

Section 1 – Introduction: Why Maximize Recycling?

The City of Madison has a goal to reach zero waste by the year 2050. This goal has been stated in the Sustainability Plan and echoed by the goal setting exercise conducted by city staff as part of the Madison Results initiative. A zero waste goal has been a stated objective of previous Solid Waste Plans as well.

Zero waste has been a longstanding goal of the city because landfills, including the Dane County Landfill, which is the one Madison currently uses to bury all our unwanted junk, only have a finite amount of space. And more landfill space will only be achieved by transforming some of the best farmland in the world into a place to bury unwanted things. New landfills would also only come at significant cost. Additionally, as landfills move further away from city centers costs to handle and haul rise. And, frankly, landfills represent a colossal misuse of resources and wasted energy.

This is why we, as a City, want to achieve zero waste.

To achieve zero waste, and to strive toward that lofty goal, we must maximize our recycling efforts at every turn.

The term “zero waste” has many potential definitions, but for purposes of this plan, “zero waste” would be best considered to be zero *net* waste where material recycled is equal to or exceeds the amount of material landfilled.

It is an unfortunate truth that some material may never prove viably recyclable or preventable on a municipal level, such as disposable diapers or pet waste. Rather than focusing on these exceptions, or letting the daunting task ahead deter efforts, it is unquestionably worthwhile to pursue zero waste efforts.

This plan is meant to offer concrete, near-term steps that honor the City’s commitment to maximize recycling, but also the values residents place on a solid waste collection system, and the values the city as a whole must strive to represent.

Section 2 – Values

The Solid Waste Advisory Committee

- Safety
- Environment
- Convenience
- Aesthetics
- Public health
- Practicality
- Community values

Section 3 – Lenses

- Equity
- Health
- Sustainability
- Adaptability

Section 4 – Diversion Goals

The work of this plan should aim to produce the diversion goals outlined below:

Year	Percentage of Waste Diverted from Landfill
2016	58% diverted
2020	65%
2025	70%
2030	75%
2035	80%
2040	85%
2045	90%
2050	Zero waste

Section 5 - The Goals

A. Establish South Point as a full-service drop-off facility and Streets Division operations site

- Goal 1: Design a full-service site to include adequate equipment storage, well-considered drop-off services with easy customer access
 - Goal date: 2019
- Goal 2: Re-map services provided by the Streets Division so services can be split among three locations and make staffing plans
 - Goal date: 2019
- Goal 3: Build South Point facilities

- Goal date: 2020, budget dependent
- Goal 4: Open fully staffed and operational South Point facility to the public
 - Goal date: 2021, budget dependent

Background and Additional Information

A full-service Streets Division facility at South Point Rd. has been an idea gestating for decades. As the city continues to sprawl westward, it's becoming increasingly clear that in order to ensure equitable access to services provided by the Streets Division that the South Point Rd. facility is a necessity.

As of the writing of this plan, the entire west side of Madison is serviced by the Streets Division office located at 1501 W. Badger Rd. This facility also acts as the sole public drop-off site for recycling services.

Streets Division drop-off sites provides access for residents to recycle items that cannot go into their recycling carts. As of this writing, these items include electronics, household batteries, Styrofoam, cooking oil, and rigid plastic items.

The drop-off sites present the most likely opportunity for recycling services expansion. For example, if carpet recycling were to be attempted again, then having it as a drop-off service could be best way to provide this service as it presents the best opportunity to keep the carpet from getting wet and therefore rendering it non-recyclable.

With 1501 W. Badger Rd being the west side location for Streets Division services, it leaves residents within the newer western developments with a 20-mile round trip drive to recycle electronics, batteries, Styrofoam, cooking oil, and rigid plastics. That considerable trip is a disincentive for these residents to recycle these items, and it's a disincentive to participate in future expansions of recycling services stationed at the drop-off sites.

With a full service drop-off site more conveniently located, it would be reasonable to expect increased diversion of recyclable material that residents in this outlying region felt they needed to place into the refuse rather than recycle.

Access to a place to recycle electronics is very important as many common household electronics items, such as printers, VCRs, and cell phones are banned from the landfill, which means residents should not place them into the tan refuse cart. These items also cannot be recycled in the green recycling cart. This leaves few, if any, convenient options for mandatory electronics recycling.

A third Streets Division location would also speed brush and leaf collection as crews would be able to focus on smaller sections of Madison, providing an increased level of service. This would be especially useful for leaf collection in the fall as leaves in the streets are a major contributor to phosphorus levels in our lakes. By providing more frequent collection during the fall and spring periods, leaves would not remain in the

street for long, and therefore it should reduce the phosphorus load created by that material.

The third location also provides an opportunity to reassess and strategically locate Streets Division assets to better serve the communities within their service regions.

B. Expand organics collection to new neighborhoods

- Goal 1: Increase organics diversion to be 1% of total refuse hauled by Streets Division
 - Goal date: 2018

- Goal 2: Expand to new collection routes where each side of Madison has one route of organics collection each day of the week
 - Goal date: 2020, depending on budget availability

- Goal 4: Expand organics to collect organics citywide and operate organics drop-off services
 - Goal date: 2025, depending on budget and processing availability

Additional Information

Diverting food waste from the landfill will be a key component to increasing diversion from the landfill. According to a 2010 waste sort, nearly 40% of the city's refuse is organic material. Food waste by itself comprises 25% of the overall refuse delivered to the landfill according to the same study.

Using the recorded 2016 refuse weight tonnage collected by the City of Madison (44,866.15 tons), the City could prevent 17,946.46 tons of material from going into the landfill if all organics material, such as soiled paper products, diapers, and pet waste, were diverted. If only food waste is kept from the landfill, 11,216.54 tons would be diverted.

Since pet waste and diapers present considerable logistic and regulatory hurdles at present, it would not be wise to assume this material could be diverted in the near future. However, soiled paper products, such as used paper towels and greasy pizza boxes would be readily acceptable in food waste diversion systems, such as composting or an anaerobic digester. Therefore the expected tonnage for a citywide program would be somewhere between the high and low number quoted above. For a more accurate estimate, a waste sort would need to be performed.

As of the writing of this report in 2017, the Streets Division hauls organics to Blue Ribbon Organics of Caledonia, WI for composting. The City of Madison hauls food waste and soiled paper products collected from participating households and businesses that are within prescribed areas of the city. The collections areas were selected by Streets Division operations staff to maximize the number of participants and ease of collection routes for our automated collection.

To expand collection beyond its current capacity, there will need to be two major developments.

First, there will need to be an increase in collection capacity through additional operators and collection vehicles. The chief concern about this would be cost and the budget. The second goal noted above of increasing collection by one operator and one collection vehicle by 2020 would be the first step toward ramping up the investment necessary to performing citywide collection by 2025 (as noted in goal 3).

Second, there will need to be reliable and cost-effective location to perform composting and/or anaerobic digestion of the organics collected by the city. Despite previous plans, it is unlikely that the City would be able to make the investment in the timeline noted above to own and operate an anaerobic digestion facility. However, that may not cause any significant delay in the eventual expansion of this program.

As of the writing of this report, many entities, both private and public, have discussed the possibilities of undertaking organics diversion – including potential anaerobic digestion facilities. The organics program may be able to expand and meet the needs of Madison without investing in the processing facility. However, considering the importance of this element of waste diversion and broader sustainability goals, the City should not completely abandon the possibility of needing to invest in either a composting or anaerobic digestion.

Part of this goal will be for the Streets Division to foster relationships with private food waste entities to ensure organics diversion continues and expands along the timeline stated above. Any agreement made with these entities must also meet the values of the Streets Division and the City of Madison, and not come with any environmental trade-offs and must prove to be a practical and convenient service for the residents of Madison.

C. Improve communication from the Streets Division regarding recycling, and other services provided

- Goal 1: Establish a social media presence for the Streets Division to take advantage of free media opportunities
 - Goal date: 2018
- Goal 2: Better utilize current web-based resources to better share recycling information and diversion opportunities
 - Goal date: Continuous
- Goal 3: Create a formal strategic communications plan, or message calendar, and outreach targets for the Streets Division to be sure department objectives and services are understood and shared
 - Goal date: 2019 implementation

Additional Information

Clear, consistent, and engaging communication is an essential part of any successful program. The Streets Division would especially benefit from quality communication because our services are varied and impact every resident within the city of Madison.

Increasing diversion statistics as noted above will require residents of Madison changing their behavior, which will be a great challenge. The media landscape is fractured, making it increasingly difficult to reach and persuade our residents to change their habits to reach sustainability goals. Creating messages and sharing information in a variety of ways that embraces both digital and traditional media is important to continue meeting Streets Division goals.

Since communication is a key part for residents to gain compliance and knowledge of Streets Division and City of Madison goals, it is equally important to be sure a plan with clear objectives is in place. Too frequently, Streets Division communications have been reduced to being responsive, or to achieve immediate goals rather than carefully planned to achieve long term success.

Any communication plan would also need to include outreach considerations for the growing diversity of the city of Madison, and be certain that communications reach and impacts those audiences.

The cost of a widespread communications program must also be considered. Advertising on traditional and digital media can prove to be expensive. The Streets Division must leverage all no-cost and low cost resources, such as social media, and utilize the City's media team to help spread departmental and sustainability goals and programs.

D. Strengthen construction and demolition recycling practices

- Goal 1: Improve data collection within the City of Madison regarding construction and demolition debris
 - Goal date: 2018
- Goal 2: Strengthen city ordinances regarding construction and demolition recycling reporting, if necessary
 - Goal date: 2019
- Goal 3: Strengthen city ordinances regarding remodeling recycling reporting for projects costing over \$20,000, if necessary
 - Goal date: 2020

Additional Information

Waste is measured by weight. And weight is how diversion statistics are generated. By far, the heaviest material entering Madison waste stream relates to construction and demolition projects. Better management of these materials, and better tracking of these materials, would result in improved diversion statistics.

As of this writing, reporting of this material is acquired from processors/recyclers of construction material in the area. While these weights accurately depict what they are processing, it does not necessarily accurately depict what projects within the City of Madison are doing since these processors also work with projects outside of Madison.

In Madison General Ordinance 10.185, there is a requirement that demolition and construction projects divert 70% of their waste from landfills, and remodeling projects that cost more than \$20,000 are also required to recycle. The same ordinance also requires reporting the recycling total within 60 days of the completion of the project.

Since a gap exists between the ordinance, and the data collection methods of this material, improvements should be made to be sure that projects within the city are meeting the values and expectations of Madison.

If efforts to improve data collection within current ordinances do not produce results in capturing this information, taking steps to strengthen the ordinances surrounding construction and demolition recycling would be the next logical step.

Any changes to the ordinance, however, must be carefully considered to be sure that they are both practical and not a hindrance to development within the City of Madison. Nor would any changes in the ordinance be done to be punitive, but rather solely to increase recycling practices and reporting of the construction sector of Madison.

E. Continue supporting successful programs that increase diversion, equity, and recycling, such as the NRT neighborhoods, sharps collection underwriting, the roll-out assist program, and so on.

- Goal date: continuous.

Additional Information

The Streets Division provides excellent service to all City of Madison residents. This goal is intended to underline the commitment to keep providing services to everyone, and finding ways to lift up the traditionally underserved and vulnerable communities who need help keeping their homes and communities safe and environmentally responsible.

F. Continue to search for opportunities for other recycling and diversion opportunities where practical and affordable

- Goal date: continuous.

Background and Additional Information

Waste streams are always changing, especially as packaging material changes and global markets and consumer habits evolve. These natural fluctuations will create both challenges and opportunities for recycling, and it is important to be sure that the opportunities that are available can be leveraged and the challenges minimized or overcome.

Pursuing new opportunities for recycling material will be an important role for the recycling coordinator especially as diversion expectations tick upward over time. And the pursuit will not end so long as waste is a result of our consumption-based economy.

The recycling coordinator and the Streets Division must stay committed and attuned to what advancements and opportunities exist, and how best to bring them to Madison in a manner that is cost effective and practical to end users.

This also serves as a catchall goal to improve diversion practices when new opportunities are revealed.

G. Pursue increased public place recycling efforts

- Pilot recycling litter containers in select areas, and monitor these cans for contamination
 - Goal date: 2018

- Expand recycling opportunities in parks and other community spaces
 - Goal date 2019

- Pilot food waste diversion for neighborhood festivals and events
 - Goal date 2020

- Pilot food waste collection points at neighborhood farmer's markets located with the City of Madison based on the New York City model
 - Goal date 2021

- Require food waste diversion and waste reduction plan be a part of any street use permit for events
 - Goal date 2022

Additional Information

Public place recycling is a significant challenge due to the likelihood of contamination. But yet it also is a public statement regarding a community's commitment to recycling. Therefore, it is worth the effort to make the access visible while taking all appropriate measures to guard against contaminating otherwise valuable recyclables.

Currently, Madison's only recycling litter containers are located within the Business Improvement District (BID) along State Street. This particular area is unique in that it receives regular collection from the Parks Department as part of the maintenance of this highly utilized and visible corridor of Madison.

The level of attention afforded these recycling containers cannot be met by the Streets Division, so careful consideration of container placement will be necessary for early success. Any carts would be placed in high foot traffic areas that are likely to also

generate recyclable waste based on the businesses in the area. Litter container location would also need to be placed for ease of collection by our trucks.

The carts would need to be carefully monitored and the waste diversion achieved by these recycling litter containers must also be considered before it can be expanded.

Other expansions of public place recycling services include recycling options within city parks and other public places. Recycling within parks is a service provided by the Parks Department, so any expansion of these services would need to be done in conjunction with that agency and also done with the same strategic, watchful rollout as recycling litter containers.

H. Perform regular waste sorts of material in refuse and recycling carts

- Set a regular interval to assess material contained within refuse and recycling
 - Goal date: 2019, repeating as necessary at regular intervals

Additional information

As of this writing, the last waste sort analysis performed by the City of Madison occurred in 2010. Information gleaned from that report revealed the need for food waste diversion practices and provides the basis for the continued pursuit of the food waste goal.

As the waste stream changes, and as the diversion expectations climb, it makes sense to regularly re-evaluate what material residents are placing into the refuse or trying to recycle in their carts.

The sorts can reveal areas for potential expansion of recycling services, and also potential items that residents need additional information on how to recycle. Expanding recycling options will be critical as the goals for waste diversion increase over time.

The waste sorts could also be used as a regular checkup on the recycling programs to be sure they are functioning as necessary.

The sorts should also consider large item material as a way to gauge the recyclable options for that waste as well.

Waste sorts and their subsequent analysis are expensive, however, so budget constraints may preclude regular inspection of the waste. However, at minimum, setting a goal of a waste sort once every five years in line with the diversion percentage increases may be the most reasonable option.