



CONNECT

Feasibility Report

Healthy food for a healthier future.

Prepared by:

Wesley Burt, Founder & Executive Director
Greg McGuire, Director of Strategic Partnerships



TABLE OF CONTENT

Introduction	3
Background	5
Project Objectives	8
Evaluation	9
Conclusions	18
Operational Feasibility	18
Technical Feasibility	20
Financial Feasibility	21
Recommendations	23
Acknowledgments	26
References	27



INTRODUCTION

Equation Collaborative Corp (dba +BOX) was awarded funding from the USDA Agricultural Marketing Service Local Food Promotion Program in October 2022 to conduct the +BOX Connect feasibility study. The project intended to study the feasibility of increasing access to and availability of locally grown produce to low-income/low-access communities through a combination of technical innovation and more meaningful engagement between local farms and the nonprofit food security sector.

The project sought to identify and study opportunities to generate sustainable revenue for local farmers by expanding the +BOX program to additional households through +BOX Connect, a software application that leverages existing data systems in partner school districts to simplify and increase participation among low-income families, and connect them to nutrition resources, including increased access to local produce. Specifically, the project assessed the feasibility of strengthening secondary market opportunities for local farmers by integrating locally grown produce into the +BOX nutrition security program in a way that creates value for all stakeholders, including local farmers (e.g. consistent revenue), nutrition insecure families (e.g. access to fresh, locally produced fruits and vegetables), and our school partners (e.g. well nourished and healthier students and families).

+BOX, founded in April 2020, is uprooting the conventional food assistance model and collaborating with local communities to create a next-generation food assistance program that is breaking the cycle of food insecurity and building healthier, more resilient communities. +BOX is a nutrition-centered food security nonprofit organization that makes nutritious food, with a focus on fresh fruits and vegetables, more accessible and available to children and families experiencing food insecurity. We partner with local farms, food rescue organizations, and neighborhood schools to deliver CSA-style produce boxes to food insecure children and their families on a weekly basis. The +BOX program is uniquely designed to increase household food security, fuel student achievement, and improve the long-term health and wellness of the families we serve. Since the start of 2021, +BOX has delivered more than 1.3 million pounds of produce and has grown to provide life-changing nutrition to more than 700 households each week.



04 | +BOX Connect Feasibility Report 2024

Over 18 months, the project team collaborated with local farmers with support from Community Health Improvement Partners' Farm to Institution Center, partnered with Dualboot Partners to design, develop, and launch the +BOX Connect minimum viable product (MVP), and worked closely with school administrators and families at Bella Mente Montessori Academy, a K-8 charter school in Vista, CA. Together, we conducted a study to test the hypothesis that the nonprofit food security sector could become a viable revenue stream for local farms, supported by market innovations and efficiencies enabled by a technology solution like +BOX Connect.

The +BOX Connect feasibility study indicates that while a technology solution can improve access to food assistance programs and increase demand for healthy food, challenges remain in creating sustainable revenue opportunities for local farmers within the food security sector. Despite +BOX independently (and outside the scope of this project) investing over \$50,000 in locally grown produce in the past two years, such commitments are uncommon in a nonprofit sector lacking the financial resources to prioritize the purchase of local produce. As a result, local farmers and nonprofits often default to engaging through donations of surplus produce. Small-scale farms also face capacity constraints, making it difficult to manage multiple sales channels, fulfill low-revenue orders requiring delivery, and challenge the entrenched expectation that nonprofits cannot or will not pay for their products.

More education is needed to help the nonprofit food security sector recognize both the nutritional and economic value of locally grown food in San Diego. The project team recommends a next-phase of study to explore a digital platform, separate from +BOX Connect, that connects local farms with nonprofit food security organizations and empowers farmers to sell surplus produce under fair terms. Additional supporting initiatives are also recommended to create incentives that drive systemic change in the food security sector and advance food justice.

Equation Collaborative would like to thank the USDA Agricultural Marketing Service Local Food Promotion Program for their support, our project partners for their time and energy to the project, and all the local farmers and families who gave their precious time and input to the project.



BACKGROUND

Most American farmers struggle to generate enough revenue to turn a profit, let alone make a living. In San Diego County, where agriculture is the fifth largest industry, 74% of farmers report having to earn additional income outside of farming, according to an analysis by the University of California, Cooperative Extension San Diego (Lobo et al, 2018). In particular, small farms are often squeezed out of traditional wholesale markets or forced to lower prices to compete with larger growers who can produce at much higher volumes. In San Diego County, almost 80% of farms are considered small and, consequently, the most recent USDA Census of Agriculture reports that three-fourths of San Diego County farms generate less than \$20,000 in annual revenue. Naturally, two of the biggest challenges for local farmers in San Diego County are achieving profitability and limited consumer awareness of local farms and the products they bring to market (San Diego Food System Alliance (SDFSA), 2021). While direct-to consumer market opportunities are emerging, local farmers need more accessible, scalable, and reliable secondary market opportunities, including both direct-to-consumer and nutrition security programs, that not only raise broader awareness of local farms, but also generate consistent income opportunities that “deliver fair returns and a chance for improved prosperity” (The Rockefeller Foundation, 2020).

The market potential for local agricultural producers to promote their products to and participate in San Diego County’s nutrition security system is significant. In fact, the San Diego Hunger Coalition (2021) estimates a monthly meal gap of 13.8 million meals for San Diegans to fully meet their nutritional needs, after accounting for existing food assistance programs, like CalFresh, school meals programs, and charitable food assistance programs. That meal gap represents a need of more than 16.5 million pounds of food per month. In San Diego County, there are more than 5,000 farms, collectively producing more than 472 million pounds of food per year, with an untapped opportunity to promote their products to a secondary market in need of almost 200 million pounds per year (United States Department of Agriculture (USDA), 2017). Further, in its 2020 report on the U.S. food system, the Rockefeller Foundation recommended that farmers gain access to stronger secondary markets, including opportunities to “get food into the nutrition security system and to charitable organizations without taking a loss” in order to increase prosperity.



To address this opportunity, Equation Collaborative proposed, developed and conducted the +BOX Connect feasibility study. The project assessed the feasibility of strengthening secondary market opportunities for local farmers by integrating locally grown produce into our existing nutrition security program in a way that creates value for all stakeholders, including local farmers, nutrition insecure families, and our school partners.

Launched in 2020 in response to the COVID-19 pandemic, +BOX addresses three interconnected challenges driving health inequities in our community: food insecurity, nutrition inequity, and food system sustainability. One in four San Diegans, including 31% of children, face food insecurity (San Diego Hunger Coalition, 2021-2024), and too many lack access to fresh, healthy foods, which are essential for a healthy life, as our food systems often prioritize cheap, processed, shelf-stable products. This has led to widespread health inequities, particularly in low-income communities. Food insecurity also has environmental and economic implications, with food waste contributing 8% of global CO2 emissions and up to 34% of human-caused methane emissions. The decline of small farms further threatens the resilience of our food systems, increasing vulnerability to global crises.

+BOX, generally, and the +BOX Connect feasibility study, specifically, is committed to building a more equitable and sustainable food future—one where everyone has consistent access to the nutrition they need to live healthy, fulfilling lives. Through collaborative partnerships with local farms, food rescue organizations, and community-based organizations like schools and libraries, +BOX delivers weekly CSA-style produce boxes to food-insecure children and families. Each box includes at least eight varieties of produce and enough food for 10 nutritious meals, with a focus on locally sourced items. We prioritize healthy food access in communities facing the greatest health disparities, guided by the California Healthy Places Index. Our Local Greens initiative directly supports local, independent farms and agriculture businesses by purchasing high quality farm-fresh produce for our program, uplifting both food insecure families and local growers. The remaining food we distribute is provided by local food rescue and recovery organizations, enabling +BOX to redirect food from the landfill to fill the plates of children and families every week.



The +BOX Connect feasibility study was designed to leverage the core principles of the +BOX model to understand how it can be scaled, and potentially adopted by other food security organizations, for the benefit of both low-income/low-access communities and local farmers. Specifically, the project proposed to:

- Assess the value of the +BOX model in creating a new, reliable revenue stream for local farmers;
- Assess the feasibility of expanding this secondary market opportunity for local farmers by expanding the +BOX program to additional households through +BOX Connect, a proprietary software application developed during the project; and
- Assess the long-term viability and sustainability of the model via a “tech-enabled direct-to-consumer” market channel for locally grown produce (e.g., CSA boxes).

The project was concerned with four primary outcomes and set out to assess if +BOX Connect had the potential to effectively:

- Increase access to and availability of locally produced agricultural products to low-income/low access households.
- Expand revenue opportunities for local farmers by integrating locally grown agricultural products into nonprofit nutrition security programs, like +BOX.
- Expand the market for locally produced agricultural products by serving as an intermediary between producers and consumers via a “tech-enabled direct-to-consumer” marketing model.
- Scale the +BOX nutrition security program to additional low-income families in additional school communities to expand the market and revenue opportunity for locally produced agricultural products.

The project was conducted between October 2022 and March 2024. The project was led by Wesley Burt, Founder & Executive Director of Equation Collaborative, and Greg McGuire, Director of Strategic Partnerships for Equation Collaborative. Project support was provided by Danielle Radford, Director of Programs and Sustainability for Equation Collaborative, and Kevin Johnson, Data Analyst Intern for Equation Collaborative. Project collaborators included Community Health Improvement Partners, Dualboot Partners, Grant Consulting, and Bella Mente Montessori Academy.



PROJECT OBJECTIVES

To achieve the stated aims of the project, the +BOX Connect feasibility study had four primary objectives.

1. Develop the +BOX Farm Network, consisting of at least five (5) local farms that +BOX could support and engage during the project to assess the value of +BOX Connect for local farms.

In partnership with the Community Health Improvement Partners' Farm to Institution Center, we developed a network of local farmers, referred to as the +BOX Farm Network, whom we engaged during the feasibility study to assess the value of +BOX Connect in creating a new, reliable revenue stream for local farmers. Farm to Institution Center (F2I) works to promote healthy communities and build a vibrant agriculture scene through facilitation, collaboration and education. As a partner, F2I served as a trusted intermediary and connection point between local farmers and +BOX to drive the development of the +BOX Farm Network.

2. Develop the +BOX Connect minimum viable product (MVP) software application.

Access to food resources, generally, and nutritious food, more specifically, continues to be a primary challenge for food insecure households. They may be unaware of support programs, left out because of limiting eligibility requirements, discouraged by excessive administrative burdens, or simply unable to physically access available resources. +BOX Connect empowers food insecure families to anonymously opt-in to food support with no questions asked, breaking down structural barriers while automating program administration and making it easier for families to access the support they need. For this aspect of the project, +BOX partnered with DualBoot Partners, a North Carolina based product design and software engineering company, to design and develop the minimum viable product (MVP) version of +BOX Connect.



3. Pilot test the +BOX Connect MVP with at least 150 families with students enrolled at Bella Mente Montessori Academy.

To assess the ease of use, utility, and viability of the +BOX Connect MVP, +BOX pilot tested the software application with Bella Mente Montessori Academy in Vista, a K-8 public charter school and current +BOX program partner with 513 students, of which 51% are eligible for free or reduced price meals. During the test period, we worked with Bella Mente Academy administrators to communicate and set expectations with participating families, launch the +BOX Connect MVP to participating families, provide user training, and engage all stakeholder groups to capture feedback, perceptions, and opinions on the feasibility of the solution to achieve its intended outcomes.

4. Develop a business plan for scaling +BOX Connect to all +BOX partner school districts.

With an eye towards scaling +BOX Connect, the project team explored multiple pathways for investing in and sustaining the necessary development of +BOX Connect to prepare for broader availability among our partner schools. The business plan intends to outline the most feasible pathway after engaging peers, partners, funders, social impact investors, and others to determine how we could best invest in +BOX Connect to ensure product-market fit, a sustainable revenue model, and on-going user-research, product design, and development.

EVALUATION

1. Assess the value of the +BOX model in creating a new, reliable revenue stream for local farmers.

In partnership with the Community Health Improvement Partners' Farm to Institution Center (F2I), we developed a network of local farmers, referred to as the +BOX Farm Network, whom we engaged during the feasibility study to assess the value of +BOX Connect in creating a new, reliable revenue stream for local farmers.



Our objective was to identify at least five (5) local farms that +BOX could partner with during the study period to test the feasibility of strengthening secondary market opportunities for local farmers by (1) integrating locally grown produce into the +BOX nutrition security program, and (2) developing a tech-enabled direct-to-consumer CSA-box offering directed at the +BOX support network (volunteers, donors, supporters, etc.).

Consistent engagement with local farmers was the primary challenge during the project. After an introductory webinar, hosted by Farm to Institution Center, was attended by less than 10 local farmers or agriculture businesses, we launched a survey to more than 200 local farmers via both Farm to Institution Center and the San Diego Farm Bureau. We received only two complete responses - not enough data to arrive at any sound conclusions. This result highlights a broader trend that was supported by representatives at the San Diego Farm Bureau: farmers receive invitations to participate in a lot of surveys and they don't have the time or bandwidth to consistently do so. So, with F2I we facilitated a series of focus groups to understand the opinions and perceptions of local farmers regarding potential partnerships with food and nutrition security nonprofits. The primary themes were:

- Local farmers are generally unaware of the nonprofit organizations in the San Diego area that may be interested in and/or able to effectively use (or purchase) their produce.
- Local farmers can't afford to consistently donate their produce. When they do have excess produce to give, it can happen suddenly or unexpectedly, which can place an oversized burden on the farmer to identify a beneficiary with the capacity to act quickly.
- Transportation is a hurdle. Local farms often lack the capacity to transport or deliver produce to market, especially in non-revenue situations (i.e., donations of excess).
- Generally, local farmers would welcome revenue producing partnerships with the nonprofit food security sector, under certain conditions.

During the project period, +BOX was able to meaningfully engage and partner with three (3) local farm/agricultural businesses; Hukama Produce, Go Green Agriculture, and Daily Harvest Express. Produce grown and provided by Hukama Produce and Go Green Agriculture was integrated into the +BOX nutrition security program (and still is today). We partnered with Daily Harvest Express to test the feasibility of the tech-enabled, direct-to-consumer CSA-box offering.



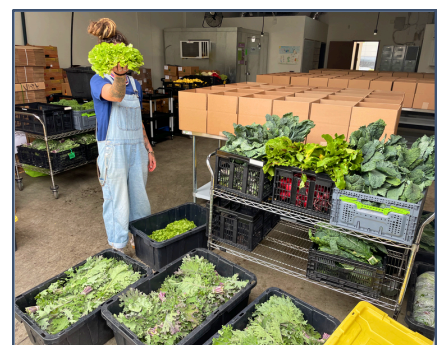
By integrating locally grown produce into the +BOX nutrition security program, the project created a secondary revenue stream for Hukama Produce and Go Green Agriculture that generated \$26,369.85, or an average of \$1,758 per month (over 15 months) with the vast majority of those dollars going to Hukama Produce (Go Green Agriculture joined during the later stages of the project). Given that three-fourths of San Diego County farms generate less than \$20,000 in annual revenue, the revenue generation during the project is meaningful. In fact, during the post-study interview, Byron Nkhoma of Hukama Produce shared that the reliability and consistency of +BOX as a purchasing partner allowed them to purchase a vehicle, which opened up more markets and revenue opportunities. The weekly income has provided stability to the family in a way that no other market ever had before. Further, the partnership with +BOX has led them to seek out relationships with other nonprofit organizations, enabling them to not only support their community, but also reap the benefits of more diversified revenue streams. It needs to be noted that the funds used by +BOX to pay Hukama Produce and Go Green Agriculture for their produce during the project period were not federal grant dollars provided by the USDA. +BOX maintains a budget line item for locally grown produce in our general operating budget. To achieve the results more broadly, food security nonprofits will need to make the same commitment to paying a fair price to local farms for their produce.



Typical +BOX Produce Box



Byron Nkhoma, Hukama Produce



Delivery from Hukama Produce

In partnership with Daily Harvest Express, a local farm, CSA, and wholesale produce distribution business, +BOX tested the feasibility of a tech-enabled, direct-to-consumer CSA-box offering. The test had two primary objectives, (1) generate additional revenue for Daily Harvest Express, and (2) provide a consistent revenue stream for +BOX to support project sustainability. Called the +BOX PlusOne program, we marketed CSA boxes to current +BOX supporters and volunteers as a “buy-one, give-one” model, meaning that for every CSA box they purchased online, +BOX received a portion of the



proceeds to provide a similar produce box to a low-income/low-access household participating in the +BOX nutrition security program. Consumers used a special code at the time of their online CSA box purchase to indicate their participation in the “buy-one, give-one” program, which enabled us to track transactions over time. Unfortunately, the program only generated seven new customers and approximately \$300 in revenue during 2023. We discontinued the program at the close of 2023.

Based on our experience, there were two major factors that influenced the results of the tech-enabled direct-to-consumer program. First, +BOX lacked the internal capacity to develop the market for the offering. We made an assumption that supporters and volunteers of +BOX would be inclined to purchase a CSA-box given the close alignment with the +BOX program, but we underestimated the effort required to effectively market the program to attract and retain customers. Second, our agreement with Daily Harvest Express included an eight percent share, in the form of a monthly donation, for any sales generated using the +BOX PlusOne program code. At that rate, we would need to significantly invest in marketing and business development efforts to generate enough monthly sales to achieve our objective of a consistent revenue stream to support project sustainability. We currently do not have the ability or the resources to make that investment.

At the close of the project period, to avoid another disappointing survey result, we worked with F2I to interview five local farms, including Hukama Produce, Taza Creek, Sage Mountain Farm, Hilltop Farms, and Dickinson Family Farm. The interviews were designed to (1) share the results of our feasibility study to solicit feedback, and (2) capture their perceptions and opinions of our broader findings, including:

- A consistent revenue stream, as exemplified by the partnership with Hukama Produce during the project period, is desirable, but nonprofits, generally, still aren't considered a viable market.
- Local farms lack the capacity to manage additional market channels.
- There is a general lack of awareness and connection to the local nonprofit community.

Generally, each agreed with the broader findings and their reasoning, while contextual to each individual and farm business, was ultimately a matter of opportunity cost. Each is making a near daily calculation to only engage in activities that will maximize their



revenue given limited time and resources. Specific anecdotes provided included:

- A decision to cease selling at farmer's markets because the financial returns weren't worth the investment in time and resources needed to consistently participate.
- A general distrust of external groups, larger farming operations, and packing/distribution houses because of bad faith actors, unfair practices, and broken commitments.
- Rethinking crop plans to maximize market potential, avoid saturated markets (e.g., avocados), and identify crops that yield the best price per acreage.
- A hesitancy to enter new markets because of high barriers to entry, including logistics, customer acquisition, etc.

With the matter of opportunity cost in mind, there is a real interest to engage the nonprofit food security sector, but real concerns about how that might work. Most farmers we spoke to were willing to work with nonprofits that could ensure no food they produced went to waste, and all were interested in working with a nonprofit that would pay them a fair price for their produce. One of the most compelling elements being the ability to sell “ugly” or non-commercially viable produce. That being said, the stated conditions to entering this potential market included:

- The desire for some kind of a central distribution hub, similar to a conventional food hub or central aggregator, to market and sell to nonprofit organizations but minimize the business development and customer acquisition time and costs.
- A need for the nonprofit buyers to share in the transportation burden. For example, +BOX and Hukama Produce implemented a bi-weekly rotating delivery/pick-up system to share the transportation costs and burden.
- A consistent and efficient revenue opportunity. Eliminating waste by donating excess is appealing, but ultimately, this is about creating a revenue generating market opportunity for local farms. Nonprofit organizations need to be willing and able to pay farmers a fair price for their produce.

Local farmers and producers are very interested in partnering with nonprofits to develop regular, revenue-generating, locally-supporting relationships. These partnerships only become feasible when farmers are paid a fair price for their products. Many nonprofits lack the financial resources to consistently purchase food from their local farmers, but when they do, they prove to be stable and reliable partners to growers. With the right

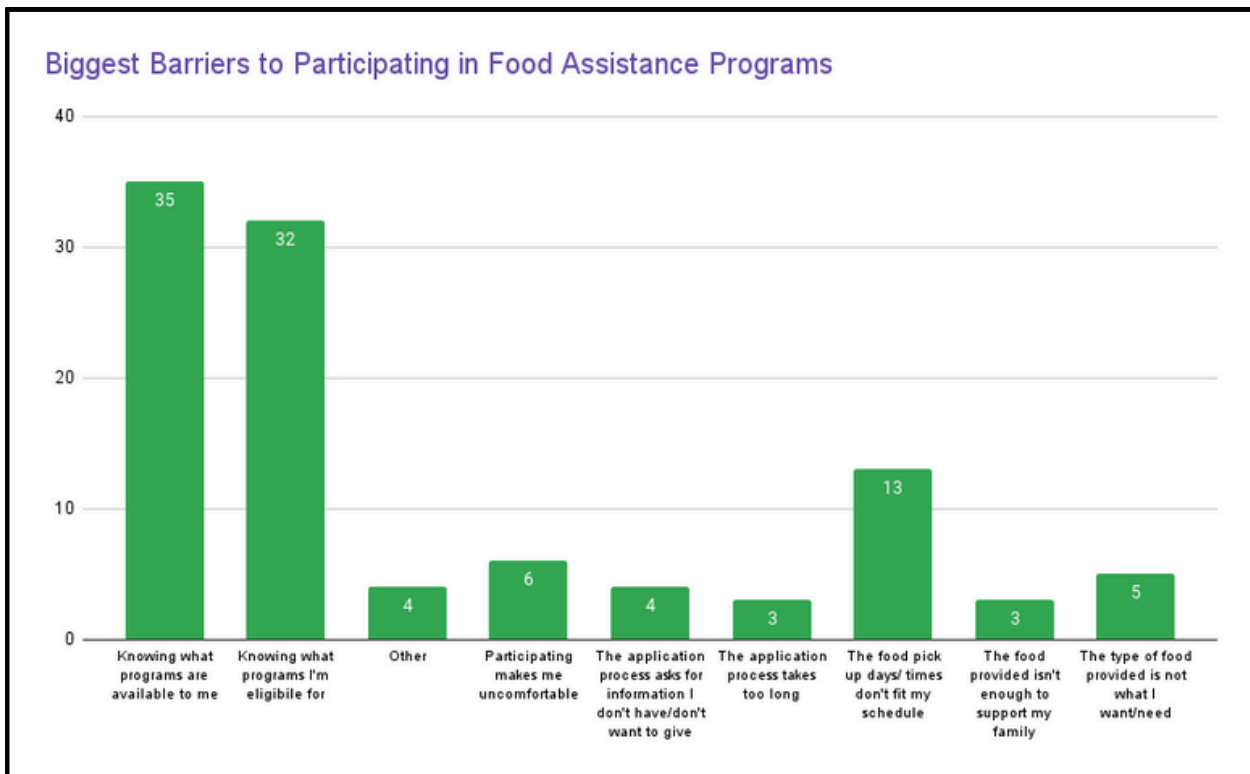


approach, system design, and financial capital and incentives, the nonprofit sector does have the potential to be a viable revenue stream for local farms.

2. Assess the feasibility of expanding market opportunities for local farmers by expanding the +BOX program to additional households through +BOX Connect, a proprietary software application.

+BOX partnered with Bella Mente Montessori Academy and Dualboot Partners to design, develop, and user-test +BOX Connect. Our objective was to determine if such a software application could feasibly expand access to the +BOX program, thereby increasing participation among low-income/low-access families and connecting them to nutrition resources, including locally grown produce.

Prior to starting the software design and development process, we worked with administrators at Bella Mente Academy to survey families participating in the +BOX program to better understand the barriers that food insecure families face when seeking food assistance, their preferences for engaging and participating in food assistance programs, and their willingness to use a tool like +BOX Connect to access food assistance.



The results (76 responses) suggest that most families who experience food insecurity are unaware of the food assistance programs that are available to them, or unsure if they are eligible to access them, which prevents many from getting the support they need.

Furthermore, food insecure individuals are more likely to participate in food assistance programs that are convenient, anonymous, and provide access to locally grown fresh fruits and vegetables. Finally, a majority of respondents would consent to their child's school sharing anonymized household data with food assistance providers on their behalf to remain anonymous, simplify enrollment, and participate in food assistance programs with no questions asked. The full survey results can be found at:

<https://www.plus-box.org/post/building-a-healthier-food-assistance-system>

These results drove the design of +BOX Connect, a mobile optimized web application that integrates with existing school data systems to empower food insecure families to privately opt-in to food assistance programs with no questions asked, breaking down structural barriers and expanding access to the critical support families need. +BOX worked with Dualboot Partners on the design and development of +BOX Connect over six months from December 2022 through May 2023. The design and development was based on the following minimum requirements, informed by the survey results:

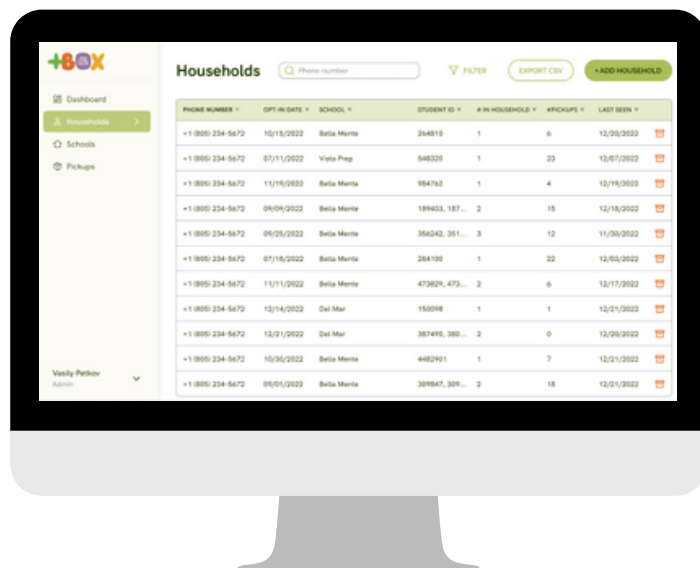
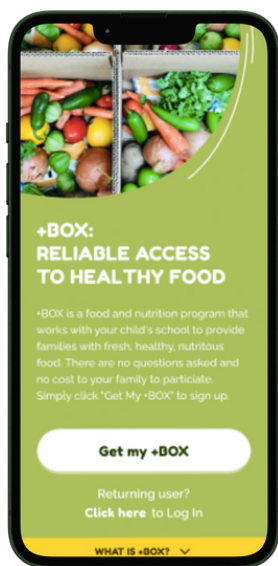
- Bilingual (English/Spanish) variants.
- Co-branding with school logo/marks to maximize comfort and trust among participants
- Optimized for a mobile user and accessible on any internet enabled device.
- Ability to be launched via existing and trusted school-to-parent communication channels
- Anonymous, no-questions asked, opt-in enrollment functionality.
 - Identity verification via phone number only.
- Simple, clear, and plain-language terms of use, including parental consent for Bella Mente Academy to share anonymous, basic household data.
- Direct data integration/transfer functionality with the school's student information system.

The +BOX Connect minimum viable product (MVP) was released in early Summer 2023 in preparation for the 2023-24 school year. A video demonstration of +BOX Connect can be seen here: <https://youtu.be/tkarNL91AW0>



In partnership with Bella Mente Academy, +BOX developed informational and user-training materials, in English and Spanish, to share with school families in the lead up to the school year. Our team participated in back-to-school events and distributed a digital communication series to raise awareness, understanding, and adoption. A sample of the shared materials is enclosed as an addendum.

+BOX Connect was officially launched to Bella Mente Academy parents on September 19, 2023. Over the course of the four month pilot period, from September through the end of the calendar year, 72 households opted-in to the +BOX program via +BOX Connect. We facilitated the integration of more than 360 anonymized household data elements, using verified parent phone numbers as a unique key, including basic demographic information and other relevant data required for program administration. Furthermore, we incorporated an SMS (text) based program feedback mechanism to easily and anonymously collect information directly from participating families regarding the ease and frequency of participation in the +BOX program. We received more than 40 responses to help us understand how families were leveraging the software program.



+BOX Connect Bella Mente Academy Pilot: Initial Results

Pilot Launch: Sept. 19, 2023
Adoption: 72 Households Opted-in

Data Sharing: 360+ data elements captured
Feedback: 42 in-app program eval responses



After the pilot period, in early 2024, +BOX developed a post-pilot survey to obtain user feedback and gather the opinions of participating families. Our survey objective was to capture opinions and experiences across three primary themes: (1) ease of use, (2) effectiveness in easing access to food support, and (3) additional needs/areas for improvement.

Working with the school administration and community engagement team, +BOX developed a 3-pronged approach to obtain participant feedback:

- Tabling at the school's spring festival, a weekend event with multiple vendors, county health services, local businesses, etc. +BOX distributed fresh produce at the event and engaged the school community to solicit feedback.
- Participation in a private ceremony celebrating the accomplishments of English language learners, including their families, many of whom participated in the +BOX Connect pilot.
- The school's community engagement staff directly engaged with participating parents when the opportunity arose at various school events to capture feedback.

The +BOX team was able to capture anecdotal feedback in direct conversations with participating families and via the school's community engagement team. The feedback received can be summarized as follows:

- +BOX Connect was easy to use, but did not provide enough information or functionality to warrant regular use.
- +BOX Connect did not provide as much direct communication between families and +BOX as expected.
- +BOX Connect was useful as a notification system for families, effectively reminding them about the +BOX program schedule at their school.
- Those who used +BOX Connect expressed an interest in using it to access additional food and nutrition resources, from a market to buy local produce to recipes to finding more information about CalFresh (SNAP).

Participant feedback suggested that +BOX Connect made it easy to opt-in to the program and was an easy-to-use application. The integration of more than 360 data elements suggests that +BOX Connect can empower food insecure families to privately opt-in to food assistance programs with no questions asked, breaking down structural barriers and expanding access to the critical support families need. However, the number of

households (72) who opt-ed into using +BOX Connect during the pilot period is consistent with the number of households (75) that the +BOX program was supporting on a weekly basis prior to the pilot launch. Therefore, while we can say that +BOX Connect makes it easier to opt-in to food support, we cannot say with certainty that it expanded access to more low-income/low-access households. It could be that +BOX Connect made it easier for existing participants, who are already familiar with +BOX, to enroll in the program, but did not compel new participants to enroll.

+BOX Connect still has the potential, pending further development, to play an important role in connecting low-income/low-access households to food and nutrition resources, including opportunities to participate in the local food economy.

CONCLUSIONS

Operational Feasibility

Operationally, the feasibility of increasing access to and availability of locally grown produce to low-income/low-access communities through a combination of technical innovation and more meaningful engagement between local farms and the nonprofit food security sector is dependent upon additional investments in market education, advocacy, and systems building.

+BOX has developed an operational model that allows for and prioritizes the purchase and distribution of locally grown produce on a consistent basis. However, +BOX is just one of hundreds of local community-based food security nonprofits, and most of our peers are not following suit. In fact, most are not prioritizing fresh produce in any way, locally grown or otherwise. Conventional nonprofit food assistance programs tend to over-rely on non-perishable food that is shelf-stable, easier to store and requires less operational infrastructure. As a potential revenue-generating market for locally grown food, nonprofit organizations need to be educated on the benefits of fresh, nutrient-dense, locally grown food to their service populations, in terms of health and wellness, and the community more broadly, in terms of environmental and economic impacts.



Furthermore, additional infrastructure is required to create an operational system that meets the needs of under-resourced organizations; local farms and community based nonprofits alike. The project revealed that local growers are eager to work with nonprofit organizations, but have limited capacity to manage yet another market channel. Likewise, most local nonprofit organizations, with the exception of the larger food banks, lack the capacity to manage a broad and disparate network of food sourcing partners. A similar dynamic also exists within the local fishing economy, according to anecdotal evidence from fellow USDA Local Food Promotion Program grantees, San Diego Regional Policy & Innovation Center (SDRPIC). SDRPIC is working with local fisherpeople to identify more robust market channels to increase revenue and viability, but small-scale local fisherpeople lack the capacity to manage multiple market channels and the market for local fish is under-developed due to systemic issues in the industrialized food system. Given the parallels, we have to conclude that this is a broader food system challenge that should be addressed more holistically.

Interestingly, operating systems do exist to manage and facilitate commercial and direct-to-consumer sales channels for local growers, including food hubs, aggregators, packing houses, farmer's markets, etc. Likewise, operating systems exist to manage and facilitate edible food recovery donations for nonprofit food security organizations. Yet, no such systems exist to manage and facilitate regular engagement and commerce between local producers and nonprofit organizations, not to mention the financial challenges that make these systems difficult to start, grow, and sustain (to be addressed below).

Scaling and/or replicating the +BOX model, specifically, to expand the market opportunity for local farmers by expanding the +BOX program to additional households is feasible from an operational standpoint. The +BOX team is already working to do so. But, the proposed sustainability model of a "tech-enabled direct-to-consumer" market channel for locally grown produce is not operationally feasible. As stated previously, +BOX does not have the internal capacity to operate a successful consumer-based CSA business, and we suspect the same is true of most community-based organizations. It is not a core competency within our organization, we lack the operational systems, and the opportunity cost is too high. An alternate sustainability model will be necessary.



Technical Feasibility

From a technical standpoint, it is feasible, with currently available resources, to increase access to and availability of locally grown produce to low-income/low-access communities through meaningful engagement between local farms and the nonprofit food security sector.

According to data published by the San Diego Hunger Coalition (2021-2024), local food banks and pantries provided enough food assistance for more than four million meals in March 2024 alone. Some of that food assistance, albeit limited, included the provision of locally grown produce. For our part, and as previously mentioned, +BOX has invested more than \$50,000 to purchase locally grown food directly from farmers for distribution to our service population. On a larger scale, the Jacobs & Cushman San Diego Food Bank (n.d.) has distributed more than eight million pounds of fresh produce via the Farms to Family program, according to their website. They also report that fresh produce represents one-third of their total food distributions. That being said, they are clear to point out that the fresh produce they distribute is primarily excess produce that has been “saved” and not necessarily purchased. The financial feasibility of this project will be addressed separately below, but there are enough proof points to conclude that, technically speaking, increasing access to and availability of locally grown produce to low-income/low-access communities via the nonprofit sector is feasible.

From a pure technology perspective (i.e., software systems), additional investigation is necessary to determine if technical innovation, like +BOX Connect, can provide low-income/low-access families with the tools, resources, and meaningful engagement to scale the +BOX nutrition security program in a way that significantly expands the market and revenue opportunity for locally produced agricultural products. As previously mentioned, we can say that +BOX Connect made it easier for families to opt-in to food support, but we cannot say with certainty that it expanded access to more low-income/low-access households, as compared to participation in the +BOX program prior to the launch of +BOX Connect. Only with additional user research, market testing, and product development could we make any definitive conclusions or recommendations. However, there are plenty of market tested and commercially available applications, like Local Food Marketplace, that provide sales and distribution platforms for farms, food hubs, farmers markets, CSA’s, and the like. Again, proof points exist to conclude that it’s feasible to



leverage a software platform to connect consumers to locally produced food. In this case, however, we're concerned with consumers who have limited purchasing power and limited access. So, can the nonprofit food security sector supplement their purchasing power and expand their access via a platform like +BOX Connect? We believe so, but more research is required.

Financial Feasibility

The primary goal of this project was to test the financial feasibility of expanding access to locally grown produce for low-income families while generating meaningful revenue for local farms—and scaling the model. Unfortunately, the results indicate that this is not financially viable without significant investment from public or philanthropic institutions.

Challenges with Nonprofit Funding

Nonprofit organizations, especially community-based ones like +BOX, face significant challenges in supporting local farms as reliable buyers. Food security nonprofits operate under tight financial constraints, often prioritizing cost-cutting measures like in-kind donations over direct food purchases. Even larger organizations like Feeding San Diego rely on temporary funding, such as the USDA Local Food Purchase Assistance (LFPA) program, to buy locally grown produce—a model that may not be sustainable beyond its two-year funding period. As Feeding San Diego's COO notes, while they receive donated food from local farmers, they “haven't had the budget to purchase from them in the past” (Casares, 2024).

This issue is further compounded by a restrictive funding environment in which grants are narrowly allocated, funders dictate spending, and reporting requirements are burdensome. Additionally, a significant value gap exists, where funders—not program beneficiaries—influence how resources are spent, often favoring large institutional nonprofits over smaller, innovative programs that carry more risk. Consequently, even +BOX's Local Greens Initiative, designed to support local farms, accounts for only 10-15% of the produce we distribute, with the majority sourced through food rescue and donations.

Direct-to-Consumer Model Feasibility

To address sustainability, we tested a “tech-enabled direct-to-consumer” model, which generated just seven new customers and \$300 in revenue in 2023, with +BOX earning about 8% of that. Given the minimal returns and the high investment required to scale this



model, we discontinued the program at the end of 2023. The resources needed to build this into a sustainable revenue stream are currently inaccessible.

+BOX Connect Financial Viability

+BOX Connect, our technology platform aimed at scalability, also presents financial hurdles. The pilot project demonstrated the need for an additional \$100,000 to \$200,000 in software development, excluding ongoing maintenance. Initial conversations with funders indicate limited appetite for philanthropic investment in technology development. We've even explored transferring +BOX Connect to a for-profit entity to attract private capital. However, as it stands, +BOX Connect is financially unviable.

Broader Financial Feasibility

Overall, scaling the +BOX model would require significant investment in market education, infrastructure, organizational development, and technology. Unfortunately, as a small organization with an annual budget of around \$1 million, +BOX lacks access to the level of growth funding required. This conclusion aligns with findings from the University of San Diego's 2023 State of Nonprofits and Philanthropy Report (Tinkler et al, 2023), which highlights a disconnect between nonprofits' needs and funders' priorities. While 97% of funders report supporting capacity building, only 65% of nonprofits observe actual capacity funding. Additionally, large philanthropic organizations typically direct resources to well-established institutions, limiting access for smaller start-up organizations like +BOX.

Potential for Larger Organizations

However, the model could be financially viable if adopted by a larger, more established organization, such as a regional food bank. These institutions have the capacity, resources, and fundraising ability to implement and scale a project of this magnitude. In fiscal year 2023 the combined annual revenue of the top 300 largest food banks was nearly \$16 billion, suggesting that this likely isn't a matter of financial feasibility, but an issue of prioritization and innovation (Food Bank News, 2025).



RECOMMENDATIONS

The following recommendations, based on the outcomes and learnings of the +BOX Connect feasibility study, are made to incentivize a broader regional shift towards local food promotion in the nonprofit food security sector.

Local Produce “Cap & Trade” Policy

Similar to a greenhouse gas emissions reduction cap and trade policy, a local produce cap and trade program would set a cap on the amount of non-locally produced food that a food assistance program distributes, as a percentage of total pounds distributed annually. Organizations that exceed the cap would be required to buy allowances from an authorizing agency, with all allowance payments being directed to a public fund that would provide capacity building grants to smaller, innovative, community food nonprofits, defined by an annual operating budget under a certain threshold. Further, nonprofits that are below the cap could sell their excess cap space to organizations that exceed it as an alternative to purchasing allowances. Finally, nonprofits that purchase locally grown produce for distribution would benefit from a higher level of cap relief, incentivizing the purchase and distribution of locally produced food. Not only would this incentivize nonprofits to purchase and distribute locally grown food, but would also create alternative funding mechanisms for smaller, community food programs that have prioritized the purchase and provision of fresh, locally grown food to food insecure communities.

Local Nutrition Security Clearinghouse

Local farmers and nonprofits face similar challenges in managing a decentralized market for local produce. While farmers are eager to sell to nonprofits, they often lack the capacity to actively seek out, sell, and deliver to a wide network of food security organizations. Nonprofits, in turn, face their own limitations in accessing and coordinating purchases of fresh, locally grown food. To bridge this gap, a local nutrition security clearinghouse is needed.

Functioning like a food hub but with a unique focus, the clearinghouse would serve as a centralized intermediary between local farms (sellers) and nonprofit organizations (buyers). However, unlike a traditional food hub, the clearinghouse wouldn't directly buy



and resell food. Instead, it would facilitate sales by collecting and distributing information, enabling smoother transactions between farms and nonprofits. Likely tech-enabled, the clearinghouse would ease the burden on farmers by connecting them with a network of nonprofit food security agencies, effectively handling marketing and customer acquisition.

For nonprofits, the clearinghouse would provide a reliable and diverse source of fresh food, offering more choice and intentionality than typical in-kind donations allow. Farmers would retain control over transaction terms, including pricing, volume, delivery, and timing. Excess produce could be offered at discounted rates rather than donated at no cost, ensuring farmers recoup some costs. Once terms are agreed upon, the clearinghouse would facilitate the transaction, collecting a small fee to cover administrative expenses.

Beyond facilitating immediate sales, the clearinghouse could foster longer-term relationships between farmers and nonprofits, potentially leading to direct partnerships outside its framework. This concept is already proven in the food rescue sector, where platforms connect commercial food donors with nonprofit agencies. The clearinghouse would apply similar practices, expanding its impact by sourcing fresh produce from local farmers.

Food Justice Incubator

Addressing financial feasibility is a key challenge in tackling food insecurity, but a food justice incubator/accelerator program could be a transformative solution. By supporting the growth of innovative start-up food security programs that prioritize locally grown produce and adhere to food justice principles, such an initiative could redefine the future of food assistance. Inspired by private-sector incubators and accelerators, a food justice incubator would empower mission-aligned, early-stage nonprofits by providing vital resources and mentorship. It would serve as a collaborative hub, bringing together funders, nonprofit leaders, mentors, local farmers, and public and private sector partners to cultivate a new wave of food security organizations deeply rooted in equity and sustainability.

Beyond funding, the real challenge is reimagining what food assistance can and should look like. By fostering collaboration among social impact entrepreneurs, funders, and community stakeholders, a food justice incubator could accelerate this much-needed transformation.



San Diego is uniquely positioned to lead this charge. With a food insecurity rate nearly double the national average, yet the most farms per capita in the U.S., the region exemplifies the urgent need for a localized, innovative approach. San Diego's commitment to food system reform, the County's recent efforts to adopt a food justice community action plan, and momentum in movements like "Food is Medicine" create fertile ground for launching this next generation of food security agencies. This vision not only addresses immediate needs but also establishes a scalable model for systemic change in food justice nationwide.

Pop-Up Farm Stands

Our project explored a solution to increase access to locally grown produce while creating economic value for local farmers. A key principle that guided our approach was the need to expand access points. By analyzing communities where +BOX operates—generally those scoring below the 50th percentile on the California Healthy Places Index—and mapping them against the locations of discount grocery stores like Dollar Stores, we identified a clear opportunity: partnering with these stores to host pop-up farm stands on a regular basis.

This concept would bring fresh, locally grown produce to food deserts and communities that often lack access to farmers' markets or affordable fresh food. A nonprofit like +BOX, with established relationships with local growers, logistics infrastructure, and deep community connections, could manage these rotating pop-up farm stands. Such an initiative could not only accept CalFresh but also operate on a "pay-what-you-can" model, subsidized through philanthropic funding.

The benefits of this approach are multifaceted. Residents who already frequent discount grocery stores would gain easier access to fresh, nutritious produce. The grocery stores themselves, that generally don't stock fresh produce, would benefit from increased foot traffic and enhanced community goodwill, while local farmers and agricultural businesses would see greater demand for their products.

At its core, the pop-up farm stand concept is about meeting people where they are and empowering them to participate in the local food economy. By expanding access in this way, we can simultaneously address food insecurity and strengthen the regional agricultural ecosystem.



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ADDENDUM

