30 Cedar Lane

Highland Park, New Jersey 08904

March 3, 2018

Kim Patton

Director

32 Old Slip, 24th Floor

New York, NY 10005-3500

Re: Implementing a better Food Bank/Pantry Model for Highland Park Borough Residents

Dear Mrs. Patton:

As you and FoundationCenter.org know, food banks and food pantries generally aid in providing nutrition to those in need. A food bank is a non-profit organization (NPO) that collects and distributes food to charity organizations. Food banks are typically operated out of large warehouses where they store and distribute the food. Most food housed in a food bank comes from various sources in the food industry whether it be from grocery stores or wholesalers that have thousands of pounds of food that need to be given away. Sometimes the food containers can be mislabeled, overproduced or the food items were test market items and/or products with short code dates and the company needs to give the food away. Food banks also receive salvageable products which are items such as dented cans and crumpled boxes that grocery stores tend to push aside. After food has been collected at a food bank, it is sorted and distributed to non-profit organizations such as food pantries, soup kitchens, homeless shelters, senior care and emergency relief programs (godspantry.org).

**The Issue At Hand**

All organizations must have a 501(c)(3) status from the Internal Revenue Service (IRS) to be eligible to become a partnering agency and receive food from a local food bank. The IRS defines a non-profit group as one that raises funds for charitable reasons without its directors and stockholders gaining any private income. They must use their earned income toward achieving their charity’s goals. Furthermore, the local organizations cannot charge the individuals for the food that is handed out or served (godspantry.org).

A food pantry provides food directly to those in need. These facilities receive, buy, store and distribute food to low-income individuals in their community. Copious amounts of food that are received by pantries come from food banks only after they become an agency member. Once the food pantry receives its supply of food, it is then turned into nutritious, balanced meals that are then distributed to individuals and families at no cost. Unlike food banks, food pantries are typically run out of churches or buildings that have an adequate number of freezers, refrigerators and shelving to store food.

Food banks will then monitor these agencies on a regular basis to assure that food is handled in a safe and sanitary manner. Once a pantry becomes an agency with a food bank, the agency may make scheduled visits to the warehouse to pick up allotments of food. Food banks may also deliver the food to the agencies via boxed or semi-truck. Food pantries cooperate in the support of the food bank by contributing a shared maintenance fee of $0.19 per pound for most of the food they receive. Some food, such as fruit and vegetable produce, and dairy products are provided to all agencies free of charge (feedingamerica.org).

With this system in place it seems as if food banks and food pantries are the main solution for food insecurity within the nation. However, the models that these food banks and food pantries hold are extremely problematic. The model itself doesn't really aid in reducing food insecurity. most of the Food Bank resources come from donations (sixty-two percent), while the rest is just about evenly divided between purchases and government support. Because donations are such a flimsy source of revenue, it's extremely difficult for food banks to stay afloat. Also, with the dire straits of the current economic and financial situation of the country, it's rather understandable that many individuals don't want to give away or donate their extra cans and groceries, but one must realize that the more they don't think about those that are food insecure, the worse the situation is going to become (Davis).

People also tend to donate food whenever it's convenient for them. Statistics show that food donations are very high during November and December, that is around the American holidays of Christmas and Thanksgiving, and quite slow during the months of January through May. The latter end of the year is when much of the food comes in, and it's not in any specific order or any kind of specific model. Much of the donations aren't well thought out and ends up having to be thrown out anyways due to food and drink safety regulations. During the earlier part of the year, it's rather difficult to get anything nutritive for those who need it because donations are so few.

Food banks that serve these areas are also feeling the squeeze, as surplus food supplies dwindle but the lines of people seeking help remain long. As a result, food banks such as Feeding America Southwest Virginia are trying to shorten those lines by doing more to address the root causes of hunger, such as poverty, unemployment and bad health. According to Pamela Irvine, the CEO of the food bank in Southwest Virginia, finding food to help the food insecure is a "real challenge". She thinks that food manufacturers are much better these days at controlling inventory, so they have less surplus food to give to food banks like hers. She also gets fewer rejects, like dented or mislabeled cans. "They're not making near the mistakes they used to," says Irvine (whotV.com).

Food banks must also make food-item collections at supermarkets with no indication as to whether desired food items are available, and if so, how much. Unlike typical for-profit supply chains, suppliers such as supermarkets have a different objective than their downstream recipients such as: food banks, charitable agencies, and hunger victims. While mildly interested in aiding the food insecure, these donors are in business to make a profit by selling food items rather than donating them. Furthermore, supermarkets typically elect not to share information regarding product availability because it is difficult to forecast and kept confidential (Brock III). Without having knowledge of what items are available for collection at different stores, the degree to which food banks can make cost-effective transportation schedules is limited.

The nation's leading domestic hunger-relief NPO, Feeding America (FA) seeks to reduce hunger by providing food to those in need through a nationwide network of about two-hundred- member food banks and distribution centers across the country. FA, as the parent food bank, provides administrative support, training of personnel, standards for food safety and food distribution to its member food banks. The local food banks, although partnering with FA, remain largely independent with their own management systems and budget. They get funds, food and supplies from individuals, groups, as well as local manufacturers and finally, retailers. These donations represent sources of supply that enable them to meet the demand of the people at risk of hunger (npr.org).

Hence, supplies to the food bank are based on the goodwill of donors who are not obligated to give at any time or in any quantity. Consequently, donations may not be often, almost expired which makes them inappropriate for consumption after a few days or may not be what is needed. Nevertheless, food banks need to be able to adequately manage their inventory to ensure equitable distribution of supplies since meeting the demands by aid recipients is not possible with limited supply.

**Aid in Highland Park, New Jersey**

It would be lovely if I could solve the issues within the food bank and food pantries of the whole nation, or even the world. However, the main problem of food insecurity lies in every country. Food Banks are still a popular general model for countries who don't or can't have food insecurity as their top priority yet. However, fixing the food bank model should start somewhere and where better than the small borough of Highland Park in central New Jersey?

The Highland Park Food Pantry is run solely by volunteers aging from freshman in high school (14 years old) to retired folk. I have volunteered almost religiously for about six years. Many donations are made throughout the year, but I've noticed over and over again that during the holiday, the shelves become bare except for food items that are relatively nutrition-less. Those that do donate, donate items that cannot be used for donation, packets that are already opened or cans of food that have expired a while ago. None of these food items can be used for donation, because it could cause illness or harm those who come to the food pantry in need.

Because the borough is so small and yet still would have an impact on the New Jersey community, fixing the food pantry model here could have repercussive effects on the rest of the state. Using the model that I present on this borough could be thought of as a testing ground for a new model and a new way for those in food-insecure households to finally get the proper nutrition they deserve.

**Other Solutions**

The general initial model was of the following: First, the pantry should be open at least two days a week. A "best" practice is to allow clients to have some choice in the food they receive, which preserves their dignity and ensure that they won't waste the food that they receive. Generally, the guidelines for client eligibility is somewhat related to the Federal 130% of poverty Income Guidelines as a universal standard. Guidelines concerning distribution of USDA commodity product (food items available to eligible food pantry programs through The Emergency Food Assistance Program) are not as flexible. There should be an accurate record of individuals coming in. To ensure all food is maintained at appropriate temperatures and that the storage space equipment is in good working order, a best practice is to have thermometers in all refrigerators, freezers, and dry storage areas. Temperature checks should be checked and recorded daily, whenever someone is in the pantry and scheduled at least twice a week.

There are many other models that came in place when trying to fix other food pantry or food bank models within the United States. For instance, having an idea like Wayne County NY's food bank concept may sway the state/city government in one's favor. In Wayne County, New York, is the biggest producer of apples in the Empire State. Yet, in 2013 public school children in the county were being served apples from Washington on their lunch trays. The apples ended up in the garbage. Tom Ferraro, founder of the Rochester, NY, food bank Foodlink, was familiar with a recent study showing that children were more likely to eat sliced fruit than whole and FoodLink was quite resourceful, Ferraro decided to purchase apples from local farmers, process them, and sell them back to local schools. The program was a success. Since July 2014, FoodLink has purchased 3.8 million pounds of local apples, investing $600,000 into the local agricultural economy. Thinking outside the box when it comes to food banks and food pantries is a necessity. With the current, seemingly constant economic turmoil that the country has found itself in, it's important to not forget one's surroundings and general public service duty. The less ignorant one is about what is to be donated, the less problematic donations the food bank will have. With the right incentive, the food banks themselves can start to rely less on donation rather than government support. With these ideas working in tandem, the crisis with food banks and food pantries may improve, thereby improving the country's food insecurity problem (npr.org).

**The Supermarket Solution**

Earlier I mentioned the connection between food banks/pantries, supermarkets and the model. It's important to think of the food bank and food pantry network as a neural network. All of these banks and pantries are interconnected and all fall towards a few parent food banks or food pantries, especially FA. However, because the models are so disconnected and have general autonomy, some food banks are more successful than others given the economic situation of the area.

When a specific city or state is doing well economically, then that means that there is a relatively even balance between consumers and producers. This means that supermarkets provide the consumers (their customers) with the required food items and it's not so unaffordable for those consumers to buy. The left-over mislabeled unusable cans of food and food items end up with the food bank. It's a seemingly useful system, until the point comes where the supermarket is unable to give the food items to the food bank warehouse and the food pantries because of transaction costs among other managerial costs. Transaction costs can become extremely high because food needs to be specially stored.

Thus, the initial plan that I'm proposing would be to change the dynamic of the food bank and food pantry model. Most of the time, food banks and food pantries are dependent upon donation and the occasional drop-off by supermarkets. If there was more of an incentive for supermarkets to drop off food at these warehouse locations where the food banks are, then food pantries could worry less about running out of donations. Supermarkets can improve these chances by using a different algorithm to decide which food-items have to go.

Without becoming too technical, according to a study done by Brock and Davis, of all the forecasting models that supermarkets could use for transportation cost reduction, the Multi-Layered Perceptron Neural Network (MLP-NN) model essentially shows that the superiority of the MLP-NN models compared to Multiple Linear Regression (MLR) model and the two naïve averages suggests that non-linear interactions between different inputs can have a dramatic impact on food availability. Their hierarchical structure and S-shaped sigmoid activation functions allow the MLP-NN models to approximate convex, interactions between two or more variables (Brock). It is understandable why such interactions would affect donations. For example, seasonal demand for a certain food type at one supermarket to be different than it would at another. This may be reflected in the amount available for collection, especially since forecasts may overestimate consumer demand.

When this MLP-NN model was applied to two branches in Greeneville and Wilmington, the results were clear. The associated transportation cost is $19416.28. Nineteen vehicles are required when schedules are based on estimates obtained using other averages. The transportation cost estimates using the Supermarket (SM) average are $22493.35. The costs using the Supermarket-Warehouse (SMWH) average are $22386.46. Only ten vehicles are required on Saturday when using the selected MLP-NN or MLR models. This is about half the number of vehicles (Brock).

Following this model, especially in Highland Park could really use this model because it's such a small, close-networked borough. The main supermarket is only a few blocks away from the food pantry itself, so forcing a new connection between the two ought to be very useful since normally, the food pantry relies just on donations. If and only if those who shop at the supermarket nearby feel the need to drop by the food pantry, does any food-item from the supermarket end up at the food pantry. While the food pantry has other sources of food-items, partnering up with the supermarket of the borough ought to help or aid in a much more succinct food bank model that provides for a better nutritive living for those who are food insecure. Please feel free to contact me by email at a.yellapantula@rutgers.edu or by telephone at (732)-688-7125 anytime. I greatly appreciate your time and looking forward to meeting with you.

Sincerely,



Avantika Yellapantula

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