

Food Scraps Diversion Guide



Prepared by Center for EcoTechnology



www.cetonline.org

In the following guide, The Center for EcoTechnology (CET) provides West Hartford Public Schools and Department of Public Works guidance to roll out a district-wide food scraps diversion program. CET staff visited three schools in West Hartford that already participate in food scraps diversion: Charter Oak International Academy, Webster Hill Elementary School, and Hall High School. CET developed these recommendations based on observations from these visits, as well as CET's technical experience working with schools in Massachusetts.

This Food Scraps Diversion Guide for West Hartford Schools is organized into two sections:

- Part I: Department of Public Works (DPW) Program Administration
- Part II: School District Roles and Responsibilities

Part I: Department of Public Works Program Administration

The Department of Public Works (DPW) is responsible for managing the collection, transportation, and disposal of waste for the school district, including contract management and sourcing equipment. Contracts for hauling trash, recyclables, and food scraps will need to be continually maintained and evaluated as the program matures. DPW will facilitate requesting service for food scraps collection at schools throughout the district, and adjust the size or pickup frequency of trash containers to offset diverted material. In addition, DPW will assist with sourcing and distributing equipment such as sorting stations and bins. DPW will assist with the collection, transportation, and disposal of waste for West Hartford Schools.

Part I includes:

- Purpose of Food Scraps Diversion Program: Why it is important for the school district to implement a food scraps diversion program.
- Best Management Practices: Recommendations for DPW to start and maintain a food scraps diversion program.
- Cost Benefit Analysis: Analysis of the cost and environmental impacts of district-wide food scraps diversion, and benchmarking tools for success
- Educational References: Effective strategies DPW can use to support program goals and progress.
- Deliverables of the program: Specific steps to implement and maintain a food scraps diversion program.

Purpose of Food Scraps Diversion

CT DEEP created the [2016 Comprehensive Materials Management Strategy](#) (CMMS) to provide a roadmap to achieving the state's goal of 60 percent diversion of materials from disposal by 2024. To achieve this diversion goal, Connecticut must divert 300,000 tons of organic waste annually. The Comprehensive Materials Management Strategy also supports the USDA and EPA's joint goal of reducing food waste by 50% by 2030 ([EPA](#)). These agencies established food waste diversion goals to address the 40% of food produced that is wasted in the United States. Approximately \$218 billion is spent every year on growing, manufacturing, distributing, and disposing of wasted food. This waste has environmental, financial, and social costs, and reducing food waste saves meals, reduces greenhouse gases, creates jobs, and conserves water ([ReFED](#)).



The [EPA Food Recovery Hierarchy](#) provides recommendations for making the most out of food scraps. Source reduction is the most preferred method for reducing food scraps, followed by feeding hungry people, feeding animals, industrial uses, composting, and finally landfill or incineration as the least preferred. The West Hartford DPW and school district are implementing strategies which support this hierarchy. By diverting food scraps for anaerobic digestion, West Hartford Public Schools are doing their part to support federal and state waste reduction goals. Anaerobic digestion (industrial uses on the Food Recovery Hierarchy) captures the methane gases to create renewable energy. The goal is to have zero contaminants present in the generated food scraps, and all staff at West Hartford Schools must support this vision to be successful.

Food scraps diversion programs help students and staff change behaviors by diverting the material to the highest and most valuable outlets in the waste ecosystem. Participation in food scraps diversion programs empowers students by engaging in an environmental behavior that creates sustainable change in their community. Establishing a district-wide food scraps diversion program provides a range of benefits for the environment, school district, and students, and sets an example for other communities in Connecticut to follow. These programs can also save the district money on disposal costs. Connecticut in-state Resource Recovery Facilities continue to run near capacity and tip fees will increase as capacity decreases ([Municipal Solid Waste Management Services in Connecticut](#)). Diverting food scraps provides alternative outlets for disposal that will lessen the impact at Resource Recovery Facilities. Therefore, a food scraps diversion program will save West Hartford money and develop resiliency for the future.

As stated in the Charter Oak International Academy's Grant Proposal to Recycle CT, the following is the school's vision for their program: "We recognized that weaving environmental stewardship into the culture of our school is critical for success and that means involving representatives from every key player" (Grant Proposal, page 3). Unified participation is key to the success of West Hartford's Food Scraps Diversion program. Overall, West Hartford's commitment to a food scraps diversion program across the district provides environmental, social, and financial benefits---but it is a team effort.

Best Management Practices for a Successful Program

This guide provides a framework for DPW's initiation and ongoing maintenance of food scraps diversion for the school district. This framework requires consistent communication between DPW, the waste hauler, and the school district.

To Implement a Food Scraps Diversion Program:

1. Evaluate current waste operations and options
2. Assess Collection Areas
3. Develop a Program Monitoring and Maintenance System

1. Evaluate Current Waste Operations and Options

Examine the current waste operations, especially the quantity and type of waste that each school generates, prior to implementing a food scraps diversion program.

- Determine the baseline quantities of trash, recyclables, and food scraps that are collected at each school. This information may be available from invoices from the hauler or custodial staff at the school.
- Does the district's current waste hauler charge a volume-based fee for service, per ton fee, or charge by service frequency? Cost savings can be realized by reducing tonnage, volume, and service frequency. See *Cost Benefit Analysis* for more information.
- Determine the number of containers and frequency needed for collecting food scraps at each school. The hauler will be able to adjust the number of containers as needed.

For additional information refer to the resources below:

- [Hauler Contracting Guidelines](#) from Center for EcoTechnology Toolbox.
- The [School Food Waste Estimation Guide](#) from RecyclingWorks in Massachusetts lists the metric of 0.35-1.13 pounds/student/week. This takes into account one meal a day that is generally not made with scratch techniques.

2. Assess Collection Areas

Before purchasing or designing collection equipment, the DPW should work with the custodial staff to observe how current waste collection programs occur at each school. It is important to convey that a diversion program does not necessarily create a need for additional containers, since the overall volume does not change. Make sure the hauler is providing enough capacity for the recyclables and food scraps collection so that overflow materials are not disposed of.

- Indoor Collection Areas
 - Work with each school to provide consistent containers and signage. There may be slight variations for available equipment, cafeteria layout, and student age/height.
 - Color coded barrels are best, but existing trash barrels can be repurposed for recyclables and/or food scraps as the program gets started.
- Outdoor Collection Areas
 - Work with the hauler to identify the best location and container type for outdoor storage. The hauler will likely provide the collection containers, or may have specific types and sizes required for automated collection. Locate food scraps

bins near trash and recyclables to make the movement of materials more convenient for custodial staff.

- Outdoor storage surfaces should be nonabsorbent, sloped to drain, smooth, and durable. The storage area should be secure, maintained, free from clutter, and clearly marked with no-parking signs.
- The containers should be accessible for pickup and marked with clear signs about accepted materials.
- Consider lockable containers, latches, and tight-fitting lids to prevent pests. Keep the lids closed.
- Use good housekeeping practices. Any spills should be cleaned up to avoid nuisance conditions.

Collection Container Examples

Outdoor: 32, 64, or 96-gallon carts or dumpsters (talk to hauler about options the hauler offers, and make sure it works for the volume at each school). Talk to hauler about lining the containers and how they will be cleaned. Stick-on signs will help identify the type of carts and what materials should be placed in the containers.

Indoor: 32 gallon carts with clear plastic liners can be used inside the school and wheeled out for pickup.

Signage: Designing simple, school cafeteria-specific posters will help reduce the time spent at the sorting station for each user. Provide the templates for schools to create their own which will tailor to their needs and engage students. Black background should correspond to trash, green background for food scraps, and blue background for recyclables. See examples of symbols and templates below.



Templates for Signage



Vermont Symbols for Recyclables, Food Scraps, and Trash

3. Develop a Program Monitoring and Maintenance System

To ensure that the food scraps diversion program remains sustainable, the DPW should develop a system for monitoring the program for cleanliness and contamination. Monitoring should be increased for the first month of school each semester in subsequent years, or longer, as needed. The DPW should coordinate with the hauler to identify contamination issues, and report this feedback quickly. Contamination is best clarified with photos. To address contamination issues, DPW should coordinate with the point person at each school.

DPW will arrange for tracking of food scraps diverted. This information is essential for promoting the program both within the school and to the community. DPW should request the volume of food scraps diverted at each school from the hauler.

Often implementation of a food scraps diversion program will result in greater recycling participation. Work with the waste hauler to adjust the trash and recycling dumpster sizes and pick-up frequency for the new volumes.

Cost Benefit Analysis

The cost benefit analysis will depend on knowing the tip rates of the food waste diverted out of the trash, as well as the rates being charged for the food waste service. Increasing recycling and reducing the trash pickup frequency or dumpster size are also factors to consider. Since the solid waste from the schools is not reported separately, a conversion could be used based on each container size and pick up frequency.

The US EPA has developed the [WARM](#) model to calculate greenhouse gas emissions for disposing or diverting different types of materials. This information could be used to further promote the program.

Educational References

DPW should collaborate with schools to receive accurate and up-to-date program information. For instance, DPW should distribute templates for food scraps, recyclables, and trash signage across the district and notify schools if signs should be updated. In addition, the hauler should have appropriate signage on the outdoor containers to reduce confusion or mistakes.

DPW should also work with the superintendent to promote the district-wide program. Use data collected to identify the impact the program has had on diverting food scraps, and if possible, reducing trash volume. This positive message will reinforce enthusiasm regarding the program and encourage participation and buy-in from all stakeholders.

Deliverables of the Program

It is the responsibility of the DPW to communicate with the hauler and school district to initiate the food scraps diversion program and ensure its ongoing success. The deliverables for implementing and maintaining a program include:

Program Implementation

- DPW will coordinate with the waste hauler to:
 - Establish the baseline for the amount of trash and recyclables generated by each school
 - Contract for food scraps services, and adjust service levels (container sizes and/or pick-up frequency) for trash and recyclables accordingly
 - Establish method for receiving feedback from hauler about contamination issues
 - Determine options for food scraps collection container type(s), placement, whether they need to be lined, and who will be in charge of cleaning and maintaining them
- DPW will coordinate with the custodial managers at for the school district to:
 - Ensure placement of collection containers in a location that works for custodial staff

- Purchase and distribute equipment and supplies for source separation in school kitchens and cafeterias
- DPW will coordinate with the schools to:
 - Provide this guidance document for implementing programs across the district
 - Distribute templates for signage and promotional materials
 - Distribute copies of any presentations or materials that the schools can adapt and use as needed
 - Procure and distribute equipment to all schools

Program Maintenance

- DPW will regularly communicate with hauler to:
 - Learn about contamination issues at each school
 - Collect data to track metrics for each school and identify schools that need further support
 - Adjust hauling service as volumes of trash, recyclables, and food scraps change over time
- DPW will pass on feedback from haulers about contamination directly to schools when it is observed, and also contact schools about program improvements when hauler data indicates low diversion rates
- DPW will coordinate with the district to publicize success of diversion program through local media, EPA Food Recovery Challenge program, or other methods

Program Success

- Clean food scraps diverted from all the schools
- Consistent messaging and program throughout the district
- Developed culture that food scraps and recyclables are diverted from the waste stream
- Reduced waste volumes

Part II: School District Roles and Responsibilities

With seven of the sixteen schools in the district already diverting some food scraps, the specific steps required for implementation will vary by school. This guide covers roles and responsibilities for administration, staff, and students to ensure the sustainability of the program.

Resources from the food scraps diversion model at Charter Oak International Academy can serve as a model for implementing programs at other schools in the district.

Part II of the Food Scraps Diversion guide will provide the following:

- Purpose of the Program: why it is important for the school district to implement a food scraps diversion program
- Roles and Responsibilities: key objectives and efforts needed from staff and students
- Kitchen and Cafeteria Set-Up and Training: recommendations for consistent food scraps diversion in the cafeteria and kitchens
- Deliverables: steps for program implementation and maintenance organized by role

Purpose of Food Scraps Diversion

CT DEEP created the [2016 Comprehensive Materials Management Strategy \(CMMS\)](#) to provide a roadmap to achieving the state's goal of 60 percent diversion of materials from disposal by 2024. To achieve this diversion goal, Connecticut must divert 300,000 tons of organic waste annually. The Comprehensive Materials Management Strategy also supports the USDA and EPA's joint goal of reducing food waste by 50% by 2030 ([EPA](#)). These agencies established food waste diversion goals to address the 40% of food produced that is wasted in the United States. Approximately \$218 billion is spent every year on growing, manufacturing, distributing, and disposing of wasted food. This waste has environmental, financial, and social costs, and reducing food waste saves meals, reduces greenhouse gases, creates jobs, and conserves water ([ReFED](#)).



The [EPA Food Recovery Hierarchy](#) provides recommendations for making the most out of food scraps. Source reduction is the most preferred method for reducing food scraps, followed by feeding hungry people, feeding animals, industrial uses, composting, and finally landfill or

incineration as the least preferred. The West Hartford DPW and school district are implementing strategies which support this hierarchy. By diverting food scraps for anaerobic digestion, West Hartford Public Schools are doing their part to support federal and state waste reduction goals. Anaerobic digestion (industrial uses on the Food Recovery Hierarchy) captures the methane gases to create renewable energy. The goal is to have zero contaminants present in the generated food scraps, and all staff at West Hartford Schools must support this vision to be successful. (See *Roles and Responsibilities* for additional methods to divert food scraps)

Food scraps diversion programs help students and staff change behaviors by diverting the material to the highest and most valuable outlets in the waste ecosystem. Participation in food scraps diversion programs empowers students by engaging in an environmental behavior that creates sustainable change in their community. Establishing a district-wide food scraps diversion program provides a range of benefits for the environment, school district, and students, and sets an example for other communities in Connecticut to follow. These programs can also save the district money on disposal costs. Connecticut in-state resource recovery facilities continue to run near capacity and tip fees will increase as capacity decreases ([Municipal Solid Waste Management Services in Connecticut](#)). Diverting food scraps provides alternative outlets for disposal that will lessen the impact at Resource Recovery Facilities. Therefore, a food scraps diversion program will save West Hartford money and develop resiliency for the future.

As stated in the Charter Oak International Academy's Grant Proposal to Recycle CT, the following is the school's vision for their program: "We recognized that weaving environmental stewardship into the culture of our school is critical for success and that means involving representatives from every key player" (Grant Proposal, page 3). Unified participation is key to the success of West Hartford's Food Scraps Diversion program. Overall, West Hartford's commitment to a food scraps diversion program across the district provides environmental, social, and financial benefits---but it is a team effort.

Roles and Responsibilities (See "Work Flow Hierarchy," *Appendix*, for a visual representation)

While the West Hartford Department of Public Works will provide the infrastructure to transport food scraps from the schools to the end site, it is the responsibility of the school district administration, staff, and students to ensure clean food scraps is collected in kitchens and cafeterias across the district. The following is a list of the primary groups in the school district:

- i. Superintendent and Board of Education
- ii. Building Principals
- iii. Nutritional Services Manager and Kitchen Managers
- iv. Teachers and Lunchroom Staff
- v. Head Custodians
- vi. Custodial Staff
- vii. Students
- viii. Parent Teacher Organizations and Volunteers

Superintendent and Board of Education set the vision and mission of the district to implement and sustain the food scraps diversion program. They should consider attending CET's Train-the-Trainer session to lead by example and encourage acceptance by each school.

Building Principals will uphold the vision and mission of the district to sustain the food scraps diversion program and execute the vision at their school. Principals will recruit a point person

responsible for attending CET's Train-the-Trainer session to learn about implementing source separation of food scraps in their cafeteria. Principals and department managers should be present at staff trainings to demonstrate that food scraps diversion is the official new operating policy. In addition, they will work with DPW to procure collection containers for their sorting stations, make sure that their custodial staff and nutrition services staff have the supplies they need, and distribute signage provided by DPW.

The role of principals will also include supporting teachers as they incorporate recycling and food scraps diversion education into their classrooms. Principals create the culture at their school, and should share their successes and challenges with other district principals, the Superintendent, and the DPW.

Superintendents, Board of Education, and Principals should work together to celebrate the program and the goals. Within the school community, consider celebrations or awards ceremonies to build and maintain enthusiasm for the food scraps diversion program. Trainings, celebrations, and consistency are all factors in a sustainable and effective diversion program.

Suggestions for promoting the district-wide program include:

- Have students present at School Committee/Board meetings
- Promote using school/district newsletter and website
- Conduct outreach to local media outlets
- Create videos
- Present program results to the community
- Contact local politicians and inform them about program success
- Distribute information and videos such as Natural Resource Defense Council's (NRDC) [Save the Food Campaign](#). Videos such as [The Extraordinary Life and Times of Strawberry](#) can be helpful tools to promote importance
- Submit for awards and recognition programs such as:
 - [EPA Food Recovery Challenge](#)
 - [GreenCircle Sustainability Award Program](#)

Nutrition Services and Kitchen Managers will establish 'back-of-house' collection in all school kitchens, and ensure that the manager in each kitchen is educated and trains their staff on proper source-separation.

In addition, Nutrition Services should consider other methods of waste reduction and food recovery. They can convert to using durable utensils and molded trays to reduce purchasing costs and daily waste, as well as use suggestions from the USDA to [Help Prevent Wasted Food](#), divert food scraps from prep in the kitchen, and set up cafeteria food share tables following the [CT Share Table Guidelines](#).

Purchasing decisions will also help keep the food scraps cleaner; for example, using bulk condiments instead of single use packets. Nutrition Services should review [Source Reduction of Food Waste Guidance](#), produced by RecyclingWorks in MA, to learn additional tips for waste reduction.

Teachers will be informed about and participate in the source-separation program, and incorporate recycling and food scraps diversion information into their education plan when possible.

Lunchroom staff (potentially with student and/or parent assistance) will monitor sorting stations, identify contamination, and be able to answer student questions.

Head Custodians at each school are the point person for the placement of collection containers and recognizing contamination issues. They will discuss contamination with teachers, students, and kitchen and lunchroom staff.

The Head Custodian and staff play a large role in making the program run smoothly. Head Custodians should understand and convey to staff that the food scraps diversion program is not generating new waste; it is simply diverting existing food scraps into a different container, which can make the whole waste stream cleaner. The Head Custodians will make a plan for the maintenance and cleaning of food collection containers and assist staff in troubleshooting any materials movement or contamination issues.

Custodial Staff will help with materials movement and sorting station maintenance. They should have input on the design and placement of sorting stations to ensure adequate capacity, convenient placement, and participation. They will also be able to provide useful feedback as the program matures. Consistently reviewing the bins, signs, and waste is key to reducing contamination. They should monitor all of the waste containers and provide appropriate feedback if there are contamination issues.

Students will be taught how to use the sorting stations at the beginning of the program, and should be given refresher training at the beginning of each semester. Student participation is key to program success. Participation is supported through routine education and reinforcement by teachers, lunchroom staff, and custodians. Every child is an active participant and needs to be trained, but they can also become trainers and help teach younger students. Community service hours or class jobs could be assigned for providing peer education and sorting station monitoring. More than just a means of diverting waste, this program is also an educational opportunity for students.

Parent-Teacher Organization and Volunteers can help monitor sorting stations, and help support other food scraps diversion programs such as share tables. PTO volunteers are a great resource to help support the program. However, to sustain the initiative over time, volunteers should not be responsible for program set-up, training, and maintenance.

Kitchen and Cafeteria Set-Up and Training

Each school kitchen and cafeteria should have a similar set-up for food scraps diversion. This consistency helps minimize the need to re-train staff and students as they move through the school system.

Food scraps collected from this program is transported to an anaerobic digestion (AD) facility, so only materials accepted by the AD facility can be placed in the food scraps containers. If the end-site changes in the future, this list of accepted materials may change, and updated signage and training would be necessary. The following lists describe which common materials are accepted, or not accepted, by the AD facility:

- Accepted Materials: food scraps (dairy, meat, grains, desserts, fruits & vegetables), coffee, fats and oils, liquid waste*

*The hauler can take limited amounts mixed with the food scraps.

However, they do not want soupy wet loads

- Not Accepted: food packaging, cardboard, napkins, plastic and film bags, plastic silverware, milk cartons, aluminum cans, containers, and other non-organic materials. (Place in trash or recyclable container as specified)

Kitchen Source Separation Guidance

Collection and Containers

To set up for source separation, each kitchen will need at least one collection cart for food scraps. Clearly label food scrap collection container(s) with what materials are accepted, and place alongside trash and recyclable containers in areas where the majority of food scraps will be generated (preparation and dishwasher areas). In addition, kitchen should have at least one large laminated green sign posted to the wall which the nutrition services staff can refer to if there are any questions about what is acceptable. Containers should be leak proof, intended only for the purpose of food scraps collection, lined with a plastic bag for easy cleaning, and covered when full or not in continuous use. The cart can be wheeled outside to the pick-up area. It is also possible to use smaller barrels, buckets, or containers, and transfer the food scraps into a cart stored outside. The signage and carts should be green to correspond with the food scraps.

When preparing food, each member of the kitchen staff can place a small dishwasher-safe countertop container or bucket in their work space for collecting food scraps while they work. This could be any container that is the appropriate size and shape for the prep area, such as a Lexan container, bus tub, or restaurant pan. When the staff member completes their task or the countertop container is full, they can transfer food scraps to a collection container. The countertop container can then be washed in the dishwasher and be ready for reuse.

Training and Feedback

Staff should be trained on source separation as part of their initial training, and also re-trained regularly, such as at the beginning of each semester.

Kitchen managers should regularly monitor the contents of the food scraps collection containers and provide feedback to staff on contaminants. Common contaminants include food service gloves, bleach wipes, single serving condiments, plastic wrap, and fruit stickers. Managers should also monitor the trash containers for misplaced food scraps.

Transferring Material

Custodial staff will transport food scraps from the kitchen to the waste collection area where the hauler will pick up the material. Food scraps collected in kitchens should be transferred at approximately the same frequency as trash, at least once per shift.

See Center for EcoTechnology's [Source Separation Guidance](#) for more information on how to collect food scraps in a commercial kitchen. This guidance also includes an [instructional video](#) featuring the University of Massachusetts Amherst which can be used to train staff on source separation.

Cafeteria Collection

Sorting Station Set-up

Each cafeteria will need at least one sorting station for students to separate food scraps, liquids, recyclables, and trash. Sorting stations should be placed in a location that is convenient for

students exiting the cafeteria and for custodial staff removing collected material. For larger cafeterias, consider having two sorting stations or two-sided station in the middle of the room to improve traffic flow.



Charter Oak Sorting Station

Sorting stations across the district can be modeled on the “3-2-1-Done” system piloted at Charter Oak School (see photo). This sorting station has separate containers for collecting:

- food scraps (3)
- liquids (2)
- recyclables (1)
- trash (Done)

Schools that offer reusable serviceware can place containers for collecting serviceware in front of the 3-2-1-Done set-up. The 3-2-1-Done system begins with students separating their reusable serviceware (if applicable), separating their food scraps, pouring out liquids, depositing recyclables, and finally, placing remaining items in the trash. In some circumstances, liquid separation is optional. Discuss this option with the hauler and end site.

All containers should be clearly labeled with signage displaying photos of common materials that go in each container. Use consistent signage across the district. In addition, it can be helpful to post examples of actual materials above each container as is shown in the above image from Charter Oak School. Creating posters of waste materials can be a great way to engage a class or environmental club at the school in supporting the food scraps diversion program. Place signage near eye-level for students. For elementary school students, this may mean attaching signs to the bins.

Select containers for sorting stations that match both the volume of material to be collected, and the age of students. Options include Brute barrels on wheels or carts, or for younger students, smaller 20 gallon barrels (or smaller carts). Do not fill the barrels or carts more than 2/3, as after that they become too heavy to easily maneuver. For liquid pour off, consider small, easy-to-wash containers such as 5 gallon buckets. A large funnel placed over the bucket helps to avoid spills.

Liquid pour off can be mixed in with the food scraps as long as it doesn't get too wet. The district's hauler will provide feedback and updates as the program matures.

Color-coding the station with matching collection bin and signage colors improves clarity (green

for food scraps, blue for recyclables, and black or grey for trash). See example from Webster Hill Elementary School below.



Sorting station at Webster Hill Elementary

Collection containers for food scraps and recyclables should be lined with clear plastic bags to avoid confusion when transporting materials to the waste collection area.

Training and Monitoring

Each principal will recruit a member of their staff to be the point person for training staff on source separation in their school. This could be a custodial manager, member of nutrition services, teacher, lunchroom staff member, or environmental club leader. CET will conduct a “train-the-trainer” session to teach these representatives from each school how to train their school community on how to use sorting stations to separate waste.

When the program is rolled out, monitors should stand at each sorting station during each lunch period to help ensure students are placing items in the correct bin. These monitors could be older students, PTO volunteers, or lunchroom staff. Monitoring should continue for at least the first few weeks of the program, and can be re-introduced if there is a problem with contamination. Having monitors stand near the sorting stations increases participation and reduces contamination.

Educating students about the food scraps diversion program is a critical piece of the puzzle. The school may want to expand upon the training associated with the food scraps diversion program as part of classroom curriculum, but at a minimum, students must be shown exactly how to separate waste so only acceptable materials end up in the food scraps collection bins. Use the opportunity to review recycling rules as well.

There are a number of strategies that can be used to educate students, including school-wide assemblies, classroom presentations, student made videos, and the use of school digital signage boards.

Other strategies include:

- Identify and work with “lead” classrooms that can help with outreach and education on the food scraps diversion program, including educating students and lunchroom monitoring. Lead classrooms can also consist of sustainability or environmental clubs.
- Introduce the school’s waste hauler and/or share information about the end-site (Quantum Biopower, an anaerobic digestion (AD) facility). Explain to students that the facility wants food scraps, not contamination.
- Play a game with your students where you hold up props or pictures of food materials (i.e. banana peels, apple cores, sandwich crusts) that can go into food scraps bins, and materials like straws or condiment packets that cannot, and ask the students to say “YES” or “NO”. Be sure to explain why each individual material is either accepted or not accepted in food scraps receptacles.
- Have an activity where students make educational posters to display around the school to help reinforce the message they have learned, and create buy-in for the program.

Repeat training and monitoring at the beginning of each semester to remind students about which materials to place in each container, and to train new students.

Note: pilot programs in the district had been sending their food scraps to a compost site rather than an anaerobic digestion (AD) facility. Hence, they have been collecting paper products with food scraps, which will not be accepted for AD. During training, discuss the difference in the end-site with staff and students at these schools so they understand why there is a change in which bin they place paper products.

Transferring Material

Custodial staff will transport trash, recyclables, and food scraps from the cafeteria to the waste collection area outside of the building. Custodians should be on hand to empty the bins throughout the lunch period. Liquids can be poured into the food scraps container or a slop sink, and the containers washed after each lunch period. Liquids handling will likely adjust as the program matures and the hauler updates their equipment.

Ask custodians for feedback on sorting station set-up and bins. Staff who are invested in decisions are more likely to help foster a successful program. When training custodians on removing material from the sorting station, remind them that they are moving the same total volume of material. Separating out the liquids will make the remaining material cleaner and much lighter to transport.

Good Housekeeping Practices

The dumpsters, carts, and any additional bins should be cleaned often enough to prevent odor. High pressure, hot water, steam, bleach, or detergent will maximize cleanliness. Capture the wash and rinse water for treatment.

Any incidental spills should be cleaned up immediately so as not to create a nuisance condition.

Program Review and Adjustments

Common areas that may need adjustment are:

- Placement of containers and signage
- Monitoring of containers

Deliverables

Program Implementation

- Superintendents will:
 - Distribute this guidance document to all principals in the district.
 - Support and promote food scraps diversion programs.
- Principals will:
 - Recruit a point-person for training their school community on source separation.
 - Support and promote food scraps diversion programs.
 - Serve as liaison with different groups PTO, DPW, Department of Plant & Facilities on resources needed to support the program.
- The Point-Person for each school will:
 - Attend CETs Train-the-Trainer session to learn how to implement food scraps diversion at their school.
 - Coordinate with custodial staff to set up a sorting station for their cafeteria.
 - Coordinate with school staff to train custodial and lunchroom staff on source separation.
 - Train students on source separation.
 - Work with PTO.
 - Identify or coordinate groups that can serve as Sorting Line Monitors.
- Kitchen Managers and Head Custodians will:
 - Identify what collection containers they need at their school to start the program and share this information with their principals.

Program Maintenance

- Principals will coordinate school-wide overview of vision, and instruct managers to ask questions and conduct trainings.
- The Point-Person for each school will:
 - Organize trainings at the beginning of each semester.
 - Receive and provide feedback about contamination.
 - Evaluate the program on an ongoing basis.
- Kitchen Managers will:
 - Regularly monitor food scraps collection containers (and trash containers) for contamination and provide feedback and re-training to staff as needed.
- Head Custodians and staff will:
 - Make sure all sorting stations and signs are in place at the beginning of each lunch period.
 - Transfer scraps from sorting stations to outdoor collection area.
 - Pour liquids into the food scraps container or a slop sink as needed and at the end of each lunch period.
 - Transfer scraps from kitchens to outdoor collection area as needed and at the end of each lunch period.
 - Clean all food scraps collection containers.
 - Alert appropriate staff (kitchen managers, lunchroom staff, etc.) when observing contamination in a bin.
- Sorting Line Monitors will:
 - Help ensure students place waste materials in the correct bins.
- Students will:

- Place waste materials in the correct bins before leaving the cafeteria.
- Participate in activities, (sign-making, line monitoring, etc.), to help support the food scraps diversion program.

Program Success

- Clean food scraps diverted from all the schools
- Consistent messaging and program throughout the district
- Developed culture that food scraps and recyclables are diverted from the waste stream
- Reduced waste volumes

This document includes materials from CET's work with Massachusetts Department of Environmental Protection (MassDEP) <http://www.mass.gov/eea/agencies/massdep>

Appendix

