



Southeast Colorado Springs Food Security Research

**For Solid Rock Community Development Corporation
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I. Executive Summary

Solid Rock Community Development Corporation (SRCDC) works to increase food accessibility by collecting and redistributing food through their food pantry and farmers markets in Southeast Colorado Springs. The organization is seeking long-term solutions to alleviate community hunger, and has partnered with Colorado College (CC) to research and develop strategic ways to address food security in Southeast Colorado Springs.

The Southeast spans 12-square miles and houses 16 percent of Colorado Springs residents.¹ Home to the most racially diverse neighborhoods of the city, the Southeast is also populated by many low-income families in need of food assistance.² SRCDC has already implemented an emergency aid food pantry to help community members, however, as Colorado Springs rapidly grows and becomes more populated, food insecurity will increasingly become a critical social issue in need of more attention.

Topics Investigated

In efforts to address food insecurity in the Southeast, a team of 16 CC students were tasked to research innovative ways to help SRCDC create and sustain an accessible food system. To undertake the central issue of food insecurity, the team explored the following topics:

- Community gardens
- Passive solar greenhouses
- Aquaponics
- Mushroom cultivation
- Food cooperative grocery stores
- Community fridges
- Farmers markets

By looking at case studies and through intensive research and literature review, the team identified benefits and challenges of each topic. Of these strategies, the team has been able to make several key recommendations.

Recommendations

Based on the team's findings, we recommend the following for SRCDC:

- Implement network of community fridges in the Southeast
- Build raised garden beds and a greenhouse at one of the evaluated plots
- Establish a Southeast Colorado Springs grocery cooperative
- Transition to self-funding model for farmers markets
- Utilize federally funded EBT programs and invest in infrastructure to accept SNAP benefits at farmers markets

¹ Urban Land Institute. *Healthy Places: Promoting Equitable and Healthy Communities in Southeast Colorado Springs*. PDF File. Accessed 18 April 2022.

<https://2os2f877tnl1dvtmc3wy0aq1-wpengine.netdna-ssl.com/wp-content/uploads/ULI-Documents/Southeast-Colorado-Springs-ASP-2018.pdf>.

² Ibid.

II. Introduction

Creating a network of sustained access to food in Southeast Colorado Springs is the guiding mission of this report and has informed the research and ideas that we propose to SRCDC. Currently, SRCDC's food pantry and farmers markets act as important and impactful methods of alleviating hunger and expanding access to food in the Southeast. This report offers projects that SRCDC could implement in order to increase Southeast Colorado Springs' access to food.

In their [Food System Assessment Report](#), the El Paso County Department of Public Health identified Southeast Colorado Springs as an area needing attention to improve access to healthy, affordable food for its residents. They identified a number of challenges in the area:

- High “ratio of unhealthy to healthy food retail options”
- High rates of poverty
- Limited transit routes to healthy food options
- Food landscape currently built around commercial centers rather than neighborhoods and accessibility³
- Lack of SNAP⁴ and WIC⁵ authorized retailers with 83% of SNAP retailers being classified as “less healthy”

In our report, we assess the feasibility of several practices to increase food security in the Southeast: gardens and urban farms, community co-operative grocery stores, community fridges, and farmers markets. While our suggested practices offer different strategies to address food security, they all intersect. Urban gardens create a space for gathering and cohesion while creating the potential, if managed properly, to supplement a local supply chain of fresh, healthy food. Within this supply chain, food access points, community fridges, farmers markets, and food co-operative grocery stores will be integral in creating and sustaining a reliable food network.

Throughout our report, we recommend potential locations for community gardens and food access points based on the existing food and urban infrastructure in Southeast Colorado Springs. Ideally, community gardens and food access locations will be located along public transit corridors, in order to enhance accessibility, and surrounded by community meeting spaces such as places of worship, schools, and community centers. Our intention is to suggest locations which could foster valuable community spaces and more reliable and affordable food systems.

³ El Paso County Public Health, “El Paso County Food System Assessment - Phase I Report”, May 2, 2018
<https://docs.google.com/document/d/1dI9cGwNgzpGv7rE2sWRGOkSoeLdqgIycDaLwjiwh8x8/edit>

⁴ Supplemental Nutrition Assistance Program (SNAP) – SNAP provides over 45 million low-income Americans with monthly benefits that can be used to purchase most foods and beverages.

⁵ Women, Infants, & Children (WIC) Pregnant and postpartum women and children ages 1-5 are eligible to enroll for the WIC Special Supplemental Nutrition Program which provides federal grants to states for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age 5 who are at risk of or are food insecure.

III. Spatial Patterns of Food Access in Colorado Springs

Since Southeast Colorado Springs has been identified as a region that needs to increase access and accessibility to healthy food, it is important to understand the region’s spatial distribution and accessibility of grocery stores. Southeast Colorado Springs has five grocery stores and three of them are located along South Academy Boulevard. Three of the grocery stores are larger in size and have a wider range of products while two of them are small with limited selection (Figure 1). The two smaller grocery stores have limited produce and mostly spices and non-perishable items.

Public transportation, bike lanes, and sidewalks exist across Southeast Colorado Springs and many of the grocery stores are along a bus route. Still, many of the neighborhoods, especially in the southeast corner, do not have a bus route in close proximity. Some of the houses are located a mile or more away from the nearest bus route which can make larger shopping trips or trips for those who are elderly or disabled difficult. Additionally, the bus frequency and schedule has been decreased due to COVID-19, making it less convenient for people to get around on public transportation.⁶ Figure 2 depicts grocery stores and their walkability. A handful of neighborhoods are more than a 15 minute walk from a grocery store and many of the stores are along busy roads, which makes them harder to access for most of the Southeast Colorado Springs region.

Southeast Colorado Springs - Current Community Food Resources and Accessibility

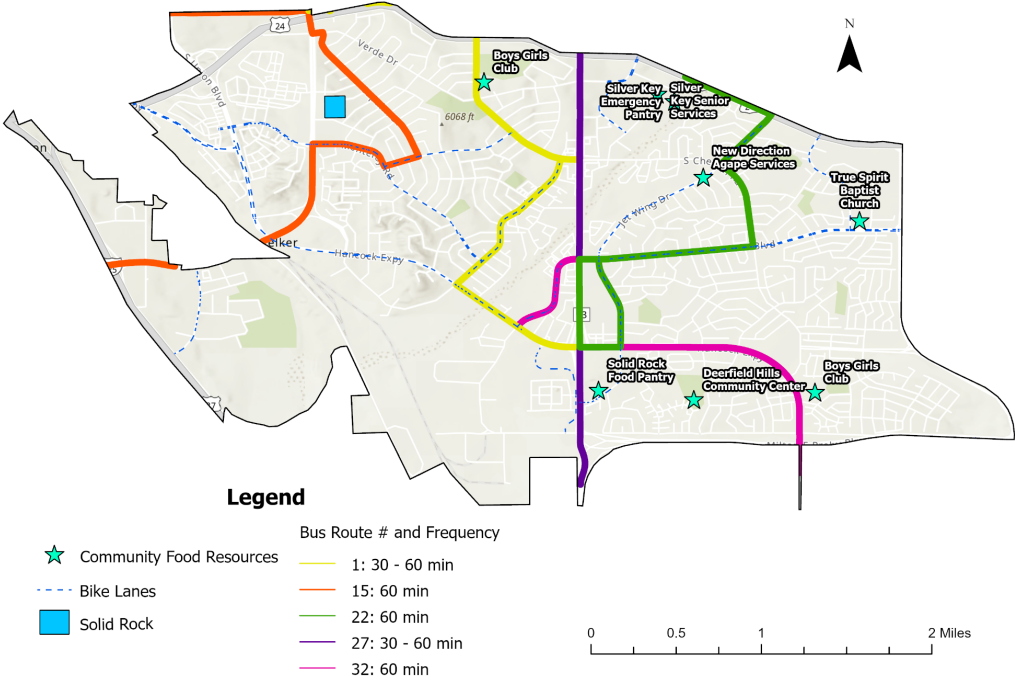


Figure 1. The current landscape of transportation and accessibility in the Southeast section of Colorado Springs. This map contains the current bicycle lanes, bus route numbers and their frequency, the SRCDC headquarters, and the five grocery stores in the area. Two grocery stores are labeled ‘small’ due to their size and amount of resources.

⁶ “Mountain Metro Bus Service Adjustments .” *Colorado Springs*, <https://coloradosprings.gov/mountain-metro/alert/mountain-metro-bus-service-adjustments>.

Southeast Colorado Springs - Current Grocery Stores and Walkability



Figure 2. The current locations of the five grocery stores in Southeast Colorado Springs. Each grocery store has three rings (in gradients of green), which show the distances of 0.1 miles, 0.25 miles and 0.5 miles from the stores and the walking times correlated with those distances.

In light of these figures, there is reasonable access to grocery stores through the bus routes, with lines 15, 22 and 27 passing by the grocery stores on the maps. One key finding from these maps however is the lack of grocery stores in the south east of the study site. These findings demonstrate how factors such as car ownership, leisure time, geographic location, and access to public transportation positively impacts one's ability to access healthy food. The maps highlight certain neighborhoods in Southeast Colorado Springs that may have residents who do not have the same resources or the time to wait for infrequent public transportation or walk to a grocery store. This cuts off members of the community who have a right to accessible and healthy food. There is also a higher density by census block group found in those areas (see Appendix A), stressing the need for food access to be considered in these highly populated neighborhoods.

IV. Community Gardens

The spatial inadequacies that exist in the Southeast demand that we critically consider how existing parks and open spaces might be utilized to improve food security. We explore the following central question: *What would it take to make community gardens an effective tool to address food insecurity in SE Colorado Springs?*

To follow, we examine best practices to establish community gardens including both management frameworks and urban growing options. In the context of food security, we examine what models might produce the most food, while also weighing other drawbacks and benefits.

A. Why Community Gardens?

Community gardens and urban farms are only one part of solving the food security puzzle. When considering implementing community gardens, the organizational capacity of SRCDC to manage and maintain the facilities and crops is integral to producing the most food. While research⁷ has yet to reveal if community gardens have significantly decreased food insecurity in urban areas, there are plenty of benefits that community gardens can bring to the Southeast which will help bolster the community's food network.

Quick Facts

- Home and community gardens provide day-to-day access to fresh fruits and vegetables.
 - Gardens help cultivate local resilient food supply chains, able to weather unforeseen events like the COVID-19 pandemic.⁸
- 12 studies⁹ have found positive correlations between Community Grown Produce (CGP) and fruit/vegetable intake.
 - Eight studies revealed the CGP reduced *perceived* worry around food security.
- Community gardens can increase the organizational capacity of the local community.
 - Gardens can increase feelings of neighborhood pride and empowerment and provide location for convening and learning within a community.¹⁰
- Community gardens provide physical and mental health benefits by giving gardeners an opportunity to foster a relationship with the earth, plants, and the food they eat.¹¹

In summary, community and home gardens are viable options for diversifying local food systems. They have the ability to act as a catalyst for community organizing and empowerment, and can be utilized as a strategy to increase community cohesion, as well as providing physical and mental health benefits.¹²

⁷ Burt, Kate G., Gail Mayer, and Rachel Paul. "A Systematic, Mixed Studies Review of the Outcomes of Community Garden Participation Related to Food Justice." *Local Environment* 26, no. 1 (2020): 17–42.

<https://doi.org/10.1080/13549839.2020.1861589>

⁸ Lal, Rattan. "Home Gardening and Urban Agriculture for Advancing Food and Nutritional Security in Response to the COVID-19 Pandemic." *Food Security* 12, no. 4 (2020): 871–76. <https://doi.org/10.1007/s12571-020-01058-3>.

⁹ Burt, Kate G., Gail Mayer, and Rachel Paul. "A Systematic, Mixed Studies Review of the Outcomes of Community Garden Participation Related to Food Justice." *Local Environment* 26, no. 1 (2020): 17–42.

<https://doi.org/10.1080/13549839.2020.1861589>.

¹⁰ Armstrong, Donna. Rep. *A Survey of Community Gardens in Upstate New York: Implications for Health Promotion and Community Development*. Rensselaer, NY: Health and Place, 2000.

¹¹ Lal, Rattan. "Home Gardening and Urban Agriculture for Advancing Food and Nutritional Security in Response to the COVID-19 Pandemic." *Food Security* 12, no. 4 (2020): 871–76. <https://doi.org/10.1007/s12571-020-01058-3>.

¹² Ibid

B. Core Challenges to Community Gardens

Despite these benefits, community gardens face significant challenges to their success and sustainability. Existing literature has identified central challenges to community garden establishment.¹³ In a survey conducted in partnership with the American Community Garden Association (ACGA),¹⁴ declining participation was the main reason for garden failure. The team found a set of four core challenges faced by community gardens across the United States and Canada of which include **funding, participation, land tenure, and materials** (i.e. water). In Southeast Colorado Springs, similar challenges have presented themselves.

In this report, we explore several garden models that may address issues of funding and participation. We also draw on interviews with successful community garden organizations across the Southwest. Additionally, we provide descriptive models of community gardens that might be applied in differing environmental conditions. By providing best practices for both community garden organizing and the built environment, we hope the garden projects taken on by SRCDC will be sustained for years to come. With these challenges in mind, our report also considers the following subquestions:

1. How can community gardens be ideally designed so that central issues of funding, participation, land, water, and materials can be addressed?
2. How can community gardens be ideally designed so they are sustainable through changing seasons, drought, and climate events?

C. Promoting Participation and Long Term Use of Community Gardens

We have identified a handful of key factors for setting up a community garden to promote long term use.

1. Establish a core group of committed participants and establish long term partnerships

Consistent, dedicated leadership and management practices is essential for maintaining urban gardens. Denver Urban Gardens has found that 12-15¹⁵ committed participants is a promising starting point. Additionally, creating long term partnerships with faith groups, veteran organizations, non-profits, schools, or food banks is helpful for maintaining gardens in the long term, as partner organizations typically help with funding and keeping people involved with the garden.

2. Place gardens in highly visible locations

Research shows that successful gardens are often in highly visible locations within the target neighborhood; if the gardens are unseen, they typically go unused by the

¹³John M. Diaz et al., “Barriers to Community Garden Success: Demonstrating Framework for Expert Consensus to Inform Policy and Practice,” *Urban Forestry & Urban Greening* 31 (2018): pp. 197-203, <https://doi.org/10.1016/j.ufug.2018.02.014>.

¹⁴Luke Drake and Laura J. Lawson, “Results of a US and Canada Community Garden Survey: Shared Challenges in Garden Management amid Diverse Geographical and Organizational Contexts,” *Agriculture and Human Values* 32, no. 2 (2014): pp. 241-254, <https://doi.org/10.1007/s10460-014-9558-7>.

¹⁵Rep. *Growing Community Gardens: A Denver Urban Gardens Best Practices Handbook for Creating and Sustaining Community Gardens*. Denver, CO: Denver Urban Gardens, 2012.

community.¹⁶ Given the importance of community partnerships and the potential collaboration with afterschool programs, locations near faith groups, schools, and community spaces are ideal.

3. Host community wide events and get non-gardeners involved

Holding events open to the public raises awareness for the garden and provides opportunities for fundraising. For example, the community garden could be host to a season's end harvest festival, a local musician's performance, or an art exhibit.¹⁷

4. Land tenure

Land access, particularly obtaining long-term land tenure supported by policy and planning is a significant challenge – community gardens on vacant land might be threatened by development, plaguing gardeners with uncertainty.¹⁸ Promoting the long-term use and sustainability of a garden requires that the land remains in possession of the gardeners for years to come. Establishing gardens at pre-existing parks and community centers may help ensure that land remains cultivated.

For more information on how city governments have promoted garden development on city land see Appendix B.

5. Consider Facilities and Physical Attributes

Some environments are better than others for growing food. Here are some aspects¹⁹ to consider:

- Outdoor gardens should have at least six hours of full sun a day in the summer.
- Gardens should be away from big trees and other structures that block the sun.
- Areas that are at the bottom of slopes/valleys should be avoided.
- Steer clear of areas that are damp or prone to surface water due to poor drainage and/or lack of sunlight.
- Avoid areas that face a lot of cold winds.
- The site should be on level ground.
- The site should have adequate parking, bathrooms, and public transportation
- Locations that are already connected to the main waterline (schools, churches, parks are ideal.²⁰)

D. Potential Sites for Solid Rock's Community Gardens

Considering the core challenges and necessities for successful garden projects, eight sites throughout Southeast Colorado Springs were chosen and evaluated as potential community garden areas. All of the sites analyzed were city parks mostly within neighborhoods and near schools, community centers and places of worship. We chose to evaluate city parks to avoid land tenure issues that can result from utilizing vacant lots. Five of the eight sites underwent a preliminary analysis on soil quality to determine at which sites the soil could be amended in order to create a

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Diaz, John M., Susan T. Webb, Laura A. Warner, and Paul Monaghan. "Barriers to Community Garden Success: Demonstrating Framework for Expert Consensus to Inform Policy and Practice." *Urban Forestry & Urban Greening* 31 (2018): 197–203. <https://doi.org/10.1016/j.ufug.2018.02.014>.

¹⁹ Penn and Cord Parameter (2013), "Sustainable Greenhouse and Garden Design."

²⁰ Ibid.

healthy growing environment for a community garden (see Appendix C). Figures 3 and 4 provide important details on locations and accessibility of these eight potential community garden sites.

Southeast Colorado Springs - Potential Community Garden Areas and Accessibility

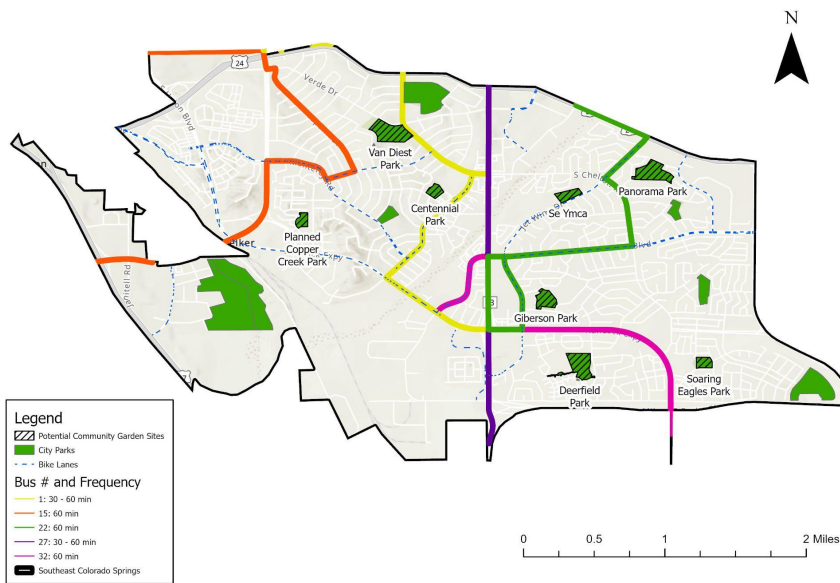


Figure 3. A map of the city parks in Southeast Colorado Springs with the eight potential community garden areas highlighted (hatched and outlined in black).

Southeast Colorado Springs - Potential Community Garden Areas and Walkability

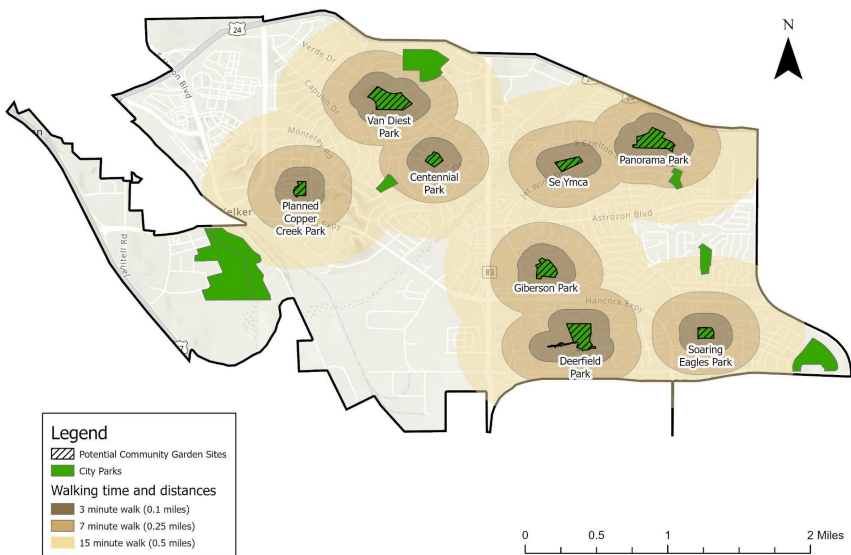









Figure 4. The walkability of the eight potential community garden areas in Southeast Colorado Springs. Distances from each potential community garden are 0.1, 0.25 and 0.5 miles with walking times associated for each distance.

After analysis of the preliminary soil samples, and a qualitative analysis of the eight locations, scanning for solar potential, level terrain, community access, and visibility, we have compiled a breakdown of site recommendations.

We believe that Van Diest Park might be the most viable option for a community garden project, given its water access and topography. We also believe that Panorama Park would be a great opportunity to establish a community garden or greenhouse, if design plans permit.

Park/Location	Description
Van Diest Park	<p>Van Diest Park has great potential for a community garden. The site has water access and open, unused space. The park's proximity to Pikes Peak Elementary School, surrounding residential areas, and existing infrastructure (including shade structures and playground equipment) means that the park could engage a variety of ages and abilities. The park does have hills, so the garden should be situated away from areas where water could pool. In addition, despite the park's size, there is no official parking lot or bathroom facilities.</p> 
Centennial Park	<p>Centennial Park is adjacent to Centennial Elementary School. While there is water access, this park is not ideal for a community garden space. The available flat spaces are small or at the bottom of a hill/drainage which could jeopardize the garden's integrity. Additionally, the park has no bathroom or parking facilities. There is a bus stop within walking distance, across Chelton Road.</p> 
Panorama Park	<p>This park is undergoing development/construction through RISE. It currently has a shaded playground, skate park, and signage, but the whole park is yet to be constructed. There is a parking lot next to the park and a bus line that runs close to the main complex along Jet Wing Road.</p> 
Southeast YMCA	<p>There is a field located between the Southeast YMCA and Sierra High School that would make a good location for a community garden. The close proximity to these locations means that people are already visiting that place and could help to engage participants. There is a bike lane along the road and it is near bus route 22. The field does lay on a slight westward leaning slope.</p> 

<p>Giberson Park</p>	<p>This park is adjacent to Giberson Elementary School and The Church in the Springs, which could draw more participants to the park. The park is in a residential area and has a playground with shading, a basketball court, trashcans, and benches. There is a lot of space here for a potential community garden. The field is slightly sloped. The closest parking lot is at the school.</p>	
<p>Deerfield Park</p>	<p>Deerfield Park and Deerfield Community Center already have a community garden set up. It may be able to serve as a partner garden or organization if SRCDC attempts to foster a community garden network in the Southeast. <i>See Case Study: Deerfield Community Center Page 20</i></p>	
<p>Soaring Eagles Park</p>	<p>This park is adjacent to Soaring Eagles Elementary School, which again could serve to draw in participants and interest for a garden. However, this park does not have much open space and would only be viable for a smaller-sized garden. The park is in a residential area. It has a basketball court, playground, water fountain, and signage. There is only street parking.</p>	
<p>Planned Copper Creek Park</p> <p>Photos taken by researchers on 4/18/2022</p>	<p>Copper Creek Park is a poor location for a community garden. The park is hard to find and is cut off from much of the surrounding housing.</p>	

1. Soil

After testing soil in the seven different potential areas for community gardens throughout Southeast Colorado Springs we found several important findings.

- 1) **Heavy Metals:** Trace amounts of heavy metals were found in the soil analyses (See Appendix C). The most dangerous heavy metal is lead, due to its very detrimental health effects and the fact that it can bioaccumulate in the human body and plants.²¹ Van Diest Park and Centennial Park had lead levels below the EPA limits. However, in our data we found that Van Diest had strontium levels above the EPA recommended levels. Strontium is a complex chemical element and it is difficult to determine what chemical state the strontium was in –toxic or nontoxic– when we collected our soil samples. Additionally, the health effects of growing produce directly out of soil with high strontium levels are unknown. It is important to note

²¹ Jaishankar, Monisha et al. “Toxicity, mechanism and health effects of some heavy metals,” *National Library of Medicine*, vol. 7, (2014) [10.2478/intox-2014-0009](https://pubmed.ncbi.nlm.nih.gov/24781024/).

that we collected all our data using an ICP-MS (Inductively Coupled Plasma Mass Spectrometry). This machine ionizes our soil samples, which means that it atomizes any mineral or metal into their fine particle state. Thus, it is possible for the strontium we found in our soil samples to be benign for growing produce, but because it was ionized in the ICP machine we do not know whether strontium was in a toxic state or not when we collected our samples. City soil is generally much more contaminated and nutrient deficient than soils found in non metropolitan areas. Our data supports this claim as all the soil samples we collected have inadequate levels of essential elements/nutrients such as manganese, potassium, and zinc. Low manganese, potassium, and zinc levels, combined with high strontium levels could increase the difficulty for producing crops in this area. We would currently recommend implementing a raised garden bed with a closed bottom, greenhouse, or an aquaponics/hydroponics system to alleviate this risk. Thus, because of this risk we advise against growing produce directly in the soil at Van Diest Park until conducting further soil tests. Colorado College would be happy to conduct further soil tests at any of the lots in Southeast if SRCDC is considering growing a community garden through a direct sowing practice.

2) Raised garden beds

Due to the lack of sufficient soil quality at the location proposed in Southeast Colorado Springs, we recommend building or obtaining raised beds with closed bottoms for a community garden and/or a greenhouse. A raised flower bed is usually a rectangle frame of cedar or redwood. Raised beds can be filled with ideal soil and offer protection from pests and weeds. Cedar and redwood are best for the beds because they are resistant to moisture, rotting, termites, and are overall very durable.²²

E. Water Access for Colorado Springs Community Gardens

Ensuring that a community garden is integrated into the city's existing water infrastructure is crucial. Thus, Solid Rock will need to consider both access to and cost of water when planning for a community garden.

One of the biggest challenges of starting a community garden is the prohibitive cost of water. Successful community gardens will need to connect to the city's main waterline in order to ensure sufficient water access. [Larry Stebbins](#), founder of Pikes Peak Urban Gardens and expert at building community gardens, detailed the steps an organization could take to get water access for a garden in Colorado Springs. Stebbins recommended several pathways to find grants to fund the garden's start-up cost, noting that it takes between \$20,000 to \$30,000 to get a community garden going from start to finish.²³ The main water-related costs are described below:

Water-Related Costs

- Unless the garden plot is already tied to water, construction will require hooking into the main waterline, a process that can cost up to \$20,000.²⁴

²² "Choosing the best materials for raised garden beds." All Things Garden, Homestead and Chill, February 5, 2021. <https://homesteadandchill.com/materials-raised-garden-beds/>.

²³ Interview with Larry Stebbins, April 11, 2022.

²⁴ Interview with Larry Stebbins, April 11, 2022.

- City parks will allow gardens to hook into their waterline, as long as the garden pays for its own water.
- Estimate water bills at about \$1,200 to \$1,400 a year.²⁵
- Community gardens can apply for a tap fee waiver when connecting to a waterline, formerly approximated at \$15,000.²⁶
- Colorado Springs Utilities requires gardens to install a [backflow device](#), which needs to be placed on a concrete slab and surrounded by a locked cage.²⁷ In total installing this device costs about \$7,000, but if you can get free labor the materials will likely only come to \$3,000.
- If the plot is on city land, you will also need to get liability insurance which runs anywhere from \$250 to \$400 a year.
- The garden will have to install a [farm hydrant](#) in order to turn water flow on and off, which can cost between \$400 to \$600.²⁸

In summary, the most cost effective place for a community garden in terms of water access is a location already connected to the city's main waterline. For example, this location could be close to an existing building like a church or school, or part of a park. The vacant lots in Van Diest Park and Panorama Park would work well in this regard (see page 9).

Once established, ensuring that your garden is best suited to endure Colorado's consistent drought conditions will save money and crops in the long term. Here are some recommendations for community gardening and agriculture in arid conditions.

- **Build soil:** In Colorado Springs, soil must be [amended](#)²⁹ ideally to 4-5% organic matter to retain moisture and nutrients. Soil amending should only be practiced where there are no contaminants or heavy metals. For SRCDC, where raised garden beds or greenhouses will likely be used, selecting and buying healthy soil with adequate nutrient content retains water, whether you are amending soil or bringing in new soil.
 - See fact sheet: [Choosing a Soil Amendment](#)³⁰
- **Drip Irrigation:** A frequently used method to save water – drip irrigation is 90% efficient, where traditional sprinkler systems are only 50-60% efficient.
 - See fact sheet: [Subsurface Drip Irrigation \(SDI\)](#)³¹ and [Drip Irrigation for Home Gardens](#)³²
 - Drip Irrigation costs approximately \$2,000 to \$4,000 per acre and can also be applied relatively easily to singular garden beds or smaller-scale operations.
- **Small Scale Practices:** for smaller scale community gardens or for at-home operations, explore [water/rain barrels](#)³³, and [Wicking Garden Beds](#).³⁴

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

²⁹ Davis , J.G., and D. Whiting . *Choosing a Soil Amendment* . Colorado State University Extension , n.d.

³⁰ Davis , J.G., and D. Whiting . *Choosing a Soil Amendment*. Colorado State University Extension, n.d.

³¹ Reich, D., R. Godin , J.L. Chávez, and l Broner . *Subsurface Drip Irrigation (SDI)*. Colorado State University Extension, n.d.

³² Wilson , C., and M. Bauer. *Drip Irrigation for Home Gardens* . Colorado State University Extension , n.d.

³³ Clear Creek County. *Rain Barrel Resources* , CSU Extension, n.d.

³⁴ Higgins , Steve. *University of Kentucky College of Agriculture, Food and Environment Cooperative Extension Service*. University of Kentucky, n.d.

While outdoor gardening is most water intensive,³⁵ gardens can also add additional growing spaces to their location that are more efficient in water use, as well as providing produce year-round. For example, greenhouses, aquaponics, and mushroom cultivation are three methods detailed below that are less reliant on sufficient water and soil quality to succeed. When managed well, these garden additions can increase food production and access within the community.

F. Incorporating Passive Solar Greenhouses into a Community Garden

Greenhouses extend the growing season beyond the first frost, thereby increasing access to fresh produce from seasonal to year-round harvesting. Greenhouses use less water than traditional outdoor gardens, as the controlled environment reduces wind, temperature, and humidity fluctuations that cause plants to lose water.³⁶ Greenhouses also extend opportunities for educational programs throughout the year.

The amount of food a greenhouse can produce depends on its size, but roughly one pound of fresh food per square foot of the greenhouse can be expected.³⁷ Space can be maximized by creating layers of shelves with different crops. A small greenhouse (for example 8' x 8') can produce around 50 pounds of tomatoes and 70 pounds of leafy greens annually,³⁸ among other crops that gardeners choose to grow. Importantly, greenhouses have the potential to sustain food access for communities and combat food insecurity as long as they are constructed and maintained well.

While many greenhouse designs are prohibitively expensive because they use natural gas or propane to generate heat, self-heating “passive solar” greenhouses are both more cost-effective and sustainable. Detailed practices for building a self-heating greenhouse can be found in Appendix D.

Here are several best practices to keep in mind about greenhouses:

1. Location

- Build in areas that receive adequate sunlight from the fall through winter seasons and that have minimal wind.³⁹
- Avoid slopes and areas with poor drainage.
- Orient the clear wall of the greenhouse to face south or southeast to maximize solar radiation.
- Locate greenhouse in accessible areas near community centers.

2. Crops

- Cooler temperature crops (mid-summer to mid-autumn): root vegetables like carrots and beets and leafy greens like lettuce and chard.⁴⁰

³⁵ Backyard Sidekick: “Do greenhouse plants need more water?”

<https://backyardsidekick.com/do-greenhouse-plants-need-more-water-lets-find-out/>

³⁶ Ibid.

³⁷ “How big of a greenhouse do you need to feed a family?”

<https://spicytrio.com/how-big-of-a-greenhouse-do-you-need-to-feed-a-family/>

³⁸ Ibid.

³⁹ Atmos Greenhouse Systems, “The Case for A (Mostly) Passive Solar Greenhouse.” N.d.

<https://atmosgreenhouse.com/blog/the-case-for-a-mostly-passive-solar-greenhouse>.

⁴⁰ Jabbour, Niki, “A winter greenhouse: A productive way to harvest vegetables all winter.” Savvy Gardening. N.d.

<https://savvygardening.com/winter-greenhouse/>.

- Warmer temperature crops (early-spring to mid-spring): heat tolerant crops include tomatoes, peppers, and cucumbers.⁴¹

3. Limitations of Greenhouses

- High upfront cost
 - Construction materials: ~\$5,000-\$10,000 for greenhouse construction.⁴²
 - Cost of construction labor is variable.
- Management
 - Greenhouses will need regular maintenance for: watering, harvesting, pruning, weeding, fertilizing, and overall greenhouse facility management.

Case Study: Colorado College Self-Heating Greenhouse

In 2013, Colorado College (CC) installed a self-heating greenhouse on their campus. The 18' x 28' greenhouse was designed by Penn and Cord Parmenter of Smart Greenhouses LLC and constructed by CC staff. The greenhouse is self-heating, meaning the sun's energy is collected during the day, stored through thermal mass, and is then released back into the greenhouse at night. CC's greenhouse uses drums of water to store heat which is a cost effective alternative to gas-generated heat.



Direction and management of the greenhouse falls on the responsibility of students belonging to CC's Synergy Program, an on-campus living community for students passionate about sustainable living and local agriculture. By choosing and growing their own produce, the greenhouse teaches Synergy students about sustainable diets and agriculture. The greenhouse is accessible to all students and allows them to grow and harvest produce year-round. Favorite produce grown in the greenhouse include cherry tomatoes, eggplants, kale, peppers, green onion, and cucumbers.

See Appendix D for a summary of best practices from Penn and Cord's self-heating passive solar greenhouse design.

G. Incorporating Aquaponics into a Community Garden

Aquaponic farming is the combination of growing and harvesting fish and plants in a circulating system. Aquaponics mimics biological processes in a natural environment in a controlled production setting⁴³. In the system, typically wasted nutrients that fish excrete are used as fertilizer for plant growth, minimizing the need for industrial fertilizers⁴⁴. This process relies on the recycling of nutrient-rich water, and therefore there is minimal water loss. Aquaponic farming

⁴¹ ClimaPod, "Summer greenhouse: What should I grow in it?" N.d. <https://climapod.com/summer-greenhouse-what-should-i-grow/>.

⁴² Ibid.

⁴³ Lennard, Wilson and Goddek, Simon. "Aquaponics: the Basics." *Aquaponics Food Production Systems*, pp 113-143 https://doi.org/10.1007/978-3-030-15943-6_5.

⁴⁴ David, H. Luiz et al. "Sustainability of urban aquaponics farms: an emergy point of view," *Journal of Cleaner Production*, no 331 (2022), <https://doi.org/10.1016/j.jclepro.2021.129896>.

significantly lowers the health risks and monetary costs associated with using fertilizers and pesticides. Additionally, aquaponics uses about 1/10th of the water needed for soil-based gardening, uses less space, and grows both plants and fish year round, making it a productive food source.⁴⁵

The system can also be run hydroponically, without fish, by adding synthetic nutrient solution to the water. However, this has a higher cost and is less stable; fish feed is less expensive and the fish provide nutrients consistently.⁴⁶

1. Models of Aquaponics

Deep water culture: uses foam rafts to secure individual seedlings that float in fish effluent water that has been filtered to remove solid waste. The roots dangle freely in the water. This method is most beneficial for growing leafy greens and is the technique often used in large-scale set ups.^{47 48}
(Image taken at Emerge Aquaponics)



Media-based aquaponics: takes a similar approach, but the plants are grown in inert planting material such as clay or shale that provides the biological and mechanical filtration needed. These systems can grow a larger variety of crops, such as leafy greens, herbs, and fruiting plants.⁴⁹

Nutrient film technique: places plants along PVC pipes that could be hung from ceilings and walls, utilizing unused space. However, this technique only works for plants that need little support, such as strawberries and herbs.⁵⁰

Vertical aquaponics: plants are stacked on top of each other in tower systems. Water flows from the top down to the bottom, where it flows back into the fish tank.

A combination of these techniques could be used in a greenhouse setting to use space efficiently and grow a variety of plants.⁵¹

2. Limitations

- Starting an aquaponic farm requires high up-front costs to build or purchase a greenhouse and acquire the materials to build the aquaponic system.⁵²
 - ~\$10,000 for greenhouse structure

⁴⁵ “What is Aquaponics?”, The Aquaponic Source, The Aquaponic Source, Accessed April 2022, <https://www.theaquaponicsource.com/what-is-aquaponics/>.

⁴⁶ “Can I run the system without fish?”, FAQs, The Aquaponic Source, Accessed April 2022, <https://www.theaquaponicsource.com/faqs/>.

⁴⁷ Matthews, Kerren. Ture Ricker: YWAM Emerge. Personal, April 14, 2022.

⁴⁸ Georing, Chris. “Types of Aquaponics Designs,” EcoLife Conservation, EcoLife, May 1 2019, <https://www.ecolifeconservation.org/updates/types-aquaponics-systems-design/#:~:text=Primarily%2C%20there%20are%20three%20different,we%20utilize%20here%20at%20ECOLIFE..>

⁴⁹ Ibid

⁵⁰ “What is Aquaponics?”, The Aquaponic Source, The Aquaponic Source, Accessed April 2022, <https://www.theaquaponicsource.com/what-is-aquaponics/>.

⁵¹ Ibid

⁵² Ibid

- \$15,000-\$30,000 to build an aquaponics system of roughly 1700 square feet, however this can yield up to 650 heads of lettuce per week.⁵³
- There is also a large investment of time required for start up.
 - About 40+ hours per week of labor are needed to learn about the system.
- Consistent management is required to ensure the system is running correctly and to harvest.
 - 20-hours per week of labor are required for system upkeep.
- Technical knowledge of the aquaponic system is needed to maintain the farm.⁵⁴
 - Someone needs to be able to test pH and nutrient levels of the system multiple times a week as well as control and adjust pumps and water flow.

Case Study: The GrowHaus, north Denver, CO

The GrowHaus,⁵⁵ a non-profit organization in north Denver working on community-driven food justice, operated an aquaponic farm for about 8 years to provide fresh produce for their community. In partnership with Colorado Aquaponics,⁵⁶ now The Aquaponic Source,⁵⁷ GrowHaus was able to establish their aquaponic system in an existing greenhouse, renovated with a grant from the Colorado Health Foundation. The 300 square foot media beds grew squash, zucchini, cucumbers, several varieties of tomatoes and peppers, eggplant, broccoli, Brussel sprouts, beans, and strawberries, and with 1200 square feet of deep water culture beds produced over 20,000 pounds of lettuce annually.⁵⁸ According to current Director of Development, Nina Roumell, the produce was sold to restaurants in Denver to provide funding to the GrowHaus and the farm provided beneficial education opportunities to community members and others interested in learning about aquaponic farming. In 2020 the building closed for renovation, but when structural deficits were discovered, all of GrowHaus' operations relocated and the aquaponic farm closed permanently. Among all their initiatives, the aquaponic farm was the most expensive to run, relied on unpaid interns and did not provide significant net funds or free produce. In terms of growing food, GrowHaus has pivoted to facilitating backyard gardens in the community, with promotoras teaching people how to garden at home (see section I, below).⁵⁹

Case Study: Emerge Aquaponics, Black Forest, CO

Emerge Aquaponics is a farm running in Black Forest, Colorado. The farm grows leafy greens and produces fish in a 7,000 square foot greenhouse. The Emerge Aquaponics farm operates in association with the Christain organization Youth with a Mission, and has developed a reproducible, commercial aquaponics system as well as providing training and consulting for others looking to become involved with aquaponics. Their aquaponic farms yield about 3850 heads of lettuce per week in the deep water systems. Emerge Aquaponics hosts community gatherings



⁵³“Build our system,” YWAM Emerge, YWAM, 2022, <https://www.ywamemerge.org/open-source-project>.

⁵⁴ Matthews , Kerren. Ture Ricker: YWAM Emerge . Personal, April 14, 2022.

⁵⁵ “About The GrowHaus”, The GrowHaus, Accessed April 2022, <https://www.thegrowhaus.org/the-growhaus>.

⁵⁶ “Welcome to Colorado Aquaponics”, Colorado Aquaponics, Accessed April 2022, <http://www.coloradoaquaponics.com/home>.

⁵⁷ The Aquaponic Source, Accessed April 2022, <https://www.theaquaponicsource.com/>.

⁵⁸ “Growing Food, Growing Minds, Growing Community”, Colorado Aquaponics, Accessed April 2022, <http://www.coloradoaquaponics.com/about>.

⁵⁹ Matthews, Kerren & Olivia Jacobson. Nina Roumell: The GrowHaus. Personal, April 11, 2022.

twice a week to harvest. These gatherings have a minimum of 15 volunteers every time. The organization credits this strong participation to their “strong relationship building”. The produce is then sold to local restaurants and food services in Colorado Springs and given to people who experience food insecurity. The organization is funded through crop sales, grants, personal donations and donations from foundations.⁶⁰

Emerge Aquaponics helps other organizations set up aquaponics systems and as an organization, values relationship building and the environment in their endeavors. They work to find relationships with people around the world who are passionate about “fighting poverty with dignity” by building aquaponic farms, committing their time and energy to learning how to run them, and following through with the management of the system. They have worked with two non-profits in the U.S., but unfortunately both projects failed due to lack of dedicated management and community participation. For information about Emerge Aquaponics’ farm setup, building materials, and teaching opportunities, see Appendix E.⁶¹

Case Study: Groundwork Greens, Denver CO

Groundwork Greens is an offshoot of Groundwork Denver’s food access initiatives.

Groundwork Greens is a hydroponic greenhouse that was established in 2014 and works to combat urban food deserts by providing fresh, affordable local produce to restaurants and various Denver communities. The 1800 square foot space produces 3000 to 4000 pounds of produce annually. More recently, Groundwork Greens has developed a year-round CSA food box program where local customers can sign up to receive fresh produce weekly. About 20-30% of the CSA produce is distributed at no cost for those facing food insecurity, and the rest of the boxes are purchased at full price. Groundwork Greens also donates a portion of their produce to other local food justice organizations.^{62 63}

Building and maintaining an aquaponic farming system is expensive and time-intensive, and requires full-time management. Among these three case studies there are varying levels of success with regards to food production and community access. In the case of The GrowHaus, the aquaponic farm was not producing enough produce or money to be a continued investment for the organization, and they now focus their resources on other programs to combat food insecurity. Alternatively, Emerge Aquaponics functions primarily as a commercial farm, producing and selling the majority of their produce. Groundwork Greens balances between the other two organizations. The greenhouse operation is relatively small, and though the primary mission is to combat food insecurity, Groundwork Greens must sell the majority of its produce at full price to sustain funding for the farm. It is important for SRCDC to consider what capacity the organization has to produce food or what partners they could support in this work.

H. Incorporating Mushroom Cultivation into Community Gardening

Cultivating mushrooms is another food farming technique that could be considered by SRCDC, one that is gaining traction amongst urban growers. While it may seem like an intimidating process, there are a great number of online resources and increasingly more and more [local](#)

⁶⁰ Matthews, Kerren. Ture Ricker: YWAM Emerge. Personal, April 14, 2022.

⁶¹ Ibid

⁶² Matthews, Kerren & Jacobson, Olivia. Allie Runne: Groundwork Denver. Personal, April 15, 2022.

⁶³ “The Greenhouse,” Groundwork Denver, Accessed April 2022, <https://groundworkcolorado.org/programs/food/greenhouse/>.

[growers](#)⁶⁴ to provide support during the initial learning curve. A small scale growing space could involve a tent and a grow shelf layered with bags of the mushrooms. Below we outline a number of advantages and limitations to mushroom cultivation.

1. Advantages

- Relatively cheap start up costs
- Can be cultivated indoors and grown year round
- Short growing period (after inoculation they can be harvested in ~6 weeks)
- Lucrative - can be sold to restaurants, at farmers markets, or to online buyers
- Have a number of nutritional values, including protein, iron, high vitamin B6 (important for brain development and a healthy immune system) as well as being host to a number of antioxidants.⁶⁵

2. Limitations:

- An initial learning curve
- Environmental needs: a sterile growing space with light, ventilation and enough water
 - There are a number of resources that can help beginner growers overcome these challenges - mushroom cultivation is becoming a widespread method of producing food and generating income for urban growers (see Appendix F).

3. Costs

It can cost between \$2000 and \$10000 to set up a small scale mushroom farm. A 10ft by 18ft space can grow >50 pounds a week, which depending on species cultivated, can be sold for \$5 - \$20 a pound.⁶⁶

Case study: Microvora, Colorado Springs, CO

A Colorado Springs based mushroom cultivation farm that produces “exotic, gourmet and medicinal mushrooms”. They grow and sell by the pound chestnut (\$20), king trumpet (\$15), lion’s mane (\$15), pioppino (\$20) and gray oyster (\$10). The farm operates in an indoor space of 2,000 sq feet, producing over 400 pounds of mushrooms weekly. Microvora provide to 36 chefs in the Colorado Springs downtown area as well as sell mushrooms online through their website. Founded by Patru Dumitru, the business started from being based in the attic of a house before being moved into a warehouse. While this is a fully commercial farm,



⁶⁴ “Welcome to Microvora.” Gourmet Mushrooms & Microgreens, February 8, 2022. <https://microvora.com/>.

⁶⁵ Reis, Filipa S., Lillian Barros, Anabela Martins, and Isabel C.F.R. Ferreira. “Chemical Composition and Nutritional Value of the Most Widely Appreciated Cultivated Mushrooms: An Inter-Species Comparative Study.” *Food and Chemical Toxicology* 50, no. 2 (2012): 191–97. <https://doi.org/10.1016/j.fct.2011.10.056>.

⁶⁶ Crosby, Willie. “Fruiting Mushrooms: A Fruiting Room Example from Commercial Growers.” Fungi Ally. Fungi Ally, January 15, 2018.

<https://www.fungially.com/blogs/growing-mushrooms/fruited-mushrooms-fruited-room-example-commercial-growers>.

something can be set up at a smaller scale that focuses on mushrooms that are easier to cultivate such as oyster⁶⁷, king trumpet and lion’s mane.

I. Management Styles

While determining an effective garden location and growing style is critical, developing a management style that best suits the community's needs and fits within the capacity of SRCDC is an imperative step towards constructing a productive garden space. As community gardens have grown in popularity, various management styles have developed and been proven effective. Depending on the level of involvement that SRCDC would like to have throughout the garden development and maintenance process, different management styles will apply. Throughout this section case studies are also provided to demonstrate varying methods of management at work.

1. Adopt-a-lot

Adopt-a-lot garden frameworks are the most common management style for community gardening. Gardens specifically designed to create a community growing and gathering space will often rent out portions of the garden to each member, for small fees meant to cover water and land costs, and then leave members to tend their own plot of land, growing what they please.⁶⁸ In this instance, the garden only truly needs managers at the start of the process, to semi-regularly check that members are tending their plots adequately, and for educational programming. The majority of cost is up-front but once the amenities are available, community members are responsible for the health and maintenance of the crops.

Benefits

- Less overhead management needed from the farm itself; management is primarily needed to oversee community engagement and member renewal.
- Lower cost.

Concerns

- Lack of oversight regarding food production.
- Requires more individual investment and may disproportionately benefit people who have more dispensable time to garden.

Case Study: Deerfield Community Center⁶⁹

The Deerfield Community Center located in Southeast Colorado Springs is an engaging example of “adopt-a-lot” policies close to home. Jody Derington, coordinator at the community center, says that the garden has been running since the 1970s, with an “ebb and flow” of success.⁷⁰

Participants can rent a plot for \$40 from February to October. Participants can rent a raised bed for \$20. Water



⁶⁷ Oyster mushroom Picture. Sayner, Adam. “How to Grow Mushrooms in a Bag.” GroCycle, April 10, 2022. <https://grocycle.com/grow-mushrooms-in-a-bag/>.

⁶⁸ “Community Gardens.” Community Gardens. City of Santa Fe, New Mexico. Accessed April 15, 2022. https://www.santafenm.gov/community_gardens.

⁶⁹ Barber, Claire. Jody Derington: Food to Power Interview. Personal, April 14, 2022.

⁷⁰ City of Colorado Springs. *Deerfield Hills Community Center*. Photograph. Colorado Springs, n.d.

and tools are included in those membership fees. The garden in total has nine plots and eight raised beds. This season, four gardeners are using the space. The community center will waive fees for someone who is unable to afford them.

Derington expressed that the community garden is difficult to maintain with volunteers: “This is a hard working class community and finding the time when you’re trying to put food on the table might be a challenge even when it’s two blocks away from your house,” she said. The garden’s most productive year occurred when the community center hired a full time staff member – “When you have someone who can help others thrive that’s huge,” said Derington.

Overall, while a long-standing success, the garden struggles with volunteer engagement/turnover and with educating their gardeners about best practices. *See Education & Leadership Page 24.*

2. Work Share

Work Share style community gardens address the space as a whole, with community members working in shifts to tend to the land collectively. Labor is on a volunteer basis and supplies are donated by fellow community members and organizations.⁷¹ These urban gardens are designed to run themselves, with members signing up for approximately two shifts a week to weed, plant, harvest, and tend to common spaces. In addition, these spaces are often designed to be intentionally educational, where community members are given the opportunity to learn about topics such as storing vegetables for long-term use, cooking meals from scratch, and harvesting heirloom seeds to continue planting in the future. Community volunteers receive a share of the crops as they are harvested and in many cases, a large share of the food is then donated to local food pantries and food banks. If modeled in SE Colorado Springs, a community garden supported by volunteers could provide additional food to the Solid Rock Food Pantry and farmers markets throughout the summer.

Benefits:

- *Ideally* self-sustaining with engaged community members.
- Simple procedure for partnering with community organizations.
- Creates a community space and project, beneficial for community cohesion.
- Potential high produce yield specifically for food access projects.

Concerns:

- Uncertainty around continuous community engagement and volunteer presence.
- Unable to offer financial compensation for community members’ time commitment.

3. CSA

Community Supported Agriculture (CSA) has been a common framework for both supporting local farms and sustaining urban gardens. Traditional models of CSAs involve stakeholders paying a membership fee to local farmers and receiving fresh produce with the rotation of seasonal crops.⁷² Ideally, farmers would be an independent group, requiring a partnership with a local business, or paid staff members on the part of SRCDC. This

⁷¹ Brugge, Doug, H. Patricia Hynes, Katherine Alaimo, Thomas M Reischl, Pete Hutchison, and Ashley E Atkinson. “‘We Don’t Only Grow Vegetables, We Grow Values’: Neighborhood Benefit of Community Gardens in Flint, Michigan.” Essay. In *Community Research in Environmental Health Studies in Science, Advocacy, and Ethics*. London: Routledge, 2016.

⁷² “Community Supported Agriculture.” Local Harvest - Real Food, Real Farmers, Real Community. Accessed April 15, 2022. <https://www.localharvest.org/csa/>.

model is the most difficult to finance, but is the most likely to yield an impactful scale of produce due to consistent paid labor and expertise. CSAs frequently supply produce to members on a subscription model where community members buy shares of the season's crops and receive boxes of produce as things are harvested. A portion of the season's harvest is then set aside to be donated to local organizations in the food access network. When scaled up, Community Supported Agriculture resembles the model of Commercial Urban Agriculture (CUA), in which private farmers, partnered with community organizations, balance economic longevity and community care through selling produce commercially and donating product to local food access networks.⁷³ The central difference between CSA and CUA is that CSA frequently resembles a membership model, while CUA farms might exist to produce food as separate from community members (for a restaurant, for example) and donate excess to other food access organizations. By partnering with local food banks, co-ops, and other food access points, Commercial Urban Agriculture can help stimulate the economy and nutritious food security. Both the CSA and CUA models allow urban gardens to grow local economies, creating job opportunities and agricultural training for community members. A pilot program in Pueblo is exploring a CSA and WIC partnership (see page *Case Study Pueblo Food Project 23*).

Benefits

- Transfers responsibility for crop care to paid farmers, while providing consistent monetary support through community memberships.
- Creates job opportunities, paying gardeners and providing agricultural training.
- Economically sustainable without the aid of grant funding, member annual fees aid to cover the cost of sustaining the garden and labor.

Concerns

- Lower yield of produce for community food security support, at least at the start of CUA development.
- Lower cultivation of community cohesion, requiring less volunteer work and community support.
- More difficult to involve local community organizations.

4. Backyard Gardens

Another fairly accessible model is providing funding for individual backyard garden plots throughout neighborhoods.

Re:Vision Denver, an organization with the mission of working with people in economically marginalized neighborhoods to develop resident leaders, cultivate community food systems, and create an economy owned by the community, has created a backyard garden program that has helped more than 2000 families establish household gardens in southwest Denver. The gardens have produced more than 500,000 pounds of organic produce and have saved families a total of \$1 million dollars on groceries.⁷⁴

Re:Vision's model operates by providing low-income families with seeds, plants, compost and drip irrigation systems, helping families to overcome the cost barriers associated with starting an at home garden.⁷⁵ Each family is assigned a Promotora, a local community

⁷³ Sazo, Maritza V. "Commercial Urban Agriculture in the United States: Growing More Than Just Food." *Commercial Urban Agriculture*, 2016.

⁷⁴ "Backyard Garden Model." Revision Denver. Squarespace. Accessed April 14, 2022. <https://www.revision.coop/>.

⁷⁵ Ibid

resident who is a trained teacher in urban agriculture and healthy living. The Promotora provides families with the technical skills needed to maintain the garden. Further, the “promotora model creates good paying and well-respected jobs in the community”⁷⁶ and empowers residents to transform their own lives and the lives of their neighbors while helping to develop a resilient, local food system.

Benefits

- Provide day-to-day access to fresh produce with no need to transport the produce.
- Can strengthen mental health and well-being.

Concerns

- Requires each household to have the time/knowledge to garden themselves.
- Requires individuals to be stewards for their gardens as opposed to a paid or volunteer staff or visiting groups, which can mean less effective food production.
- Only feasible for community members with a yard.

Case Study: Pueblo Food Project⁷⁷

The Pueblo Food Project (PFP) is a promising food justice model for SRCDC to examine and potentially emulate as efforts expand. PFP models an effort to transform an entire local food network, tying together community garden management with community education and food access points.

Pueblo has a similar food landscape as Southeast Colorado Springs, with a disproportionate fast-food to fresh-food ratio and lacks an adequate model to distribute local food.⁷⁸ The Pueblo Food Project is an expansive effort, working to tackle access, production, and educational gaps in the food system through coalescing working groups and coordinating stakeholders and pre-existing food organizations in the city.

The Pueblo Food Project engages over 100 active community members and organizations. Its structure is extensive, with fifteen Pueblo Food Council (PFC) representatives elected by PFP participants. The food council acts as strategic advisors for five PFP working groups (comprising about 30 people): Food Access, Food Economy, Farm & Food Literacy and Education, and the Environment. Working groups define their own mission and goals in alignment with PFC plans.

What SRCDC can Learn from the Pueblo Food Project⁸⁰:



⁷⁶ Ibid

⁷⁷ Monique Marez, “Pueblo Food Project CHF Implementation Grant Submittal ”(Pueblo, CO, n.d.), pp. 1-41.

⁷⁸ Ibid.

⁷⁹ *The Community Garden at Martin Luther King Jr. Church*, photograph (Pueblo, n.d.).

⁸⁰ Barber , Claire. Megan Moore; Deric Stowell: Pueblo Food Project . Personal, n.d.

- Received a \$85,000 planning grant from the Colorado Health Foundation in 2019. (See Appendix G)
- Pueblo Food Project’s structure and project working groups present a potential model for SRCDC to galvanize and structure a volunteer workforce. These working groups could help provide structure and multi-layered levels of involvement for stakeholders, as well as provide a backbone for potential advocacy work and efforts outside of and within the Southeast.
- The Community Garden Sustainability Project also partners with the Colorado State University Pueblo extension (CSU-P) Master’s Gardeners Program to take care of gardens and edible landscapes in the community. (See page 24 “Education and Leadership”)
- PFP partners with the WIC office, sponsoring forty families who participate in WIC to receive a weekly organic (CSA) farm box. See page 45, “Making SNAP More Accessible”

J. Education & Leadership

Just as selecting the proper plot and management style is integral to garden success, cultivating the garden’s growers and advocates through educational and leadership training will help ensure that the community garden has the proper support and technical knowledge moving forward. Below, we explore mentorship and educational models that SRCDC might be able to utilize.

Community gardens create a unique space for educational opportunities, including agricultural job training, nutrition education, and cooking classes. In models such as the Windy City Harvest Corps, in Chicago, IL, community garden spaces are utilized for building job skills, not solely in the agricultural field, but in food service, farmers market management, and generalized professional skills. Windy City Harvest Corps focuses specifically on creating job opportunities for formerly incarcerated folks and other community members who have difficulty finding employment while in transition.⁸¹ Community gardens create a space for care in education, where community members can foster new skills while increasing food security and accessibility in their communities. Urban gardens also create opportunities for youth program development, in which children and young adults can have exposure to various career paths, and create connections among older community members. By providing youth training, and potentially internships for long term youth gardeners, community gardens can create a professional and personal development opportunity for community members of all ages⁸².

1. CSU Extension⁸³

Colorado State University offers discounted and free courses in agriculture and gardening practices. The extension office is a great resource for training opportunities and outsourcing volunteers. The Colorado Master Gardener Program specifically requires participants to

⁸¹ Benveniste, P. “Windy City Harvest: An Urban Agriculture, Entrepreneurship and Jobs Training Program.” USDA Research, Education & Economic Information System. REEIS Measuring Results. Accessed April 15, 2022. <https://reeis.usda.gov/web/crisprojectpages/0219630-windy-city-harvest-an-urban-agriculture-entrepreneurship-and-jobs-training-program.html>.

⁸² CITATION

⁸³ Barber , Claire. Michele Ritchie: CSU Extension . Personal, April 13, 2022.

work a set number of hours at community organizations. SRCDC could potentially leverage some Master Gardeners to tend to plots and train volunteers.

Contact: Irene Shonle, Master Gardener Coordinator, Colorado State University Extension, El Paso County. irene.shonle@colostate.edu

2. Promotora Model

We suggest that SRCDC uses a model similar to the Promotora model,⁸⁴ developed in Latinx communities, to emphasize the importance of community and promote “buy-in” from community members. A promotora is a local community resident who is trained in urban agriculture, health and well-being, and leadership. These people help create a community draw to the organization and are the ones directly doing the outreach, working with the residents, and identifying the community’s needs. Both The GrowHaus and Re:Vision in Denver use this model and have multiple full-time, paid promotora employees, funded by grants, donations, and revenue. This model creates jobs within the community and empowers residents to transform their neighborhoods. At The GrowHaus, the promotoras help teach English, help community members enroll in government programs such as SNAP, and collect feedback from community members to evaluate their organization.⁸⁵

Through conversations with community members, and potential partner organizations such as GrowHaus, it has become clear that continued and prolonged community feedback is imperative towards facilitating a successful community garden. At GrowHaus, the promotoras collect feedback through intentional conversations with community members. The promotora model is an efficient and intentional way to receive feedback because the promotoras are already integrated in the community and can work with community members to workshop their feedback and incorporate it into the organization.

K. Community Garden Funding Resources

In order for community gardens to increase food security, economic opportunities, and educational training, finding sustainable funding resources is key. While ideally gardens will be self-sustaining, at least in the first few years of development outside financial aid through grants programs and government funding will be critical. As urban gardens are an emerging field, gaining further prominence throughout the COVID-19 pandemic as both a means for securing a local food system and building community cohesion, grant programs have grown to increase development access. See Appendix G for detailed information on potential grant options.

It is also important to note that grant money for construction materials/infrastructure are much easier to get than funding for salaried staff members, whether garden tenders or food access point managers.⁸⁶ Consequently, SRCDC might consider focusing on getting grant money for materials while establishing human connections to develop a volunteer network. Using existing community partnerships and media channels are both viable ways to get committed volunteers for a project.⁸⁷

⁸⁴ Vasudevan, Raksha. “As food insecurity soars in north Denver, a Latina-led rapid response team is supporting the city’s most vulnerable families”. *The Counter*. July 20, 2020. Accessed April 2022.

<https://thecounter.org/covid-19-denver-latinx-food-insecurity-promotoras-growhaus/>.

⁸⁵ Matthews, Kerren & Olivia Jacobson. Nina Roumell: The GrowHaus. Personal, April 11, 2022.

⁸⁶ Hicks, Izzie. Larry Stebbins Interview. Personal, April 11, 2022.

⁸⁷ Ibid.

L. Conclusion

As we have seen, community gardens present a range of benefits and opportunities for neighborhoods and residents – from building community cohesion and fostering neighborhood ownership and civic pride,⁸⁸ to providing opportunities for agricultural and healthy eating education.⁸⁹ With a goal of providing the most healthy food to the most people, community gardening is one of many steps that can help to increase awareness around healthy eating practices and the food system, while also contributing to that system itself if the plot is productive. Most of all, success will require community buy in:

“Community gardens require substantial participation in order to be successful. Studies have shown gardens experience a higher success rate when they are developed through a ‘bottom–up’ approach, which occurs when the community is involved from the beginning of the planning process.”⁹⁰

Human infrastructure is the core to a healthy garden and a sustained food system. No matter what gardening models might be implemented by SRCDC, skills and leadership must be cultivated alongside the garden beds and greenhouses. Let the growth begin!

⁸⁸ Twiss, Joan, Joy Dickinson, Shirley Duma, Tanya Kleinman, Heather Paulsen, and Liz Rilveria. “Community Gardens: Lessons Learned from California Healthy Cities and Communities.” *American Journal of Public Health* 93, no. 9 (2003): 1435–38. <https://doi.org/10.2105/ajph.93.9.1435>.

⁸⁹ Corrigan, Michelle P. “Growing What You Eat: Developing Community Gardens in Baltimore, Maryland.” *Applied Geography* 31, no. 4 (2011): 1232–41. <https://doi.org/10.1016/j.apgeog.2011.01.017>.

⁹⁰Ibid.

V. Food Cooperatives ('CO-OPS')

A. Why Food Cooperatives?

Food cooperatives, or 'co-ops' are grocery stores that are owned by the community members who shop and/or work there. They prioritize community member involvement and can provide a more long term and permanent solution to food insecurity. Co-ops keep money in the local economy, provide affordable access to nutritious food, and are a space for community events and opportunities.⁹¹ Co-ops can be organized in ways that allow individuals of all financial capabilities to become members and to have access to affordable, healthy, and good quality food. Food cooperatives have been successful in many neighborhoods with high rates of food insecurity as a way to provide access to affordable fresh food and as places for community engagement. This section will explore best practices, limitations, and potential partnerships within the space, and outline case studies that set a precedent for successful food co-ops serving communities with similar needs to those of the Southeast.

B. Three Co-op Models

Co-ops are not always identical in structure and purpose. Many different models are used, and aspects of different models can be combined to most accurately cater to a community's needs. This section will explain three of the most common models for co-ops.

1. The Consumer Cooperative

The most common model of co-op is the *consumer cooperative*, where the members, patrons, and/or owners are people that come together to purchase goods collectively through bulk discounts. Members can contribute to the co-op through practices including, but not limited to, making investments in shares of the business, patronizing the store, and voting in elections for co-op leaders. In this model, members often pay a membership fee that helps fund the acquisition of goods for the store, and in turn, earn decision-making rights, a share of profits, and/or discounts. Not all patrons of a cooperative necessarily have to be members. There are a wide variety of membership plans that upcoming grocery co-ops could study and potentially implement, including sliding scale membership options that allow individuals of different income levels to pay different amounts, yet own equal amounts of the co-op. This seems to be the most commonly seen model of food cooperatives.

2. The Worker Cooperative

Another model is a *worker cooperative*, where the members are also the workers in a particular co-op facility. A member could work a certain number of hours in exchange for food or other goods from the co-op, instead of paying with traditional currency.⁹² A patron's membership is measured by how much time they spend working for the co-op or by the value of the work that is done.

3. The Producer Cooperative

The third common model is a *producer cooperative*, where members are individual food

⁹¹ "What Is a Food Co-Op?" Co+Op. April 6, 2012.

<https://www.grocery.coop/food-coops/what-is-a-co-op#:~:text=Co%2Dops%20keep%20more%20money>.

⁹² Co-opLaw.org. (n.d.). *What are Cooperatives*. [online] Available at:

<https://www.co-oplaw.org/knowledge-base/what-are-cooperatives/>. [Accessed 15 Apr. 2022].

producers who have formed a co-op as a space to market their goods together. The co-op provides members with supplies at competitive prices by purchasing in bulk.⁹³ This model is most typically used to offer agricultural services for farmers, either inputs (seed, fertilizer, or fencing), or processing and marketing services (middle bottling or cheese production).

C. Best Practices

From research and case studies, we identified some best practices for setting up and maintaining a successful co-op that targets food insecurity. Much of our information on best practices was also gathered from national co-op organizations, namely [Food Co-op Initiative](#)⁹⁴ and [National co+op Grocers \(NCG\)](#).⁹⁵ These websites provide extensive (and mostly free) guides and assistance on starting a food co-op, budgeting, governance, and more, and offer free sessions with a co-op mentor.

We conducted research on currently existing grocery co-ops, focusing on co-ops in low-income areas and/or in areas with high rates of food insecurity. From these case studies in Oakland, Minneapolis, New Orleans, Oshkosh, and more, we got a sense of what the best practices look like for a successful, community-based, and equitable grocery co-op.

1. Participation

Many of the most thriving co-ops use models that give patrons different options for participation based on what's feasible for each individual. Most co-ops provide an option to be a member and receive special benefits, but don't require one to be a member to shop at the co-op. The membership fees help sustain the co-op and provide funding. At the New Orleans Food Co-op, individuals, families, or businesses may purchase different levels of membership, with the memberships acting as investments that allow them to own a share (one share = one vote) in the co-op. To keep an even playing field, member-owners may only have one share each. An individual membership is \$100, but the co-op also offers a limited income share for \$25 that has the same benefits as the \$100 share but is available to people living on a fixed Social Security or disability benefit, those eligible for food-stamps or Section 8, and/or equivalent programs (*See page 45 "Making SNAP More Accessible"*). A majority of the co-op's 4,000 members are on the limited income membership plan. The limited income share can also be paid for in monthly installments.⁹⁶ There are also higher levels of membership investments available.

At the Seward Community Co-op, Friendship Store, a member-owned full grocery store in a low-income neighborhood in Minneapolis, they utilize a similar sliding scale model for their membership. A member can pay \$75 in full for full owner equity, or they can split it into a payment plan. For members enrolled in a state assistance/support program, an equity investment membership can be purchased for \$15. The remaining \$60 is earned through future dividends, which are converted to equity until their total reaches the \$75 membership cost.⁹⁷ The Seward Co-op has over 19,000 members and became profitable in

⁹³ Ibid.

⁹⁴ "New Food Co-Ops Start Here." FCI. Accessed April 19, 2022. <https://fci.coop/>.

⁹⁵ "About Us." National Co+op Grocers, April 18, 2022. <https://www.ncg.coop/about-us>.

⁹⁶ "Become a Member | New Orleans Food Coop." [www.nolafood.coop](https://www.nolafood.coop/ownership/become-a-member/).

⁹⁷ Halliday, Leah, and Michèle Foster. 2020. "A Tale of Two Co-Ops in Two Cities." *Journal of Agriculture, Food Systems, and Community Development*, February, 1–16. <https://doi.org/10.5304/jafscd.2020.092.005>.

just 1.5 years.⁹⁸ Offering a range of membership options encourages individuals with a variety of financial capabilities to become a part of a grocery co-op.

2. Grocery Payment Models

Another best practice that we've identified is allowing patrons to choose from different payment and shopping methods in order to encourage individuals to patronize co-ops regardless of ability to pay. Common successful practices that we've identified include offering discounted groceries for EBT recipients and offering a work exchange model. The Mandela Grocery Cooperative seeks to attract recipients of SNAP and WIC benefits by offering these shoppers a 50% discount on many different food options (*See page 44 "Making SNAP More Accessible"*).⁹⁹ At Bread for Life, a former food pantry turned food co-op, members have the option to either spend two hours helping out at the co-op in exchange for shopping there free of charge, or they can spend one hour working and pay \$5 per visit.¹⁰⁰ The Seward Community Co-op accepts EBT benefits including SNAP, and adds an automatic 10% discount to shoppers who qualify for state assistance programs (*See page 44 "Making SNAP More Accessible"*).¹⁰¹ The co-op also marks price on bulk items and pantry staples to the absolute minimum possible profit margin to make these vital items affordable for everyone. The New Orleans Food Co-op also utilizes these strategies—they allow patrons to use SNAP/other EBT programs to get discounts at the co-op, and also offer the opportunity to get discounts in exchange for volunteering time at the co-op.¹⁰² These practices make food accessible while also allowing patrons to give and receive, instead of just receive which can help to reduce stigmas concerning food assistance.

3. Community Engagement

Another practice that has proven successful in grocery co-ops is offering community engagement strategies. At the Seward Co-op Friendship Store in Minneapolis, they offer scratch cooking classes for recipes that can feed families of four for less than \$10/meal. They also offer cooking classes using seasonal ingredients and food inspired by Native American culinary traditions.¹⁰³ Over 50% of their employees live within one mile of the store, and they commit to paying these workers a living wage. This creates a sense of community as people enjoy coming into the shop and seeing their neighbors. Co-ops can also be a space for local farmers and vendors to sell their products, which helps to keep money in communities and supports small-scale, local producers.

D. Limitations

Though grocery cooperatives are a useful solutions to food insecurity, there are a few potential reasons why co-ops fail, including:¹⁰⁴

- Inadequate funding

⁹⁸ Ibid.

⁹⁹ Ibid.

¹⁰⁰ Ministries, Home Sweet Home. n.d. "Bread for Life Cooperative: Serving Families in Bloomington, IL." Home Sweet Home Ministries. <https://hshministries.org/about-us/our-services/food-services/profile/bread-for-life-co-op>.

¹⁰¹ Halliday, Leah, and Michèle Foster. 2020. "A Tale of Two Co-Ops in Two Cities." *Journal of Agriculture, Food Systems, and Community Development*, February, 1–16. <https://doi.org/10.5304/jafscd.2020.092.005>.

¹⁰² "Become a Member | New Orleans Food Coop." n.d. www.nolafood.coop. <https://www.nolafood.coop/ownership/become-a-member/>.

¹⁰³ Halliday, Leah, and Michèle Foster. 2020. "A Tale of Two Co-Ops in Two Cities." *Journal of Agriculture, Food Systems, and Community Development*, February, 1–16. <https://doi.org/10.5304/jafscd.2020.092.005>.

¹⁰⁴ <https://columinate.coop/why-some-new-co-ops-fail/>

- Retail Space is too small (minimum of 3,000 square feet recommended)
- Limited planning and development time before opening
- Over-reliance on member labor
- Finding a good site (easy accessibility, visibility, parking, etc.)

Though difficulties can arise, with sufficient forethought and planning these obstacles can be avoided. The associated costs with opening and running a co-op can be high, especially if the goal of the co-op is to make healthy food affordable for low-income shoppers. Securing adequate funding can take months or years. The logistics of creating a food co-op can also be an obstacle – organization and management can be difficult when multiple stakeholders are involved, and acquiring space, funding, and materials can pose difficulties. The Mandela Grocery Cooperative in Oakland still prioritizes a cooperative group decision making model, but added a role for a general manager to ensure that the store could maintain management and organization. A co-op doesn't need to be completely sourced by local farmers, especially if the primary goal is to simply get nutritious and affordable food to people who otherwise lack access. Fresh food supply can be purchased in bulk from wholesale retailers, and co-ops can partner with community gardens/agricultural initiatives to supplement this supply. If one of the goals of a southeast Colorado Springs co-op is to offer local food/produce, this could present issues in terms of sourcing because of the relative lack of year-round agricultural production in the area.

E. Costs & Funding

Here is [a cost planning resource](#) that the Food Cooperative Initiative project has put together for organizations like SRCDC to use.¹⁰⁵ Before a co-op can begin to run, there are legal costs and fees for incorporation. Capital is also necessary to conduct community outreach studies, as well as to acquire the physical space and machines necessary to run a grocery store. There are also payroll, maintenance, taxes, utilities, repairs, and other costs that come with operation. Capital comes from three main sources — grants or donations, loans or other kinds of credit from financial institutions, and equity obtained by member ownership of the co-op.¹⁰⁶ Chapter 7 of [Cooperatives: Principles and Practices in the 21st Century](#) provides detailed resources on how to fund and financially manage a cooperative.¹⁰⁷

A common challenge of addressing food insecurity in a community is finding adequate funding to support projects like the ones being discussed here. See Appendix G for potential funding sources that SRCDC could use to support establishing a food co-op. Funding a cooperative requires dedication from community members and beyond.

Case Study: Bread for Life - Transitioning from a Food Pantry to a Food Co-op

Home Sweet Home Ministries (HSHM) in Bloomington, Indiana transitioned their food pantry into a food co-op after realizing their program lacked long term solutions to address food insecurity in their community. Although the organization was feeding a lot of people, it was not addressing the systemic issues that were causing this hunger to begin with. Called [Bread for Life](#), this co-op gives patrons autonomy and sovereignty over the foods that they feed their families, which provides more freedom than a preselected box of goods from a traditional pantry

¹⁰⁵ “Frequently Asked Questions.” FCI. Accessed April 19, 2022. <https://fci.coop/faq/#cost>.

¹⁰⁶ Zeuli, Kimberly, and Robert A. Cropp. *Cooperatives: Principles and Practices in the 21st Century*. Madison, WI: University of Wisconsin Center for Cooperatives, 2004.

¹⁰⁷ Ibid.

might offer. Here are the steps that the HSHM team highlighted as key to their food pantry to food co-op model transition.

1. **Engaging with community members and asking what resources would be most useful to them.** These conversations got HSHM to realize people were excited about contributing to their own well-being and food security through participation in a food co-op concept.
2. **Transitioning from pre packaged boxes of goods to a ‘choice’ model.** This transition resulted in a pantry set up more like a traditional grocery store, where patrons have choices of what goods are best for them. This step required changing the layout of their food pantry space, such as adding glass front coolers and freezers.
3. **Officially becoming a co-op.** To be a real co-op, Bread for Life had to obtain members, and these members each contributed back to the co-op through different duties like stocking shelves, cleaning, and administrative work. This transition was very well received by the community. ([HSHM member application](#))

SRCDC has already transitioned its pantry into a more interactive shopping experience, and thus have begun implementing ideas that could be useful in a transition to a co-op. Bread for Life already had a permanent space to operate out of, which SRCDC would likely have to acquire. Running a co-op usually requires more input than many food pantries because of its more business-like nature. As demonstrated by Bread for Life, this transition can be gradual. Rather than taking the leap at once, they slowly made changes that made their ‘prepackaged’ model more of a ‘choice’ model, whilst continuing to plan the transition.¹⁰⁸ Bread for Life is a smaller-scale co-op model than other ones mentioned in this report. A model like this requires less resources to open and to maintain, and can be a great example of a more attainable solution in the short-term. Here’s a [link](#) with more information about making the transition.

F. Conclusion

The variety of possible models that exist for food cooperatives makes them a viable solution to food security that can be adapted to best cater to a community’s needs. We would recommend using the consumer cooperative model, and setting up a sliding scale membership option like the one at the New Orleans Co-op. Not only do co-ops provide affordable food, but they can also be spaces for community engagement, investment, and employment. They often require more planning and resources than other solutions, but many [online guides and resources](#) exist to help make the process easier. The many thriving co-ops already in existence can serve as examples and guides for a Southeast Colorado Springs Cooperative Grocery Store.

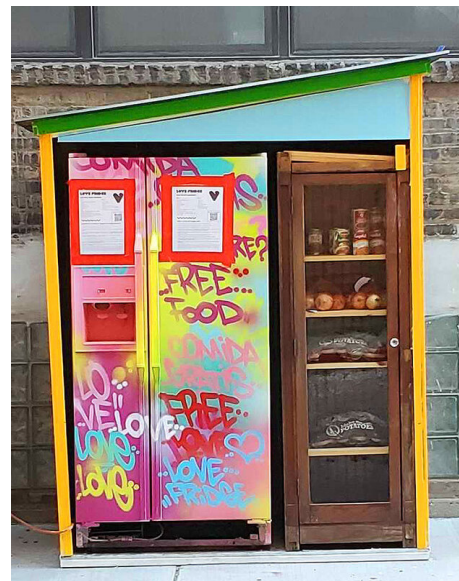
¹⁰⁸Eiro. “From Food Pantry to Food Co-Op: Lessons Learned.” REIMAGINE CHARITY. REIMAGINE CHARITY, May 22, 2015. <http://www.charitydetox.com/detox-forum/2015/5/22/from-food-pantry-to-food-co-op-lessons-learned>.

VI. Community Fridges

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A. Big Picture

Part of our goal in exploring ways to create a more sustainable system of food access is to expand SRCDC's food pantry, and emergency aid programs, to include other services. Community fridges pose a creative option that can go alongside food banks and food pantry services. Community fridges, since the pandemic, are becoming a popular tool for cities, community groups, and individuals looking to address and reduce food insecurity.¹¹⁰ These fridges are placed all around major cities like the Our Hearts NYC Community Fridge¹¹¹, The Love Fridge in Chicago¹¹², and Village (Free)dge in Miami¹¹³ which are stocked, maintained, and utilized by community members. Community fridges are built on a mutual aid model that centers around solidarity.¹¹⁴ Community fridges are usually accessible 24/7 and are stocked by other members of the community. The community fridge could also function as a location for SRCDC to put pantry donations as well as a place for farmers, restaurants, grocery stores, local businesses, and community gardens to donate surplus food.¹¹⁵ Community fridges are placed in areas that are community congregation centers and can expand and go alongside SRCDC's existing emergency aid food program to empower those who use its services through a practice of reciprocal and collective care.¹¹⁶



B. Best Practices

Community fridges vary in size, appearance, location, and style of management based on the community that runs it. Though the community fridge is designed to reflect the community it serves, there are some practices that make creating and maintaining community fridges easier. The next section describes some of the most effective and proven methods for establishing community fridges.

1. Location

Community fridges can be placed indoors or outdoors but work the best when placed in areas that already have a regular flow of people such as: cafes, restaurants, front yards, churches, schools and community centers.¹¹⁷ Visibility is crucial for the success and continued use of community fridges, so refrigerators should have glass doors so that you

¹⁰⁹ Unknown Photographer. *The Love Fridge*. Photograph. Chicago, IL. The Love Fridge <https://www.thelovefridge.com/mission>

¹¹⁰ Katherine Oung, "Community Fridges are Lifelines for the Neighborhoods They Serve", *Vox*, Feb 17, 2021, accessed Apr 14, 2022 <https://www.vox.com/the-goods/22285863/community-fridges-neighborhoods-free-food>

¹¹¹ In Our Hearts NYC. "Community Fridges" *In Our Hearts NYC*. Accessed Apr 14, 2022 <https://www.inourheartsnyc.org/>

¹¹² The Love Fridge. "Our Mission" *The Love Fridge*. Accessed Apr 14, 2022 <https://www.thelovefridge.com/mission>

¹¹³ Village (Free)dge. "Who We Are" *Village (Free)dge*. Accessed Apr 14, 2022 <https://www.villagefreedge.com/who-we-are>

¹¹⁴ The Love Fridge. "Our Mission" *The Love Fridge*. Accessed Apr 14, 2022 <https://www.thelovefridge.com/mission>

¹¹⁵ Evanston Community Fridges Core Values & Community Agreement

¹¹⁶ Guptill, Amy E., Denise A. Copelton, and Betsy Lucal. *Food and society: Principles and paradoxes*. John Wiley & Sons, 2017.

¹¹⁷ In Our Hearts NYC. "Community Fridges" *In Our Hearts NYC*. Accessed Apr 14, 2022 <https://www.inourheartsnyc.org/>

can see inside and be decorated in an attractive way. *Figures V. and VI.* show the potential locations of community fridges in Southeast Colorado Springs. These sites were chosen with respect to convenient accessibility, high density population zones (see Appendix A), spaces near community gathering spaces and areas with high visibility.

Southeast Colorado Springs - Potential Community Fridge Areas and Accessibility

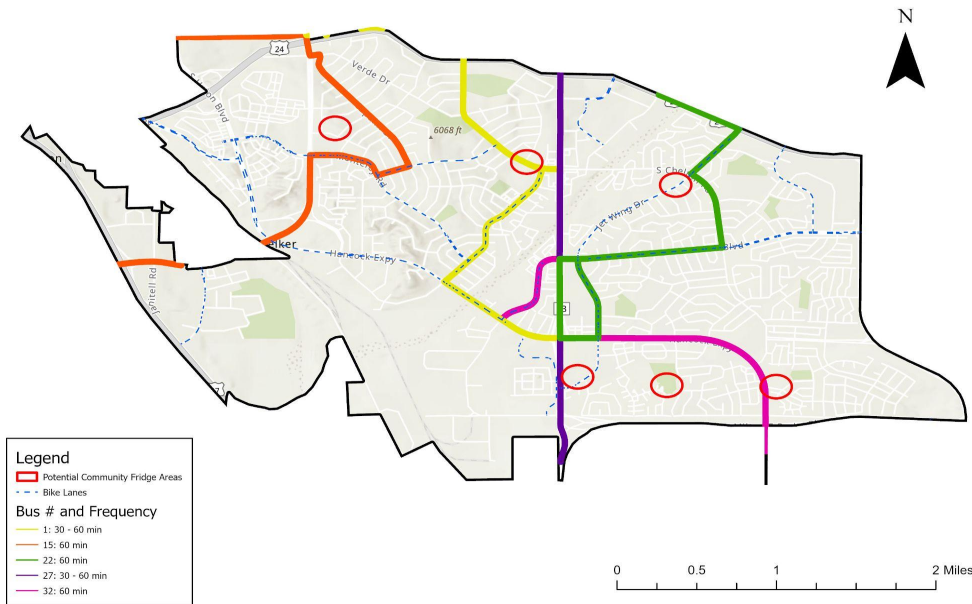


Figure V. The potential community fridge areas in Southeast Colorado Springs and the transportation resources of the area (bus route numbers and frequency, bike lanes).

Southeast Colorado Springs - Potential Community Fridge Areas and Walkability

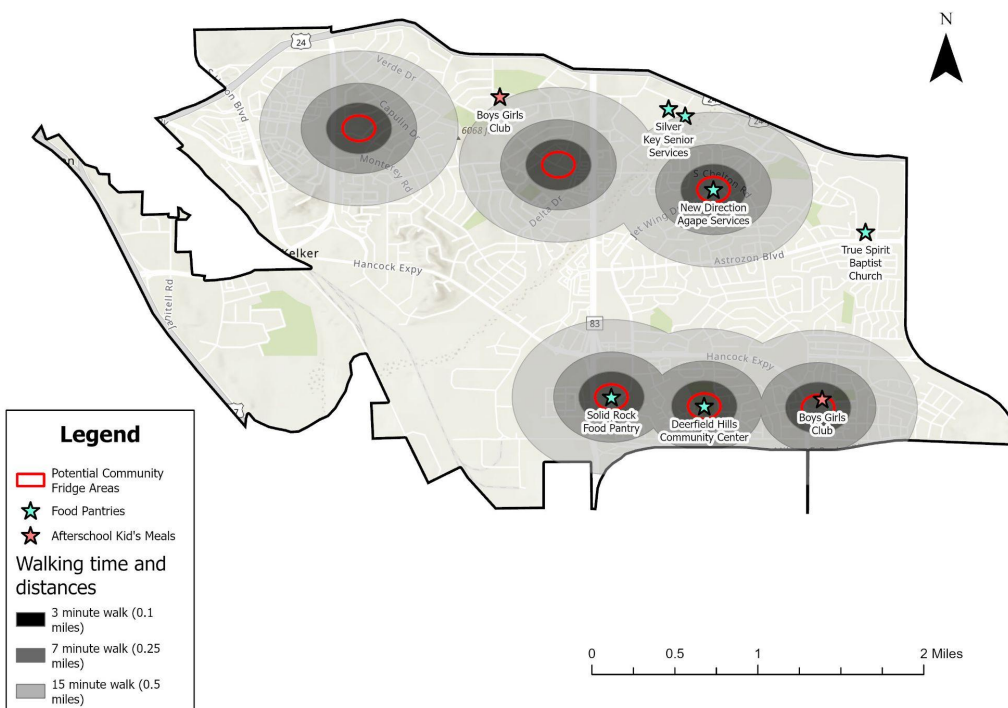


Figure VI. The walkability distances (0.1, 0.25 and 0.5 miles) and correlated walking times of those distances for the potential community fridge zones and the other community food resources of Southeast Colorado Springs.

2. Appearance

Many of the most successful community fridges across the country are painted by local artists in order to reflect the community it is built to serve. Community fridges need a shed built around them in order to protect them from weather events, and painting these sheds helps to transform them from a food storage structure to a piece of community art.¹¹⁸

3. Guidelines for Food Donations

The community fridge is meant to reflect the needs of the community, so the food donations should be location-specific and culturally sensitive. Usually there are no rules about how much food one person can take. Community fridges reject the idea that there is a scarcity of food and embraces the idea that there is more than enough food for everyone.¹¹⁹
¹²⁰ In order to make sure people are not donating unwanted items— such as rotten or expired food, opened items, alcoholic beverages— many community fridges will post rules about what is and what is not wanted and appropriate for donations. Conversely, many community fridges are run under an abolitionist model and do not agree with any policing or rulemaking of how the community fridge runs.

4. Types of Food and Donations

Community fridges generally accept fresh produce, dairy items, pantry items and prepared meals (for food safety reasons, many fridges will not accept home cooked prepared meals). One of the key values of community fridges and ways to create sustained access to food is through empowering and increasing the agency of the people who use them.¹²² Produce and other ingredients gives people choice in what they decide to cook themselves and prepared meals are very important for people in the community who are unhoused or can not cook their own meals¹²³. Additionally, places like the Denver Community Fridge encourage people to donate items like: menstrual products, diapers, formula, hand sanitizer, toothbrushes and toothpaste, condoms, masks, soaps, and other hygiene products.



¹¹⁸Dilworth, Gwen. "Echoing Abundance: Public Art and Mutual Aid in Pandemic New Orleans." *CrossCurrents* 71, no. 1 (2021): 97-103.

¹¹⁹Guptill, Amy E., Denise A. Copelton, and Betsy Lucal. *Food and society: Principles and paradoxes*. John Wiley & Sons, 2017.

¹²⁰Denver Community Fridge. "Our Mission Statement" *Denver Community Fridge*. Accessed Apr 14, 2022 <https://denvercommunityfridges.com/about-2/>

¹²¹ Graphic Found on Dever Community Fridge Website. *Example of Donations*. Graphic. Denver, CO. Denver Community Fridge <https://denvercommunityfridges.com/about-2/>

¹²²Guptill, Amy E., Denise A. Copelton, and Betsy Lucal. *Food and society: Principles and paradoxes*. John Wiley & Sons, 2017.

¹²³Denver Community Fridge. "Our Mission Statement" *Denver Community Fridge*. Accessed Apr 14, 2022 <https://denvercommunityfridges.com/about-2/>

C. Limitations

One of the largest obstacles to community fridges is maintaining them and making sure they are functioning correctly. This will require the continued cooperation and assistance from people in the community, which is not always easy to guarantee. Rules, if appropriate, about how the fridge should be managed can help in distributing the responsibility of fridge maintenance more equitably throughout the community. Oftentimes, it is expected that when one is donating or taking from the fridge, they should also stop to organize and clean out the fridge and throw out any items that do not fit within fridge guidelines. Regular checks of the status of the fridge should be made daily and it should be cleaned at least once a week. Along with the obstacle of maintenance comes the challenge of ensuring sustained community support and involvement. Making the fridge visible, regularly posting about when the fridge is restocked, and having a system of leadership will help for sustaining engagement.

D. Cost

A commercial fridge with glass doors that is around 5 feet high is around \$200 if bought used and around \$600 if bought new. Materials for building the weather shelter will cost around \$150. Paying for the electricity and other miscellaneous maintenance needs will be around \$7 to \$15 per month.

Case Study: Miami Village (Free)dge

At the start of the pandemic, Sherina Jones — the founder of Village (Free)dge— bought a used fridge for \$180, bought a round of groceries, plugged it in outside of her brother’s business, and created the first community fridge in her neighborhood in Miami, Florida.¹²⁵ The fridge was created to serve her community, reduce food waste, and combat food insecurity.¹²⁶ Since then, two more community fridge locations have opened and they serve approximately 85-150 families everyday.¹²⁷ In order to stock the community fridges, Jones built relationships with businesses like Panera and Trader Joes, who have items to donate daily, as well as with other restaurants, churches, schools, and farm shares. Along with partnerships with food distributors, Jones also spent days passing out flyers and talking to community members in order to get the word out about the community fridge.¹²⁸ The fridge is maintained by the community and there are guidelines on the fridge as well as on the website specifying expectations for cleaning, organizing, and stocking the fridge. In addition to community



¹²⁴ Unknown Photographer. *Village (Free)dge*. Photograph. Miami, FL. The Village (Free)dge <https://www.villagefreedge.com/who-we-are>

¹²⁵ Jones, Sherina (creator of Village (Free)dge), in discussion with Natasha Yskamp Long, April 2022.

¹²⁶ Ibid.

¹²⁷ Village (Free)dge. “Who We Are” *Village (Free)dge*. Accessed Apr 14, 2022 <https://www.villagefreedge.com/who-we-are>

¹²⁸ Jones, Sherina (creator of Village (Free)dge), in discussion with Natasha Yskamp Long, April 2022.

maintenance, the people who have agreed to have the fridge plugged into their home or business tend to also make sure the fridge is running according to their standards (which Jones described as “keeping the fridge as clean as you would want your own fridge to be”)¹²⁹. According to Jones, the community fridges has helped to strengthen community ties and has helped to teach people how to love and take care of eachother.¹³⁰

E. Conclusion

Community fridges do not all have to look or function in the same way. What is most important in the creation and implementation of community fridges is that they serve the community and act as one way to reduce food insecurity and increase reliable access to healthy foods. We recommend that SRCDC reads over some of the community fridge models linked in this report and decide what method of running a community fridge seems to be most appropriate for the Southeast Colorado Springs community.

¹²⁹Ibid.

¹³⁰Ibid.

VII. Farmers Markets

A. Big Picture

While SRCDC has already implemented farmers markets as part of their initiative to address food insecurity, we aim to offer suggestions on how to create a sustainable, dual-funding farmers market model that continues to prioritize access to fresh food for low-income community members. The two models we explore aim to create a middle ground between SRCDC's current farmers market, which is completely reliant on grants, and a traditional, consumer-driven farmers market that has no grants involved. By creating a middle ground between free farmers market and a consumer-driven farmers market, SRCDC could run more farmers markets while still prioritizing access to fresh produce for low-income community members through flexible payment options.

Farmers markets can serve not only as a place to purchase food, but as a gathering space that allows community members to connect with one another. Incorporating educational activities like cooking demonstrations and nutrition workshops, as well as social activities such as live music or face painting are important in creating a successful Farmers Market. These experiences all add to a sense of place and community as well as creating a platform for educational initiatives related to food systems.¹³¹ Farmers markets facilitate personal connections and bonds of mutual benefits between farmers, shoppers, and communities. By cutting out middlemen (warehouses, distributors & retailers) farmers can bring their products directly to customers, allowing products to be sold at a lower cost.¹³²

B. Best Practices

There are two primary models that we suggest for how to run farmers markets to create a dual-funding model that utilizes both grants and consumer generated income. The sliding scale and token systems will continue to prioritize serving the community while expanding access to affordable and fresh food.

1. Sliding Scale and Subsidized Funds

A sliding scale payment system offers consumers wider flexibility and accessibility in purchasing fresh food. In this model, consumers are offered different pricing options that fit within one's budget and resources.

Simultaneously, farmers benefit as the gap between market value and daily earnings from a sliding scale market is subsidized by the organization running the farmers market. Such subsidization would incentivize farmers to sell at a farmers market in Southeast Colorado Springs and allow them to participate in a sliding scale model without having to worry about loss of income.¹³³

¹³¹Weg, A., 2017. *Increasing Access to Farmers Markets for Low-Income Families*. [online] Spotlight on Poverty and Opportunity. Available at:

<https://spotlightonpoverty.org/spotlight-exclusives/low-income-community-access-farmers-markets/>

¹³²McCarthy, R. (2021, January). The origins of incentives: Incentivizing behavior change through the Farmers Market Model. Retrieved April 13, 2022, from

https://www.nutritionincentivehub.org/media/hlxbo43u/mccarthy_fmc_the-origins-of-incentives_2021-01.pdf

¹³³Weg, A., 2017. *Increasing Access to Farmers Markets for Low-Income Families*. [online] Spotlight on Poverty and Opportunity. Available at:

<https://spotlightonpoverty.org/spotlight-exclusives/low-income-community-access-farmers-markets/>

Dual-Funded Sliding Scale System

The sliding scale model has two streams of funding. First, through shoppers paying over market price, such as the ‘pay it forward’ option in the Huerta Urbana Case Study below. Second, through supplemental funding with grants (see Section F and Appendix G).

Case Study: Huerta Urbana Market, Denver, CO

The Huerta Urbana Farmers Market in Denver has adopted a version of a sliding scale system with a ‘Pay-How-You-Can’ model. The organization that runs the market, Focus Points Family Resource Center, helps low-income families in the Globeville Elyria-Swansea community access fresh produce over the summer and fall season. Approaching its third summer, the Huerta Urbana Farmers Market allows customers to choose between three options to pay for their groceries:

1. Pay full price.
2. Pay what one can, whether that’s a few dollars or nothing at all.
3. ‘Pay it forward,’ by paying more than full price to support a family facing food insecurity.

Organizers said the model is made possible through an established fund that will initially cover up to \$2,000 worth of produce and goods weekly, as well as through the generosity of partner organizations and the State of Colorado.¹³⁴ Therefore, vendors are reimbursed and each stakeholder in the Farmers Market receives adequate equity.¹³⁵ Money raised

through the market goes back into a fund to continue reimbursing farmers and producers, while covering the costs for additional groceries for community members in need.



Additional Resources to be in Contact With

- Matthew Vernon works at Focus Points in Denver and runs the Pay-How-You-Can Farmers Market. matthew@focuspoints.org
- Michael Graham helped create the Pay-How-You-Can Farmers Market and would be a contact for questions related to start-up and early stages. michael@lostcitydenver.com

2. Federal Nutrition Benefits as Payment

Another model to make Farmers Markets more accessible to low-income consumers is to **accept federal nutrition benefits as payment within the market**. Currently, three-quarters of farmers markets do not accept SNAP, FMNP, or SFMNP, which is a primary financial source of food for many members of low-income communities.¹³⁶ By

¹³⁴ “Huerta Urbana Farmers Market.” *Focus Points Family Resource Center*, 5 Feb. 2022, <https://www.focuspoints.org/hufm/>.

¹³⁵ Ibid.

¹³⁶ McCarthy, R. (2021, January). The origins of incentives: Incentivizing behavior change through the Farmers Market Model. Retrieved April 13, 2022, from https://www.nutritionincentivehub.org/media/hlxbo43u/mccarthy_fmc_the-origins-of-incentives_2021-01.pdf

accepting federal nutrition benefits as payment, a larger portion of community members of Southeast Colorado Springs will gain access to farmers markets.¹³⁷

Federal nutrition benefits can be redeemed at farmers markets by using EBT cards and point-of-service (POS) terminals. Consumers enrolled in SNAP have their benefits delivered to their individual Electronic Benefit Transfer (EBT) cards. These benefits are accessed by swiping an EBT card on a POS terminal. POS terminals utilize the same technology to process credit and debit payments. The most common system for utilizing EBT transactions at farmers markets is the **Central Terminal System**.¹³⁸

Using the Central Terminal System (CTS), there is one POS terminal located at a central staffed table for all debit, credit and EBT transactions. Customers purchase tokens to use like cash throughout the market. Once the market is over, the vendors trade the tokens with the farmers market organization for cash. Using the CTS, the market is in charge of managing all accounting and reporting of finances and tokens exchanged.¹³⁹

There must be different colored tokens to differentiate between debit/credit purchases and EBT dollars. This distinction is required by USDA Food and Nutrition Service in order to track federally funded dollars (SNAP) and regular commercial dollars.¹⁴⁰ The different colored tokens also help to reduce confusion among vendors as to which tokens can be used for which products. Therefore, vendors will only sell eligible items to SNAP customers (such as food that is not hot and ready) and don't give SNAP customers cash back.¹⁴¹

Benefits of the Central Terminal System include:

- Reduced cost of accepting EBT payments (with one POS machine per market)
- Simplifies process for vendors (market handles permits, technology, operations and accounting)
- Ensures consistency and transparency for customers (all vendors accept EBT)¹⁴²

Central Terminal System Dual-Funding



¹³⁷Local Food Research Center. "Farmers Markets for All: Exploring Barriers and Opportunities for Increasing Fresh Food Access by Connecting Low- Income Communities with Farmers Markets" Asheville, NC. Appalachian Sustainable Agriculture Project, 2012.

¹³⁸Local Food Research Center. "Farmers Markets for All: Exploring Barriers and Opportunities for Increasing Fresh Food Access by Connecting Low- Income Communities with Farmers Markets" Asheville, NC. Appalachian Sustainable Agriculture Project, 2012.

¹³⁹ Ibid.

¹⁴⁰ Fisher, Andy. "Real Food, Real Choice." 2010. <https://civileats.com/2010/08/02/real-food-real-choice/>

¹⁴¹ Owens, Nora and Kelly Verel. SNAP / EBT at Your Farmers Market: Seven Steps to Success. 2010. Project for Public Spaces and Wholesome Wave. <https://www.pps.org/product/snap-ebt-at-your-farmers-market-seven-steps-to-success>

¹⁴²Owens, Nora and Kelly Verel. SNAP / EBT at Your Farmers Market: Seven Steps to Success. 2010. Project for Public Spaces and Wholesome Wave. <https://www.pps.org/product/snap-ebt-at-your-farmers-market-seven-steps-to-success>

There are numerous grants that are specifically designed to cover the costs associated with transitioning to a farmers market that accepts federal nutritional benefits as payment. Such grants will help cover the costs of the wireless terminal that accepts EBT and credit/debit payments. Reference Section F of the Farmers Market Section for more information on grants.

To secure long-term funding for the sustained use of the EBT programs at farmers markets, the Central Terminal System can be used for debit and credit card transactions with a processing fee. As many farmers do not have the technology to accept debit/credit cards, there is a high demand for debit and credit card transactions, which the market organization can provide with the Central Terminal System. Farmers markets began charging a convenience fee (similar to an ATM) on debit sales, or deducted 3-5% from the vendors debit and credit card sales to cover operating costs of machinery.¹⁴³ The debit/credit card revenues and fees collected are the main income source which offset EBT transactions (15-25 cents each) and monthly fees.¹⁴⁴ Therefore, additional card sales via debit/credit are a compelling reason why farmers markets should invest in the wireless technology required to run EBT transactions.

Additional Resources for Implementing EBT systems in Farmers Markets

- Supplemental Nutrition Assistance Program (SNAP) at Farmers Markets: A How-To Handbook (USDA) [Supplemental Nutrition Assistance Program \(SNAP\) at Farmers Markets: A How-To Handbook](#)
- SNAP/EBT at Your Farmers Market: Seven Steps for Success (Project for Public Spaces & Wholesome Wave) http://www.pps.org/pdf/SNAP_EBT_Book.pdf

Case Study: GrowNYC's Greenmarkets, New York, NY

Greenmarket, the largest network of producer-only farmers markets in New York City, has accepted SNAP benefits since 2005 at several of its farmers markets. Working with a variety of partners at all levels from the government to community organizations, Greenmarket has been able to fund their SNAP project, expanding their customer reach. In 2006, Greenmarket received a USDA Farmers Market Promotion Program (FMPP) grant to evaluate the implementation of wireless EBT terminals at their markets and its impact on market sales.

Greenmarket partnered with the Human Resources Administration, which administers SNAP for New York City, to promote the project. In addition, Greenmarket collaborated with local community groups and organizations including food stamp offices, faith-based organizations, soup kitchens, and food pantries to spread the word that SNAP is accepted at their farmers markets. This multi-level support and widespread marketing assisted Greenmarket in funding their SNAP program and ensured its success. *Greenmarket more than doubled their SNAP sales from \$101,000 in 2008 to \$251,000 in 2009.*



¹⁴³ Fisher, Andy. "Real Food, Real Choice." 2010. <https://civileats.com/2010/08/02/real-food-real-choice/>

¹⁴⁴ Ibid.

For more information, please visit:

- GrowNYC's Greenmarket Food Access Programs: [Food Access Initiatives | GrowNYC](#)
- GrowNYC's Greenmarket Food Access Initiatives Report 2019: <https://www.grownyc.org/files/gmkt/EBT/x2019ProjectHighlights.pdf>

Case Study: Eastern Market, Detroit, MI

In 2007, the Eastern Market in Detroit implemented the *Central Terminal System* by accepting SNAP benefits at a central booth in exchange for wooden tokens. In the beginning, customers redeemed SNAP benefits for the tokens at one booth in the market. However, due to high demand by customers and vendors, a second booth was added. By August 2009, over \$137,000 in SNAP benefits were redeemed at Eastern Market and in January 2010 SNAP sales topped \$200,000.

In September 2009, Eastern Market partnered with the Fair Food Network, to create a 7-week pilot program to offer an additional \$10 in spending power to SNAP customers using benefits at the market via the Michigan 'Mo Buck' vouchers (Michigan's SNAP cards). This incentive program attracted more than 1,000 customers over the 7 weeks, yielding over \$21,000 in SNAP sales.

For more information, please visit:

- Eastern Market Food Access: [Food Access | Eastern Market](#)
- Fair Food Network & Double Up: [Double Up Food Bucks](#)

C. EBT Programs & Incentives

1. Federal Nutrition Programs in Farmers Markets

Nutrition incentives play a central role in making farmers markets equitable and successful. Farmers markets are making significant progress in increasing fresh food access for low income SNAP participants. \$24.4 million in SNAP benefits were redeemed at farmers markets across the US in 2017, a 35.2% increase from 2012. This dramatic increase can be attributed to markets investing in innovative outreach, education, and incentive programs (such as WIC), and support from federal, state, and local governments.¹⁴⁵

Beyond WIC and SNAP, there is a Seniors Farmers' Market Nutrition Program (SFMNP). SFMNP was developed to provide low-income seniors with access to locally grown products. Low-income seniors are defined as individuals who are at least 60 years old and have household incomes of not more than 185% of the federal poverty income guidelines. In the 2020 fiscal year 725,686 people received SFMNP benefits.¹⁴⁶

Some states have achieved WIC redemption rates as high as 85% at farmers markets, despite the range of challenges that WIC recipients face when attempting to access

¹⁴⁵Food and Nutrition Service. (n.d.). *Farmers Market Nutrition Program*. Food and Nutrition Service U.S. Department of Agriculture. Retrieved April 13, 2022, from <https://www.fns.usda.gov/wic>

¹⁴⁶*Seniors farmers' market nutrition program*. Food and Nutrition Service U.S. Department of Agriculture. (n.d.). Retrieved April 13, 2022, from <https://www.fns.usda.gov/sfmnp/senior-farmers-market-nutrition-program>

nutritious foods. Successful markets set themselves apart by establishing community partnerships with neighborhood organizations to help facilitate outreach efforts and maximize the impact of WIC and FMNP. A survey of 455 FMNP recipients — administered by the Michigan Department of Community Health, Michigan Public Health Institute, and Michigan State University — found that combining education regarding the produce with the use of coupons was critical to the success of the FMNP in Michigan.

2. Incentive Programs

Incentive programs can provide a valuable way to draw residents to farmers markets, enhance the buying power of low-income community members, and potentially increase fruit and vegetable consumption, all while providing support for local farmers.¹⁴⁷ Incentive programs provide bonus or matching funds for using federal nutritional benefits at farmers markets, such as SNAP or SFMNP.¹⁴⁸ To combat potential concerns of many SNAP customers that prices at farmers markets are too high for their limited budgets, incentive programs can help dispel the notion that farmers markets are too expensive. In addition, incentive programs often help SNAP customers get into the routine of shopping at farmers markets and continue to shop at farmers markets once the incentive programs end.¹⁴⁹

Incentive Program in Colorado: Double Up Food Bucks

In Colorado, Double Up Food Bucks will match individuals SNAP purchases when they use their EBT cards at participating locations. Consumers who use SNAP will then receive double the amount of fresh fruits and vegetables. Double Up will match SNAP bucks \$1 for \$1 for Colorado-grown fresh fruits and vegetables. Double Up will match up to \$20 per day per person.¹⁵⁰

In a Farmers Market, Double Up Bucks are redeemable with an EBT card using the Central Terminal System as it requires a wireless POS terminal. Currently, Double Up is at five farmers markets throughout Colorado, but none in Colorado Springs. The only Double Up location is a ‘Save a Lot’ grocery store in Southern Colorado Springs, outside of the Southeast community.¹⁵¹

More information on the process of incorporating Double Up Bucks can be found here: [FAQ - Double Up Food Bucks](#)

Case Study: NYC Health Bucks

¹⁴⁷ Local Food Research Center. “Farmers Markets for All: Exploring Barriers and Opportunities for Increasing Fresh Food Access by Connecting Low- Income Communities with Farmers Markets” Asheville, NC. Appalachian Sustainable Agriculture Project, 2012.

¹⁴⁸Owens, Nora and Kelly Verel. SNAP / EBT at Your Farmers Market: Seven Steps to Success. 2010. Project for Public Spaces and Wholesome Wave. <https://www.pps.org/product/snap-ebt-at-your-farmers-market-seven-steps-to-success>

¹⁴⁹Owens, Nora and Kelly Verel. SNAP / EBT at Your Farmers Market: Seven Steps to Success. 2010. Project for Public Spaces and Wholesome Wave. <https://www.pps.org/product/snap-ebt-at-your-farmers-market-seven-steps-to-success>

¹⁵⁰Alligordon, “How It Works: Farmers Markets,” Double Up Food Bucks (Double Up Food Bucks, February 18, 2022), <https://doubleupcolorado.org/how-it-works/>.

¹⁵¹Alligordon, “Where It’s At,” Double Up Food Bucks (Double Up Food Bucks, March 30, 2022), <https://doubleupcolorado.org/where-its-at/>.

New York’s Health Bucks program offers a \$2 ‘Health Bucks’ coupon for every \$5 SNAP purchase at over 130 farmers markets. Health Bucks increase the consumers spending power by 40 percent. Each individual can redeem up to \$10 in Health Bucks per day.

In addition, local community organizations distribute Health Bucks to encourage shoppers to visit farmers markets or as an incentive to attend a fitness program or a nutrition workshop. Seventy-one percent of Health Bucks consumers agreed that Health Bucks helps them eat more fruits and vegetables. In 2010, average daily EBT sales more than doubled after markets in New York City began offering Health Bucks as a SNAP incentive.



For more information, please visit: [Health Bucks](#)

E. Limitations

1. Location

Low-income community members may not have the time or transportation available to visit multiple locations to do their grocery shopping, as farmers markets do not carry items such as canned goods or cereal. Therefore, placing a farmers market in close proximity to other food sources would help break down obstacles such as access to transportation and time.¹⁵²

2. Preventing “green gentrification”

Farmers markets create the potential to raise property values and displace low-income and BIPOC residents in the surrounding area. Equitable zoning policies, preservation of affordable housing, rent-control laws and property tax reforms can function in favor of long-term homeowners and renters as preventative measures to counter potential displacement surrounding markets.¹⁵³

F. Funding Resources (see Appendix G for more grant information)

1. Food Insecurity Nutrition Incentive (FINI) Grant

The Food Insecurity Nutrition Incentive (FINI) is a grant program whose goal is to increase produce purchasing for low-income shoppers who participate in SNAP. It is operated by the United States Department of Agriculture (USDA). *More information on the application process is available here:* [Food Insecurity Nutrition Incentive Program \(FINI\) - Farmers Market Coalition](#)

2. Community Food Projects Competitive Grants Program (CFPCGP)

Within the USDA, the National Institute of Food and Agriculture (NIFA) runs the CFPCGP grant to increase the self-reliance of low-income communities in providing for their own food needs and to promote comprehensive responses to local food, farm and nutrition issues. Aimed to be a one-time infusion of federal dollars to create long-term solutions that will benefit both agricultural producers and low-income consumers. *More*

¹⁵² Agyeman, Julian. (October 21, 2011). Cultivating Food Justice: Race, Class, and Sustainability.

¹⁵³ Agyeman, Julian. (October 21, 2011). Cultivating Food Justice: Race, Class, and Sustainability.

information on the application process is available here: [Community Food Projects \(CFP\) Competitive Grants Program](#)

3. Farmer’s Promotion Program (FMPP) Federal Grant

Run by the USDA, this program offers grants to help improve and expand farmers markets, including funding for new and existing EBT programs to bring SNAP to more Farmers Markets.¹⁵⁴ More information on the application process is available here: [Farmers Market Promotion Program](#)

Case Study: Colorado Farmers Market Association

In 2006, the Colorado Farmers Market Association (CFMA) was awarded an FMPP grant to educate farmers market managers and market vendors about implementing SNAP and EBT use at farmers markets. The grant allowed CFMA to purchase wireless EBT machines for 21 markets across Colorado. In addition, CFMA coordinated with the State EBT contractor to provide training, technical support and other resources to participating farmers markets and market managers.

For more information, please visit: [Colorado Farmers Market Association](#)

¹⁵⁴United States Department of Agriculture. “Farmers Market Promotion Program.” *Farmers Market Promotion Program* | Agricultural Marketing Service, <https://www.ams.usda.gov/services/grants/fmpp>

VIII. Making Snap More Accessible

A. Big Picture

One of the methods for creating a system of sustained access to food is by making sure residents, who are eligible, enroll in the Supplemental Nutrition Assistance Program (SNAP). There are multiple studies that show that SNAP is effective in reducing food insecurity along with improving health and lowering rates of chronic conditions like heart disease and obesity, reducing health care costs, increasing academic performance, ensuring access to school meals for lower-income students, and boosting local economies.^{155 156 157} Although SNAP benefits reduce the likelihood of being food insecure by 30%, many people who are eligible are not enrolled in SNAP (called the SNAP gap). Colorado ranks 45th in access to SNAP for low-income residents.^{158 159} Making SNAP and other federal food assistance programs easier to enroll in is a very important step in creating a system of sustained access to food.

B. Best Practices¹⁶⁰

1. Outreach

Some of the barriers to participation in SNAP are a lack of information for how to apply, difficulty completing applications, lack of applications in multiple different languages, lack of cultural competency among Human Services staff, and a lack of outreach and collaboration between public, private, and community-based organizations. Outreach is crucial for making SNAP more accessible and utilized. Outreach works best when performed by people who understand the community they serve such as staff and volunteers from community-based groups such as: local schools, senior services, or faith based organizations like churches or temples.¹⁶¹

2. Destigmatization and Reducing Misinformation

The [Denver SNAP Task Force](#) identified stigma associated with public assistance, the perception that the benefit levels are too low to justify applying, and misinformation about eligibility as major barriers to participation in SNAP.¹⁶² Additionally, in a study done in Texas, 46% of people eligible for SNAP said that they did not want to apply because they worried that they would be taking away resources from people who needed it more than

¹⁵⁵ Ramphul, Ryan, Shreela Sharma, Frances Lee Revere, and Linda Highfield. "Mapping the "SNAP Gap"—Identifying Neighborhood-level Hot Spots and Cold Spots of SNAP Under-participation in Texas." *Journal of Hunger & Environmental Nutrition* (2022): 1-14.

¹⁵⁶ "Denver Task Force Outlines Strategy to Prevent Hunger, Promote Wellness, and Boost Denver Economy through SNAP" *Denver Human Services: News*, Accessed Apr 14, 2022. <https://www.denvergov.org/content/denvergov/en/denver-human-services/news/dhs-news-room/2018/denver-task-force-outlines-strategy-to-prevent-hunger--promote-w.html>

¹⁵⁷ "Closing the SNAP Gap" *The Food Trust*, Accessed Apr 14, 2022. http://thefoodtrust.org/uploads/media_items/report-closing-the-snap-gap-in-denver.original.pdf

¹⁵⁸ Ramphul, Ryan, Shreela Sharma, Frances Lee Revere, and Linda Highfield. "Mapping the "SNAP Gap"—Identifying Neighborhood-level Hot Spots and Cold Spots of SNAP Under-participation in Texas." *Journal of Hunger & Environmental Nutrition* (2022): 1-14.

¹⁵⁹ "Closing the SNAP Gap" *The Food Trust*, Accessed Apr 14, 2022. http://thefoodtrust.org/uploads/media_items/report-closing-the-snap-gap-in-denver.original.pdf

¹⁶⁰ Most, but not all, of the best practices laid out in this report are modeled after the report that the Denver SNAP Task Force laid out in a report entitled "[Closing the SNAP gap in Denver](#)"

¹⁶¹ "Closing the SNAP Gap" *The Food Trust*, Accessed Apr 14, 2022. http://thefoodtrust.org/uploads/media_items/report-closing-the-snap-gap-in-denver.original.pdf

¹⁶² Ibid.

them.¹⁶³ SNAP is designed to adjust based on the community's need, so having more people using the program would mean larger allocations of funds to SNAP programming.¹⁶⁴ Again, Outreach will be very important for eliminating the stigma and misinformation that surrounds federally funded food programming and would result in an increase in access, participation and funding for SNAP.

C. People Power

One of the most important ways to make SNAP more utilized and accessible is by making sure there are people with adequate training aiding in the outreach, application, and certification process. SNAP programming can most effectively address food security when common limitations of applying are addressed (such as accessing forms, either online or hard copies). Some of this work can be done by volunteers, but having SNAP outreach staff would make the aid more sustainable and consistent. Having people from the El Paso County Department of Human services partner up with people from public, private and nonprofit and community-based sectors could help in building cultural competency and mke outreach more effective.

¹⁶³ Ramphul, Ryan, Shreela Sharma, Frances Lee Revere, and Linda Highfield. "Mapping the "SNAP Gap"—Identifying Neighborhood-level Hot Spots and Cold Spots of SNAP Under-participation in Texas." *Journal of Hunger & Environmental Nutrition* (2022): 1-14.

¹⁶⁴ Ibid.

IX. Conclusion

As detailed in our report, there are several strategies and models to go about addressing food insecurity in Southeast Colorado Springs that can supplement SRCDC's current efforts. Our report has highlighted food access issues specific to Southeast Colorado Springs. In the Southeast, grocery stores are unevenly distributed and there is a lack of consistent and reliable transportation to grocery stores, making it difficult for residents to access healthy and affordable food. These disparities are especially apparent in the "southeast of Southeast." As such, our report focuses on multiple strategies to make access to healthy food sustained throughout the entire community - community gardens, co-ops, community fridges, farmers markets and increasing access to SNAP.

Importantly, each one of these strategies has a human-led component. Some of the projects we propose offer opportunities for employment like the Co-op grocery stores, community gardens, and outreach coordinators for SNAP. But community gardens, food co-ops, community fridges, and farmers markets cannot succeed without a committed team of volunteers and organizers to see the project through long-term. SRCDC has shown that partnerships and community participation is strong and prioritized within the Southeast and its organization, and continuing to build people power is crucial for the success of these projects. Involvement and engagement relies on the communities' compassion and commitment to one another, so strengthening community ties and leadership will also strengthen community care, thus increasing the potential for longevity in the projects we propose.¹⁶⁵

Key Recommendations:

- Raised beds and greenhouses are the most viable options for growing food in Southeast Colorado Springs.
 - We recommend developing a community garden at Van Diest Park.
- Establish a network of community fridges in Southeast Colorado Springs.
- Start a community-focused grocery cooperative in Colorado Springs
 - We recommend a consumer cooperative model with a sliding scale membership option

None of the strategies we have outlined can completely combat food insecurity in isolation. Implementing these strategies to complement each other is ideal for addressing food insecurity in the most efficient and equitable way. For example, placing community fridges near community gardens/greenhouses, or expanding existing food pantries into co-ops, are viable solution pairings to establish the most robust and holistic food security network in Southeast Colorado Springs. Combining solutions also requires partnerships with other organizations and strong community involvement. Given the dedication of SRCDC and the innovative work already at play, we see a strong potential for impactful food security solutions.

¹⁶⁵ Chapa, Marisa. "Growing Fresh Healthy Foods and Bonding a Community; Design and implementation of client survey for Food to Power" *Capstone Project*. Oct 10, 2021

APPENDIX A: Map of Population Density

Southeast Colorado Springs - Population Density per Block Group

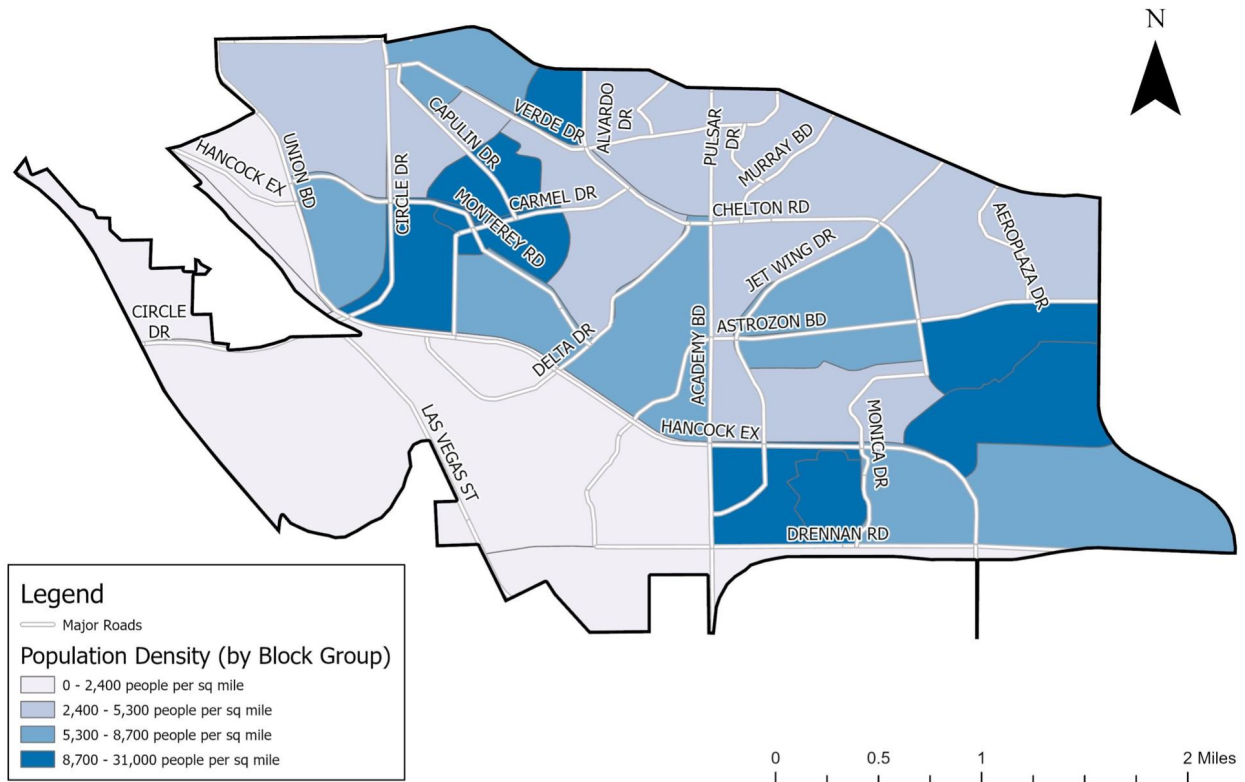


Figure VII. Population density, by block group, of people per square mile in Southeast Colorado Springs. The population density is represented by a gradient of blues, with the darkest blues being the highest density.

The population density map in Southeast Colorado Springs shows two zones of higher densities in the area of interest that should be acknowledged. The first zone is towards the northwest corner of Southeast Colorado Springs near Solid Rock. The second zone is the southeast corner of Southeast Colorado Springs, where Deerfield Hills Community Center is currently located. The population density distribution of Southeast Colorado Springs is kept in consideration throughout the report.

APPENDIX B: Community Gardens

Government Incentivising Gardens

In [Escondido California](#), an “Adopt-a-Lot” policy provides a special no-fee city permit and expedited land use approval process to forego the usual zoning regulations and requirements. This policy aims to decrease code violations to promote the establishment of community gardens. In Baltimore, [the City Department of Housing and Community Development](#) has a similar program that allows people to use vacant lots without the burden of taxes or other financial obligations. Any city resident of Baltimore, civic or non-profit organization, school group, business, or neighborhood group can adopt a lot from the City of Baltimore. These lots can be used for community gardens, green spaces, and recreational spaces. In the context of Colorado Springs, advocating long-term for fee-waivers and zoning regulations that are community-garden sensitive will be useful in establishing a community-involved farm/garden network.

APPENDIX C: Soil Test Results

Soil Samples: Throughout our report we collected 21 soil samples from 7 different vacant lots located within the Southeast Colorado Springs Area. We then combined 3 samples from the same vacant lot into a metallic bowl (7 total). It is important to note that 2 samples were damaged throughout the purification process and were not viable for testing. After the samples were organized and in their bowls we prepared the samples to be soluble enough to run through an ICP-MS (Inductively Coupled Plasma Mass Spectrometry). This machine ionizes our soil samples, which means that it atomizes any mineral or metal into their fine particle state. The ICP-MS machine then detects elements in their ionized states for measurement. The elements were measured in ppm (parts per million). This table is a representation of 5 of the 7 parks we collected soil samples from.

U.S EPA LEVELS: The second column in the table provides data gathered from the Environmental Protection Agency (EPA). It gives a measurement for what the toxicity levels are for each element.

Metals	U.S. EPA Levels (ppm)	Van Diest	Centennial	Soaring Eagle	Deerfield Hills Community Center	James H. Smith Park
Aluminum	2,900	2,340	796	N/A	N/A	457
Barium	1,000	271	196	229	645	1,890
Potassium	20,000	N/A	53,700	37,900	42,200	82,500
Manganese	8,000	103	140	290	606	187
Lead	300	103	122	389	603	100
Strontium	600	1,260	1,340	411	632	401
Zinc	2,800	58.8	75.4	208	1,330	737

APPENDIX D: Self-heating passive solar greenhouse design

The Colorado College Greenhouse was built in 2013 and designed by the company Penn and Cord Parameter. The following are suggestions from their sustainable greenhouse design blueprint.

- Greenhouses can be designed to generate 100% of their heat year-round. One successful method is **collecting the sun's energy in stored water** and other thermal mass, which then releases heat back into the greenhouse at night.
- Find water storage containers for your greenhouse: 55-gallon iron drums are the best options, but you can also use trash bins, five gallon buckets with lids, hot water heater tanks, etc. **(often you can find iron drums at scrap steel yards for free.)**
- Most of the greenhouse can be built from free/cheap recycled construction material- places to access such recycled material are detailed later
- The water drums should be stored against the north wall of the greenhouse and painted dark colors. **They should be placed on a foundation of concrete because they can be very heavy** (over 500 lbs).
- There should be 2-5 gallons of water per 1 square foot of glazing in order to stabilize the greenhouse temperature.
- The **south wall of the greenhouse is sun-facing and is made of glazed surfaces** (the surfaces that receive the most sunlight and are clear or semi-clear).
- The surfaces that receive less optimal light **(ie the north-facing wall) should be dark and insulated.**
- Recommended options for **preventing heat loss include double-paned glass, fiberglass, and polycarbonate, with polycarbonate** being popular because it is both sturdy and cheap.
- In order to maximize exposure to the sun, the angle of the south-facing wall should be your latitude plus 35 degrees.
- Venting is also very important to a functioning greenhouse so the climate doesn't get too hot—**there should be two low vents in the front of the greenhouse and two high vents in the back.**
- The square footage of venting should be 15-20% of the floor area.
- Places to call for free/cheap water barrels:
 - Colorado Zero Waste, 303-335-7540 in Longmont
 - Industrial Container Service, 303-558-6466 in Brighton
 - Twin Enviro Services, 719-372-6671
- The complete list of the International Cooperative Alliance's Cooperative Principles are as follows — voluntary and open membership, democratic member control, member economic participation, autonomy and independence, education and training and information, cooperation among cooperatives, and concern for community.

Photos of CC Greenhouse from [Penn and Cord Parameter](#)



APPENDIX E: Aquaponics

Aquaponics training availability and resources

The Flourish Farm Online Aquaponics Course (\$795.00)

12 courses include training on farm setup and design, business management, plant selection, fish health and management, water quality, and more.

Visit the website for more information:

<https://www.theaquaponicsource.com/shop/aquaponic-classes/flourish-farm-online-aquaponics-course/>

Individual courses can be found here:

<https://www.theaquaponicsource.com/product-category/aquaponic-classes/>

Aquaponics Complete Curriculum Set (\$249.95)

Set designed for grades 3-6. Includes 24 hours of lessons. Teaches ecosystem basics, how aquaponics can feed communities, and provides both student and teacher resources. This could be useful if the proposed aquaponic set-up is used for educational purposes. There is a shortened, introductory version of this set for \$99.95

Visit the website for more information:

<https://www.theaquaponicsource.com/shop/books-videos-software/books/aquaponics-complete-curriculum-set/>

Aquaponic Gardening: A step by step guide to growing fish and vegetables together (\$24.95)

This do-it-at-home manual explains system components and location considerations, information on fish, plants, and bacteria, and how to start and maintain your system.

Visit the website for more information:

<https://www.theaquaponicsource.com/shop/books-videos-software/books/aquaponic-gardening-a-step-by-step-guide-to-growing-fish-and-vegetables-together/>

Emerge Aquaponics OASYS Training (\$3,000, including room and board)

6-week course on their OASYS aquaponic set up, maintenance, management, and business model. Contains a Christian faith-based element in the course.

Visit the website for more information: <https://www.ywamemerge.org/oasystraining>

Emerge Aquaponics in Black Forest, CO set up, design, and more information

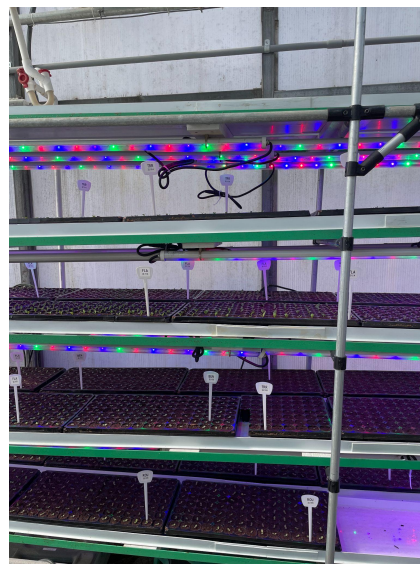
The aquaponic farm at Emmerge has two main components: their two level, 4-bed set up, and what they call their “OASYS” farm which is 6-beds, single level. Both systems use deep-water aquaponic techniques. The OASYS farm is their open-source, reproducible system that they build around the world for different organizations and communities to utilize. If SRCDC were to partner with Emmerge Aquaponics, they would most likely install the OASYS system. This system yields about 650 heads of lettuce per week, whereas their two-level system yields about 3200 heads of lettuce per week.

In both systems, seeds are sowed in a media of peat moss and coconut corn to retain water moisture. Each seed is planted in about 1 square-inch of this media. The seeds are left to germinate on the germination racks for about 2 weeks (see images below). These racks are watered from the top-down with the same filtered water from the fish tanks that waters the rest of the system. The seedlings are then moved to high-density rafts for about 3-weeks before being moved to low-density plants, allowing them to have more space to grow. The whole plant life cycle takes

about 7-10 weeks, fluctuating due to differences in sun exposure throughout the seasons. Both systems are lined with UV lights of red, green and blue to promote growth.

The fish are stored in three large barrels on one end of the greenhouse. The water in the fish tanks are constantly flowing to promote fish health and growth as well as begin the filtration process. The water flows through three different filters in order to collect solids (especially fish feces). During this process, they cultivate aerobic bacteria on the filters to encourage growth. They cultivate tilapia because they are fairly easy to grow and very resilient. Tilapia should be harvested at about 1.5 lbs.

The OASYS system (see images below) is a PVC-pipe frame with conduit barrels to hold the water. The rafts are made from blue board and the fish tanks are made from plastic. The system costs about \$15,000-\$30,000, accounting for fluctuations in the price market for materials, not including the greenhouse.



The OASYS aquaponic system at Emerge (left). Germination table (right).

APPENDIX F: Notes and Resources for Mushroom Cultivation

Before beginning cultivation, it is important to ask “what is a mushroom?” Often at grocery stores mushrooms are grouped in with vegetables when in fact they belong to a biological kingdom of its own: *fungi*, a distinction that becomes important when needing to know how to grow them. The majority of mushrooms that can be grown in an urban setting are *saprotrophic* fungi, meaning they break down and consume organic matter in order to get their food source. The part of the fungi that we eat (the mushroom) is only the temporary reproductive structure, similar to the fruits on a tree. The majority of the fungi is found in its *mycelium*, a thin white, furry structure that branches out over its food source, breaking it down. The requirements for fungi are different from that of plants; where plants thrive in rich, living organic soils, fungi prefer sterilized environments where they do not have to compete with other organisms for food. While plants absorb CO₂, fungi, like us, breathe in oxygen, meaning they need access to fresh air to thrive. Finally, plants draw up water in the roots, releasing a large amount of it through their leaves while fungi prefer humid environments to grow and digest in, but do not do well sitting in water. Fungi are fascinating organisms that are essential for all other life, they decompose nutrients, live within the cells of all plants and in the digestive systems of all animals, and provide a healthy source of food to anything from single celled bacteria to large animals such as humans. For this reason, it is surprising that mushroom cultivation has been largely forgotten by our industrial food systems.

Growing options:

- **Straw substrate**

Straw is soaked in a solution of hydrated lime. The pasteurized straw is then layered along with spawn into bags and left to cultivate. Straw is effective as it is relatively cheap and maintains many air channels. Once the straw is covered with white mycelium, a cut is made into the bag and misted regularly, encouraging the growth of mushrooms.

- **Used coffee and cardboard mix**

The mix is sterilized in a pressure cooker and then mixed into bags with spawn. This technique is effective as coffee grounds and cardboard can be collected for free from cafes and waste disposal bins. It is important to use cardboard that does not have a lot of ink. The cardboard helps to break up the coffee and introduce air channels. Once the mixture is covered in mycelium, cut the bag and mist until mushrooms have grown.

Online training options

- <https://www.fungially.com/blogs/growing-mushrooms/fruited-mushrooms-fruited-room-example-commercial-growers> (\$350 for online commercial cultivation class).
- <https://sustainable-agriculture-institute.education/online-courses-programs/online-mushroom-cultivation-course-omcc/> (\$20 online cultivation course, 3 hours).
- Many free resources available online, from youtube to blogs/websites.
 - https://www.youtube.com/channel/UCTXP5BRecHpwa7_sFbbyMng (Southwest Mushrooms).
 - <https://www.youtube.com/channel/UCkzY4M9kg2VmqJ2nNcNM8hw> (Freshcap Mushrooms).
 - https://www.youtube.com/channel/UCYKZ6tv8d2rkGCMU_ja-b1Q (What the Fungus).

Resources for setting up a small-scale mushroom farm:

<https://grocycle.com/how-to-set-up-a-low-tech-mushroom-farm/>. 6 easy to follow steps to follow to begin a small-scale and low cost farm for mushrooms. Mostly relevant for oyster mushrooms.

<https://www.fungially.com/blogs/growing-mushrooms/starting-mushroom-farm>. Brings up the different components to think about in starting a mushroom farm. Outlines the process of growing mushrooms well.

<https://learn.freshcap.com/growing/grow-at-home-how-to-grow-mushrooms-at-home-using-straw-logs/>. Instruction on using straw substrate to fruit oyster mushrooms. Effective and affordable way to start farming mushrooms.

<https://www.youtube.com/watch?v=paFFVcCtHrs>. Useful link for setting up a small scale greenhouse tent).

Species of mushrooms to grow

- Oyster mushrooms (most robust species, best to start with)
- Lion's Mane (lucrative gourmet and medicinal mushroom)
- King Oysters (easy to grow)
- Shitakes (relatively easy to grow)
- Winecaps (can be mixed into soil as they are a great garden species)

APPENDIX G: Funding Avenues

Grant or Fund Title	Description	Application Materials	Contact	Value	Due Date
Colorado Garden Foundation Annual Grant Award Program	This grant is designed for organizations and individuals that support horticulture and horticulture related projects. Funding is designated for nonprofit and governmental agencies. Grants are NOT awarded for plan development or design; salaries, administrative costs, or other overhead project costs.	One page letter of intent including a project description, overall budget, and the grant funding request amount. Application MUST include: how the Colorado Garden Foundation will be recognized, contact name, address, phone number, email address, and the organization's Federal ID Number. See website for more info: https://www.coloradogardenfoundation.org/about/grants/annual-grant-program/	Jim Fricke (303) 932-8100 jim@ColoradoGardenFoundation.org	Maximum Grant Value: \$15,000	August 30th
Colorado Garden Foundation Major Grant Awards Program	This grant is designed for organizations and individuals that support horticulture and horticulture related projects. Funding is designated for nonprofit and governmental agencies. Capital and matching grants are the ideal projects, but other programs and research support are considered.	One page letter of intent including a project description, overall budget, and the grant funding request amount. Application MUST include: how the Colorado Garden Foundation will be recognized, contact name, address, phone number, email address, and the organization's Federal ID Number	Jim Fricke (303) 932-8100 jim@ColoradoGardenFoundation.org	Minimum Grant Value: \$15,000 Maximum Grant Value: \$75,000	August 30th
USDA Farmers Market Promotion Program	The Farmers Market Promotion Program (FMPP), part of the Local Agriculture Market Program is currently accepting applications from eligible organizations.	Please refer to the website for more info: https://www.ams.usda.gov/services/grants/fmpp		\$13.5 million is available to fund FMPP applications.	
Colorado Fresh Food Financing Fund	The Colorado Fresh Food Financing Fund (CO4F) improves access to healthy food in underserved Colorado communities by financing grocery stores and other forms of healthy food retail. This statewide fund is anticipated to leverage \$20 million in investment.	https://www.chfainfo.com/getattachment/50eb7c22-7543-4032-9cf2-0a43fc56476b/CO4FPreApplication.pdf	Andrea Buglione P.U.M.A. 720.510.8567 CO4F@pumaworldhq.com	Maximum Grant Value: \$1.5 million, no minimum.	n/a

Grants exist through the USDA for aquaponics projects, including the Urban Agriculture and Innovative Production (UAIP) grants program ¹⁶⁶ and the Farm Service Agency Microloan Programs ¹⁶⁷	UAIP grants initiate or expand efforts of farmers, gardeners, citizens, government officials, schools, and other stakeholders in urban areas and suburbs. Projects may target areas of food access; education; business and start-up costs for new farmers; and development of policies related to zoning and other needs of urban production. ¹⁶⁸				
Food Insecurity Nutrition Incentive (FINI) grant	The Food Insecurity Nutrition Incentive (FINI) is a grant program whose goal is to increase produce purchasing for low-income shoppers who participate in SNAP. It is operated by the United States Department of Agriculture (USDA).		Contact: Mallory M. Koenings, Ph.D., RDN	The anticipated amount of support available from the USDA for this program in 2022 is about \$36.9 million.	The application deadline is June 30, 2022.
Farmer's Promotion Program (FMPP) Federal Grant	Run by the USDA, this program offers grants to help improve and expand farmers markets, including funding for new and existing EBT programs to bring SNAP to more Farmers Markets.	More information on the application process is available here: https://www.ams.usda.gov/services/grants/fmpp	Contact: FMLFPPGrants@usda.gov	Range of Awards \$2,500-\$100,000	May 16, 2022
Community Food Projects Competitive Grants Program	Within the USDA, the National Institute of Food and Agriculture (NIFA) runs the CFPCGP grant to increase the self-reliance of low-income communities in providing for their own food needs and to promote comprehensive responses to local food, farm and nutrition issues.	https://nifa.usda.gov/grants/funding-opportunities/community-food-projects-cfp-competitive-grants-program		Maximum Grant of \$400,000 * Matching funds is required	
USDA Local Food Promotion Program	The LFPP funds projects that develop, coordinate and expand local and regional food business enterprises at engage as intermediates in indirect	https://www.ams.usda.gov/services/grants/lfpp		Maximum grant of \$500,000 *matching funds of 25% required	May 16th, 2022

¹⁶⁶ <https://www.farmers.gov/your-business/urban/opportunities/grants>

¹⁶⁷ <https://www.fsa.usda.gov/programs-and-services/farm-loan-programs/microloans/index>

¹⁶⁸ <https://www.farmers.gov/your-business/urban/opportunities#fundingFarmers Markets>

	producer to consumer marketing to increase access to locally grown foods.				
Colorado Health Foundation	The Colorado Health Foundation provides an extensive amount of grants aimed at addressing health inequities among low income communities and communities of color. Grant cycles run February, June, and October.	The application materials vary from grant to grant, to see the open funding opportunities, click here .		Generally, projects range from planning grants (\$25,000 to “shovel ready” projects \$250,000 to \$700,000)	

*click grant name for link to more information