



# USD 497 Lawrence, Kansas Food Recovery Partnership

## Company background

USD 497 is a public school district located in Lawrence, Kansas, with 20 schools including elementary, middle, and high. The kitchens of USD 497 are open five days a week from August to May, (except holidays or other closure of the campuses). The cafeterias serve the students and are available to staff as well.

## Project background

In Kansas alone, 18.3 percent or 131,130 children are food insecure<sup>1</sup>. As of 2012, food waste makes up 17 percent of waste in landfills in Kansas, which is a 5 percent increase since 2002<sup>2</sup>. When food is sent to the landfill it emits greenhouse gases (GHGs) that can cause heat to be trapped in the atmosphere. Higher temperatures can affect crop yields and extreme weather events, increasing the risk of hunger from lack of food, and increased prices on certain foods with increased demand and lack of supply<sup>3</sup>. Reducing food waste not only saves money, but it can also help save our environment from harmful greenhouse gas emissions.

In effort to address these issues, Lawrence-Douglas County Health Department partnered with Kansas State Pollution Prevention Institute to host a food recovery intern to identify food recovery opportunities. The goal of the project was to reduce pre-consumer food waste and divert excess food to hungry populations. The intern was to perform on-site visits to include observation, interviews, and measurement for potential food recovery at agreed-upon locations, and provide technical assistance in the development of strategies to implement recommendations. The EPA's food recovery hierarchy was followed when researching food recovery opportunities. Recommendations include triple-bottom-line data (social, economic, and environmental outcomes).

## Incentives to change

In Douglas County, 18 percent of the child population is food insecure. There are 5,643 students on free and reduced lunch plans, which is 36 percent of the county's total enrollment<sup>4</sup>. The city of Lawrence's Sustainability board has goals of expanding waste reduction and reducing GHG emissions by 30 percent by 2020 and 80 percent by 2050<sup>5</sup>. Reducing the amount of food going to the landfill and increasing the amount of going to people addresses all of these issues. Reducing wasted food can also lead to cost savings that could be put toward the schools for supplies and technology to better students' education.

## Projects reviewed for food recovery opportunities

### 1. Lawrence High

One of two public high schools in the district, Lawrence High (LHS) serves as a distribution center for schools on the east side of Lawrence. The high school also houses donations for a recent partnership with Just Food and the school district. According to the staff interviewed, nonuniform packaging was mentioned as

a hindrance to storage. The school's truck drivers are responsible for picking up donations from other schools as well as delivering donations to Just Food. Staff said this increased the workload of its truck drivers. LHS serves 650 to 700 students each lunch period and up to 150 for breakfast. LHS has open-campus for lunch allowing students to go elsewhere if desired. The menu follows a three-week rotation for lunch and a two-week rotation for breakfast. Written production records are kept to guide future production and reduce the risk of overproduction. Staff mentioned poor communication regarding field trips and large absences cause overproduction at times. LHS donated 6.2 lbs. of breakfast pizza, 1.6 lbs. of pizza and 6.3 lbs. of tangerine chicken to Just Food on the day of the visit.

### 2. Sunflower/Southwest

This elementary and middle school are joined together by a shared kitchen. Sunflower Elementary feeds around 350 students each lunch and Southwest Middle School feeds 250 to 300 students each lunch period. When lunch ends for Southwest, all remaining food is brought to Sunflower's cafeteria. The staff keeps written records of prepared reimbursable meals, and the number and weight of leftovers. This helps the staff gauge how much of certain foods to prepare for the next time. Both schools are self-serve. The kitchen calls a driver when it has enough food to donate to Just Food. Staff interviewed mentioned a vermiculture composting bin where they place produce trimmings and some food waste weather permitting. Staff expressed the cold weather had not allowed them to utilize it. On the day of the visit, four pounds of vegetables trimmings were put in the composting bin after lunch preparation. Sausage from lunch was saved for making gravy the next morning, successfully demonstrating food recovery.

### 3. Schwegler

This elementary school serves 270 to 300 students each lunch. The school receives Sysco deliveries every Thursday and may ask Lawrence High for some produce if they are running low, but this is not common. The staff keeps written production records to reduce the risk of overproduction. The staff interviewed did not feel trained on Just Food, and were not sure what they could donate or how to store food to be donated. According to staff, salsa is an area of opportunity because not many students eat it, but they have to make it. Staff were unsure of its ability to be donated however, because of their seven-day criteria. On the day of the visit, the kitchen had lasagna leftovers, but the staff did not want to donate it in their own pans because they need to use them regularly. The district should work with Just Food to determine if containers can be provided, or consider investing in storage specifically for donating food and clarify what acceptable donations are.

<sup>1</sup> <http://www.feedingamerica.org/research/map-the-meal-gap/2016/2016-map-the-meal-gap-child-food-insecurity.pdf>

<sup>2</sup> <http://www.kdheks.gov/waste/reportspublications/stateplan16.pdf>

<sup>3</sup> <https://www.wfp.org/climate-change/climate-impacts>

<sup>4</sup> <https://ipsr.ku.edu/ksdata/ksah/education/6ed21.pdf>

<sup>5</sup> [https://assets.lawrenceks.org/assets/agendas/cc/2009/03-31-09/03-31-09h/cptf\\_final\\_draft\\_report.pdf](https://assets.lawrenceks.org/assets/agendas/cc/2009/03-31-09/03-31-09h/cptf_final_draft_report.pdf) pg 3

#### 4. Woodlawn

Students are given four choices of a main meal at this elementary school and serve themselves with some assistance from staff in younger grades. The staff keep written records and receive food from Lawrence High on Tuesdays and Thursdays. Woodlawn feeds about 150 students each lunch. The staff placed an example of what they called a “fair share” of grapes on top of the food line to encourage students to take an appropriate amount of food. This practice helps reduce food waste and over production because students are taking appropriate amounts of food. Staff were told they could not compost but did not know of a reason why. It is recommended the district look into this and start composting at all schools. The staff also questioned the number of choices and said there were too many for a small school with young children. It is recommended the school be allowed to cut down to two or three choices. Woodlawn has high numbers of students on free or reduced lunches and would greatly benefit from implementing Share Tables for unopened milk and cracker packages. Currently they participate in the Harvester’s Back Snack program. They donated 5.4 lbs. of sweet and sour chicken and 6.6 lbs. of rice to Just Food on the day of the visit.

#### 5. Kennedy

Kennedy elementary serves 270 to 290 students out of its total enrollment of about 300. According to staff, nearly all students are on free or reduced lunches. The school used to have a Share Table, but the practice ended and staff were unsure as to why. It is recommended the school reimplement the Share Table to provide food to those students that need it, and the kitchen can still count

each meal sold as a reimbursable meal. All grades are self-serve excluding pre-K and Kennedy receives their food from Lawrence High.

#### 6. West Middle School

According to production records kept by staff, West Middle School serves roughly 400 students and prepares for 450 to account for the varying number of students that eat the school’s lunch. The school donates to Just Food every day according to the kitchen manager. On the day of the visit, 5.33 lbs. of hamburgers were donated and 0.87 lbs. of ribs.

#### Recommendations

All schools were unclear on what could be donated to Just Food or how to package it. It is recommended all kitchen staff go through training to ensure schools are efficiently donating the maximum amount, and the district should contact Just Food to organize transportation assistance. Many schools in the district have high numbers of students on free or reduced lunches, and it is recommended the district implement Share Tables. This helps more food go to students that are hungry and reduces food going to the landfill. Studies have shown adding funny or exciting names to foods such as “x-ray carrots” can increase consumption<sup>6</sup>. If overproduction does occur, the staff should find creative ways to reuse food items. Stale bread can be made into croutons or breading, fruit can be used as dessert toppings or in smoothies, and vegetables can be used as pizza toppings or in soups or stocks. Implementing composting at schools is also recommended to reduce GHG emissions from food waste as well as serve as an educational tool. Staff should continue to donate edible foods to local pantries, homeless shelters and area farmers.

Summary of 2018 food recovery opportunities for USD 497 – Lawrence School District

Food type	Annual estimated environmental impact – reduction <sup>7</sup>	Annual estimated GHG savings – donations <sup>8</sup>	Annual estimated GHG savings – composting <sup>9</sup>
Produce	5.3 metric tons CO <sub>2</sub> e		
Dairy	0.3 metric tons CO <sub>2</sub> e		
Poultry	0.5 metric tons CO <sub>2</sub> e	0.5 metric tons CO <sub>2</sub> e	Not evaluated
Beef	< 0.1 metric tons CO <sub>2</sub> e	0.2 metric tons CO <sub>2</sub> e	Not evaluated
Grains	0.1 metric tons CO <sub>2</sub> e	0.2 metric tons CO <sub>2</sub> e	Not evaluated
Bread	0.1 metric tons CO <sub>2</sub> e	0.3 metric tons CO <sub>2</sub> e	Not evaluated
<b>Total annual weight</b>	11.5 tons	2.3 tons	0.4 tons
<b>GHG reductions</b>	6.2 metric tons CO <sub>2</sub> e	1.2 metric tons CO <sub>2</sub> e	0.1 metric tons CO <sub>2</sub> e
<b>Annual cost savings<sup>10</sup></b>	\$ 21,312.53	\$ 12,668.57	\$ 511.44
Status	Recommended	Partially implemented	Partially implemented

<sup>6</sup> <http://articles.extension.org/pages/73787/the-name-game:-sending-the-right-message>

<sup>7</sup> Estimated potential GHG savings from actual weights measured being sent to the landfill on the day of the visit. Reduction assumes overproduction elimination.

<sup>8</sup> Estimated GHG savings from current donation practices to food banks and pantries based on actual weights on the days of the visits.

<sup>9</sup> Estimated GHG savings from current composting practices based on actual weights from the days of the visits.

<sup>10</sup> Estimated cost savings from each project based on averaged prices.