (b) Healthcare providers
    (c) Policy makers
    (d) Farmers, food producers and distributors

The research was carried out between June-September 2022 and included interviews with 40 individuals representing multiple organizations and communities throughout the state. These key informants were identified in conjunction with the Farm to Plate Network and other stakeholders involved with the Food Security Action Plan development process, recruited and interviewed during this period. Interviews were transcribed and analyzed to reveal common themes regarding barriers and solutions.

Our team examined all of these three types of data – existing studies, examples from the CFP, and interviews with key informants – in order to develop an understanding of the key constraints and barriers regarding transportation and food access in Vermont and to identify some viable solutions and opportunities as well. In the following report we present the results of this research, beginning with a summary of these constraints and opportunities, followed by a review of relevant studies on food access and transportation, a brief overview of significant approaches to address mobility barriers in sample

programs across the country, perspectives from key informants within the Vermont food system, an analysis of our findings and some preliminary recommendations. We conclude by also discussing some of the key gaps in knowledge and data where additional or new research would strengthen our understanding of and intervention into resolving transportation barriers to food security.

II. Summary of Barriers, Solutions & Opportunities

In Vermont, a lack of reliable transportation remains a critical barrier to food access, especially for older populations, people with disabilities, low-income Vermonters, and Vermonters without driver's licenses. In one 2016 study, older Vermonters reported "overwhelming difficulty" getting to important activities, with "69% of participants delaying medical appointments due to transportation barriers" (Hadley et al., 2016).

> **It's an intrinsic link. If you don't have access to transportation, for most folks, you cannot access food (transportation organization)**

In our research on food access and transportation as it relates to Vermont, five central barriers emerge:

1) **Vermont's rural character and built environment**
2) **Access to personal transportation**
3) **Inadequate public transportation**
4) **The supply chain of culturally appropriate food**
5) **Stigma and cultural factors associated with reliance on food assistance**

Upon interviewing stakeholders across the state, three additional barriers emerged:

6) **Affordability**
7) **Staffing and volunteer shortages**
8) **Lack of resource awareness and program usability.**

Such barriers are further intensified and exacerbated in situations that are both unusual – such as a global pandemic – and recurring – such as rising inflation and economic disparities, both of which we heard about from stakeholders.

> **With inflation and cost of fuel and housing and food prices increasing as they have, they feel like now more than ever, they're struggling to put food on the table (service provider)**

Similarly, the COVID-19 pandemic has been repeatedly cited in its effects on food insecurity within the state, with some studies at the onset of the pandemic suggesting that nearly one-third of Vermont households said they had been food-insecure or struggled to put food on the table (Seven Days, 2020). More recent studies have shown that little has changed; instead the situation has worsened. A 2022 assessment of food insecurity and health outcomes during the COVID-19 pandemic, for example, found that the prevalence of food insecurity remained similarly high to early points in the pandemic (35% overall), and concludes that this is likely driven by inflation and food prices, and long-term impacts from the pandemic (Niles et al, 2022). Indeed, interviewees across the state shared that the need they are seeing is on-par, and in some cases higher, than what they saw at the height of the COVID-19 pandemic.

> **We are seeing a tremendous increase of need and demand at our food shelf. That's just one indicator. It's almost risen by 40% since the [2022] New Year and the impact of inflation on food access is tremendous. We have many new people, people who have never asked for help before coming to us in need. And so I'm hugely worried (service provider)**

As COVID-19 relief funds come to an end and inflation continues to push food and gas prices higher, respondents expressed concern that the population of Vermonters experiencing food insecurity will continue to grow.

What emerges in the research on rural transportation and food in particular, is the need to make access a priority since it so clearly impacts peoples' ability to seek care and acquire healthy foods. There is no single, easy solution that can cover the diversity of regions, populations, barriers and need across the country. Instead, what practitioners, researchers and policymakers urge, is attention to approaches that are flexible, replicable and sustainable (ChangeLabSolutions, 2021; Laveta et al. 2015; Rural Health Information Hub, 2022; Bayne et al. 2018; Smith et al. 2017). Solutions to transportation barriers to food access are organized in this report into three categories, elaborated in later sections:

1) **Bringing people to food**
2) **Bringing food to places that people already access**
3) **Bringing food directly to people**

III. Review of Relevant Research on Transportation Barriers

> **Transportation is a lifeline…being able to travel back and forth to appointments and treatments is a matter of life or death – it is definitely a matter of quality of life (Bayne et al. 2018)**

The idea that adequate transportation is central to a healthy, sustainable and productive life seems self-evident. And yet the multiplier effects that having access to reliable mobility options – or conversely *not* having such options – might have for individuals or communities is often less visible. That transportation is a central determinant of health for so many has been recognized across multiple disciplines (including but not limited to public health, urban and community planning, sociology, rural and ethnic studies and many others besides) for many decades. Some of this research has focused on low-income, racially and ethnically diverse communities in urban areas, as in Gottlieb et. al.'s (1996) early study of food-access strategies in transit-dependent communities in California. Others have looked at the particular locations and resources rendered inaccessible by transportation barriers, including grocery stores and restaurants in racialized neighborhoods (Sharkey et al. 2009).

Mirroring a focus on food deserts in urban areas, especially in central cities and large metropolitan corridors (US Department of Agriculture, 2009), a number of scholars have also focused their attention on the relationship between public transit usage and obesity rates (Frank et. al., 2007; Edwards, 2007). Such research is ongoing, especially as upgrading transportation infrastructure in many parts of the US remains a literal work in progress (She et al. 2017; She et al. 2019). Not surprisingly then, a number of studies have increasingly focused on intentional planning to alleviate the food access burden for priority populations. Many have argued for a wrap-around or holistic food systems approach to the challenge (Hodgson, 2012) and a simultaneous focus on both healthier food and sustainable ways to access it (Centers for Disease Control and Prevention, 2014; McCann, 2006).

The connections between food insecurity and transportation remain top of mind for many policymakers and researchers, as both struggle to rethink and remake the contemporary US food system (Rhone et al. 2019). Indeed, in Dumas et. al.'s (2021) study of municipal-level transportation support for food access across cities of varying sizes in the US, the authors argue that food access itself should be a primary consideration in transportation planning at the very foundational level. The need is critical considering that out of the hundreds of cities that they surveyed, more than a third reported having no public transit at all and of even those that did, fewer than half reported included a consideration of food access in any kind of transportation planning or investment. Thus, while the importance of the food access-transportation nexus might be clear to many advocates striving to reduce food insecurity, this has not translated into enough material change on the ground.

Yet both barriers and solutions cannot be seen as homogenous or monolithic across the different communities of the country. What exists as an obstacle to accessing food in a densely populated urban region – lack of regular bus routes or subway stops close to grocery stores – for example, might take on a very different form in a rural location. Transportation is also a central determinant of health in rural communities, albeit in distinct ways. A number of studies have emphasized the need to understand the distinctiveness of rural regions and tailor responses to those differences (Johnson et al. 2014; Rodriguez and Maraj Grahame, 2016; Ko et al. 2018). Researchers have, for example, focused on the particular impacts that the loss of local institutions and resources – such as rural grocery stores – have had on cultural awareness of fresh, local and healthy foods (Pinard et al. 2016) and on obesity rates (Gillespie et al. 2022).

In some rural regions, the differences might be both economic and racial/ethnic, as in Sharkey, Horel and Dean (2010)'s study of vehicle ownership in a low-income, low-density rural population and access to healthy foods. In others, the historical and systemic deprivation faced by certain communities – such as in indigenous and tribal areas – require paying close attention to the population's articulation of their own needs (Domingo et al. 2021).

Another element of the food security and transportation nexus that has been repeatedly highlighted by researchers is the connection to healthcare outcomes. Throughout the US northeast, for example, there are growing efforts to incorporate food and nutrition into healthcare systems. The Bi-State Primary Care Association has taken significant initiative to integrate food into their health care model. In a July 2021 press release, Bi-State articulates their commitment to food access, stating that "Vermont has many promising projects in [food as healthcare]. Nationally we also see a flourishing of models built from strong clinical evidence, demonstrated cost-effectiveness, and partnerships across sectors." At the same time, they argue that "…the dramatic rise in food insecurity during COVID-19 made clear the weaknesses in our current systems and the need to support better strategies to address this issue in the years ahead" (Bi-State Primary Care Association, 2021). To that end, Bi-State is working with the Food Access in Health Care (FAHC) consortium, which seeks to emphasize collaboration between existing organizations (such as the Vermont Food Bank and Hunger Free Vermont) and uses a care coordination model to address food insecurity while implementing other evidenced-based food interventions focused in rural Vermont. One product of Bi-State and FAHC's partnership is Policy in Plainer English, a podcast series that explores food access and best practices for better nutrition with professionals across the state.

As part of the work of this review of transportation and food security dynamics, we have also explored the particularities of addressing the specific context of rural health care, an issue of significant concern in a state like Vermont. Bi-State commissioned a study in 2021 that looked specifically at the potential adoption of Medically Tailored Meals (MTM) in Vermont (DeBor 2021). This study includes within it a number of findings and recommendations with relevance to our own review, in particular an examination of delivery systems for rural environments. Bi-State defines the healthcare issues in this way:

> **Rural health care practices report that a key challenge in assisting patients with food insecurity concerns is that these often overlap with transportation barriers - practices can refer to community programs for support, but if patients can't reach those support networks reliably, it does no good"(Bi-State, 2021)**

In particular, Bi-State points out that in the healthcare sector, patient referrals to community food programs (often originating at a point of either initial or ongoing treatment) is a central way in which food security and nutrition security can be achieved; however, transportation barriers may reduce or constrain the efficacy of this approach. As part of their broader examination of strengthening rural healthcare access, therefore, Bi-State is collaborating with Farm to Plate to examine how addressing transportation barriers to food access might overlap with healthcare access concerns.

The DeBor report on MTMs included a review of existing programs as well as interviews with experts and organizations at the state and national scale with experience in implementing these initiatives. For context, a MTM program is one in which meal plans are tailored to the need of a recipient living with severe illness by a Registered Dietitian Nutritionist and are designed to improve health outcomes while simultaneously lowering costs and increasing patient satisfaction (e.g. by meeting cultural preferences and lifestyles). These types of programs are commonly referred to as a 'food as medicine' intervention and are

generally distributed through delivery mechanisms. Within the three types of food access solutions we have identified in this document, MTMs are part of the Bring Food to People category. There are other programs that parallel and overlap with MTMs. For example, the USDA's GusNIP funding competition that focuses on nutrition incentives to increase the procurement and consumption of fresh fruits and vegetables by SNAP/EBT users and reduce food insecurity includes a Produce Prescription Program which seeks to combine healthy eating with a reduction of healthcare and associated costs. It attempts to do so by utilizing healthcare providers and referrals as a point of contact and distribution for food, as well as diagnostic and planning interventions similar to MTM. However, there are also significant restrictions on the GusNIP program (a focus on SNAP clients, for example) and an administrative burden in implementing these that are not present in many existing MTMs.

In DeBor's review of the potential to implement an MTM in Vermont, there are three particular issues raised that are of specific importance to our review:

- Delivery systems to take meals from food production sites to patient homes, consistent with applicable food safety guidelines
- Reliable information technology systems (the report mentions this in the context of HIPAA, data integrity and along the entire chain of the system; it is obviously significant for technology-based solutions to transportation barriers)
- Sustainable funding streams

Indeed, all of these stand out as particular challenges for DeBors in contemplating an MTM program in Vermont. Two of her recommendations to try and overcome some of these challenges align with our own:

- Engage a commercial food service company for certain components of food production and meal delivery
- Emphasize local procurement to support farmers consistent with other activities in the state

The potential for an MTM program to be implemented within Vermont is thus an important consideration to keep in mind in our review of transportation barriers and food access in the state, one that we will return to in our recommendations section.

Vermont and Rural Food Access

This broader context is important to keep in mind as we turn our attention to Vermont and see some issues common to food insecurity or rural regions in general, and others that are unique to the state. In Vermont, a lack of reliable transportation remains a critical barrier to food access, especially for older populations, people with disabilities, low-income Vermonters, and Vermonters without driver's licenses. In one 2016 study, older Vermonters reported "overwhelming difficulty" getting to important activities, with "69% of participants delaying medical appointments due to transportation barriers" (Hadley et al., 2016). As previously noted, the COVID-19 pandemic also increased food insecurity in Vermont:

> In an August/September 2020 survey, nearly one-third of Vermont households said they had been food-insecure or struggled to put food on the table since the beginning of the pandemic (Pasanen, 2020).

A 2022 assessment of food insecurity and health outcomes during the COVID-19 pandemic found that the prevalence of food insecurity remained similarly high to early points in the pandemic (35% overall), and concludes that this is likely driven by inflation and food prices, and long-term impacts from the pandemic (Niles et al, 2022).

The existing literature suggests that it is likely that there are more Vermonters struggling with food insecurity than we think. According to their research on multiple mode commuting data from the US Census, Zhang and Mao propose that the actual population of people with low food access is greater than conventional single-mode measures suggest. (Zhang & Mao, 2019). COVID-19 relief money, particularly recent CARES Act funds, brought about new transportation and food access solutions while bolstering existing programs in the state. Despite this, many Vermonters continue to struggle with food insecurity, especially as food and transportation costs continue to rise (Hunger Free Vermont, 2022; Niles et al, 2022; Pasanen, 2020). The following section explores these barriers in greater detail.

A)Barriers

When reviewing existing literature on food access and transportation as it relates to Vermont, five central barriers emerge:

1) Vermont's rural character and built environment
2) Access to personal transportation
3) Inadequate public transportation
4) The supply chain of culturally appropriate food
5) Stigma and cultural factors associated with reliance on food assistance

1| Vermont's Rural Character & Built Environment

Vermont is a primarily rural state. While urban centers and highly developed downtown areas do exist, the majority of Vermonters live in what the USDA-ERS defines as Rural Vermont (Rural Health Information Hub, 2021). Food access research, especially Vermont-based studies, highlights rurality as a central barrier to food access. This is because rural residents often have to travel further and spend more to access centralized resources, such as grocery stores, farmer's markets, and food shelves (Akinlotan et al., 2021; Pasanen, 2022; McCandless, 2021; Seguin et al, 2014, Morton and Blanchard, 2007). In Vermont, McEntee and Agyeman (2010) used GIS mapping to determine that "4.5% of the state's population lives in a food desert," meaning that the average distance to travel from a residence to a retail grocer is greater than 10 miles (McEntee & Agyeman, 2010). This study, however, likely under-reports the true number as food access scholarship has since evolved to move beyond geographic distance alone and to take into account economic, social and informational components that impact transportation and food access. Such factors might include mode of transit, hours of operation (Satcher, 2022; Muthukrishna et. al. 2020; De Master and Daniels, 2019). In other words, distance-based barriers can and do exist under the ten-mile threshold often used to define food deserts and food access – even in rural places like Vermont, it is not spatial barriers alone (or even primarily) that can pose the greatest hurdle.

Furthermore, even in areas that are relatively more devleoped in Vermont, many lack infrastructure for safe walking and cycling. Seguin et al.'s study on barriers to healthy eating in rural areas concluded that "...cycling and walking in some communities were considered unsafe due to fast traffic, busy roads, and poor street safety features" (Seguin et al., 2014). In her research on Vermont Rural Transportation, Chen found that "pedestrian infrastructure, like sidewalks and crosswalks, is lacking in many downtowns and on the edges of towns", and that Vermonters often rely on personal vehicles or a "patchwork of public transportation" to get where they need to go (Chen, 2021). The rural character and built environment of Vermont is a thus limiting factor for many Vermonters to get the food that they need.

2| Access to Personal Transportation

In Vermont, lack of a reliable personal vehicle or a driver's license is a transportation barrier to food access. Most often, the easiest and fastest way to get from one place to another in Vermont is with a personal vehicle. Cars are the preferred method of transportation in the state (RSG, 2012), and for Vermonters without access to a vehicle or means to operate that vehicle, getting around is "a challenge (at best) or impossible (at worst), if public transit doesn't exist where you live or work" (Johnke, 2017). Vermonters who are unable to drive or do not have access to a reliable vehicle experience more roadblocks to accessing food. This barrier is particularly prevalent for older Vermonters, people with disabilities, migrant farmworkers and New Americans (McCandless, 2021; Dillahunt et al., 2019; Johnke, 2017; Mares et. al, 2015).

3| Inadequate Public Transportation

> Regional bus services that follow specific routes on a set schedule do not currently meet the needs of [many Vermonters], especially if they live in rural areas (Chen, 2021)

Public transportation in rural (and even parts of urban) Vermont is limited. Existing public transportation options place limits on the number of groceries that a person can access – essentially to only what someone is physically able to carry during a trip. Public transit users must also consider the distance from drop-off locations to their destination of choice and coordinate shopping times with bus schedules and store hours (Dumas, 2021; Widener et. al, 2017). In Vermont, especially outside of downtown areas, options are scarce and often require some amount of walking (or another form of transportation) to get to and from drop-off and pick-up locations (Labun, 2020; Johnke, 2017). Accessing food via public transportation is thus particularly challenging for people who are unable to walk or carry groceries and/or who have limited availability during the overlap in store hours and bus schedules.

4| Supply Chain of Culturally Appropriate and Nutritionally Adequate Food

Existing studies suggest that it is necessary to acknowledge that the *kinds* of food that people are able to access matters (Alkon, 2009; Bose & Laramee, 2011; Gilman, 2022; Leroy et al, 2015; Mares et al, 2015). If an individual has access to a certain type of food, but is unable to prepare it or consume it, it is then relatively inaccessible. For example, butternut squash may not be appropriate or consumable for an eighty-year-old who has arthritis and cannot stand for long periods of time, in the same way that a frozen meal will not work for someone who is houseless and does not have access to a microwave. This barrier is particularly prevalent amongst New Americans (Bose & Laramee, 2015) and other migrant populations:

> **Complex negotiations of geographic and linguistic borders and barriers, markets (both formal and informal), and social networks reveal that, for migrant farmworkers, food access often entails much more than a simple trip to the grocery store (Mares et al, 2015)**

Similarly, during the onset of the pandemic it became apparent that newly resettled refugees were having difficulties with preparing and consuming unfamiliar food items (such as frozen chicken nuggets as well as cheese and other dairy products) sent to them via food assistance programs (Bose, 2021). Various initiatives are underway in Vermont to tailor food support to better serve individual needs, though finding enough of the right kinds of food remains an often-cited barrier to food access in the state.

5| Stigma and Cultural Factors Associated with Reliance on Food Assistance

Several studies suggest that there is a stigma attached to both utilizing food assistance *and* public transportation alike; thus, many of the priority populations identified by this research may find themselves dissuaded from accessing needed food in multiple ways. Chen identifies the stigma associated with the use of public transportation as "one of the major barriers to increasing transit ridership" (Chen, 2021). Chen explains that there is a misconception that public transportation is only for low-income communities, and is further amplified by the "inconvenience and discomfort" that using public transportation can create (Chen, 2021). Similarly, identifying as low-income, or as needing help can be the first battle for many food insecure people to access either transportation or support.

> **Hunger relief advocates have long argued that shame, stigma and burdensome, intrusive paperwork deter many from seeking needed assistance (Pasanen, 2022)**

Pasanen points to Hunger Free Vermont's estimate that roughly 30% of students who qualify for free or reduced lunch programs do not utilize them due to a lack of completed paperwork. Vermonters in this instance are struggling to ask for help in a way that both allows them the resources they need, while ensuring anonymity and protecting a sense of pride.

B) Solutions

When people lack access to adequate transportation, they are forced to find other solutions for accessing food – the outlined barriers above do not, of course, mean that people do not come up with responses, whether short-term or more sustainable. Some of these are very personal, including the most common supports which involve relying on family and friends for rides (Lloyd, 2017). Many older and disabled individuals in Vermont additionally rely on neighbors doing grocery shopping for them or offering them rides (McCandless, 2021). However, in many Vermont communities – as in other places – not everyone has a support system that they can readily access and rely upon. The need for more sustainable and reliable solutions to accessing food is thus paramount. In this section we combine our review of relevant research with our own interviews with stakeholders (elaborated in a following section) to explore potential ways of overcoming these barriers.

Solutions to transportation barriers to food access that we have reviewed in this report are organized according to three main approaches:

1) Bringing people to food
2) Bringing food to places that people already access
3) Bringing food directly to people

1| Bringing People to Food

Bringing people to food directly targets access to transportation through the expansion of transportation infrastructure and transit programming. Many Vermonters live relatively far away from grocery stores and food services and rely on individual vehicles or transit systems to travel for food. Yet the lack of a private car or effective (or any) public transportation compound the challenges for food insecure Vermonters (Chen, 2021; McEntee & Agyeman, 2010).

Solutions that tackle transportation access must be tailored to fit both population and place; indeed, as Vermont Farm to Plate has argued, "solutions for improving transportation in Vermont will be inherently local and will need to take into account the mobility of those who need better access to food (2020)." The solutions that the state implements must thus be able to operate at local levels and serve all types of populations at risk for food insecurity living in rural communities. Imagining alternatives to personal vehicles and increased bus routes alone is central for bringing Vermonters closer to food.

Nationally, transportation alternatives that function with strong community partnership and collaboration are cited as successful alternatives to mass transit systems that fail to serve rural areas. Some of these include volunteer and rideshare services, transportation service coordination, connector services and mobility management models (Bayne et al, 2018). Most of these models utilize organized carpooling and ridesharing in which users request a ride in advance and can be driven by a volunteer, or a connector service. They can also find a rural on-demand transit system that operates on a fixed route. Ridesharing can occur when there is a common destination, such as a grocery store that residents can utilize on specific days and times. Often, these services are able to provide special transportation for people with physical mobility challenges. However, many of these services require calling ahead or signing up online which may be a technological barrier to some – as is also the unreliability of cellular service and connectivity in many rural regions.

In Vermont, many interview respondents indicated a need for small scale, on-demand rideshare services. One interviewee called for the refinement and expansion of on-demand public transportation services, akin to what GMT/Montpelier's program 'MyRide' provides. Others suggested that the state implement (or expand existing) smaller, circulator style public transportation options. Vermont has various alternative transit systems already in place that have proved successful in improving rural transportation to food centers, though based on findings from the literature review as well as interviews with key stakeholders, both the need and opportunity exist to expand the ways in which people can get to food.

2| Bringing Food to Places People Already Access

Bringing food to places that people are already accessing creates a middle ground while decreasing travel time and increasing efficiency. Our review of existing programs and research studies shows that bringing food to public spaces has occurred via a variety of methods. Food prescription programs – where nutritious food is literally 'prescribed' through a mix of healthcare centers, medical clinics, home-care visits and other methods – have proved successful in supplying at-risk populations with fresh produce to help increase health while often decreasing healthcare costs. In some cases there are broader benefits, wherein local farmers and food producers can provide food to programs that distribute them directly at health centers, with patients able to receive food during existing appointments. There are currently more funding opportunities available through the USDA to increase food prescription programs in Vermont.

Mobile food markets are another means for bringing food to people in public spaces. The goal here is to bring fresh produce to places that people already access to help increase efficiency and accessibility. Food is most often supplied from food banks, farmers and other local providers. An example of this is the VeggieVanGo, a widely popular Vermont Foodbank program, that is free to users. In interviews with key stakeholders, many participants pointed to Veggie VanGo as a successful mobile market model in Vermont.

Other Vermont initiatives have continued to work to bring food to people in common gathering spaces. The Vermont Universal School Meals Act provides all children with two free meals a day for the 2022-2023 school year. The program will gather data to understand if this is a permanent need. Hunger Free Vermont was a key actor in this policy decision. Vermont Everyone Eats was a statewide program created during the onset of the COVID-19 pandemic. The goal was to "stimulate restaurants, feed Vermonters, and support local farms and food producers (Everyone Eats, 2020)." Vermont Everyone Eats was funded through the federal Coronavirus Aid, Relief and Economic Security Act. The program works by funding restaurants and food producers to make food that is then distributed for free to food insecure Vermonters, distributing meals to community gathering centers such as food shelves, worksites, faith-based organizations, schools, libraries, health centers, etc. According to their evaluation report, this system proved effective in decreasing stigma and increasing anonymity, which ultimately resulted in a greater number of households taking advantage of the program. After evaluation of the program after its first year, they found that although effective, there was more needed staff, capacity, and delivery support to sustain the program for longer. Ongoing funding from the state would be necessary to continue the program, but it does demonstrate possibilities for partnerships between small businesses and food access programs. They found that a state effort was necessary, yet the operation worked better at local levels.

3| Delivering Food to People in Their Homes

Delivering food to people in their homes is one of the most accessible options to those who lack transportation (Dillahunt et al., 2019). Interview participants across the state pointed to home deliveries as the most requested service among service recipients, especially older, migrant farmworker, and homebound populations. Meals on Wheels is a national program that has been implemented into various Vermont counties. Meals on Wheels works to serve older Vermonters who are food insecure, or lack transportation. Meals on Wheels provides food, but also includes home checks and social visits for folks who may not have much interaction in their week (Lloyd, 2017).

Online grocery services allow users to custom order their groceries through an online app or website and then receive the groceries at their home. Dillahunt et al. (2019) conducted a study to understand how grocery delivery services helped to decrease food insecurity. They found that although the services did help bring food to those who lacked transportation, online grocery delivery necessitates the ability to be technology savvy as well as have adequate income. This study also proved more successful in more urban neighborhoods.

Community Supported Agriculture programs (CSA) allow people to pay and receive a share of a local farm's produce. Typically, customers travel to a pick up location to receive their share of produce. Vermont locations for pickup include workplaces, farms without farm stands, farm stands, schools, hospitals, and other local sites. Brooks (2016) writes about the way they envision best practices of a CSA in the future to include home delivery:

> **Being able to offer the delivery and distribution will assist the 11% of households without access to a vehicle in getting their necessary products (Brooks, 2016, 26)**

Although this was not implemented in the Fair Haven case study, the authors pointed to home delivery as a more accessible use of CSAs in addition to the current pick-up method.

IV. Review of Programs Actively Engaged in Transportation Solutions to Food Access

As part of our investigation of potential solutions to food access as a result of transportation limitations, we also looked at examples of programs that have highlighted mobility in their efforts. There are many such cases throughout the country (as well as beyond); however, for the sake of coherence, we restricted our view to one particular set of programs – the USDA's Community Food Projects (CFP) Competitive Grant Program. We chose to look at this program because it is one of the primary federal funding mechanisms designed to strengthen local food systems by investing in community-led, innovative, and need-based initiatives. Additionally, Dr. Bose has several years of experience helping to run this program with the USDA and is thus particularly familiar with the work of several of the recipients of its funding. Unlike other federal programs – such as GusNIP – there are no restrictions on which populations are served by CFP (such as eligibility restricted to SNAP recipients) and a central component of CFP programs is a focus on food access.

The CFP program has existed since 1996 and was created under the authority of the 1996 Federal Agriculture Improvement and Reform (FAIR) Act ("Community Food Projects Competitive Grant Program (CFPCGP)"). It was reauthorized by the Farm Security and Rural Investment Act of 2002. In 2008, the program was amended by the Food and Nutrition Act of 2009 & section 4402 of the Food, Conservation, and Energy Act of 2008 (ibid). For the grant application window of 2022, the National Institute of Food and Agriculture, a sub-organization of the USDA, estimated the total program funding to be $4,800,000. Award amounts to each applying organization ranges from $50,000 to $400,000. The grant program requires a one-to-one match in resources and is a one-time investment in the projects.

The mission of the CFP is "to improve food and nutrition security in low-income communities through a food systems approach and Social Determinants of Health (SDOH) framework" (National Institute of Food and Agriculture). The Request for Applications outlines the SODH framework as "conditions in the places where people live, learn, work, and play that can affect health risks and outcomes" (ibid). The grant program funds primarily planning projects (usually one-to-two years in length) and implementation projects (up to three years in length). In 2022 for the first time, technical assistance proposals will also be funded.

For this review, we have focused on the implementation projects because the planning projects primarily aimed to identify problems in their local food systems, rather than propose active solutions. We have drawn on our review on the USDA's published database of selected grant proposals dating back to 2007. The CFP prioritizes projects that focus on comprehensive solutions to food insecurity, lack of economic opportunities, and vulnerable (or compromised) local food systems within a given community. The program also encourages applications that focus on bolstering a community's self-reliance in providing food for and within the community.

The CFP program tends to fund initiatives that seek to meet community needs in creating long-term and self-sustaining solutions to food insecurity. As with the other studies highlighted in Section II of this document, transportation has been repeatedly identified as a central concern for food justice advocates; accordingly, we examined the landscape of food security projects funded through the CFP program to highlight transportation-related solutions, especially ones that might be considered in the Vermont context.

A)Examples of efforts to address food access through mobility solutions

The funded proposals within the USDA Community Food Projects detail several models for increasing food security in Vermont. The programs highlighted here provide solutions for food access through two of the three primary models we described earlier:

1| Bringing food to places people already access.

This includes bringing food to permanent spaces in food deserts and insecurity within specific communities, such as creating connections between local farmers and small stores, placing farmers markets within food deserts, and placing community gardens on-site in food insecure communities. Other initiatives include mobile food markets that travel to community centered places in food deserts and rural places.

2| Bringing food directly to people.

This includes food delivery by community organizations, which increases food security for those with mobility and health issues, a solution that has especially been utilized during the COVID-19 pandemic.

Not surprisingly, the third of our models of food access was not visible through the CFP program; building actual transportation infrastructure may be beyond the means of an individual community.

Sample Programs

NIFF: Fostering the Development of New Immigrant Food and Farming Enterprises

Organization: International Resource Committee
Location: San Diego, California
Year: 2009
Grant Amount: $300,000
Community Served: Refugees and new immigrants in the City Heights neighborhood
Category: *Bringing food to places people already access*

The NIFF program developed ten immigrant-owned mobile food businesses, created an urban farm & community garden space, and implemented educational programs for the City Heights community, among other actions. The IRC aimed to "raise the profile of contributions made by new immigrants" through the mobile food businesses and focused on strengthening food security and economic opportunity for City Heights (Mei).

The Grand Rapids Community Food Project

Organization: The YMCA of Greater Grand Rapids
Location: Grand Rapids, Michigan
Year: 2014
Grant Amount: $292,658
Community Served: Small-scale urban farmers, food-insecure urban residents of neighborhoods of The Creston and the Hope Zones.
Category: *Bringing food to places people already access*

The YMCA of Greater Grand Rapids aimed to link low-income minority communities in the city and corner stores with urban growers. The Veggie Van functions as a farmers' market that visits the places that food-insecure people already frequent: schools, health clinics, workplaces, senior housing, and low-income apartments in the neighborhoods that this CFP focused on (Sielawa). Purchases of local produce could be made using SNAP, WIC, and other forms of nutrition funding, as well as with cash and cards.

Healthy Here Bernalillo County Community Food Projects and Mobile Food Market

Organization: Presbyterian Healthcare Services
Location: Albuquerque, New Mexico
Year: 2016
Grant Amount: $400,000
Community Served: Low-income residents of South Valley and the International District.
Category: *Bringing food to places people already access*

Presbyterian Healthcare Services developed a mobile farmers market with a route stopping at over 130+ sites including schools, clinics, and senior centers. Their goal was to have at least 50% of MFM buyers enrolled in SNAP (Caswell). Customers were offered nutrition and cooking education related to chronic diseases and community health providers referred patients to the Mobile Farmers Market.

Da Bus Mobile Market and Food Pantry

Organization: The Kohala Center
Location: Kamuela, Hawaii
Year: 2017
Grant Amount: $347,802
Community Served: Low-income and rural residents of Hawaii Island.
Category: *Bringing food to places people already access/Bringing food directly to people*

Da Bus mobile market stopped at community sites in rural areas of Hawaii Island including senior centers, low-income housing complexes, and Park & Recreation centers (Milne). The Kohala Center also delivered emergency food boxes to food pantries with limited supplies. This program linked local farmers to local markets and built upon links between health providers and food security organizations on Hawaii Island.

Bringing Farmers' Markets and Organic Food Gardens to Senior Living Communities

Organization: Health Care Without Harm
Location: Reston, Virginia
Year: 2012
Grant Amount: $154, 469
Community Served: Senior living communities in the Baltimore Metropolitan area.
Category: *Bringing food directly to people*

Health Care Without Harm brought a therapeutic farmers market directly on-site of a rehab and nursing center, to provide local produce to low-income senior citizens. HCWH also assisted two senior communities in creating on-site gardens for use in the communities' kitchens (Sirois & Mitchell).

Serving Farm Fresh to City Schools

Organization: FareStart
Location: Seattle, Washington
Year: 2010
Grant Amount: $299,545
Community Served: Low-income children and their families throughout Seattle
Category: *Bringing food to places people already access*

FareStart created a year-round market for urban farmers by providing connections with small primary and secondary education schools. The organization also supplied low-income adults with job training in food service. The program brought local and healthy food directly to low-income families, as well as provided cooking classes and other hands-on educational activities. In the last year of funding, FareStart served 539,252 meals to low-income families (Fey).

CSA Partnerships for Health

Organization: Village Gardens, Janus Youth Programs, Inc.
Location: Portland, Oregon
Year: 2015
Grant Amount: $400,000
Community Served: Low-income people in neighborhoods with limited access to fresh foods and public services, as well as the houseless population.
Category: *Bringing food directly to people*

The CSA Partnerships for Health created a youth driven, SNAP compatible CSA delivery system. 125 households received prescriptions for CSAs by their local health clinics and produce was grown by low-income youth farmers (Soebroto). The program increased the confidence of involved youth in their abilities and advocacy power for their communities.

Expand and Explore Healthy Food Access in New Orleans Housing Projects

Organization: Liberty's Kitchen, Inc.
Location: New Orleans, Louisiana
Year: 2017
Grant Amount: $33,890
Community Served: Low-income residents in Central City, a food-insecure neighborhood.
Category: *Bringing food directly to people*

Liberty's Kitchen engaged low-income youth in expanding access to affordable, healthy food in the Central City neighborhood with development of a food delivery service, Top Box Foods (Hamstead). The below-market service included pre-portioned recipe boxes, heat and eat meals, and/or pre-selected un-prepped groceries. The organization also offered educational services in cooking and nutrition.

Alameda County DSAL's "Farm as Medicine" Including Locally Based Food Delivery Service

Organization: Alameda County Deputy Sheriffs Activities League
Location: San Leandro, California
Year: 2020
Grant Amount: $400,000
Community Served: Small businesses and food-insecure individuals in Alameda County.
Category: *Bringing food directly to people*

Early in the COVID-19 crisis, the DSAL connected small restaurants to low-income families and medically vulnerable people throughout Alameda County. The program increased access to healthy and local foods for those whose struggles were amplified by the pandemic, including families who relied on the school system to provide meals to their children (Sherman). The DSAL also operates an urban farm and a community Food Hub in San Leandro.

Of the ten programs briefly profiled here, half provided food directly to recipients and the others brought food to a common or widely utilized space. These are but a handful of the approximately dozen or so funded programs each year, but they are representative of the importance that transportation and food access considerations have become over the last twenty years of this program.

V. Interviews with Key Informants

Methodology

The MMC team worked with the Farm to Plate managers to identify and recruit stakeholders across the Vermont food system to collect key informant perspectives on food access, transportation, barriers and solutions. A total of 40 interviews were conducted over a two-month period (July-August 2022). Interview subjects were contacted via phone or email, an interview was conducted either in-person or virtually. Interviews were recorded, transcribed and coded using a qualitative approach combining inductive and deductive methods. Interviewees are not identified by name in this document; however, a list of the various organizations contacted and included in the review of key informant perspectives is included in the appendix. In this section we present some of the main themes emerging from the interviews.

Overview of the Food Security Landscape

Levels of food insecurity remain high in Vermont. Many interview respondents shared that the need they are seeing is on-par, and in some cases higher, than what they saw at the height of the COVID-19 pandemic. As COVID-19 relief funds come to an end and inflation continues to push food and gas prices higher, respondents expressed concern that the population of Vermonters experiencing food insecurity will continue to grow.

> Right now we are seeing a tremendous increase of need and demand at our food shelf. That's just one indicator. It's almost risen by 40% since the new year and the level of the impact of inflation on food access is tremendous. We have many new people who have never asked for help before coming to us in need. And so I'm hugely worried (Service Provider)

It's not getting better as we navigate through the pandemic. And, you know, I think people think, 'Oh, we're figuring it out.' When you look at the data (referring to Niles 2022 study), it's not being figured out at all (Service Provider)

I'm absolutely extremely concerned. And it's not just a scale-back. There are many programs that will simply end and we will have a benefit cliff, a massive change. And I just got off of another meeting with other directors that I work with about this problem and it's on so many fronts. The Everyone Eats program will likely end. That's 3,000 meals per week. We have an Emergency Rental Assistance that will be ending. The amount of funds that we support people with through winter for a crisis is going to be cut probably in half from what we were able to what we were eligible for last year. You know, the child tax credit... Many programs are unfortunately not going to be sustained (Service Provider)

We have throughout COVID experienced incredible demand in our home delivered meals program, Meals on Wheels. And some of that's due to people being more food insecure. Some of that's due to the fact that older adults, especially very early in the pandemic, were told to shelter in place. So if you could get a meal delivered to your home, you were limiting your exposure to COVID. Now with the vaccinations, boosters, we're still seeing a high demand for home delivered meals. And we think that that is due to food insecurity. We're also seeing an increase in people who are calling for information about food access and wanting to know more about the resources that are available. The demand is greater than what we have resources to provide (Service Provider)

So I think one of the biggest things we've seen– and it really started with the pandemic, and this would mostly be from my experience working the Veggie VanGo event here at the hospital– is how many people were really on the cusp of food insecurity and how something like the pandemic easily pushed a large majority of people over into that food insecure area, and we saw that just in sheer numbers. Prior to the pandemic, we served on average, like an average per month was about 250 families. And in the height of the pandemic during that summer, spring and summer of the first year in 2020, that went up to 500-550. So it doubled. Things kind of leveled out a little bit for a while, I would say last year, and then with inflation and everything that's kind of going up, rising fuel prices and food and everything else, we're back up pushing towards that 500 families per month (Healthcare worker)

We will see a decrease in the number of meals that can be provided to older adults, we will see a decrease in our federal awards for the Commodity Supplemental Food Program and for the Senior Farmers Market Nutrition Program, because of what our caseload is. We will see a loss of some providers, because [providers with meals] will not be able to operate without the higher reimbursement rates that our COVID funding has allowed. So we're going to see people that we're not going to be able to serve. We potentially may experience waiting lists for services, I don't know. We're prioritizing people's needs. And we'll be working off that, but there will be some real impacts from the loss of funding (Service Provider)

Well, with the pandemic, it definitely heightened the awareness that there is definitely food insecurity and not only food insecurity, but the feeling of food insecurity. Because we do the Veggie VanGo here at Gifford. It wasn't last month because I wasn't involved with that one, but the month before like 600 families came through. That was the highest number of families that have ever come through Veggie VanGo here at Gifford. Gifford has been doing it for a while, so it definitely shows that there is such a need in our communities around food and food security (Healthcare Provider)

> There's definitely increased demand for the programs. For Farm Share in particular, there's been a big increase of people applying for the program. And yeah, wanting assistance with getting local food...Another trend is just the cost of food going up. And so people that generally go to the grocery store are also seeing the cost of their food going up. And so now the price of local food from local farmers is often more comparable than it used to be, or at least was perceived to be (Service Provider)

> With inflation and cost of fuel and housing and food prices increasing as they have, they feel like now more than ever, they're struggling to put food on the table (Service Provider)

> When the public health emergency ends, a lot of temporary expansions and increased funding around SNAP will end and it's going to be a hunger cliff, for sure (Service Provider)

> We even have childcare programs who are providing meals who've been traveling to different states when they can to purchase their food because it's too expensive to get here. But then, transportation can become a barrier there because it's really difficult to be continuously traveling back and forth with gas prices, so folks have had to drop the meal program because they can't afford the food in state and they can't afford to drive out of state to get the meals (Service Provider)

Transportation Barriers to Food Access

When asked what the largest transportation barriers to food access in Vermont are, project participants most often cited the following:

a) Affordability
b) Stigma
c) Lack of volunteers & adequate staffing
d) Lack of public transportation/infrastructure
e) Rural nature of Vermont
f) Car dependency
g) The housing crisis
h) Cultural appropriateness and the ability to grow food
i) Lack of resource awareness and usability

The following highlights provide some of the specific comments that interviewees made about each of these areas.

a) Affordability

> The barriers to local food access? I really think about the price. Somehow food at the grocery store is still, I mean the person behind me in line just now, I couldn't believe it, pork chops, $1.99 a pound. Like how is that even possible? You know, it costs Vermont producers probably $1.99 a pound just to cut and package the meat. You know, so it's a real cost barrier. So that's the first thing that comes to mind. We have food grown all around but it's still cheaper to buy food at the grocery store (Farmer)

I've heard from many of our members though that even taking the bus, that's kind of a headache. For Farmacy members who don't have great physical transportation, you know, they have issues walking, it's really difficult even to get to our shares. We have two pickup sites in Central Rutland. Transportation costs a lot of money. Gas costs a lot of money. Cars cost a lot. I think it's a pretty big issue really, especially for the future of Vermont and people having access to things that they need to access. I would love to see some high speed rail or something that would take you from one little Vermont town to the other. I don't know if that'll ever be a thing. Yeah, I think it's a pretty big issue (Service Provider)

The cost of owning and maintaining a car is extraordinary as most people in Vermont realize (Farmer)

I mean, I definitely hear from a lot of our members who are accessing our programs that purchasing food is hard and expensive. Especially purchasing healthy food or less processed food, I should say. So that, you know, that's just a hard kind of a hard fact of inflation and the systems we have in this country. So yeah, I think that is a trend I'm seeing: just people not being able to purchase the food they want to, if they want to be eating a lot of vegetables or like local meats and local cheeses (Service Provider)

I think if you look at migrant workers as being probably the most challenged in terms of how frequently they can access food and how dependent some of them have to be on other people, and the cost that goes into paying someone to get to the doctor, like we have this one woman who pays someone 60 bucks to go to their store so that she can use her WIC card. That's a problem. I don't even know how much the WIC card is worth for that month of food, you know. But I, you know, I think if you look at those who face the most challenges– and there can be some solutions– then you'll automatically kind of bring in other people that might not face as significant challenges. But you know, if there's a way to kind of create solutions, particularly for those who live in really rural areas, it could make a big difference. But I have no magic bullet (Healthcare Provider)

At the individual level, having the resources to be able to not only purchase foods, but to get to where people can access foods, and rural areas, transportation to a supermarket where there might be more choice, lower prices can be limiting (Service Provider)

I mean, food prices right now are very expensive. And people will look at the cost of something that is healthy, and you know, not think about unit cost or the nutritional value and then choose perhaps something that's less healthy, because it is less expensive. So while they might be able to address their food security, they're not able to address their nutrition security. And the difference is food security is having calories, but nutrition security is having, you know, the foods, the vitamins, the minerals that are really going to help promote health (Service Provider)

And then another big barrier is the financial barrier, which even with you know the assistance of our programs, sometimes it's not enough to make the food accessible (Service Provider)

b) Stigma

There's a lot being done in Vermont to try to eliminate that stigma kids still know. But the culture has shifted where school meal and Farm to School frankly, creates excitement about the meal program. So instead of like when my daughter was in middle school, she just refused to eat school lunch because it was only for poor kids and there was just the class system. And I think with the Farm to School and Universal Meals Act, kids are excited to eat food that they helped grow or they've cooked. Yeah, you get rid of that stigma (Service Provider)

The pandemic changed a lot of people's outlooks on asking for assistance (Healthcare Provider)

Where you can access [food] at a place where people aren't asking questions of you or questioning you, we know that more people who need food are getting food. And I think that makes a huge difference. For sure there's stigma all the time in coming to a place (Service Provider)

I think that there's been progress made in terms of stigma, right? I think there was something that sort of flattened us all to this place where we sort of realized that we were all a little closer to the edge right and so people, services, and I think as the services became more creative, more people accessed them. So we had people accessing food with no questions asked, no hoops to jump through. And I think that made it a bit easier...I think that this state's done a really good job getting away from this stigma associated with accessing food or accessing transportation (Health Insurance Provider)

The utilization rate for 3 Squares among older Vermonters is not where it should be. So I know that's an area of focus for us, doing some outreach, campaigning around that with our patient base, so that they're aware of the application process. The benefits, it's the benefit that you've earned. You deserve it, you're not taking away from anybody else, so really unifying messaging. We work closely with the Food Bank and Hunger Free Vermont on training with our staff, just to make sure that we're really hitting those core messages and using the same tools that they are to break that stigma and get people to convert into these programs (Healthcare Provider)

c) Staffing & Volunteers:

The reliance, at least for older adults, on volunteers [is a significant barrier to food access]. With rising fuel prices, volunteers are less apt to want to use their own vehicles without some sort of reimbursement (Service Provider)

And so there's a couple of barriers and then a lot of times the other thing that comes up as a big barrier is the distance to be driven by some of the volunteers. Not every volunteer is going to drive 100 Miles right to pick someone up and don't bring them to shopping or to a medical appointment. And so we're seeing some barriers in who can provide the trip that is needed (Transportation stakeholder)

I think having a charitable food system that is relying primarily on volunteer efforts raises major challenges with capacity as well as, you know, equity and access and all of this sort of stuff (Farmer)

We have had to unfortunately reduce our hours temporarily. I don't have enough volunteers, just like everybody else. And then what was happening was the volunteers that I do have, most of my volunteers are older women, and because we're so busy, they were getting so stressed out because we are so busy, that some of them were leaving in tears. And I can't have that (Service Provider)

d) Lack of Public Transportation/Infrastructure

It's an intrinsic link. If you don't have access to transportation for most folks, you cannot access food. I mean, I think if you live in a relatively dense urban area, like Burlington, you may be able, if you are not disabled, or have another reason that might prevent you from walking or biking. You may need access to a vehicle to get healthy food, even healthy local food...I think about our members who are dependent on you know, maybe being able to get their food from a place that they could easily bus or walk to, but it may not have been the most economical solution for them. And by gaining access to a vehicle for one hour to get to a grocery store, and take advantage of everything that it offers versus being forced to maybe shop at a corner store that may not have fresh food available. So I think that you must have access to transportation to eat and feed yourself and feed your loved ones. And while we're really lucky in Burlington to have access to bus service, most Vermonters do not have that access. And if they do, it's limited, inflexible (Transportation stakeholder)

So not having a really broad and trustworthy and robust transportation network here, is a huge issue. It's great that the buses are free. But if there's only one bus every hour, and that doesn't line up with your schedule, you kind of are out of luck, right? (Farmer)

So a lot of the transit that we have is on these fixed routes. And so people need a first mile or last mile solution to then get to the bus route. And by the way, it's not really one mile. It's for like five or 10 miles in Vermont that people need to get to the bus route. And so we start thinking about what that first mile-last mile need is really critical (Transportation Stakeholder)

I do know there's limited bus routes. And I also know that the population that we work with in general (migrant farmworkers) would not feel comfortable walking a mile down the road to catch a public bus, particularly in Northern Vermont (Healthcare Provider)

What I do know is that rural areas have significant transportation challenges where people are very reliant on vehicles and if they don't have a vehicle, or if there's any problem with their vehicle, they are kind of stuck. There's very little. If I didn't have a car. I would be completely stuck (Healthcare Stakeholder)

You know, with public transportation, the places where people can access public transportation, there may not be shelter there, there may not be seating, even if somebody can get to a pickup place site or are dropped off, they have [to come back] from doing their own grocery shopping. You know, maneuvering with bags is really challenging (Service Provider)

Yeah, there's a lot of barriers and the one I think that does keep coming up as a recurring theme for people accessing our food access programs or not being able to access them is transportation and either getting to a CSA pickup or drop site in the timeframe available, getting to the farmers market to use crop cash. And I also get a variety of calls from people, like if they've heard about one of our programs and are interested in them. A lot of times the barrier to them accessing those programs is that they don't, they might not have transportation or they might have limited mobility and are really looking for something to be delivered to them or something to be closer to them like within walking distance (Service Provider)

I also think of the lack of on-demand. You know, you don't some people don't plan out their lives way in advance and are able to schedule a ride a week in advance. And being able to be spontaneous, and get a ride or to help with just getting out of the house in accessing foods through grocery shopping is also really important for older adults, because it's socialization, which is a huge issue among older adults, and going to the grocery store can be a very social experience. And so, you know, sometimes you're just at home and you think 'I just want a couple of things.' And it's more, they want socialization. Yeah, they want those--It's food, but it's more socialization. So sometimes food access kind of melds with socialization, and if there's no on-demand source for transportation, you know, there's a loss for the older adults (Service Provider)

You know, it's hard sometimes for people to get from even downtown Randolph to the Shaw's because the bus schedule is so limited. If you work, you can't get to the grocery store except for maybe on Saturdays. So during the week if you run out of something and you don't have transportation, you know, maybe you carpool with somebody or you work locally in one of the local areas. So to get to Shaw's to be able to get groceries... I have a gentleman who just has difficulty because he has a TBI, traumatic brain injury. So for him to spend just a small amount of time in the grocery store can be difficult for him and then miss the bus coming home (Healthcare Provider)

So we've always struggled with not having really robust transportation options for folks. So, you know, I think that the state has to look at that (Health Insurance Provider)

There are also increasing numbers of riteros, so informal taxi systems. We're still kind of getting a sense of or trying to navigate where the line is between someone who maybe is taking advantage of the transportation limitations versus someone who's like well, you know, 'I want to do this because I know it's important but I also need to cover my own costs and I'm doing this instead of being able to work and therefore I'm charging X amount.' Anyway, it's kind of here nor there except for to say that I think a lot of people feel forced into this option of paying for transportation to get to the doctor's, to get to grocery stores, things like that (Healthcare Provider)

e) Rural Nature

And then, you know, so I'd say like distance, and the amount of time is a huge barrier. And then also, like I would say, weather is a huge barrier too. Just people especially in the Island Pond area when it's winter, they do not leave their house sometimes for days or weeks. And so, you know, even though the market is like right in town, people are like, 'Oh, you have a market.' That's not close for some people like some people that are living in Island Pond are still 25 minutes from there and their road may not be passable in those winter months, there might be spring months where the road is not passable. So I think just like the rural area that we are in is the biggest issue but then also time and distance to the stores (Healthcare Provider)

But when you think about like the rural area and how large of an area it is, and how many access points there actually are, there's really not a lot and then also like access to food like that could just be the food, you know, the bags that are like non perishable, you're not talking about access to fresh fruits and vegetables or meats. So, then you just added transportation to that, it's just an even bigger issue for people (Healthcare Provider)

I think that there are real challenges in Vermont when it comes to transportation because we are a low density, low population density state and we have a rural and kind of mountainous geography. So the density piece is a really big one because it means that...Many shared transportation modes require a certain level of population density in order to make it financially feasible to actually work (Transportation Stakeholder)

But I think you know, the rural areas are the ones that have the most significant challenges (Healthcare Stakeholder)

But the issue is, we're still really distributed all over the landscape (Transportation Stakeholder)

We see that we have food deserts, frankly. Barre, where we are located, is essentially a food desert. Most people's access to food is at the Dollar General or the pharmacy. And those are often the most expensive and least nutritious food. So where and how we build, and being strategic about ensuring food access, in all areas, is certainly something that is lacking (Service Provider)

At the individual level, having the resources to be able to not only purchase foods, but to get to where people can access foods, and rural areas, transportation to a supermarket where there might be more choice, lower prices can be limiting (Service Provider)

I think being a walkable distance to the downtown center is important and helps with transportation barriers. And there's so many people who live outside of the downtown center, obviously, in our old towns, that transportation is a major barrier"(Service Provider)

f)Car Dependency

There continues to be an over investment and prioritization of privately owned single occupancy vehicles. I mean, I think perpetuating a car dependent transportation system, even one that's fueled by electricity, is unsustainable and inequitable. And it's going to continue to encourage driving and take resources away from building out the infrastructure to support more and better and convenient bus routes (Transportation Stakeholder)

Ultimately what it comes down to is money and lack of investment. And so you know, there are still plenty of ways that we can help to build the transportation options that we need, like making, you know, you have existing downtowns, a lot of them are not necessarily safe to travel in. People don't feel comfortable traveling through them outside of a car because, you know, maybe the speed limit is too high. There's no sidewalks, there's no bike lanes. There's poor visibility for cars to be able to see pedestrians, you know, all of these reasons and all of those things require money to put into place. And historically, our transportation system in the country, but definitely also in the state of Vermont, has been focused on cars (Transportation Stakeholder)

Ultimately it comes down to where our values and our priorities lie in terms of investment. And right now we still have an Agency of Transportation and members of our legislature that are more invested and prioritize a car-centric transportation system, rather than increasing the investments that are needed for transportation alternatives (Transportation Stakeholder)

I think we need to increase safety for walkability and bike access. You know, as a kind of novice biker, I would never feel safe going on the roads because even when there are bike lanes, people come on, you know, like cars are not driving well. So I think an infrastructure that kind of has walking and biking at its center and then driving as a secondary piece (Healthcare Stakeholder)

And (we are) very car dependent. And so I think you know I serve on the climate Council, I think the statistic is that Vermonters, you know, have a higher– especially transportation– greenhouse gas footprint than any other state in New England. So you kind of had to drive everywhere (Transportation Stakeholder)

g) Housing

I would also say that, particularly with our Everyone Eats program in the intersection of like homelessness and food, food Insecurity is like a really big one. The majority of our meals that are being made by restaurants here for Everyone Eats program are going to organizations that are feeding people who are homeless, so that is just, you know, just as another compounding factor (Service Provider)

But to my mind, the other big issue that's confronting us is what we saw with the number of people that moved here during the pandemic. It doesn't take many people to affect a lot of change, and our housing supply was so small to start with. So when you have people moving into the state who, for whom Vermont housing is quite affordable, that then drove down supply and drove up the price. So now we're at a point where a lot of Vermonters won't be able to age in place or stay here because it just won't be a place for them to live. And that's going to kind of affect kids as they get out of high school and college and may want to stay. But also seniors as they're trying to get out of larger homes, even if they want to move into a senior apartment or an adult living facility or something, the capacity is just not there. And so, if we look at people, more people are moving here, not just because of climate change, which is a stick that factors in whether it's passive or active. We need to be ready. And I think what's happened, the pattern that we saw during the pandemic shows we're not, really (Transportation Stakeholder)

And then, of course, the transportation systems and services to those who do have homes they can afford, but can't actually access food on a regular basis. So that relates to policies from town zoning. And I was about to tell you last week, in the White River Junction area, Upper Valley, a very important proposal for a shelter was denied by the town. You know, it's very hard for the shelter community to build new shelters and for the affordable housing community to build new housing. And even with all the tremendous investment that we've made, and I think we are making great strides, we don't have anywhere for people to go. And there's a lot of downward pressure on housing from the many wonderful people choosing to move to Vermont for all great reasons. But the price, everyone is being priced out. And when you're dealing with the people who can't even afford to pay current rents, and for whom there is no housing, that's kind of the most fundamental (Service Provider)

h)Cultural Appropriateness/Ability to Grow Food

I really think it's the transportation piece but more like, I don't know, it's when you have so many people who lack the transportation who will also have challenges communicating who also maybe feel uncomfortable in new public places. It's hard to ensure that they, as an individual or as a family, have the support that really is needed to help them choose what it is they would want to eat (Healthcare Service Provider)

But there's a lot of communication that needs to happen to even do what we feel like it is that helps. We're breaking down the barrier of transportation by delivering the food but to really get people what they want and the quantity of things that they want, takes a lot of work, like communication support. And volunteers can't communicate when they're dropping some people off very well. Usually there's a language barrier there and the food access coordinator can't reach out directly so anytime there's a question it has to come through us (Healthcare Service Provider)

For some individuals, what the prescribed benefit is–especially for the Commodity Supplemental Food Program, which is a federal nutrition program–people aren't interested in it. It's a box of monthly shelf stable foods. And people are not as interested in shelf stable foods as they are in fresh produce or minimally processed foods or fully prepared food. None of these programs that we manage meet everyone's entire nutrition needs, and the populations we serve have limited incomes. And we understand that the dose that we're providing in either prepared meals for Meals on Wheels, or through a CSA through the Seniors Farmers Market Nutrition Program is really just a drop in the bucket for what people need to prevent disease, to say nothing about helping them manage chronic disease. So many older adults are living with multiple chronic conditions of which many can be impacted by nutrition. And what we're able to provide isn't enough (Service Provider)

Also, people not having the cooking or food prep literacy skills to be able to perhaps do more economical food prep. And with so many people that have chronic disease, mobility or arthritis challenges, it's hard sometimes for people who have the food in their home to be able to stand at a stove, to open a can. So that even when there is food, it can be very challenging for older adults and individuals with disabilities to access what's in that box or in that can. I mean, you think about having arthritis and trying to grasp, you know, to turn something open. And there's lots of assistive technology available to assist people in food prep like that, but it's not widespread and people aren't aware of some of the simple solutions that there are to helping them in the kitchen. But it really comes down to people just not having adequate resources (Service Provider)

I do think that the Everyone Eats program has helped a lot just with prepared meals, you know, that people can pick up and throw it in the microwave, or not even heat and just eat. That seems to be really important, especially for homelessness because most of those folks don't have a reliable kitchen, or, you know, a reliable living situation (Service Provider)

So a lot of Vermonters that I've interacted with grow some portion of their food, fish or forage or hunt some portion of their food, but because we can only grow things for so much of the year here, that access to food is really different in say July than it is in February or March. I would also say that Vermonters with access to land have much better access to food and also Vermonters of color generally are not able to access land or food in the way that white Vermonters are (Farmer)

i) Lack of Resource Awareness & Usability

> It's been really tricky for us to use 3 Squares Vermont to participate. That system is really hard for, or they've made it hard, for us to be able to just swipe our own EBT and like, have people use it for our online market. So that's been a barrier that's just been really frustrating, because we keep trying, and it's not at a point where it's user friendly to have people purchase our vegetables, which are grown locally, using their EBT card (Service Provider)

> For food assistance programs, generally you have to understand how to navigate bureaucracy in order to get access to that assistance. So part of why our program is very successful here at the Intervale is that we don't ask people for proof of income. We don't ask for social security numbers. We don't do screenings, we just let people sign up (Farmer)

> People may be hesitant to apply for assistance because they've never had it before, they've never needed it before, they might not know about it, they might not realize they're eligible. So there's sort of like this combination of people might be unemployed or underemployed, suddenly they can't afford food anymore and don't know what to do because they're not of that population that typically might be applying for food assistance. Right. So I think that there's a little disconnect because people are just the whole game has shifted since COVID, and this aftermath that we're still experiencing (Healthcare Stakeholder)

> What we hear from partners is, you know, there might be a general store in our local community that doesn't accept 3 Squares Vermont because the SNAP authorization process is so complicated. So those folks are having to drive you know, 40 miles or something to the nearest grocery store that accepts this, you know, benefit which you know, they rely on for their entire, you know, grocery bill. I think that is inherently a transportation issue, but it's also like a policy issue. So, simplifying the SNAP authorization process for local you know, general stores, mom and pop stores, those are like the food access points for a lot of town (Service Provider)

VI. Findings & Analysis

Barriers

The comments made by key informants affirmed many of the findings that research studies had revealed in the earlier part of our review. Our interviewees added considerable nuance and Vermont-specificity to the barriers we had expected to find – the rural nature of the built and natural environment of the state, access to personal transportation (defined mostly by key informants as car dependency), inadequate public transportation, the supply chain of culturally appropriate food (defined by key informants as both cultural appropriateness and the ability to grow food) and stigma. To these challenges, our respondents added several others.

The cost of food and transportation were barriers consistently mentioned in interviews. Though it might seem obvious, affordability appears to be an increasingly challenging barrier for Vermonters to navigate. Although "cost" is often a shorthand for affordability, navigating a constrained budget is more complicated than the cost of a particular item or services. Health care practices, for example, often work with patients to develop strategies for managing treatment plans on a constrained

budget, whether that is reviewing the range of treatment options for a condition, introducing subsidy or savings programs, or referring to community resources that can support particular health goals (such medically tailored foods). Care coordinators help navigate affordability for health-related social needs, including how to manage different (often complex and time consuming) benefit application processes, connecting to financial management resources, and thinking through effective resource access strategies that meet a particular patient's current life circumstances. Comments received during our interview process reflected this complexity – balancing food access across a range of other needs is tricky at the best of times.

The housing crisis – more specifically the availability of affordable housing for families, stable housing for those in/at various levels of need, and the food insecurity impacts of those suffering from or threatened by house-lessness – was also raised by interviewees. Some of the issues they brought up – the difficulty of providing food via delivery to those without a fixed address, or the inability of finding a common food access point to clients whose location itself was not constant complicates some of the categories of 'solutions' we have identified in this document.

At an institutional level, numerous respondents also talked about reduced capacities at their respective organizations. Many food shelves and home delivery food programs depend on a shrinking pool of volunteers. Transportation and food access stakeholders indicated that food access sites and distribution efforts have had to cut back due to a lack of staffing and volunteer support. Changing hours and availability poses a challenge for care coordinators and service providers to provide quality referrals to patients seeking food access support.

Finally, a number of interviewees indicated that they had difficulty in finding and understanding the food access tools and organizations that are currently available. People who would benefit from food assistance programs may not enroll because they do not know about them or feel that the application process is burdensome. In some cases, programs available to stores to increase food access go unused because they are complicated for stand-alone businesses to install. Interviewees pointed specifically to businesses forgoing setting up Electronic Benefits Transfer (EBT) payment systems because the process was too complicated.

Opportunities

Before turning to solutions to transportation barriers suggested by our respondents, we want to take a moment to mention the potential that crisis situations can sometimes provide in thinking about new possibilities. This was a theme that came up repeatedly during our interviews, specifically with regard to the ways in which the COVID-19 pandemic shifted, transformed, broke and reimagined structures and systems – sometimes for the worse and occasionally for the better. Several interviewees mentioned these changes and suggested that we needed to at least learn from them, if not adopt some of the new normal as a pathway forward.

> We saw in COVID, with the farmers to family boxes, that with a lot of coordination, it's possible to move local, to get local food in the system. And so, how we can build on that and create a system that can do more of that, I think is a really important question (Service Provider)

> There was a much more localized distribution network: schools, communities, general stores, you know, that's how we've been really getting the Everyone Eats food out. And just the issue of prepared meals, realizing that to give people a bag of food doesn't really always work for people who are unhoused, or unable to cook for whatever reason, you know, those are two really important, I guess, learnings for me and us. The impact of prepared meals and the need to decentralize distribution points, and to the point of taking it door to door whenever needed and possible. And we created awareness and networks through this COVID pandemic that we shouldn't lose sight of (Service Provider)

I am seeing a lot of really localized movements around food security within the town setting. So whether it be some sort of Council coming together or like a really local organization working with people right within their community to provide food. And I think that's a really great way to, like, address some of those barriers of transportation or just, yeah, just, you know, working with people that they might already know, from being neighbors (Service Provider)

And, you know, we kind of got a glimpse of what happened during the pandemic. What can happen when events disrupt the food system? And I think Vermont because of the awareness and community and other things, I think we fared relatively well. Because lots of local groups were able to organize and get food to people and we do have those outlets out in rural areas that people can go to. And in urban areas too. I think that while we certainly have food desert issues, I don't think...We have to keep it in perspective. There's room for improvement, but it's also not as bad as other places (Transportation Stakeholder)

The way locals have stepped up to get food to folks that Everyone Eats program is great. And other things like that. That's been that was one of the benefits I guess of the pandemic is we showed that when it's a budgetary priority, we can pretty much feed everybody who needs food (Transportation Stakeholder)

And the Food Bank is just fantastic. I mean, they provide, they have grants, that technical assistance, some of our commodities come through them and little to no cost so that's, you know, we we, we couldn't, it became very clear after a year well, it was very successful. We needed that network. We needed that connection to our neighbors and to the state program. So it's a web. There's a web of, of technical assistance, and you name it. It's an effort statewide that's interconnected (Transportation Stakeholder)

Veggie VanGo is an amazing thing that's happening. We have talked with different people about the idea of bringing it to more locations. So I don't know if that's something that you know, the food bank would be willing to do. But hopefully in the near future we could get one that's closer than 45 minutes away from Island Pond (Healthcare Provider)

Veggie VanGo definitely [is working well], but that's only once a month. The Health Care Shares too, but there's not too many of those that we're doing (Healthcare Provider)

The Health Care Shares help to give people produce, you know, vegetables. So that's a good thing. We also have, they're in the office here, we also have what we call green bags. But there's like pasta, peanut butter, crackers, Ritz crackers, beans I think. And if somebody comes into the clinic and says, you know, I don't have enough to eat, or give them a green bag or even two green bags. So at least it's something for them to have for food. I think there might be canned tuna in there too. I haven't looked in the bag in a long time. And so we get those out to anybody (Healthcare Provider)

I think there's a lot, like those localized efforts that I mentioned, there's just a lot of great examples of communities coming together to do what they need for themselves. One project that we're working with in the Burlington area is the People's Farmstand, which they're working with farms around the state and a farmer at Pine Island Community Farm to source produce that they then redistribute for free in a couple areas in Burlington, one being the South Meadows apartment complex, which houses a lot of immigrant families. And so they're sourcing from I believe a Rwandan farmer who does a lot of produce that is not grown by US farmers typically. And it's really appreciated by the folks that are able to access it because it's not necessarily seen in many other places. And so that's, I think, a really great example of like individual people seeing a need in communities and then working with farmers to bring the food to the people that want it for free. And we're able to provide some funding for them to pay the farm. So yeah, I think that and like other small scale projects working within towns have been successful as far as I've seen (Service Provider)

A big part of it is, you know, bear with me for a second but you know, 'fiscal' planning policy in the state, which is really good, because the emphasis on compact is literally state policy to have compact settlements surrounded by rural countryside. I don't know what other kind of countryside you have, but we're in Vermont we've got rural countryside as the urban countryside (Transportation Stakeholder)

But one thing that I think is remarkable about Vermont is for all the challenges we have, we also still have a remarkable number of like village markets, country stores, and other things like that, that still sell fresh produce, fresh meats, vegetables, fruit, and other things (Transportation Stakeholder)

You know, we're not in a place like out west where there are huge tracts of land, which have been largely turned into monoculture based farms that said, we do have 90% of Vermont's ag land in commodity corn, which isn't a positive thing, and I think a lot of people would agree on that. Just in terms of diversification, etc. and vulnerability. But we also have some really, you know, we have some of the highest per capita number of small farms and micro businesses of different sorts around the food system. And we have the traditions like itinerant slaughters and on farms slaughter and so like I bring this up in the context of food security because I think there are some unique aspects of culture in Vermont or some people's culture in Vermont depending on where you are, which enables really localized ability for people to meet their own food needs and our communities food needs. Although it may or may not be legal part of the time (Service Provider & Farmer)

Solutions

Of course a significant question remains how much of a model the changes created by the COVID-19 pandemic may remain, especially absent the massive amounts of federal, state, local and philanthropic funding that became suddenly available during the last three years. What then might key informants and others in the Vermont food system suggest we think about in addressing the longstanding and entrenched transportation barriers to food access in the state? As one interviewee states:

My worry is that we have a lot of fun, creative, community based solutions, which are filling the gaps. But where are the solutions that create true system change? You know, that provide dignity (Service Provider)

Many of the solutions that interviewees mention, fall into the categories we have previously identified.

Bringing People to Food

In the Barre area, some of the grocery stores, I think it's Hannaford, actually, that's the only one I've heard... Some of the grocery stores will actually pay for GMTA to go to one of the, you know could be Quarry Hill, it could be Barre housing on Washington Street, then they'll have certain days and what they do is they pick up residents from those areas, those housing projects, those housing units, and they will take them to the grocery store and they'll pick them up and they'll take them back to to their location (Healthcare Provider)

If you're going to have a better system for electric vehicles, which is what we need to have, then they need to operate in a way that can be accessed by all and have some equity in the system. So it doesn't just end up being like those of us who can afford an electric vehicle right away are early adopters (Transportation Stakeholder)

It's figuring out who's in need and making sure that they have access to the food. So we have a big emphasis on deliveries to homes. In a rural setting, this is critical because everyone's spread out and including people who are low income. They have other challenges, less access to transportation, so we need to deliver the food to them. They don't have time to come get it. They're too busy working, they've got kids attending, they're taking care of elders, it's you know, there's just no time to get to the distribution site. And also what I started to say is that they, for whatever reason, don't want to be seen or to acknowledge this need and so if we can just deliver it to their house, it becomes more anonymous (Service Provider)

So for rural Vermonters, we can't run fixed routes or demand response everywhere. So it really turns into a community conversation about access. And so one thing that is we've been trying to start a pilot and get people interested in the idea of having a community you know, group that would provide trips, not through the transit agency, but really where the community would come in with certain days of the week that community members could share a ride to shopping, or you know, or whatever they're up to, and provide that trip to other people in the community that needed it (Transportation Stakeholder)

I think volunteer drivers and rides really work when you've got volunteers in cars that are willing to do it, you know, in places where that's well coordinated. And that requires an entity for that coordination piece. I think that some of the small– like in Montpelier, they've got a really good circulator bus system, and they've worked on that micro transit model of on demand rides. I would say those two models, I think reaching people in rural areas needs additional work for sure. And, you know, I'll just go on a little bit, you know, and you can you can think, well, if somebody lives way out, well, we'll, we'll get a ride today and we'll do all these errands at the same time. Well, that can be really exhausting. It's like, oh, you know, you're gonna go to the doctor today, you're gonna go to the grocery store today, you're gonna get your hair done today. You know, that's a lot to do. So as nice as it is to think, oh, let's conserve energy and just do one trip, it's just a lot to think about getting everything done on one trip in (Service Provider)

Because we're such a rural state, and it's not really reasonable to have elaborate bus systems everywhere, then maybe there needs to be more sort of sliding scale car shares happening. Because the state I feel like we're a small state and so we can pilot these things and be really creative and I just feel like there's a way to do that (Healthcare Provider)

The other big project that we are initiating relates specifically to transportation. We have just started a new nonprofit organization to create essentially an Uber type system with all electric vehicles, so that we are addressing our climate emergency as well, to provide essential trips throughout our mostly Washington County area. So that's something we're developing now...Well, we are starting with, we are integrated with the public transportation system, unlike Uber and Lyft, who are kind of disrupting that system, we want to build off of it. So we are about to partner with Green Mountain Transit to provide trips for elderly and disabled and people in recovery, which is already fed federally funded rides that they need help providing. But our vision is to extend to get support from the large employers who are having a very hard time getting employees in large part because of lack of transportation. So we're hoping to partner with large employers and with our Central Vermont hospital, and to then also be able to provide trips for meals, for health care for childcare, and shopping. So all of those kinds of trips are what we're envisioning, in addition to having people who do have enough money to own a car to be able to have access to rides for pay, that would help them not have to have two cars (Service Provider)

The whole lack of transportation, access to food and healthcare is why I'm so charged up on starting this new kind of community based, all electric ride hailing service, because I feel like, man, we have the technology, it works for Uber. And we know what we can afford to do with state and federal resources for public transportation within the guidelines and the rules that exist. There's just a gap. And it is about food. But it's about a lot of other things. But that's why we're trying to think about new ways to fill that gap, using technology, and innovation (Service Provider)

You know, some of the more on demand ride programs where people don't need to book a ride in advance, it's more on demand, more micro systems for transportation, and then just increasing funding for the existing services. Exploration of the use of technology, especially for that on demand rider need (Service Provider)

Bringing Food to Places People Already Visit

I very much envision a future where every town has public space dedicated to growing food for its residents. And that's what we try to be so you know, the garden is on land that's owned by the town. And because it's public land, it's town land, we believe that you know, food and medicine we grow a lot of medicinal herbs. So we believe food and medicine are human rights. And so it just makes sense to use public land to provide that human right (Farmer)

I think another piece of that is community refrigeration, because the free pantries are great and I think have contributed to food access and accessibility. And the Little Free Pantries that are accompanied by Little Free Fridges are huge because I think a lot of people don't have capacity to store food. Like if you are staying in a hotel, you don't really have access to a fridge. And so being able to go to a community fridge and get food that doesn't keep unless it's refrigerated has also been really impactful...So I think bringing some of the food infrastructure that farms and grocery stores and food access programs have access to into communities to basically remove the transportation barrier and almost entirely would be huge (Farmer)

So Vermont still has a remarkable amount of infrastructure still in place. The question is, if people have the ability to get there, and so one of the things that I've suggested is, when it comes to reaching out to people about making them aware of food availability, or actually providing food is maybe going into places where people tend to be going anyway, like, this is really difficult to do but but like at post offices, some people make a make an effort to go there at least once a week, you probably can't send something like that up on a post office property because of federal rules. But is there like a place somewhere nearby or adjacent to it? So all kinds of logistical issues, you know, the food banks have to contend with. And having to schlep stuff, you know, yet again, because the chances of you having a suitable building or site is small. But to my mind is trying to get food and also just raise awareness, where people are already going, so they don't have to make yet another additional trip to get it (Transportation Stakeholder)

The only thing I think the state could do is you know, I don't want to discredit Dollar Generals or Dollar Trees or anything like that. But I think if the state could somehow I don't want to say regulate, but encourage these stores to have like fresh produce, fresh fruit and maybe even, maybe, even if it's frozen fruit, frozen vegetables versus the canned vegetables, because in most cases, they packed those cans, both with chemicals and sodium to preserve them (Healthcare Provider)

I know that we have you know, something like Veggie VanGo is good because it goes to rural communities. It shows up at schools and health care locations, so it's places where people are going to go anyway to maybe pick up kids to get healthcare needs met. So I definitely think having a mobile model seems to be really useful to people (Healthcare Stakeholder)

Veggie VanGo, where it's kind of connecting, you know, people are already at their doctor's office, you know, then they're not having to do like a multiple, try to figure out how to get food separately. You know, kind of they are there already that maybe helps take some burden off folks. I think there's some promise to that (Service Provider)

I think at a small scale, there's like the Mobile Farmers Market, there's Veggie VanGo, that kind of brings food to places. And then the workplace as an access point for food is also another strategy that I've seen some employers utilizing, you know, to address food access. So especially during COVID when they have the [Everyone Eats meals]. So a lot of employers in Vermont, you know, became sites for that so their employees could grab food there. So then, you know, people don't have to worry about getting to work and also getting to food. It's all there at once, it takes one less trip off. So a lot of employers are doing, you know, at different levels, different types of initiatives, some have, you know, their CSA drop off sites is fairly common. Some will subsidize the CSAs to help make it more affordable (Healthcare Stakeholder)

One of the policies that we really advocated for and wrote several letters for was the Universal Meals for kids program. And I would say that would be huge. You know, that's, I think getting food into the hands of kids where they are, is much easier than asking families to make one more step (Service Provider)

Bringing Food to People

Going back to this idea of bringing services to individuals. So starting, we've done a few things so we know– for a long time we've done Huertas, which is a kitchen garden project, trying to help people have access to the types and quantities of produce, vegetables and herbs that they want to grow so they can access it when they want in their backyard. So we kind of help facilitate that. And that's been happening for over a decade. And then in 2020 with the pandemic, there was a you know, an increased focus on food access. And so we partnered with Everyone Eats and did fresh meal deliveries. We partnered, now my timeline is going to fail me probably, we partnered with the Vermont Food Bank in the NEK in 2021 to do CSA shares and so that was you know, us coordinating volunteers and with households and then providing, covering the cost of CSA shares (Healthcare Provider)

In terms of transportation, there's a few different ways we address that. Some of it really is connected to doing outreach at people's homes, at people's place of business, so going to where they are versus expecting that for any services, they would be coming to us. So that's one direct way that we address it (Healthcare Provider)

I think that we need to be able to expand meal delivery. I think folks who are probably, you know, the folks who have the highest need are these isolated older folks or or young families you know, parents who are who are at home with young children and so, I mean, I think that's what--it seems like we don't have enough ways to get stuff out to people (Healthcare Provider)

Three vehicles that were supported somehow or subsidized by the state and they could use them to deliver and they were part of the electric grid. That would be amazing (Healthcare Provider)

...a lot of what people ask for is delivery meals and food (Service Provider)

More, I mean, delivery services of food, local food, [I'm] not really sure what that would look like (Service Provider)

We could do Instacart for the food shelf (Farmer)

We do a lot of home drop offs, and we have a lot of volunteers that are doing home drop offs, and I think that's really important. That can be a little bit taxing, for sure. But it's, that's how we're getting food to people, or else they're not getting the food (Service Provider)

Yeah, I think I think it's like having a tiered approach so for those people who may not be able to cook, maybe they're older adults, maybe they don't have the energy. Maybe they're going through cancer treatment. Maybe they're homeless, like for those folks to have a program where they are getting local food that's being made for them. Right, and then the next tier up is like, maybe a meal kit. So we're actually piloting a meal kit this fall where the vegetables will be already cut up but it'll be like, minimal prep, and have the recipe right there in front of you. Yeah, so that could be really helpful for you know, an older adult who's still able to cook and wants to cook for themselves and wants access to local food, but you know, is, would have trouble like cutting up a whole entire butternut squash. I mean, because I think everybody has trouble cutting up a whole entire butternut squash. Yeah, I know like I like almost have like impaled myself with a knife trying to kind of squash before so, you know, like so having programs where that is an option and then up to, you know, other CSA programs where people have a lot of a lot more time on their hands, they are able to like really cook with their vegetables, they know what they're doing, and they're just getting vegetables that are like plucked straight out of the ground, right? So it's like having it's just making it accessible for all different levels, all different like economic classes (Service Provider)

A number of our interviewees also spoke about the specific healthcare-related ramifications of transportation barriers to food access, mirroring the findings in the relevant research we reviewed.

Food Access & Healthcare

If you think of food as kind of vital to someone's health, then it's kind of within this realm of access to health and health related services. It seems like there should be transportation options, regardless of whether it's a medical appointment or whether it's to pick up food at a food shelf or go to the grocery store. I don't know how successful it has been and again, it creates a lot of kind of communication needs. But you know, the many individuals who are on Medicaid, as long as there's enough time, can set up or should be able to set up transportation through the different transportation companies that that are that are have contracts. So like if we have someone who's enrolled in Medicaid, which tends to be our kiddos, and there's enough time, you know, there's enough lead time to be able to call and then coordinate like the pickup time and drop off time, then that person can get a ride to their doctor's appointment. Seems like that should also exist for being able to access food, because there's such a direct connection to health and health outcomes based on people having access to a variety of nutritious food, or any food, caloric intake. And it does seem like you know, food shelves increasingly have a pretty large variety, they have access to fresh fruits and vegetables. There are more and more gleaning programs that are partnering with food shelves again, that helps support access to not just dry goods, but fresh vegetables and fruit and herbs. So it seems like potentially there could and that Medicaid ride. My understanding is that Medicaid ride is set up where it's volunteers, they get reimbursed for their mileage, but it's volunteer. So it seems like there could be a similar model for food access, but it would need to expand to serve migrant workers beyond whether or not someone has a Medicaid card to cover that cost. So that I mean, that's I guess the one thought that I have, and then continuing to do projects that we're engaged in which is, you know, more direct deliveries and trying to tailor what people receive to what they actually want (Healthcare Service Provider)

We have food resource interventions that we can provide to patients who screen positive for food insecurity. That might mean helping them complete an application to 3 Squares Vermont. It might be connecting them to community based organizations such as the local food shelf, NOTCH created a directory. It's also a desk aid for community health team care coordinators, that contains all the regional food access sites and area programs where folks can get food and grab and go meals (Healthcare Provider)

We run what we call a bundle bag program but one of our, one of Northern Counties' other sites has a food shelf within it, and that's the Concord Health Center. So we package together actual bags full of non-perishable foods and our other health and dental centers utilize those bags to give out to any patient who's in need or just any in general anyone who comes into the health center looking for food. It's kind of like a no questions asked deal. But you know, so there are places that people can get food (Healthcare Provider)

I think using health care to inform older adults is a really great idea around transportation, especially since they often access it for medical appointments, as well as reaching out to caregivers to make them aware of what transportation options there are (Service Provider)

If they have Medicaid, what would it cover like a transportation option to get to the like a grocery store to purchase food, since that's so essential to living you know, having access to food (Healthcare Stakeholder)

I think there's a lot of healthcare based initiatives that seem to have a lot of promise. The CSA type health care shares programs that are being run, some more formally or informally (Healthcare Stakeholder)

And we understand that the dose that we're providing in either prepared meals for Meals on Wheels, or through a CSA through the senior Farmers Market Nutrition Program, is really just a drop in the bucket for what people need to prevent disease to say nothing about helping them manage chronic disease. So many older adults are living with multiple chronic conditions of which many can be impacted by nutrition. And what we're able to provide isn't enough (Service Provider)

One of the things that we're also working with some of our federally qualified health centers to advance is thinking about food as medicine, and how do we actually look at our healthcare system and access to nutritious food as not just something that everyone needs and deserves, but that actually can improve health. I can just report a story of someone who comes to our Capstone Morrisville office for our Everyone Eats food and this young person was anorexic. And she really has her health has dramatically improved, because of now receiving on a regular basis, nutritious food that she enjoyed. And so we've seen so many things just by, you know, being a place where people can get to and people trust that they won't be stigmatized for receiving the food
(Service Provider)

I think you'd have less readmissions [if food prescription programs were widely utilized]. I think you'd have better outcomes in health care when people are having good nutritious food that boom you pop it in the microwave. You can eat the meal, throw the container out versus trying to cook something with like a joint replacement or somebody who has your arm in a sling and here I am trying to just trying to cook or chop things...It could really be a health benefit. I think we'd save money on medicines, on doctor's visits, on hospitalizations, on amputations, on all this other stuff (Healthcare Provider)

I do think that there's some promising steps happening in terms of wrapping some of this work more into the healthcare system. I think we have a ways to go but I think it's, you know, at least the conversation is happening. So I think that's one in terms of integration with the healthcare system and the produce prescription programs and Veggie VanGo and things like that that are more based in healthcare and then the other piece that's really exciting is the passage of the Universal School Meals. I think that was a huge victory and is really, really supportive for children and their families in the public school system, so I think that is a really big step (Healthcare Stakeholder)

So we do have some screening questions that do relate to food insecurity and we've refined our process so that there are other questions as well. But if people answer a certain way, it kind of gets red flags and all of those go to [our care coordinator] to look at so then if that is an issue, she will follow up with a phone call...Or you know they get a letter and [a list] of local food resources and then you know, the letter explains that I can help them find you know, better access to food or resources like 3 Squares (Healthcare Provider)

I think those programs that are including buy-in from your doctor, support to the person to get education about nutrition, understand why their eating habits need to change, providing them access and an influx of fresher, healthier food...I think those programs that are going at the intersectionality of of challenges that people face are where there seems to be real progress happening (Healthcare Stakeholder)

Community Health Workers & Community Care Coordinators

> Having [Name Redacted] as a Community Resource Coordinator embedded in primary care has been huge...So I think just having a care coordinator or social worker embedded in primary care has been the blueprint you've probably familiar with– that has been huge. Absolutely huge. So that initiative has really come into play and that whole concept of a care team, you know, team based care, which is what blueprints in medical homes are built on. That initiative has been extremely successful. Otherwise, people would not know that there's somebody that they can talk to to help with their insurance to give them access to more support services (Healthcare Provider)

> The Medical Home Model initiative has been extremely successful, and our patients are better for it and so are their outcomes, quite honestly (Healthcare Provider)

> Having a reliable and sustainably funded position that worked on you know, primarily with folks who are more vulnerable to get food to them [would be helpful] (Service Provider)

> Transportation is one of those conversations that we're having right now. So similar to food access, we're working on a transportation guide that will be made available, it's a desk aid to community health workers or care coordinators (Healthcare Provider)

Additional Topics of Note

Interviewees pointed to six additional avenues for addressing transportation barriers to food access. These are: collaboration, education, addressing related barriers to food access, implementing state-level policies, increasing funding, and decentralizing.

Collaboration

> I think there's some coordination still to be done in state governments, between departments. You know, the Department of Education, Children and Families, Agency of Ag., Health Departments, like they're definitely where you see coordination happening. It's really helpful and where it's not happening, it's really difficult. So I think there is some room for improvement there (Service Provider)

> The biggest thing that has helped us be able to reach more people in these areas is working with other community partners. It's like you have to create a tree and like branches and branch off so that there's so many different connection points so that people can access the food because if we were just a food hub in Rutland, and we only worked out of Rutland, and we only had you know local food going out of our door, and like not working with other community partners, we would, you know, we would definitely not reach as many people as we do now. So yeah, I think that's kind of what you have to do in Vermont is you have to like make a bunch of connections, and just have a web going out from central nodes. And that's going to make a larger impact (Service Provider)

I think our challenge here is that if we're not going to be able to increase the economic investment into food security, then we have to figure out other ways. What I will tell you is that in the two and a half years that I've been in the state that I haven't seen in other states, much larger is a, I was going to say a willingness, but it's really not a willingness. I'd say it's part of our DNA here in Vermont is collaboration and figuring out how it happens and people taking a step, 'outside of their swim lanes' say even though we don't do this, Hey, wait a minute, right? Is there a need to have a van here so right, if you can get somebody to drive it and make that delivery out to point A, you can use our van type of scenario. So we have a lot of that going for us. And I think that will probably be our success in addressing [food insecurity] (Healthcare Provider)

So you know, if you're a program that doesn't have a ton of capacity, but like partnering with other programs who have sort of the same mission, right like, that seems really important to do (Service Provider)

Being able to use EBT for the purchase of vegetables, being able to work with United Way or other community organizations to purchase food for the homeless population, I think you have to look at every need and then design programs around that (Service Provider)

Education

You know, we did tremendous work over the pandemic at our schools. And if we can continue to fund our schools to do the level of meal preparation and distribution that they did– that's probably the most fundamental thing we can do. We do that at our Head Start. Our kiddos receive two nutritious meals, breakfast and lunch as well as a snack. And we know that those are the most important meals of their day. We also are educating parents on meals and preparation of nutritious meals. So there's a lot of food education in our education program our childcare, so our head starts our schools that I think that has a tremendously positive impact if we could keep that going and enhance that work (Service Provider)

Addressing Related Barriers to Food Access

There are a million things we could do to increase access to the charitable food system, right? Like we can promote it better. Yeah, educate flyers and stuff. I don't think any of that is really going to eradicate food insecurity because unless people have the other basic needs met (Service Provider)

These are the three problems. You know, it's like all of these complexities around our housing system, our childcare system, our food system, and our transportation system are just intricately involved and then at the root of all of that, or not even the root but just kind of these broader foundational impacting issues like climate change. You know, racial inequity, are just huge, huge issues that contribute so significantly to some of the things that I've just already named (Healthcare Stakeholder)

The best thing the towns can do, honestly, is try to include infrastructure in the plans that really make compact settlement possible...Because like right now, in our region, and most of the state, like a lot of our villages don't have water or wastewater, which may not seem like a big deal. But not only does it make it difficult to retain the houses and businesses you have, and even to do things like expand the existing country store, to where they can, you know, offer more services or prepare food differently, or allow people to eat on premises. But it also critically precludes the development of affordable housing at scale.... But the issue is that's just really not town governance bailiwick. They're really good at developing budgets and implementing budgets. And they're all volunteers. And they're not designed to take on every issue. So planning, to my mind, the biggest thing that they can do is really work on the infrastructure and just try to really encourage development to go into these compact settlement patterns (Transportation Stakeholder)

So we need to find that sweet spot somewhere in between, you know, the, you know, how do we couple the actions of the policies-- what we say we want to have happen with the infrastructure to actually make that possible. And so I mean, I'm not sure about food, access to infrastructure. But I mean that's critical to making transit work that's critical to making ride sharing work. It's critical to even frankly, even keep our stores and restaurants and even helping our local farms continue to make it (Transportation Stakeholder)

State Level Policy

But at the state level, I'd say really prioritize making making it easier for towns to do more of the infrastructure investment work (Transportation Stakeholder)

I think livable wage work is really where the focus needs to be (Healthcare Stakeholder)

We had a system to distribute food boxes, which, you know, was incredibly important. Yet, it wasn't recognizing how many people couldn't access those boxes because of lack of transportation. I don't think our transportation system, especially our public transportation system, is thinking about folks who don't have food. It isn't at all set up to help someone go shopping. Other than for elderly, and people with disabilities, but essentially, our federal government and state government recognizes the vulnerability of elders and people with disabilities, but not people in poverty, who actually many of whom are children who lack that access. So that kind of is a policy matter that I don't think has ever been focused on. And I think that's part of the gap that we're trying to fill with our new our new Uber idea our 'rural Ruber', rural Uber (Service Provider)

You know if the state would be able to chip in to hire more Instacart people. You know one, you'd be able to employ people, two, you'd be able to provide a service to people so that people could get those Instacart (Healthcare Provider)

You know, really have the state well, have the state identify where those food deserts are. And then have the state advertise to say if you go into this area and build a grocery store, we will give you this tax break. You're gonna have benefits to our citizens by having your grocery store there. So I think just incentivizing grocery stores to do that, I think would be a big boon because then you would decrease your food deserts and then you'd have people who you can partner with local farms, to be able to say okay, you know, if you take food from this farm, whether it be beef or chicken or produce, one, you're increasing your farm ability in Vermont. So that's a good benefit versus trying to ship for transport from out of state (Healthcare Provider)

On the state level...I mean, I think just generally, policies that support organic farmers and farmers practicing with organic methods and supporting local food through schools and institutions, grocery stores, all those things. It's hard to say because I feel like there's so much on the federal level that limits state policy. Also, so one thing that I've really enjoyed over the past couple of years is the Farm to Plate, I mean, a lot of what Farm to Plate produces what they do, but they a couple of years ago, I think, put out like a guide for towns to plan around food security and has a lot of suggestions for policies and ordinances to support food access within town. And I think like that's a great thing for towns to look at and incorporate into their town plans to think about how food access food is set up and how it's accessed in their accounts (Service Provider)

Well I would like to see the prices of junk food be very high and the price of healthy food be either very low cost or almost like no cost. So I would love it if like fruits and veggies in grocery stores like anybody could just basically have them and then sugar sweetened cereals and sodas and a lot of like sort of junk food is very expensive so that you really shift what people, what is really accessible in terms of cost. So, you know, there's ideas of sugar taxes, you know, maybe that's something to consider. I've heard that that is actually working pretty well in Mexico in terms of helping people drink more water now and losing weight since they've really increased the price of sugary sodas (Healthcare Stakeholder)

Having a multi pronged approach to addressing, you know, hunger now, versus more long term Food security is really important. So that multi-tiered, you know, support from charitable food networks and whatnot are vital, but in terms of addressing kind of the root causes, federal nutrition programs like school meal programs, 3 Squares Vermont, you know WIC, those are, those are essential (Service Provider)

Increasing Funding

So we put it (CarShare Vermont) where more people would use it. And that's tricky. That's like a tough decision, because we know that there are plenty of Vermonters, we hear from them all the time, that would love access to our service, but there's currently no source of funding to support carsharing in Vermont. So we're working on that at the legislative level. We'd love to be able to tap into some federal grant dollars and state dollars, similar to how you can support, you know, bike paths and pedestrian ways and public transportation. We'd love just a little bit of that to help support carsharing and other communities (Transportation Stakeholder)

But I think you know, broader funding is probably a big step to increasing our public transportation system. I think there's a lot of room for growth in our public transportation system that could really help. And the reason I'm kind of honing in on public transportation and I don't mostly mean like giant buses, like it could be smaller scale type, you know, public transit, or, you know, single vehicle like Uber type things like supporting the infrastructure to help those reach more rural areas. Because I feel like that also has potential to impact a lot of other positive things like climate, and like reducing our dependence on cars and vehicles, generally, and also like it could help people get to work and things like that. Not just food access, but I think so for me, I think transportation is a really important piece and I think there just needs to be an increased focus outside of urban centers (Healthcare Stakeholder)

You know, it's not simple, there's not a simple policy fix, I think we need to continue a significant investment in our VHCB Vermont Housing Conservation Board. That's helping us to build housing. And I think a policy that we've been able to fund during the pandemic period, but I suspect not well beyond it is what we currently see is we have for organizations like Capstone that provide services to the people so that they can actually get a voucher to live in a place with social services support, because many of these folks have never really had the opportunity to live in a way that is respectful and safe for the landlords and other tenants. So there's a lot of supports and services that go along with helping people be successful. And those could have a policy implication that we haven't necessarily focused on enough in the past (Service Provider)

A gas voucher program or something where, if you're under a certain income bracket you get some gas money to go and purchase your vegetables. I would say more money going to nonprofits to boost up their volunteer drivers. You know, if we had even more money flow coming in that was specifically designated for transportation for nonprofits, like that would be really helpful for us. Whether it's us paying for gas money for our vehicle, or it's reimbursing volunteers who are driving out to all these rural communities or the purchase of a vehicle like any money that's yeah, specifically designated to nonprofits for their transportation would be helpful. Because it's a lot to figure out on our own (Service Provider)

There needs to be better communication around, you know, what public transportation exists in Vermont, and make that easily accessible to everyone in our state regardless if they read or speak English. And I think just seeing through the Inflation Reduction Act the like, really big subsidies to support folks accessing electric vehicles and electric bikes, I think that that will go a long way too, and still, those are subsidy programs that are out of reach for a lot of folks. So recognizing how to make those subsidy programs available to our most low income community members (Service Provider)

I think with increased funding, we could be providing more food to people through our existing models, especially home delivered meals. And we did innovate during COVID. And we plan to continue this grabbing go model of providing older adults with a meal where it's like takeout so that they don't have to go into a congregate setting. That has been incredibly popular, we're reaching people that we didn't reach before, we're going to continue to use that model. And it would be, having additional funding would allow us to expand that model (Service Provider)

Decentralizing

And frankly, we're so reliant on federal funding, at some point, we need to pay for more of this stuff ourselves, for the things that we say we want. And so with just doing whatever federal funding will allow you to do. You know, we may have to tax ourselves more to kind of, and this isn't for, like bells and whistles, you know, this isn't for like, just kind of things would be nice to happen. We don't need...but we actually really need to invest in making the compact settlements possible. And a piece of that which kind of gets the food security because it's going to happen more often as we need to make our communities more climate resilient and adaptive, especially in the face of flooding. And, you know, we kind of got a glimpse of what happened during the pandemic. What can happen when events disrupt the food system? (Transportation Stakeholder)

I would like to see the state of Vermont work to pilot more innovative models to address both food access and transportation. Leveraging what we have to the greatest extent, is a good idea and we should continue to do that. Thinking about 3 Squares Vermont and doing that, but I think that we need to be innovative, and, and help solve the problem. So state funding that supports pilots and supports communities in communities solving some of this rather than it coming from a centralized state model. I think that COVID has shown us that communities can really respond in interesting and unique ways and I'd like to see the state of Vermont foster that sort of solutions based within communities or within distinct service areas. I mean, as much as Vermont's the same, it's different (Service Provider)

Well, I think that there could be some changes in two of the federal programs that my department manages, the Commodity Supplemental Food Program and the senior Farmers Market Nutrition Program. The Commodity Supplemental Food Program is a program where we're using agricultural surplus commodities or commodities, really from Big Ag. And I think it would be I think we could develop our own model and use Vermont products and provide a monthly food box of Vermont based foods that people would be more interested in getting. And then if they're more interested in getting it, you know, we could have a higher caseload there. So that's really on the federal level. Vermont's not the only state that's thought about that. Other states have thought about that. I'd like to see the benefit value for the senior Farmers Market Nutrition Program go up. That is such a win-win program, it puts money into the local economy, into local farmers pockets. It provides older adults with fresh produce. Granted, it's limited in scope, but with more winter markets, I see it being able to help change behavior around increasing fruit and vegetable consumption. If the benefit were greater, I also see it being able to sustain local farmers and you know, ultimately preserve our working landscape. I think wherever federal programming and state program, state programming can hit at multiple players, the better, especially those that help with economy, and nutritional status at the same time, and preserve our working landscape (Service Provider)

Because we know that like it's not the need is not going to go away when the public health emergency is over. And it's not just about the pandemic. It's always been an issue. Food security has always been an issue and I think we want to also focus on long term solutions and provide the community support in ways that we can so that it's redistributing resources and not just relying on an emergency food system style assistance (Service Provider)

My personal opinion is kind of like I said before, moving away from the, I mean, COVID is and was an emergency but I think establishing a food system that is not based on emergency food access, but is based on like, building out a system where people can get food whenever they need it, and it's not sustained by you know...yeah, federal funding, like stuff that they don't want, giving like allowing them the choice to make those choices. And I think decentralizing things, so rather than one organization or one entity figuring out what they think everybody wants to eat. These community led projects, I think, are more successful because they know what is needed in the community and can be defined by the community (Service Provider)

VII. Recommendations: Addressing Transportation Barriers to Accessing a Healthy Diet

What emerges in the research on transportation barriers and food security, is the need to make access a priority since it so clearly impacts peoples' ability to seek care and acquire healthy foods. There is no single, easy solution that can cover the diversity of regions, populations, barriers and need across the country. Instead, what practitioners, researchers and policymakers urge, is attention to approaches that are flexible, replicable and sustainable (ChangeLabSolutions, 2021; Laveta et al. 2015; Rural Health Information Hub, 2022; Bayne et al. 2018; Smith et al. 2017). Solutions to transportation barriers to food access in our study have been organized into three categories:

1) Bringing people to food
2) Bringing food to places people already access
3) Bringing food directly to people

The recommendations below combine our review of existing research studies, food access improvement programs across the country, and the perspectives of key informants within the Vermont food system in order to synthesize a series of recommended steps forward.

1| Bringing People to Food

Solutions that bring people to food directly target access to transportation through the expansion of transportation infrastructure and transit programming. Many Vermonters live relatively far away from grocery stores and food services and rely on individual vehicles or transit systems to travel for food. Yet the lack of a private car or effective (or any) public transportation compound the challenges for food insecure Vermonters (Chen, 2020; McEntee & Agyeman, 2010).

Solutions that tackle transportation access must be tailored to fit both population and place; indeed, as Vermont Farm to Plate has argued, "solutions for improving transportation in Vermont will be inherently local and will need to take into account the mobility of those who need better access to food (2020)." The solutions that the state implements must thus be able to operate at local levels and serve all types of populations at risk for food insecurity living in rural communities. Imagining alternatives to personal vehicles and increased bus routes alone is central for bringing Vermonters closer to food.

> If you think of food, as kind of vital to someone's health, and then it's kind of within this realm of access to health. And health related services. It seems like there should be transportation options, regardless of whether it's a medical appointment or whether it's to pick up food at a food shelf or go to the grocery store
> (healthcare provider)

Nationally, transportation alternatives that function with strong community partnership and collaboration are cited as successful alternatives to mass transit systems that fail to serve rural areas. Some of these include volunteer and rideshare services, transportation service coordination, connector services and mobility management models (Bayne et al, 2018). In Vermont, many interview respondents indicated a need for small scale, on-demand rideshare services. One interviewee called for the refinement and expansion of on-demand public transportation services, akin to what GMT/Montpelier's program 'MyRide' provides. Others suggested that the state implement or expand existing smaller, circulator style public transportation options. Vermont has various alternative transit systems already in place that have proved successful in improving rural transportation to food centers, though based on findings from the literature review as well as interviews with key stakeholders, both the need and opportunity exist to expand the ways in which people can get to food.

Recommendations

- Ensure that trips to the grocery-store can be reliably classified as health-related trips (as allowance and guidance from Medicaid and Medicare has been inconsistent in recent years). Both our interviewees and multiple studies have suggested that the narrowing of the parameters for usage of things like Medicaid bus passes (eliminating or cutting down on trip-chaining, for example) have had an adverse effect on populations of concern (Salzer and Joslin, 2017; Sieck et. al. 2016; Rogers, Jang and Valdez, 2022; Schwarz et.al. 2022).

- Create local assistance food directories. Either town by town or region by region to include what types of food assistance and transportation options exist in the area, what hours of operation are, and how one might go about accessing them. Make them printable and easily shared. Distribute at schools, health offices, country stores and food shelves. This addresses the resource awareness barrier that both scholarly literature and key informants pointed to. One challenge with this approach is in keeping the information current; however, several of the community-based organizations whose work we looked at (e.g. Northeast Kingdom Community Action) were able to update on a seasonal basis both online and in print. For those organizations (such as healthcare providers) for whom maintaining up-to-date information may be more challenging, we recommend working with existing resources directories designed to support multiple resource needs, such as the Vermont 2-1-1 system, to create a strategy for enhancing local resource information and understanding formats / connection points that would be useful to more people. There will be challenges in balancing an interest in detailed and timely local information with a need for highly reliable information, as well as a challenge in how different audiences interact with these directories (for example, an individual searching for themselves vs. a care coordinator working with a patient vs. a policy maker trying to understand resource gaps). Focusing on a pilot that addresses the high priority overlap area of food access and transportation, and beginning in a particular region, could help make this project manageable, while the connection to a broader information infrastructure that covers multiple social needs and all areas of the state can make it scaleable

- Invest in on-demand public transportation options, micro-transit models and rideshare services. This may also include encouraging local carriers to develop a flex-route transportation option, also called deviated fixed-route systems, where buses can leave their regular routes on request. Implementing flex-routes into public bus systems (Green Mountain Transit, Tri-Valley Transit, Rural Community Transportation, Marble Valley Regional Transit, MOOver!, Advnace Transit, Green Mountain Express) would help address the widely cited 'first mile/last mile' connectivity barrier.

- The Vermont Agency of Transportation created Go! Vermont, which is an online trip planning tool to find transit routes, carpools, vanpools, bike routes and walk routes for an individual's specific commute. This tool allows for more efficient travel, however it currently lacks usership and public awareness. We recommend, therefore, investment in promoting Go! Vermont's 'Vermont Trip Planner' tool to increase public awareness and usership. A promotion plan should give special attention to the target populations we include in this report, perhaps including information distribution via doctor's offices, food shelves, and along public transit lines. Furthermore, integrating food access points (such as food pantries, food distribution points and Veggie VanGo pickup sites) and third-party transit resources (such as Tri-Valley Transit, C.I.D.E.R., and CarShare Vermont) would make the tool a more comprehensive and useful resource for ride-seekers. One significant caveat is that technology-based solutions are limited by a number of barriers of their own. These include access to and familiarity with appropriate devices and platforms as well as – especially in rural locations – reliable connectivity and service.

2| Bringing Food to Places People Already Access

Bringing food to places that people are already accessing creates a middle ground while decreasing travel time and increasing efficiency. Throughout the literature, bringing food to public spaces occurred in a variety of methods. Food prescriptions have proved successful programs for supplying at risk populations with fresh produce to help increase health. Local farmers and food producers provide food to programs that distribute them directly at health centers where patients can receive them

during appointments. There are currently more funding opportunities available through the USDA to increase food prescription programs in Vermont.

Mobile food markets are another alternative to bringing food to people in public spaces. The goal is to bring fresh produce to places that people already access to help increase efficiency and accessibility. Food is most often supplied from food banks, farmers and other local providers. VeggieVanGo, a widely popular Vermont Foodbank Program, is free to all. In interviews with key stakeholders, many participants pointed to Veggie VanGo as a successful mobile market model in Vermont.

Other Vermont initiatives have continued to work to bring food to people in common gathering spaces. The Vermont Universal School Meals Act provides all children with two free meals a day for the 2022-2023 school year. The program will gather data to understand if this is a permanent need. Hunger Free Vermont was a key actor in this policy decision. Vermont Everyone Eats was a statewide task force created during the COVID-19 pandemic. While its original purpose included explicitly *not gathering* (while simultaneously keeping keeping food producers and restaurants afloat and people fed), there are elements of the program that might be instructive for the purposes of bringing food to common resources. The goal of Everyone Eats was to "stimulate restaurants, feed Vermonters, and support local farms and food producers (Everyone Eats, 2020)." Vermont Everyone Eats was funded through the federal Coronavirus Aid, Relief and Economic Security Act. The program has worked by funding restaurants and food producers to make food that is then distributed for free to food insecure Vermonters, distributing meals to community gathering centers such as food shelves, worksites, faith-based organizations, schools, libraries, health centers, etc. According to their evaluation report, this system proved effective in decreasing stigma and increasing anonymity, which ultimately resulted in a greater number of households taking advantage of the program. After evaluation of the program after its first year, they found that although effective, there was more needed staff, capacity, and delivery support to sustain the program for longer. Ongoing funding from the state would be necessary to continue the program, but it does demonstrate possibilities for partnerships between small businesses and food access programs. They found that a state effort was necessary, yet the operation worked better at local levels. Thus there may be elements of this model that are worth considering in overcoming several of the barriers noted in this report.

Recommendations

- Expand/invest in food prescription programs. These are increasingly popular interventions nation-wide and include various options including delivery options (as can be seen in MTM programs). Any such programs will need to take into account food access concerns; i.e. the sporadic nature of some health appointments means that focusing on delivery/at-home care must be central to such programs, as an increasing number of food prescription programs have done, especially in rural and tribal areas (Berkowitz et. al. 2019; Florence, 2021)

- Provide a platform for food prescriptions that can combine food sourced from local farmers and more conventional retail locations. This structure would facilitate recipient choice in accessible food access points, allow for a steady volume of food supply across the year, and increase produce options. This would provide a two-way benefit by providing food insecure communities with access to fresh, local healthy foods and farms with a steady stream of CSA-type income. Suggested partnerships to support communication facilitation and outreach here include NOFA-VT, specifically building on their Farm Share program, The Intervale Food Hub, who has experience with sliding scale CSA distribution and connections with small-scale farmers (mainly in Chittenden County), and Rural Vermont, who works closely with farmers and producers across the state.

- Create more food pick-up sites, engaging Veggie VanGo and other mobile food markets. Expanding such programs is key, as is coordinating mobile food markets with school pick-up and drop-off times to increase family participation. One suggestion we heard from interviewees was to add a second Veggie VanGo monthly event to the NEK. Our interview with the Veggie Van Go coordinator did not identify how they chose their locations, however they did speak to the need to have a solid community partner/site coordinator for each even to regularize them.

- Support the development of necessary infrastructure for small business owners who want to accept SNAP but do not have the capacity to process payments. Examples in locations that target populations already access might include general stores that people may visit for products other than food. Additionally, funding a position for a technician who can assist business owners with set-up in person may be helpful. We heard this as a suggestion from multiple interviewees; however, further research needs to be conducted to identify exactly how many stores perceive obstacles to utilizing SNAP/EBT technologies or administration and what the exact infrastructure is needed.

- Utilize existing childcare centers as food distribution points for families. A number of interviewees mentioned the need to expand funding to support child care centers and to think about how to utilize these as a distribution point for food.

3| Delivering Food to People in Their Homes

Delivering food to people in their homes is one of the most accessible options to those who lack transportation (Dillahunt et al., 2019). Interview participants across the state pointed to home deliveries as the most requested service among service recipients, especially older, migrant farmworker, and homebound populations. Meals on Wheels is a national program that has been implemented into various Vermont counties. Meals on Wheels works to serve older Vermonters facing nutrition insecurity and who lack transportation. Meals on Wheels provides food, but also includes home checks and social visits for folks who may not have much interaction in their week (Lloyd, 2017). Our interviewees did not speak directly to the other types of at-home services (e.g. visiting nurses, telemedicine, hospital-at-home programs, SASH, Choices for Care, Home- and Community-based service provders and MTMs), though such programs and options are increasingly popular nationally and certainly raised by relevant research studies. Our interviews with people experiencing hunger and food access barriers may reveal more of the role played by such options in overcoming challenges.

Meals on Wheels is in every Vermont county - The Disabilities Aging and Independent Living agency within the state government receives Older Americans Act funding which then is awarded to the Area Agencies on Aging to offer: case management; nutrition services and programs; health promotion and disease prevention; information, referral and assistance; legal assistance; and family caregiver support. Meals on Wheels programs are connected to the Nutrition Services. A strategic goal for AAAs in Vermont is to increase their referrals from health care providers and to expand options for basic medical tailoring (therapeutic meals). Some have, or are developing capacity to offer, full Medically Tailored Meals services. However, lack of funding and lack of volunteers / workers for production combined with increased demand has led some programs in VT to begin to deny enrollment in services, and the state recently cut their budget. DeBors' study uses the example of MTM programs in Colorado and Pennsylvania that use commercial shipping options to overcome the delivery barriers in remote locations. However, no cost analysis is provided here and our sense is that such an option might be cost-prohibitive.

Additionally, the idea of building on rural telemedicine/telehealth services to provide at least the counseling component of the MTM is raised – while this holds some potential, neither the connectivity nor delivery gaps are addressed (particularly challenging in rural Vermont). For these reasons, we have not suggested contracting with a commercial food service company (it is additionally not clear that such a service is readily available and competent to assume such responsibilities). However, several of our own recommendations similarly focus on linking local producers and healthcare recipients:

Online grocery services allow users to custom order their groceries through an online app or website and then receive the groceries at their home. Dillahunt et al. (2019) conducted a study to understand how grocery delivery services helped to decrease food insecurity. They found that although the services did help bring food to those who lacked transportation, online grocery delivery necessitates the ability to be technology savvy as well as have adequate income. This intervention also proved more successful in more urban neighborhoods.

Community Supported Agriculture programs (CSA) allow people to pay and receive a share of a local farm's produce. Typically, customers travel to a pick up location to receive their share of produce. Vermont locations for pickup include workplaces, farms without farm stands, farm stands, schools, hospitals, and other local sites. Brooks (2016) writes about the way they envision best practices of a CSA in the future to include home delivery. "Being able to offer the delivery and distribution will assist the 11% of households without access to a vehicle in getting their necessary products (Brooks, 2016, 26)."Although this was not implemented in the Fair Haven case study, the authors pointed to home delivery as a more accessible use of CSAs in addition to the current pick-up method.

Recommendations

- Expand Meals on Wheels funding to start a paid delivery driver position, decreasing dependence on volunteers. Explore mileage reimbursement opportunities for volunteer drivers.

- Investigate how rural populations engage with food delivery services and expand those services to accept EBT payments

- Explore whether farms might start or expand home delivery of CSA shares and the capacity of grocery delivery services to add CSA deliveries to their schedules. This might include building from pilot programs in CSA home delivery to understand options for integrating this work into more CSA and health care partnerships, including facilitating how food access programs with a delivery component can partner together, mapping the funding (and funding restrictions) that would facilitate (or challenge) these collaborations, and identifying how strategic investment of funds such as for 1115 waiver demonstration projects can create a home delivery infrastructure that supports a range of program types.

- Provide technical assistance resources for kitchen garden programs/expand existing kitchen garden programs to see how these might provide the ability for people to supplement their food needs

Other Recommendations Raised by Interviewees:

- Simplify the food assistance application process, decrease paperwork and streamline approval mechanisms

- Improve communication and collaboration across organizations and build upon existing community-led efforts. Partnerships facilitate coordination of services, improving the reach and efficiency of the program. Partnerships are also important for promoting and marketing the transportation program, and an effective way to build ridership and community buy-in for the program. Information on program eligibility, cost, coverage, and schedule should be widely disseminated so all potential riders are aware of and may utilize the service.

- Continue investment in linking local food assistance more intentionally to local producers. One suggestion is to supplement or replace the Commodity Supplemental Food Program with local surplus. The idea here would be to replace the existing supply that often relies on out-of-state produce and products by developing in-state models such as a so-called "Vermont food box" of locally-sourced produce and products. Salvation Farms' is a particularly effective example of such an approach, with the non-profit's mission to "reduce food loss on farms, increase the use of locally grown foods, and fostering an appreciation for Vermont's agricultural heritage and future" (Salvation Farms, 2022). The program aims to strengthen the local food system through better management of surplus agriculture. Salvation Farm's Vermont Commodity program aims to test the financial feasibility and logistical needs involved with aggregating surplus crops in one facility to serve charitable and institutional meal sites, and should be looked to as a model for expanding, replicating, and/or scaling such projects across the state.

VIII. Knowledge Gaps

This review of three particular set of data points – existing research and studies, innovative programs, and key stakeholder perspectives – can provide some good insight into the barriers and solutions posed by and proposed to overcome the transportation/food-security nexus. However, there are other elements of this dynamic that are not captured in this report. There are thus multiple areas we would recommend for further investigation and analysis. These include:

- A clearer understanding and measurement of what the specific constraints that transportation and mobility barriers can place upon food access. As is evident from our review there is considerable anecdotal knowledge amongst key informants and across a number of studies. But there are very few extant studies that actually measure what a lack of food access means in terms of specific outcomes for particular populations – either the general population in Vermont or the particular populations of concern in this study. Those studies that exist have tended to include relatively small numbers or have been primarily qualitative in nature. Thus, we would strongly recommend a more general survey of the population at large to understand what role transportation barriers play in creating food insecurity in Vermont.

- Part of the challenge in undertaking such a wider review is the need to clarify and sharpen definitions of key terms, including food security/insecurity itself. On what basis is this catch-all to be understood? A lack of calories? Of specific types of nutrition? In terms of the impacts on specific health outcomes? As the review of the existing studies and literature in this report demonstrates, there is a great deal of debate and disagreement regarding how to define hunger and the conditions that necessitate food assistance and thus there need to be some common understandings of terms before proceeding with such a review. One further recommendation would be to standardize measures for assessing transportation barriers to food access for clients. Different healthcare providers and systems may utilize different intake instruments and not all may regularly screen for mobility. Thus an important data gap that exists is understanding state-wide what kind of a role transportation barriers play in reducing food access.

- Among the other important recommendations from the DeBors study is the need to invest in screenings to better align medical/dietary needs and treatment in order to create an effective MTM in Vermont. On the transportation front, this means including mobility-centric questions in any diagnostic pre-screening, such as:

  - Has a lack of reliable transportation kept you from getting to the grocery store and accessing the kind of food that your dietitian or healthcare provider has recommended?

  - Have you been unable to order or have delivered the kind of food that your dietitian or healthcare provider has recommended?

- Currently, mobility-related questions such as these are unevenly asked (if at all) in healthcare settings. Aligning healthcare and food access means more than bundling together services – though as in the case of Meals on Wheels or MTMs, the overlaps and efficiencies seem clear. But the DeBor study and our own research suggest that there are other ways in which the relation between these two elements of the food system need to be addressed in a rigorous and holistic fashion. The needs of the food insecure are of course different whether one is home-bound, reliant on a bus, or have a private vehicle and healthcare-focused food programs must take such distinctions into account when planning across a state-wide network.

- Mapping is in general a useful tool in understanding the spatial relations between places of production and distribution as well as being able to physically represent barriers and opportunities. In our review, for example, we found that several organizations produce several types of food access maps and directories that are often heavily relied upon by clients and local communities to be able to increase their connection to suppliers and services. Overlaying transit maps with food distribution sites and population centers for clients is another way of visually representing and understanding the broader network and ecosystem of food need.

- Finally, it is imperative to incorporate 'lived experience' feedback into our understanding of transportation barriers to food access and determining whether there are regional differences in such perceptions. A second phase of this research is exploring such perspectives through interviews with people accessing food assistance in a number of rural counties in Vermont.

References

Akinlotan, M., Primm, K., Khodakarami, N., Bolin, J., & Ferdinand, A. (2022). Rural Urban Variation in Travel Burdens for Care: Findings from the 2017 National Household Travel Survey (Policy Brief). 2021. Retrieved from https://srhrc.tamhsc.edu/rural-urban-variation-in-travel-burden-for-care-executive-summary.pdf

Alkon, A. H., & Norgaard, K. M. (2009). Breaking the food chains: An investigation of food justice activism. *Sociological Inquiry*, *79*(3), 289-305.

Bayne, A., Siegfried, A., Stauffer, P., & Knudson, A. (2018). Promising practices for increasing access to transportation in rural communities. *Rural Evaluation Brief*. Retrieved from https://www.rcorp-ta.org/sites/default/files/2019-12/Rural%20Transportation%20Brief_April2018.pdf

Berkowitz, S. A., Terranova, J., Randall, L., Cranston, K., Waters, D. B., & Hsu, J. (2019). Association between receipt of a medically tailored meal program and health care use. *JAMA internal medicine*, *179*(6), 786-793.

Bose, P., & Laramee, A. (2011). Taste of home: migration, food and belonging in a changing Vermont. *Opportunities for Agriculture Working Paper Series*. 4.

Bose, P., Conover, A., and Grigri, L. (2021). Refugee communities in Vermont and food security in response to COVID-19. *RRSC Project Report 14*.

Brooks, M. E. (2016). Agricultural Impacts on Rural Food Access in Vermont: A Situational Analysis and Ideas for the Future. *Food Systems Master's Project Report*.

Caswell, L. (2021). Healthy Here Bernalillo County Community Food Projects and Mobile Food Market. *USDA National Institute of Food and Agriculture*. https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=72011&format=WEBLINK

Centers for Disease Control and Prevention. (2014). Healthier food retail: an action guide for public health practitioners. *US Department of Health and Human Services: Atlanta, GA, USA*. https://www.cdc.gov/nccdphp/dnpao/state-local-programs/healthier-food-retail.html

ChangeLab Solutions. (2017, Oct. 27). Food access strategies in rural communities: improving access to healthy food in rural areas [webinar]. *NPLAN*. https://www.changelabsolutions.org/product/food-access-strategies-rural-communities

Chen, Grace. (2021). Vermont Rural Transportation: access, climate change, and equitable solutions. *Vermont Law School & Yale School of Public Health*. https://ysph.yale.edu/yale-center-on-climate-change-and-health/policy-and-public-health-practice/vt%20rural%20transportation%20summary%20report_415820_284_48542_v1.pdf.

De Master, K. T., & Daniels, J. (2019). Desert wonderings: reimagining food access mapping. *Agriculture and human values*, *36*(2), 241-256.

Dillahunt, T. R., Simioni, S., & Xu, X. (2019). Online Grocery Delivery Services. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems,* 1-15. doi: 10.1145/3290605.3300879

Domingo, A., Charles, K. A., Jacobs, M., Brooker, D., & Hanning, R. M. (2021). Indigenous community perspectives of food security, sustainable food systems and strategies to enhance access to local and traditional healthy food for partnering williams treaties first nations (Ontario, Canada). *International Journal of Environmental Research and Public Health*, *18*(9), 4404.

Dumas, B. L., Harris, D. M., McMahon, J. M., Daymude, T. J., Warnock, A. L., Moore, L. V., & Onufrak, S. J. (2021). Peer Reviewed: Prevalence of Municipal-Level Policies Dedicated to Transportation That Consider Food Access. *Preventing Chronic Disease, 18*.

Edwards, R. (2007). Public transit, obesity, and medical costs: Assessing the magnitudes. *Preventive Medicine, 46*(1), 14-21. Farmacy Project: food is medicine. (n.d.). *Vermont Farmers Food Center.* https://www.vermontfarmersfoodcenter.org/farmacy_project

Fey, K D. (2013). (rep.). Serving Farm Fresh to City Schools. *Kansas City, Missouri: USDA National Institute of Food and Agriculture.* https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=41783&format=WEBLINK

Florence, L. C. (2021). Meals Programs. In *Handbook of Rural Aging* (pp. 275-278). Routledge.

Frank, L. D., Saelens, B. E., Powell, K. E., & Chapman, J. E. (2007). Stepping towards causation: do built environments or neighborhood and travel preferences explain physical activity, driving, and obesity?. *Social science & medicine*, *65*(9), 1898-1914.

Gillespie, R., DeWitt, E., Slone, S., Cardarelli, K., & Gustafson, A. (2022). The Impact of a Grocery Store Closure in One Rural Highly Obese Appalachian Community on Shopping Behavior and Dietary Intake. *International Journal of Environmental Research and Public Health*, *19*(6), 3506. doi:10.3390/ijerph19063506.

Gilman, C. L. (2022). Access to Culturally Appropriate Food in Chittenden County: A Program Evaluation of the Vermont Foodbank's Fresh Food Distribution. https://scholarworks.uvm.edu/cgi/viewcontent.cgi?article=1022&context=fsmpr

Gorham, G., Dulin-Keita, A., Risica, P. M., Mello, J., Papandonatos, G., Nunn, A., ... & Gans, K. M. (2015). Effectiveness of Fresh to You, a discount fresh fruit and vegetable market in low-income neighborhoods, on children's fruit and vegetable consumption, Rhode Island, 2010–2011. doi:10.5888/pcd12.140583.

Gottlieb, R., Fisher, A., Dohan, M., O'Connor, L., & Parks, V. (1996). Homeward Bound: Food-related transportation strategies in low income and transit dependent communities.

Hadley Strout, E., Fox, L., Castro, A., Haroun, P., Leavitt, B., Ross, C., ... & Carney, J. K. (2016). Access to transportation for Chittenden County Vermont older adults. *Aging clinical and experimental research*, *28*(4), 769-774.

Hamstead, S A. (2018). (rep.). Expand and Explore Healthy Food Access in New Orleans Housing Projects. *Kansas City, Missouri: USDA National Institute of Food and Agriculture.* https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=76187&format=WEBLINK

Harvey, D. (2011). (rep.). Healthy Neighborhood Store Alliance. *Kansas City, Missouri: USDA National Institute of Food and Agriculture.* https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=33241&format=WEBLINK

Hodgson K. (2012). Planning for food access and community-based food systems. *American Planning Association.* https://www.planning.org/publications/document/9148238/.

Hunger Free Vermont. Retrieved 25 July 2022 from https://www.hungerfreevt.org/.

Johnke, P. (2017). Rural Transportation: A Vermont Perspective. *The National Council on Independent Living.*

Johnson, D. B., Quinn, E., Sitaker, M., Ammerman, A., Byker, C., Dean, W., … & Sharkey, J. (2014). Developing an agenda for research about policies to improve access to healthy foods in rural communities: a concept mapping study. *BMC public health, 14*(1), 1-12. doi:10.1186/1471-2458-14-592.

Ko, L., Enzler, C., Perry, C., Rodriguez, E., Mariscal, N., Linde, S., & Duggan, C. (2018). Food availability and food access in rural agricultural communities: Use of mixed methods. *BMC Public Health, 18*(1), 634. doi:10.1186/s12889-018-5547-x.

Labun, H., host. (2020). Food and Transportation. *Policy in Plainer English.* Retrieved from https://www.plainerenglish.org/866545/6885845-food-and-transportation

Laveta, T., Procter, D., Roy, P., & Sager, M. (2015). Improving access to health food in rural areas [webinar]. *Grantmakers in Health.* Retrieved July 14, 2022 from https://www.gih.org/files/FileDownloads/Presentation_Improving%20Access%20to%20Healthy%20Food%20in%20Rural%20Communities.pdf

Leroy, J. L., Ruel, M., Frongillo, E. A., Harris, J., & Ballard, T. J. (2015). Measuring the food access dimension of food security: a critical review and mapping of indicators. *Food and nutrition bulletin, 36*(2), 167-195. doi:10.1177/0379572115587274. PMID: 26121701.

Lloyd, J. L. (2017). Hunger in older adults: challenges and opportunities for the Aging Services Network. *Meals on Wheels America.*

Loveless, J. C. (2017). Community Food Projects Competitive Grant Program (CFPCGP). *USDA National Institute of Food and Agriculture.* https://www.nifa.usda.gov/grants/programs/hunger-food-security-programs/community-food-projects-competitive-grant-program-cfpcgp

Mares, Teresa M. (2019). *Life on the other border: farmworkers and food justice in Vermont.* University of California Press.

McCandless, Susannah. (2021). Environmental Justice Vermont - Food and Transportation. *Rejoice.* Retrieved from https://environmentaljusticevt.org/food-and-transportation/.

McCann, B. (2006). Community design for healthy eating: how land use and transportation solutions can help. *Robert Wood Johnson Foundation.*

McCarthy, Ashley C.; Bertmann, Farryl; Belarmino, Emily H.; Bliss, Sam; Laurent, Jennifer; Malacarne, J., Merrill, S., Schattman, R. E., Yerxa, K., & Niles, M. T. (2022). A 2022 Assessment of Food Security and Health Outcomes during the COVID-19 Pandemic. (2022). *College of Agriculture and Life Sciences Faculty Publications.* 192. Retrieved from https://scholarworks.uvm.edu/cgi/viewcontent.cgi?article=1195&context=calsfac.

McEntee, J., & Agyeman, J. (2010). Towards the development of a GIS method for identifying rural food deserts: Geographic access in Vermont, USA. *Applied Geography (Sevenoaks), 30*(1), 165-176. doi:10.1016/j.apgeog.2009.05.004.

Mei, A. (2012). (rep.). The New Immigrant Food and Farming Action Center (NIFF): Fostering the Development of New Immigrant Food and Farming Enterprises. *USDA National Institute of Food and Agriculture.* Retrieved from https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=34661&format=WEBLINK

Milne, N. (2021). (rep.). Da Bus Mobile Market and Food Pantry. *USDA National Institute of Food and Agriculture.* Retrieved from https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=76193&format=WEBLINK

Morton, L. W., & Blanchard, T. C. (2007). Starved for Access: Life in Rural America's Food Deserts. *Rural Sociological Society , 1*(4).

Muthukrishna, M., Bell, A. V., Henrich, J., Curtin, C. M., Gedranovich, A., McInerney, J., & Thue, B. (2020). Beyond Western, Educated, Industrial, Rich, and Democratic (WEIRD) psychology: Measuring and mapping scales of cultural and psychological distance. *Psychological science, 31*(6), 678-701.

National Institute of Food and Agriculture, Request for Applications: Community Food Projects Competitive Grant Program §. Accessed September 13, 2022. https://www.nifa.usda.gov/sites/default/files/rfa/FY2021-CFP-RFA.pdf

Neff, R. (2020). The early food insecurity impacts of COVID-19. *Nutrients* 12(7) 2096. doi:10.3390/nu12072096.

Niles, Meredith, T., Bertmann, F., Belarmino, E.H., Wentworth, T., Biehl, E., & Neff, R. (2020). The early food insecurity impacts of COVID-19. *Nutrients* 12, no. 7: 2096. doi:10.3390/nu12072096.

Pasanen, M. (2022, June 4). How pandemic need, federal dollars and local collaboration are driving better ways to help food-insecure vermonters. *Seven Days.*

Pinard, C., Fricke, H., Smith, T., Carpenter, L., & Yaroch, A. (2016). The Future of the Small Rural Grocery Store: A Qualitative Exploration. *American Journal of Health Behavior, 40*(6), 749-760.

Rhone, A., Ver Ploeg, M., Williams, R., & Breneman, V. (2019). *Understanding low-income and low-access census tracts across the nation: subnational and subpopulation estimates of access to healthy food* (No. 1476-2019-1856).

Rodriguez, R., & Maraj Grahame, K. (2016). Understanding Food Access in a Rural Community. *Food, Culture, & Society, 19*(1), 171-194. doi:10.4324/9781315102160-8.

Rogers, C. C., Jang, S. S., & Valdez, R. S. (2022, September). Using a Patient Work System Model to Systematically Assess the Social Determinants of Health. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 1622-1626). Sage CA: Los Angeles, CA: SAGE Publications.

RSG (Resource Systems Group). (2012). Chittenden County Regional Planning Commission Transportation Survey Report of Results. *RSG Burlington.*

Rural Health Information Hub: Transportation. Retrieved 25 July 2022 from https://www.ruralhealthinfo.org/search?q=transportation

Rural Health Information Hub. *Food access in rural communities.* Retrieved July 15, 2022 from https://www.ruralhealthinfo.org/toolkits/food-access/1/rural-specific-concerns

Salzer, K., & Joslin, A. (2017). *Travel to Food: Transportation Barriers for the Food Insecure in Tampa Bay* (No. NITC-SS-997). National Institute for Transportation and Communities.

Salvation Farms. (2022). About Us. Retrieved November 7, 2022 from https://www.salvationfarms.org/about-us/#who

Satcher, L. A. (2022). Multiply-deserted areas: environmental racism and food, pharmacy, and greenspace access in the Urban South. *Environmental Sociology*, 1-13.

Schwartz, A. J., Richman, A. R., Scott, M., Liu, H., White, W., & Doherty, C. (2022). Increasing access to care for the underserved: voices of riders, drivers, & staff of a rural transportation program. *International journal of environmental research and public health*, *19*(20), 13539.

Seguin, R., Connor, L., Nelson, M., LaCroix, A., & Eldridge, G. (2014). Understanding Barriers and Facilitators to Healthy Eating and Active Living in Rural Communities. *Journal of Nutrition and Metabolism*, *2014*(2014), 146502-8. doi:10.1155/2014/126502.

Seguin, R., Connor, L., Nelson, M., LaCroix, A., & Eldridge, G. (2014). Understanding barriers and facilitators to healthy eating and active living in rural communities. *Journal of nutrition and metabolism*, *2014*. doi:10.1154/2014/146502.

Sharkey, J., Horel, S., & Dean, W. (2010). Neighborhood deprivation, vehicle ownership, and potential spatial access to a variety of fruits and vegetables in a large rural area in Texas. *International Journal of Health Geographics, 9*(1), 26. doi:10.1186/1476-072x-9-26.

Sharkey, J., Horel, S., Han, D., & Huber, J.C., (2009) Association between Neighborhood Need and Spatial Access to Food Stores and Fast Food Restaurants in Neighborhoods of Colonias. *International Journal of Health Geographics* 8.1 9. doi:10.1186/1476-072x-9.

She, Z., King, D., & Jacobson, S. (2017). Analyzing the impact of public transit usage on obesity. *Preventive Medicine, 99*, 264-268. doi:10.1016/j.ypmed.2017.03.010.

She, Z., King, D., & Jacobson, S. (2019). Is promoting public transit an effective intervention for obesity? A longitudinal study of the relation between public transit usage and obesity. *Transportation Research. Part A, Policy and Practice, 119*, 162. doi:10.1016/j.tra.2018.10.027.

Sherman, S. (2021). (rep.). Alameda County Deputy Sheriffs' Activities League's "Farm as Medicine" Will Boost Food Security and Community Resiliency Through Innovative Mechanisms, Including Locally Based Food Delivery Service. Kansas City, Missouri: *USDA National Institute of Food and Agriculture*. Retrieved from https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=90368&format=WEBLINK

Sieck, C. J., Hefner, J. L., Wexler, R., Taylor, C. A., & McAlearney, A. S. (2016). Why do they do that?: Looking beyond typical reasons for non-urgent ED use among Medicaid patients. *Patient Experience Journal*, *3*(2), 22-30.

Sielawa, J. (2017). (rep.). The Grand Rapids Community Food Project: Kansas City, Missouri. *USDA National Institute of Food and Agriculture*. Retrieved from https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=63446&format=WEBLINK

Sirois, E, & Mitchell, L. (2015). (rep.). Bringing Farmers' Markets and Organic Food Gardens to Senior Living Communities: Kansas City, Missouri. *USDA National Institute of Food and Agriculture*. Retrieved from https://cris.nifa.usda.gov/cgi-bin/starfinder/0?path=fastlink1.txt&id=anon&pass=&search=R=54261&format=WEBLINK

Smith, D., Becot, F., Chase, L., Estrin, H., Greco, L., Kolodinsky, J., . . . & Van Soleon Kim, J. (2017). Farm Fresh Food Boxes: Increasing Food Access in Rural Communities through New Markets for Farmers and Retailers. *Journal of Nutrition Education and Behavior, 49*(7), S100. doi:10.1016/j.jneb.2017.05.181.

Soebroto, K. (2017). (rep.). CSA Partnerships for Health: Kansas City, Missouri. *USDA National Institute of Food and Agriculture.* Retrieved from https://cris.nifa.usda.gov/cgi-bin/starfinder/0? path=fastlink1.txt&id=anon&pass=&search=R=67718&format=WEBLINK
The University of California Transportation Center.

US Department of Agriculture. (2009). *Access to affordable and nutritious food — measuring and understanding food deserts and their consequences: report to Congress.* US Department of Agriculture, Economic Research Service.

VeggieVanGo - A Fresh Food Program of the Vermont Foodbank. (2022, June 6). *Vermont Foodbank.* Retrieved June 10, 2022, from https://www.vtfoodbank.org/share-food/veggievango.

Vermont Everyone Eats! (2020). (rep.). *Vermont Everyone Eats Formative Evaluation: Community Hub and Restaurant Experience.* Everyone Eats Impact Report. (pp. 1–53). Retrieved from https://img1.wsimg.com/blobby/go/a925333d-65bb-4391-b6e8-b1c6258363bc/downloads/VEE%20Final%20Report%201.15.21%20(1).pdf?ver=1653914467986.

Widener M.J., Minaker L., Farber S., Allen J., Vitali B., Coleman P.C., Cook B. (2017). How do changes in the daily food and transportation environments affect grocery store accessibility? *Applied Geography*, Volume 83. doi:10.1016/j.apgeog.2017.03.018.

Zhang, J. & Mao, L. (2019) Integrating multiple transportation modes into measures of spatial food accessibility. *Journal of Transport & Health*, Volume 13. doi:10.1016/j.jth.2019.03.001.

Appendices

Name of Organization	Organization Type	Location
CarShare Vermont	Transportation	Chittenden County, VT
Department of Health	Health Care Stakeholder	Statewide
Vermont Feed	Service Provider	Statewide
Vermont Food Bank	Food Shelf	Statewide
Windham Regional Commission	Transportation	Windham County, VT
Age Well	Service Provider	Statewide
Action Circles	Service Provider	Bethel, Stockbridge, Pittsfield, and Bernard, VT
Go! Vermont	Transportation	Statewide
Farmacy Project	Service Provider	Rutland County, VT
Vermont Compost Company	Farm	Statewide
Age Well	Service Provider	Statewide
Hardwick Food Pantry	Food Shelf	Northeast Kingdom, VT
Rural Vermont	Advocacy Organization	Statewide
Blue Ledge Farm	Farm	Salisbury, VT
Hunger Free Vermont	Advocacy Organization	Statewide
Vermont Everyone Eats!	Service Provider	Orange County, VT
NOFA Vermont	Service Provider	Statewide
NOTCH	Health Care Provider	Island Pond, VT
Vermont Natural Resources Council	Transportation	Statewide
Hunger Free Vermont	Advocacy Organization	Statewide
NOTCH	Health Care Provider	Orleans and Northern Essex County, VT
Intervale Food Hub	Farm	Chittenden County, VT
NOFA	Service Provider	Statewide
Northeastern Vermont Regional Hospital	Health Care Provider	Northeast Kingdom, VT
DAIL	Service Provider	Statewide
South Royalton Community Garden	Farm	South Royalton, VT
Blue Cross Blue Shield of Vermont	Health Care Provider	Statewide
Veggie VanGo	Mobile Food Pantry	Statewide
NOTCH	Health Care Provider	Northern VT
Bridges to Health	Health Care Provider	Statewide
Greater Bennington Community Services	Service Provider	Greater Bennington Area, VT
Meals on Wheels	Service Provider	Lamoille County, VT
NOTCH	Health Care Provider	Northern VT
Lamoille Health Centers	Health Care Provider	Lamoille County, VT
Capstone Community Action	Service Provider	Washington, Lamoille & Orange Counties, VT
Department of Health	Health Care Stakeholder	Statewide
Porter Medical Center	Health Care Provider	Addison County
Fair Haven Concerned	Food Shelf	Fair Haven, VT
Gifford Health Care	Health Care Provider	Berlin and Randolph, VT

Map of Key Informant Service Areas

Does not include statewide programs

Entire service area is not represented for county-wide programs (i.e. only Windham is pinned for a Windham County organization)
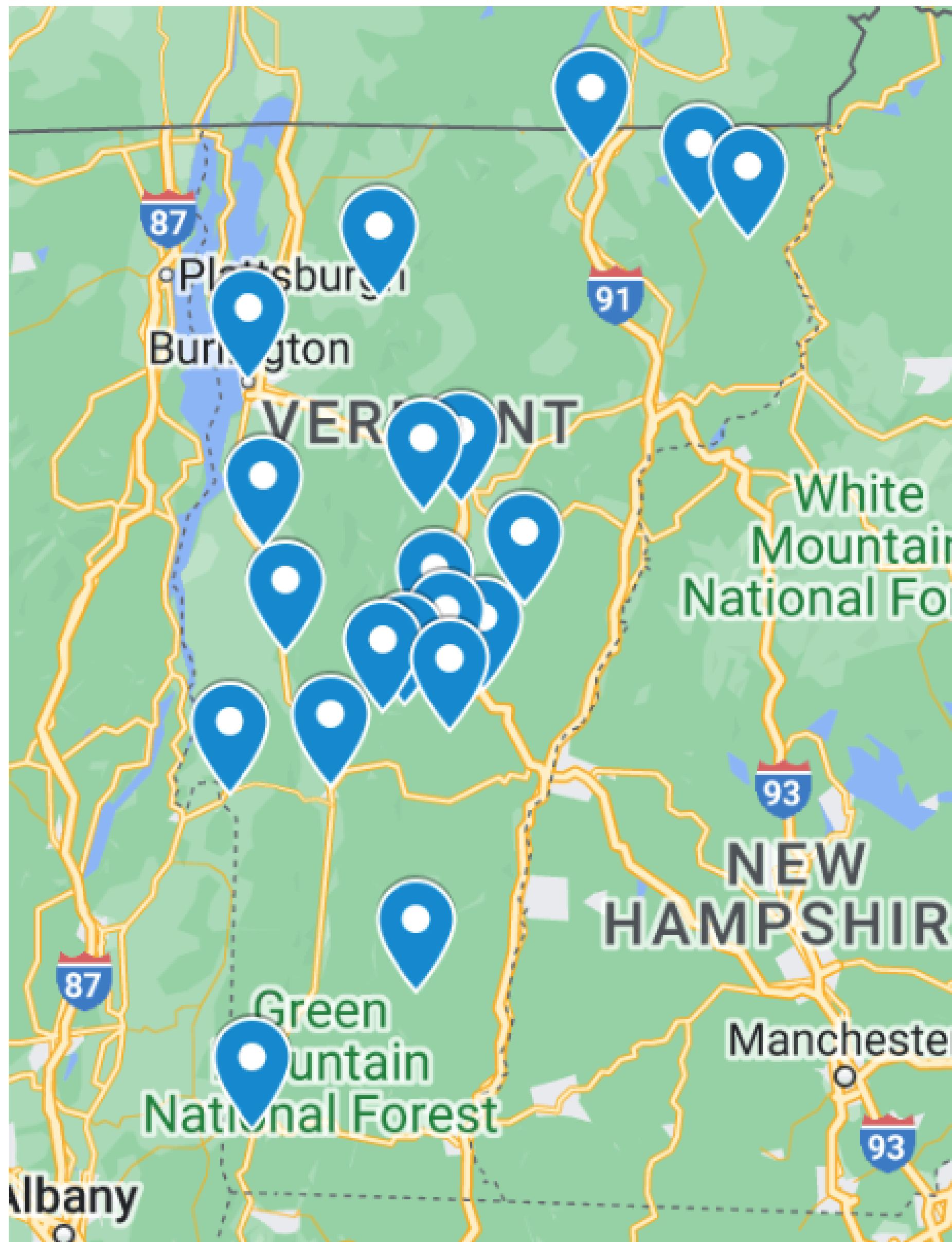
Breakdown of Key Informants by Organization Type

Organization Type	% of Total Interview Pool
Transportation	10%
Health	30%
Food Shelf/ Service Provider	41%
Advocacy	7%
Farm	10%

Maple Mountain Consulting