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## Fixing the Food System: A Twenty-Year Plan for Food Waste Management in Northfield

## Introduction:

The climate action plan adopted by the city of Northfield has two main components, the first of which is the reduction of greenhouse gas emissions. A major portion of that effort is the campaign to reduce waste, which contributes to emissions in businesses, landfills, and transportation. Existing infrastructure has allowed half of all Northfield waste to be recycled, but the rest has been allowed to build up in landfills or be sent to problematic waste-to-energy facilities, where space is steadily declining. In the effort to eliminate waste from landfills, there is nothing more important than the removal of organic waste from the traditional waste stream.

It is important that organic waste reduction be addressed at multiple levels. Northfield's combination of a historic downtown and a large amount of local agriculture gives the city a chance to engage with both local businesses and farmers. It has collaborated with Carleton and St. Olaf Colleges on food recovery programs to reduce waste and address food insecurity. In addition, the residents of Northfield play a crucial role in determining the success of any attempt to address food waste in the city. With those factors in mind, the climate action plan has laid out three steps to tackle the problem: "1) purchasing more intentionally to avoid disposing of extra,

unconsumed food, 2) making food available to those who may struggle with food insecurity, such as through the St. Olaf College Food Recovery Network and Carleton College Food Recovery Network, and 3) composting what remains."

I would like to address those steps by proposing a plan to address food waste that would be implemented over the next twenty years. The primary goal of this plan is to divert food waste from landfills, with the secondary goal of slowing the accumulation of food waste through prevention efforts. The steps would be as follows:

- First, the city must take steps to implement the citywide composting program currently lined up with DSI, while supporting the local Curbside Composting program in its efforts to educate the community and increase the availability of composting facilities. This would take place until the Climate Action Plan's goal year of 2025.
- Second, the city should engage with businesses and farmers over the next five to ten years, not just to increase the availability of locally grown food, but to improve efficiency in the production and disposal of organic materials and to overcome the restrictions imposed by regulations and costs that might limit incentive to compost.
- Third, food recovery efforts must be expanded through the CAC in order to reduce food waste as well as food insecurity. Such efforts would take place for approximately five years after the conclusion of the composting program's implementation.

• Lastly, steps must be taken to prevent food waste both during the process of production on local farms, as well as within households in the form of changing consumer behavior. This would take place during the final five to ten years.

# Current Waste Policy

Until recently, little had been done to comprehensively address food waste in Northfield. 50% of all waste in the city is recycled, compared to >1% that is composted (Northfield Climate Action Plan). Some food waste is diverted through food recovery efforts at the Community Action Center and Carleton and St. Olaf colleges. In addition, the Northfield Curbside Composting Co-op provides composting for approximately 10% of residents. However, the city has not had a method of incentivizing widespread diversion of organic waste from landfills.

The Northfield Climate Action Plan contains proposals to change this, most notably a provision for city-run composting that will reach the vast majority of residents. It has now been negotiated with Dick's Sanitation Company (DSI) and the plan aims to implement it by 2025. Furthermore, a Zero Waste Plan is currently in development as part of implementing the CAP. It lays out a series of recommendations for addressing all types of municipal waste, including several sections dedicated to food waste.

The following plan takes the priorities of the Climate Action Plan into consideration, beginning with the proposed composting initiative. Some of the recommendations from the Zero Waste Plan have also been incorporated. In addition, the plan aims to work in partnership with existing initiatives, such food recovery at the CAC and the efforts of Curbside Composting.

## **Composting Initiative**

The single most important initiative the city can take on is that of composting. At present, organic materials make up approximately 30% of all solid waste in Minnesota (Northfield Climate Action Plan). However, in Northfield, less than 1% of all solid waste is composted, resulting in more than 3,000 tons of greenhouse gas emissions into the atmosphere. Organic material is responsible for 16% of US emissions of methane, one of the most destructive greenhouse gasses (Alexander et al, 2017). The use of composting can eliminate methane emissions from organic waste, and it is effective to start composting efforts among local residents. 25% of food that is bought by consumers is wasted in kitchens, whether as surplus or forgotten until its expiration date, and must then be composted or thrown in the trash.

The city of Northfield does not currently have a citywide composting initiative in effect, but the climate action plan proposes to change that by the year 2025. Currently, the local organization of Northfield Curbside Composting provides an opt-in program, for a starting monthly fee of \$10 (Forsythe). The co-op mainly advertises through its own door-to-door campaigns, yard signs, and word of mouth, efforts that are dedicated but limited due to the co-op's small size. Not only that, but public response to composting efforts is currently lukewarm, as evidenced by a trial run for citywide composting that produced mediocre results (Rohn).

Curbside waste pickup has been cited as one of the most effective ways to get people to dispose of waste responsibly (Pinderhughes). However, public support is necessary for citywide composting. Not only must people be willing to separate their organic waste, but participation must be high enough to make the service worthwhile. The city has organized a contract with

Dick's Sanitation (DSI), which provides garbage disposal and recycling services. However, the costs are not low enough to proceed with the current low levels of participation (Rohn). Higher participation from residents will not only reduce the fee the city must pay, but it will also increase the cost efficiency of a citywide fee and reduce transportation inefficiencies once the program is finally implemented (Taskin et al, 2020). A proposed average cost per person is \$39, based on estimates from other composting programs (The Compost Exchange).

The resources of Curbside Composting are not to be underestimated, nor should the co-op be scrapped if the contract with DSI is put into practice. Rather, a team of dedicated individuals with research and advertising experience is a useful resource to educate people about the importance of composting. Working with the city of Northfield to garner enthusiasm about composting would play to the organization's strengths and help to increase its subscriber base. Other organizations can also play a role. The city's zero waste plan suggests bringing zero waste education to schools and city officials. Such workshops would need to be overseen by individuals who are experienced in the field; for example, from Cannon Valley Grown or the Minnesota Pollution Control Agency. At present, a lack of public enthusiasm is the limiting factor to implementing a composting program throughout Northfield (Rohn). A dedicated effort to educate residents about the importance of composting is the first step to overcoming that problem.

It may be necessary to conduct additional trials to gauge public support. Since the trials will require only a measure of cooperation from a neighborhood and existing resources from DSI, the cost to the city should remain low. The experimental composting initiatives will be a good opportunity to survey participating residents and discern what can be done to make

composting easier or more convenient, as well as to learn which aspects of the program require the greatest address in the educational programs.

Education will help build enthusiasm for composting, but it leaves open the possibility of imposing incentives for composting, or sanctions for those who do not separate their garbage. The Zero Waste Plan suggests that residents would not be able to opt out of the citywide composting program unless they could prove that they did their own backyard composting. That demand provides good incentive not to opt out without good reason, but does not address the issue of people simply leaving organic materials in the trash can. To that end, any citywide program must focus on maximizing the convenience and limiting the necessary time for composting.

Providing the materials to compost and applying incentives or sanctions greatly improve citizen composting efforts, but the most limiting factor in participation is subjective time (Wu et al 2019). People simply believe that separating organic waste from the garbage takes too much time out of their lives. Education about organic waste reduction and composting is necessary to convince the public that composting is worth the cost from their time, and anything the city can do to reduce the time investment will reduce the cost and thereby further improve participation. The Zero Waste Plan recommends an ordinance that prohibits organic waste disposal in landfill waste, and while that policy has the potential to be helpful, it may prove difficult to enforce (Wu et al, 2019). Methods to improve convenience may include the circulation of composting instructions, whether on paper or through the city website, and making compostable bags available in stores or through the city.

Similarly, the Zero Waste Plan states that means of creating a composting program for apartment buildings and multi-family housing has yet to be developed. To address that problem,

part of the compost plan must include making composting dumpsters or larger bins available to both kinds of buildings. Since those will receive larger amounts of food waste, it is imperative that they are well sealed against encroaching pests as well as escaping odors. From there, the city should work with the landlords of apartment buildings and hotel owners to develop an ordinance for making composting available to residents within the buildings; for example, by installing compost bins on each floor. Both Carleton and St. Olaf colleges have implemented large-scale residential composting, and can serve as an example to businesses about the specifics of their programs.

Compost may also include the disposal of yard waste. At present, the city operates a yard waste disposal program in collaboration with DSI, which offers pickup of yard waste for a fee, on-call service, and drop-off at the composting facility in Northfield. The setup provides multiple options for people to dispose of yard waste, which does not end up in trash cans as often as food waste (Pollans et al). However, it is beneficial for composting facilities to receive yard waste and food waste separately, to improve the facilities' efficiency (Forsythe), and therefore the importance of not mixing food and yard waste should be included in the educational plan, in order to mitigate the dumping of yard waste into the food composting program.

The next step is to find a suitable composting facility. There are ten such facilities in Rice and Dakota counties, one of which is a seasonal facility within Northfield. In addition, Curbside Composting has recently received a grant from the Minnesota Pollution Control Agency to build its own composting site. To handle the increased demand, the Northfield composting site may have to increase its hours and capacity, but the bulk of the compost can go to the Curbside Composting facility. Using local facilities carries the benefit of reducing the monetary costs and carbon emissions associated with transporting large quantities of material over long distances (Taskin et al, 2020).

Transportation efficiency in itself is an important component of a citywide compost system. Studies show that improving transportation efficiency in municipal waste management programs can decrease  $CO_2$  emissions by 30% (Saravia et al, 2017). Currently, Curbside Compost serves approximately 10% of homes all across Northfield, but due to the wide distribution of their customers, transportation efficiency is relatively low. They make up for the deficit with small, relatively fuel-efficient trucks instead of traditional garbage trucks. However, this may not be possible with a citywide program. Undoubtedly, DSI has experience in determining the most efficient pattern of transportation, but the city should evaluate existing road infrastructure to determine whether that efficiency can be improved.

Provided that voluntary cooperation from residents can be heightened, a citywide composting system will bring about a massive reduction in the amount of local food waste that ends up in landfills. It is the first and most crucial step in minimizing the city's organic refuse. Outside of the residential sector, however, there is more to be done.

#### Food Waste and Local Businesses

Individual businesses have individual methods of disposing of food waste. Grocery stores and large department stores may contract with DSI or other companies to remove their organic waste (Rohn) but small businesses such as restaurants and cafés may not separate organic waste at all. If the city is to achieve zero emissions, it must ensure that these food-oriented businesses are on board with composting efforts. Since the composting plan is due to be put into place in 2025 according to the Northfield Climate Action Plan, it would be prudent to get business owners involved in compost-oriented education programs, but additional efforts would likely come after the initial composting program is implemented.

The Northfield Zero Waste Plan outlines a long list of methods for helping to improve the sustainability of local businesses, including multiple incentives for sustainability initiatives and several ordinances to reduce plastic waste and mandate composting. The requirement for composting is an excellent place to start. With this policy, all businesses will have to separate organic wastes, thereby removing those organic wastes from landfills.

In the development of this ordinance, it is important to consider health regulation and help to provide businesses with the equipment they need to compost in an effective and sanitary manner. The increased quantity of organic waste over residential areas means an increase in the potential for pests and foul odors, which can become a nuisance that harms the business and may even violate health regulations. It is important that the city develop and circulate lists of methods to deal with food waste with the use of sanitary means, in a public and accessible forum such as the city website.

To assist with this process, the survey of businesses suggested by the Zero Waste Plan is essential, and should include a section in which businesses can report their current or past experience with composting, and their related dealings with city policy or health risks. This will not only gauge what businesses need to compost effectively, but also the level of publicity required to ensure that all businesses can participate in additional, voluntary initiatives such as contests or incentives for reducing waste and improving sustainability, as mentioned in the Zero Waste Plan (17). Increased communication between businesses and city officials will likely have additional benefits centered around improving the efficacy of cooperation on various policy initiatives.

Finally, the survey will allow the city to review the current waste contract each business has with private companies, to ensure that waste collection is being completed as efficiently as possible. It is within the jurisdiction of each retailer to choose which company it hires to collect its refuse. Many contract with DSI or other large waste disposal companies, like Waste Management. However, it may be in the interest of sustainability for the city to work with businesses to ensure that their contracts promote responsible practices: use of nearby, transportation-efficient facilities; division of compost, recycling, and landfill waste; and sustainable practices within the business. Since it is still up to the companies to choose their contract, this conversation would likely not develop into policy, but it would go a long way toward addressing retailers' food waste as well as recycling habits.

Restaurants have an additional role to play. As mentioned in the Zero Waste Plan, portions at many restaurants are often too big, leading to food scraps that cannot be donated or reused. Customers find themselves with too much food to finish. The city should engage with restaurants in order to advise them to lower portion sizes in favor of sustainability, though it may be difficult to develop such an advisory into an ordinance.

In addressing the waste habits of businesses, the city will be able to round out its composting plan, with the goal of having it instituted by 2025 and running smoothly within the next few years. Major sources of food waste in the form of retailers and restaurants will be able to divert the vast majority of their food waste away from landfills and back to the soil. In addition, the city will be able to expand communication with businesses in order to implement policies surrounding organic waste, recycling, and health.

## Food Recovery

Composting and other forms of nutrient reuse are actually listed by experts as the second most favorable method for dealing with food waste. The most preferred is to redistribute food to food insecure households (Saravia et al, 2017). Northfield already possesses a robust food recovery program, as evidenced by the efforts of the Northfield Community Action Center, the Free Food Help Yourself locations, and the efforts of the two colleges' partnerships with Food Recovery Network. However, both the Northfield Climate Action Plan and the Zero Waste Plan list expansion of food recovery efforts as a primary goal to decrease organic waste in a manner that benefits the entire community.



Since food recovery efforts are not building from the ground up as much as composting efforts, the composting effort should come first so that the city can reach its goal of citywide compost by 2025. A food recovery plan will provide a complementary method of dealing with food that has not yet gone bad, one that involves less time and energy input than a composting facility and provides assistance to local residents.

The zero waste plan suggests that the city partner with Food Recovery Network, as Carleton and St. Olaf Colleges have. The one difficulty that may arise with this plan is that the Food Recovery Network primarily deals with food from dining halls, not necessarily from municipal sources. It has historically partnered with colleges and universities, and working with a city may be outside of its experience. However, the local chapters at each college partner with ten local organizations, including schools and churches, to distribute food to those in need.

With that in mind, the Northfield Community Action Center would be the ideal organization with which to start a food recovery program. According to precedent, the program would likely be made up of local volunteers, and the process would be expedited if the volunteers already possessed organizing experience. The CAC is also familiar with organizations in the area that may be open to new or additional partnerships with food recovery agencies, and its personnel have the experience with the Northfield community to determine where the distribution of food will be most beneficial to nearby residents. Furthermore, it already receives some food from grocers for redistribution; this plan would be an extension of that program.

Partnering with other organizations would provide the benefit of additional expertise. The Northfield Environmental Quality Commission (EQC) has its own volunteer recruitment efforts in the fields of food and waste management, which may coincide with additional efforts at the CAC. Businesses can get involved as well. Instead of composting or discarding unwanted food, the city could incentivize partnerships with organizations such as Second Harvest Heartland, a Minnesota-based company that picks up food from retailers and delivers it to communities in need.

Soliciting food donations from residents will be similarly crucial to expanding Northfield food recovery. In the absence of a large serving organization like a dining hall or a grocery store, it falls to residents to donate food from their own homes. To that end, as long as educating residents remains a major part of the Zero Waste Plan and composting efforts, publicity for the food recovery initiative can be included in those efforts. This would either take the form of

additional workshops or simply advertising a request for donations at each workshop. Additional benefit may be gained from reaching out to organizations with a focus on sustainability, such as the farmers' market or the free food gardens, with a request to advertise for food recovery on their websites or as part of their efforts.

The expansion of food recovery efforts will decrease overall food waste and provide resources for food insecure households. It will keep viable food from entering the waste stream, serving as a form of prevention against the creation of food waste. With widened participation, it can become a valuable part of reaching the city's sustainability goals.

#### Agriculture and Production Efficiency

"End of the pipe" management of food waste is a useful direction from which municipalities can address the problem (Pollans et al, 2017). This includes the methods discussed above: composting and food recovery, which both take place after the food has been produced, distributed, and bought by consumers. However, the vast majority of food waste comes from the production side, at the farms and orchards where it is grown (Alexander et al, 2017). The city of Northfield, as a rural municipality with a large agricultural sector, has a unique opportunity to address this problem by engaging with local farmers.

The Zero Waste Plan suggests that the city should engage with local farmers about integrating more local food into produce aisles and restaurants in Northfield. Those efforts will reduce the transportation emissions associated with the importation of food from elsewhere, and support the efforts of the farmers. I propose an additional facet to this plan: that the city engage with farmers about how food waste can be mitigated in the process of production.

Some crops are simply lost due to inefficiencies during the harvest (Alexander et al). Others are discarded for being too misshapen or bruised. Still others are withheld from circulation due to the dynamic nature of food markets or restrictions put in place by the U.S. Department of Agriculture to keep prices competitive (Messner et al). Whatever the reason, 20 Gt of global dry crop matter per year is lost during the farming process, far outstripping any other source of food waste (Messner et al).

Much of that waste returns to the soil as compost. However, in doing so, it completely skips over consumers, making it a drain on agricultural land resources with no benefit to the local economy or to people suffering from food insecurity. Because it is never sold, it becomes a loss to the farmer as well.

Already, programs exist to make a dent in addressing crop waste. The farmers' market allows local growers to bring more of their product to the local economy, thereby reducing the amount of excess. But there is still more to be done to combat food waste that is generated during production.

Increasing the demand for local produce will help combat some of that waste, as suggested by the Zero Waste Plan. Instead of allowing crops to rot away when they are not sold, local demand will help farmers to sell more of their excess stock. Instead of importing food from elsewhere and thereby increasing both transportation-related GHGs and food transport inefficiencies (Messner et al), Northfield businesses would buy increased quantities from local growers. First, however, the city should consult with farmers to determine whether the plan is feasible. Demand for local food is one of the fastest growing sectors of the food market; however, it may be difficult to get farmers to turn to local distribution instead of the large-scale distribution chains they currently serve (Gómez and Hand, 2014).

The Zero Waste Plan recommends that a Food Advisory Board be created to represent the local agricultural center and promote farm-to-table programs. The advisory board will help to address multiple sources of inefficiency in the food sector, beginning with the implementation of local produce programs. This effort will tie into other efforts outlined in the plan to reduce sources of food waste in the form of excess production from a wide variety of institutions. The advisory board's creation should take place once citywide composting is assured, and given time to get on its feet. Within the next few years after that, it would open conversations with local farmers and begin addressing these issues.

An increase in the demand for local food will not get rid of all crop waste. Some crops may still be overproduced, while others may be fit for consumption but not up to the aesthetic standards of retailers. To solve this problem, the excess can be made available to food recovery programs within the city for redistribution to food insecure households. It will likely not be feasible for the city or the CAC to take on the responsibility of transporting the crops from participating farms to food recovery locations, so the will to participate either falls with the farmers or with a potential partnership with organizations that specialize in sustainability in agriculture. The Sustainable Farming Association, for example, has a chapter in the Cannon River valley. Second Harvest Heartland also specializes in the redistribution of food to recovery networks. If an organization such as those could be brought on board to transport the excess crops, it would be much more convenient for farmers to donate to food shelves.

The second option put forward by the zero waste plan is the donation of food waste to livestock. This will help to mitigate crop waste that is not fit for consumption by humans. It will

also put a dent in the 5 Gt/yr of crops that are lost due to inefficient livestock production. The example given in the zero waste plan is the donation of food scraps to hogs and cattle. Since there are quite a few cattle farms in the area, the program can remain local and benefit nearby livestock farmers. The costs of transporting food over the small distance will be low and addressing it will be a process similar to the one mentioned above for food recovery.

However, there is still the question of convincing a sizable portion of the local agricultural sector to participate at all. The food advisory board will be essential to this. The board will communicate with farmers, publicizing the need for donations and answering any questions the farmers may have. Depending on the need, the program could be incentivized through collaboration with sustainability organizations like those mentioned above, either through informal grants or competitions, or formal rewards from the city. It will be necessary to publicize the incentive, which the board can achieve due to its dialogue with the farmers.

The city's composting facility will be an asset to this program. Currently, it allows farmers to haul away composted material for free. Its benefit as a low-cost fertilizer is obvious, and it is a visible reminder to farmers of the assets of sustainable actions. The food advisory board may benefit from further publicizing this program. Not only is it beneficial to local farmers, but it reduces the cost to the city of transporting the compost elsewhere. Furthermore, it is likely that the city will be able to work with the new Curbside Composting facility to make a similar deal available from a second location. In both cases, the food advisory board should get in touch with farmers, as well as urban gardens, to ensure that they are aware of the programs and have access to them.

In addressing food waste at the source, Northfield will be able to become a leader among national efforts to prevent organic waste in landfills. Preventing overproduction will reduce the

amount of food that is wasted from the beginning, while providing food for residents and benefiting farmers. The food advisory board, representing agriculture and sustainability, will become an asset to communication between farmers and the city of Northfield.

#### Consumer Behavior

Lastly, much of the production of food waste is in the hands of the consumer. Studies recommend that households be targeted in order to reduce major sources of food waste (Read et al, 2020). The composting plan will go an extremely long way toward addressing food waste from households ending up in landfills. It involves educating consumers on sustainable behavior, including why separating organic waste is worth the effort and how to compost responsibly. But there are further changes that can be made to address food waste before it becomes waste.

Since Northfield will be tackling multiple sustainability challenges in the near future, and will need to alter consumer behavior on several fronts – recycling and transportation, to name a few – these changes should be initiated in the final five years of the twenty-year plan, after issues of composting and other sustainability behaviors have become a greater part of public awareness. There are three lifestyle changes that can reduce household food waste: eating less livestock, eating within nutritional goals, and making efforts to eat what is bought instead of letting it go to waste. As the composting plan becomes more established, these changes will help reduce the burden of hauling and breaking down the influx of organic material, since the changes ensure that less food waste will be generated in the first place. In addition, they will increase

contributions to food recovery programs around Northfield as people search for better alternatives than simply dumping unwanted food.

Such a program would begin with the continuation of educational initiatives that started in order to encourage composting and recycling. The city would host workshops and partner with schools and organizations to bring information about solving these issues to citizens. The campaign does not have to be as widespread as previous ones, though. There would likely be pushback from some members of the community if further changes in their behavior were perceived to be forced on them.

The first alteration to consumer behavior is to eat less livestock. A massive portion of crops are lost during livestock production (Alexander et al, Read et al). Furthermore, livestock only pass a small percentage of the nutrients invested to feed them along to humans. This is not to say that every resident of Northfield should become vegetarian, or that the city should give up support to local livestock farmers. Instead, consumers must focus on eating sustainably sourced livestock and cutting down on unnecessary purchases of meat products. Since there are many local livestock farms, eating local will support nearby businesses.

The second step is to challenge consumers to eat what they buy or otherwise use it before it goes bad and becomes waste. The EPA and other organizations have lists of ways consumers can cut down on food waste in their homes, and the city could potentially partner with a local sustainability organization to create incentives or competitions for people to generate the lowest amount of food waste. Furthermore, the workshops would include that unopened food with no use to consumers should be donated to food recovery centers or otherwise given to someone who can use it. This will increase donations to food shelves and CAC efforts. Lastly, consumers should be advised to purchase food within their nutritional goals and portion their food according to what they are able to eat in one sitting. This will reduce food scraps dumped from plates into the compost. It can be addressed from both a sustainability perspective and a public health perspective, to help improve nutrition among residents as well as prevent food waste.

All three of these methods will help prevent food waste before it becomes an issue that needs to be dealt with in the compost system, reducing demand on the composting facilities. They will also reduce transportation costs associated with dealing with large volumes of waste, such as GHGs and monetary costs for fuel and labor. Preventing the accumulation of waste, even with a robust composting system in place, is a vital step toward ensuring greater sustainability in Northfield.

#### **Conclusion**

Addressing the issue of food waste will close the major gap between the amount of organic material in the waste stream -31% – and the 1% that is currently composted. The Northfield Climate Action Plan has laid out the goals of reducing food waste, increasing food recovery efforts, and composting what remains.

Citywide composting has been cited as the most necessary article of that plan, one that has not yet been addressed (Rohn). In the first five years of action, a citywide composting system can be set up through a pre-existing contract with DSI. It will be necessary to garner enthusiasm and support from residents, but the groundwork for a successful program is there. The plan will be rounded out with participation from local restaurants, grocers, and other food-oriented businesses, which set their own waste management contracts but must join with residents in reaching the goal of zero organic waste in landfills.

From there, food recovery programs will assist food insecure households while simultaneously providing an outlet for food waste before it becomes unusable. Collaboration with local agriculture will add to donations and reduce the amount of food that is wasted in production. Between the setup of the food recovery resources and beginning a dialogue with farmers, the process will continue over the following five to ten years.

Over the course of the final five to ten years, the city will move on to addressing food waste in households, thereby removing some of the burden from the composting system and furthering donations to food recovery systems. This will take advantage of existing education programs to change the behavior of consumers so that they consider sustainability in the food they buy and consume. As stated in the zero waste plan, the support of the community is necessary for the successful implementation of waste reduction initiatives.

Some elements of the plan to reduce organic waste may not always go smoothly, and some may require adjustment along the way. Yet Northfield has already set an example for sustainability that is acknowledged by local residents and federal agencies alike. Some of the initiatives outlined in this plan already exist in part, such as the efforts of Curbside Composting, food recovery by the CAC, and introductory workshops from the city about the importance of composting. With the implementation of further programs, Northfield can remove harmful, methane-producing food waste from landfills in the campaign and reach the goal of becoming carbon neutral.

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