# HENNEPIN COUNTY Zero Waste Plan

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# Executive summary

Hennepin County is committed to achieving a zero-waste future where all materials are designed to become resources for others to use, the volume and toxicity of waste and materials is systematically eliminated, and all resources are conserved and recovered and not burned or buried. The county has defined zero waste as preventing 90% or more of all discarded materials from being landfilled or incinerated. The actions in the Hennepin County Zero Waste Plan are designed to collectively move the county as close as possible to the goal of zero waste.

## Developing the plan

The plan's development process was guided by Hennepin County's Racial Equity Impact Tool (REIT) to ensure the plan aligns with the county's goal to reduce disparities. The plan was also developed to complement the county's newly adopted Climate Action Plan and will be the foundation for the county's state-mandated 2024 Solid Waste Management Plan.

The development process and the ensuing plan was designed to value waste reduction, reuse, recycling, and composting above waste-toenergy and landfilling, to prioritize actions over aspirational language, and to include space for diverse stakeholders to be fully engaged. The plan was shaped by broad community engagement and community voices and intentionally placed diversity, equity, and inclusion at the forefront of planning. The engagement process included more than 500 conversations with community members, collaboration with 18 community groups, 10 meetings with industry stakeholders with a total of 170 participants, and surveys, stories and ideas shared by 457 site visitors on **BeHeardHennepin.org**.

The project team collaborated with county staff, stakeholders, and community members to identify and refine programs, actions, and solutions for inclusion in the Zero Waste Plan. Nearly 150 participants formed action planning work groups where, through four virtual meetings, they learned about community and system needs, heard findings from research, and explored and amended the zerowaste actions.

The plan was then drafted and released to the public for comment. Final feedback was considered, edits were made, and the plan was finalized.

## Plan actions

The plan includes 62 total actions to transition the county to a zero-waste system. The actions:

- Increase the recovery of recyclables and organics.
- Address harder to recycle materials such as bulky items and construction debris.
- Reduce consumption and increase circularity
- Bolster and expand end markets .
- Encourage or incentivize behavior change.
- Look upstream to reduce waste by influencing what is sold into the regional market.

## Map to a zero-waste future

## Low-hanging fruit

Number of actions: 21 Additional tons diverted: 107,000 to 120,000 Additional diversion rate: 8.4% to 9.4% Total diversion rate: 49% to 50%



### System transformation

Number of actions: 30 Additional tons diverted: 183,000 to 211,000 Additional diversion rate: 14.5% to 16.8% Total diversion rate: 64% to 67%

## Approaching zero waste

Number of actions: 11 Additional tons diverted: 159,000 to 188,000 Additional diversion rate: 12.7% to 15.0% Total diversion rate: 77% to 83%



With these actions, change is achieved through optimizing existing programs, developing new programs, investing in infrastructure, engagement, and grants, passing local and regional policy, and increasing partnerships with local community groups and others.

Collectively, the actions have the potential to more than double the county's current diversion rate (39% in 2021). If the county were to achieve an 80% diversion rate, it would be the highest performing county in the United States and one of the highest performing jurisdictions in the world.

The actions are mapped to be implemented over time. As depicted in the map to a zero-waste future, some of the actions are low-hanging fruit that can be implemented relatively easily and are not contingent upon the completion of other actions, others will work to transform the system by increasingly focusing on policy and infrastructure, while the last set of actions are best implemented as the county approaches zero waste by focusing on technology, mandates, state policy, and investments in innovation.

The plan considers that some programs require a complementary action to be implemented first or are best suited for successful implementation once a foundational program has been established. The action plan prioritizes creating a system that is equitable and accessible for all of Hennepin County while also focusing on the largest gaps and opportunities in the system. Once these needs and gaps have been addressed, actions that recover significant tons, increase circularity, expand the reach of programs, or support infrastructure and markets are recommended for adoption.

## Achieving zero waste

Collectively, the actions in the Zero Waste Plan are estimated to achieve between a 77% to 83% diversion rate in Hennepin County. These actions would divert approximately 500,000 tons of waste to recycling, composting, and waste reduction. To achieve a diversion rate of 90% and meet the county's zero-waste goal, the county will need to divert an additional 147,000 tons from disposal annually. Despite the challenges, there are potential viable pathways to achieving a zero-waste system with 90% diversion. The chart below demonstrates that the pathway to zero waste would require increased recovery of currently hard-to-recover items in the trash and changes in consumption and waste reduction.



### Pathway to zero waste

## Plan implementation

State statute requires metropolitan counties to prepare solid waste management plans every six years to implement the strategies identified in the state's Metropolitan Solid Waste Management Policy Plan and achieve the state's recycling goal of 75% diversion by 2030. Development of the county's next solid waste management plan will begin in 2023, and adoption of the plan by the Hennepin County Board of Commissioners is anticipated in 2024. The county will use the solid waste management planning process to prioritize the implementation of actions in the county's Zero Waste Plan over the next six years. More information about the details, cost estimates, and timelines for priority actions will be provided as the county moves forward with implementation.

The county will continue to work with community groups on implementation and will report on progress toward implementing the actions. The county provides an annual recycling progress report to share updates on implementation, progress toward diversion goals, and a summary of results from the county's waste management programs.

# Section 1: Developing the plan

The development of Hennepin County's Zero Waste Plan included a review of the existing waste management system and the programs and policies that influence it, a robust engagement process of community members and industry stakeholders, and the identification of actions that will accelerate the county's path to zero waste. The plan was developed to complement the county's newly adopted Climate Action Plan and will be the foundation for the county's state-mandated 2024 Solid Waste Management Plan.

Hennepin County contracted with several consultants and community groups to develop the plan. Dr. Antonia Apolinário-Wilcoxon, a local diversity, equity, and inclusion facilitator, and 18 community groups were hired to conduct community engagement centered on community voices traditionally left out of the solid waste management decision-making process. Resource Recycling Systems (RRS) conducted a gaps analysis of the county's solid waste system, completed a scan of communities with high recycling rates, facilitated industry and other stakeholder engagement, and developed the plan.

County staff coordinated and supported the efforts of the consultants and community groups. The county team included waste reduction and recycling managers and recycling specialists and an environmental education manager and specialists. Two county REIT Champions served on the core planning team, and staff from the county's Engagement Services department participated in consultant and community contract selection and provided input throughout the process.

# Acknowledging the community group cohort

The Zero Waste Plan's team of consultants and county staff acknowledge the significant contribution of the community groups to ensure community voices traditionally left out of the solid waste management decisionmaking process were centered in the plan development process.

#### Thank you!

- Action to Equity
- Audubon Neighborhood Association
- Center for Hmong Arts and Talent
- Climate Generation/Youth Environmental Activists of Minnesota (YEA! MN)
- Community Power/MN EJ Table
- Congregations Caring for Creation/Minnesota
  Interfaith Power and Light
- Eastside Neighborhood Services
- Ebenezer Oromo Evangelical Church
- Encouraging Leaders
- Lao Assistance Center of Minnesota
- Little Earth Protectors
- McKinley Community
- MN Renewable Now
- NoMi Roots
- Off The Blue Couch
- Somali American Women Action Center
- Resilient Cities and Communities with
  Inquilinxs Unidxs por Justicia
- Thai Cultural Council of Minnesota

## 1.1 Plan process

The development of the Zero Waste Plan followed the process depicted in Figure 1 with the following phases:

#### Phase I: Listen and learn

Initial public engagement work included community conversations, online engagement, and industry stakeholder meetings. Research on the solid waste system, including a baseline evaluation of the county's current solid waste system and a comparative scan of national and global zero-waste leaders, was completed. The findings from the engagement and research were used to complete a gaps analysis that identified opportunities for the county to advance a zero-waste future.

### Phase II: Draft actions

The project team recruited and coordinated action planning work groups with nearly 150 community members and industry stakeholder participants who met to develop actions. These actions were further analyzed for their impacts on equity and waste diversion. The actions were organized into aims and how they address needs identified in phase 1: listen and learn. The community group cohort then reviewed and provided input on the actions.

### Phase III: Review

The Zero Waste Plan project team provided a briefing to the Hennepin County Board of Commissioners on the plan development process, key findings from community engagement and research, and recommended plan actions. The plan was then drafted and released to the public for comment.

#### Phase IV: Finalize plan

After considering the feedback, the final plan was finalized and shared with the board in June 2023. The team will continue to work with community groups on implementation and will report on progress toward goals.

More information, including summary reports of the process to develop the Zero Waste Plan and key findings from engagement efforts, are available online at **BeHeardHennepin.org**.



## Figure 1: Plan development process

- Phase 1: Listen and learn
- Community
  conversations
- Online engagement
- Industry stakeholder meetings
- Solid waste system
  research
- Gaps analysis

Work group
 meetings

Phase 2:

Draft

actions

- Actions development
- Actions analysis
  and refinement
- Cohort actions review

Review	

Phase 3:

- Further refine strategies based on board direction
- Public comment

- Phase 4: Finalize plan
- Finalize plan and share with the county board
- Continued relationship with community groups on implementation
- Report on progress toward goal and established metrics

## Using the Racial Equity Impact Tool

The plan's development process was guided by Hennepin County's Racial Equity Impact Tool (REIT) to ensure the plan aligns with the county's goals to reduce disparities. Two county REIT Champions served on the core planning team, and staff from the county's Engagement Services department participated in consultant and community contract selection and provided input throughout the process.

**Defining desired results:** The first step of applying the REIT is clearly defining the plan's goals, objectives, and measurable outcomes. This was outlined by the county board for this plan: develop an operational plan to map Hennepin County to an equitable zero-waste future that includes a broad community engagement process with a strong focus on equity and disparity reduction. The measurable outcome is 90% diversion of waste from incinerators or landfills.

Analyzing the data: Another step in the REIT process is considering who benefits and who is burdened. Based on experience and data around low participation and lack of access, staff identified Black, Indigenous and other people of color as well as low-income residents and residents with disabilities as commonly not benefiting from and being more burdened by the current solid waste system. This is most prevalent for residents living in cities with solid waste facilities, multifamily housing or rental units, areas with high rates of illegal dumping and litter, densely populated communities that experience more trash truck traffic, and areas affected by cumulative health impacts from multiple sources of pollution and other social conditions. The county's youth were also identified as being more burdened by the system because they will live with impacts of the solid waste management decisions made today. The waste industry, large waste generators, residents in single family homes, and product manufacturers were identified as benefiting from the current system. Community cohort members and other stakeholders were asked during listening sessions to further consider who is burdened and who has benefited. There was agreement with the initial assessment of who is most burdened by the current system and who is currently benefiting from it. Residents who spoke English as a second language, had limited space for collection, and had limited transportation options were also mentioned as more burdened by the

system. Additionally, participants noted that those who benefit, including product manufacturers and large waste generators, aren't doing enough to reduce and better manage materials while those most burdened don't have equitable access to waste programs.

**Community engagement:** Design of the community engagement process for the plan was guided by the understanding of who is currently burdened by the solid waste system. To center the voices of those burdened and traditionally left out of the decisionmaking process, the county contracted with 18 community groups representing diverse communities to develop engagement plans for their communities, host community listening sessions, and communicate updates to their members on the process and feedback opportunities. County staff also sought feedback and help with promoting engagement opportunities through established county engagement networks, including the Trusted Messengers and Community Engagement Community of Practice.

Developing strategies for racial equity: With the help of the facilitator, the community group cohort met 11 times to collaborate, gain a broader understanding of the solid waste system, provide input on the process, develop community-identified solutions, and define themes for use in the subsequent plan development phase. Meeting with the community group cohort throughout the process provided staff and consultants the opportunity to check in at multiple points and adjust based on the cohort's feedback. The ideas and themes that emerged from their community engagement efforts provided the foundation for the action planning work group structure and initial list of actions to consider. Many representatives from the cohort organizations participated in the action planning process.

#### Implementation, communications, and accountability:

Once the draft actions were refined, they were presented to the community group cohort to ensure they both aligned with the themes that emerged from their community conversations and addressed issues identified by their communities. Their feedback provided clarity on the actions and informed elements in the plan focused on the last two steps of REIT: implementation and communication and accountability.

# Section 2: Reaching zero waste

Hennepin County is committed to a achieving a zero-waste future. A zero-waste future is defined as a waste management system where all materials are designed to become resources for others to use, the volume and toxicity of waste and materials is systematically eliminated, and all resources are conserved and recovered and not burned or buried. The key performance measure is diverting 90% or more of all discarded materials from landfills, incinerators, and the environment<sup>1</sup>.

Despite implementing many progressive programs and policies aimed at reducing waste and increasing recycling over the past several decades, achieving a recycling rate greater than 50% has been challenging for Hennepin County.

Waste touches all our lives, but historically the system to manage it hasn't been equitable to all residents and businesses. Shared responsibility is needed, but we also must shift who benefits from the system to ensure those currently burdened by the system are able to participate in ways that reduce disparities and advance equity.

Reaching zero waste will require significant changes to current solid waste policies, programs, product design, consumption habits, and resources. It will require engaging and supporting communities and local businesses in new and creatives ways to build momentum and spur collective action to advance a more equitable zero-waste future.

## Waste in Hennepin County

About 1.3 million tons of waste was generated in Hennepin County in 2021. Of that, 39% was recycled or composted, and the rest was managed as trash.



Waste composition studies show that about 25% of what is currently trashed is compostable, 15% is recyclable, 20% is potentially divertible, and 40% has no current viable diversion options.



## 2.1 Actions for achieving

## zero waste

While achieving zero waste will be challenging, there is demonstrated support for this goal within the county. More than 98% of the stakeholders engaged in the planning process supported the county's aim of achieving zero waste and recognized the benefits of the transition to zero waste<sup>3</sup>. The Zero Waste Plan contains actions that increase the recovery of recyclables and organics, address hard-to-recycle materials such as bulky items and construction debris, reduce consumption and increase circularity, bolster and expand end markets, encourage or incentivize behavior change, and look upstream to reduce waste by influencing what is sold into the regional market. Change is achieved through optimizing existing programs, developing new programs, investing in infrastructure, engagement, and grants, passing local and regional policy, and increasing partnerships with local community groups and others.

The plan includes 62 total actions to transition the county to a zero-waste system. Collectively, the actions have the potential to more than double the county's current diversion rate (39% in 2021). If the county were to achieve an 80% diversion rate, it would be the highest performing county in the United States and one of the highest performing locations in the world.

However, this is not true zero waste. A pathway for diverting the last 10% and reaching the true definition of zero waste is outlined in this plan. Diverting the last 10% will require changes in technology, consumption, and manufacturing that are not available today. As a result, the specific actions to achieve the last 10% are not specifically detailed or modeled in the plan.

## Modeling the impacts

The project team used a dynamic zero-waste planning model to calculate the potential impacts of the plan's actions on the county's overall diversion rate. The model is based on Hennepin County's two-year average generation, disposal, and diversion tonnages, relies on U.S. Census data for population and household counts, and incorporates data on waste composition from past studies conducted in Hennepin County, the City of Minneapolis, surrounding counties, and the State of Minnesota.

Each of the 62 actions were included in the model to estimate each action's impact on generation, diversion, source reduction, and disposal. Model impacts are cumulative and include dependencies. For example, modeling the impacts of the adoption of the local policy in action *C.7. Single use ban and zero-waste packaging for food service* first requires the county to successfully complete action *C.13.* Advocate for the repeal of the state's ban on bag bans.

The underlying zero-waste model assumes that all the actions have not only been implemented, but that they have been implemented successfully and effectively. For example, the modeled impacts assume that extended producer responsibility (EPR) legislation is not just advocated for, but that a well-designed and effective EPR policy is adopted at the state level and implemented across Minnesota. The model outputs, including the range of estimated impacts for each action, is included in Appendix B.

## 2.2 Action planning

The community members and stakeholders involved in the plan's development recognized that the systemic changes needed to truly reach zero waste will take years and significant resources to achieve, and thus, recommended that the county take action towards zero waste as soon as possible<sup>4</sup>. The county does not have the resources to implement the full plan at once, so actions are mapped to be implemented over time.

Some of the actions in the plan can be adopted as soon as possible and can be implemented simultaneously (for example, A.6. Establish and maintain community equity panel and B.7. Expand reach of county waste education programming).

The action plan considers that some programs require a complementary action to be implemented first and that others are better suited for successful implementation only after a foundational program has been established (for example, *C.6 Mandate participation in recycling and composting programs*).

Additionally, the action plan aims to create a system that is equitable and accessible for all Hennepin County residents and businesses while also focusing on the largest gaps and opportunities in the system (for example, *A.5 Increase access to organics recycling options for multifamily residents*). Once these needs and gaps have been addressed, actions that recover significant tons, increase circularity, expand the reach of programs, or support infrastructure and markets are recommended for adoption.

The action plan presents the programs in three phases: low-hanging fruit, system transformation, and approaching zero waste. A summary of the phases and their impacts is presented on the following page. The full listing of actions in the Zero Waste Plan, their implementation phase, and their impacts is included in Appendix B.

## Map to a zero-waste future

## Low-hanging fruit

Number of actions: 21

Additional tons diverted: 107,000 to 120,000 Additional diversion rate: 8.4% to 9.4% Total diversion rate: 49% to 50%





## System transformation

Number of actions: 30 Additional tons diverted: 183,000 to 211,000 Additional diversion rate: 14.5% to 16.8% Total diversion rate: 64% to 67%

## Approaching zero waste

Number of actions: 11 Additional tons diverted: 159,000 to 188,000 Additional diversion rate: 12.7% to 15.0% Total diversion rate: 77% to 83%

## Zero Waste Plan action phases

The actions in the plan are mapped to be implemented in three broad phases – low-hanging fruit, system transformation, and approaching zero waste. The plan includes a description of each action, the phase it belongs to, and the estimated impact it will have on moving the county toward zero waste.

### Low-hanging fruit

This is the first set of actions that should be implemented. They directly address equity, improve access, and fill gaps in the existing system. These actions are generally easier to implement and are not contingent upon the completion of other actions. There are 21 total actions in this category that, when fully implemented, will divert between 106,900 and 119,800 additional tons from landfill and incineration.



This is the largest set of recommended actions that collectively work to transform the system from its current state to one in which zero waste will eventually be possible. These actions have an increased focus on policy and infrastructure, including organics and mixed waste processing. They also target food waste, consumption, upstream materials, and building materials. This group includes 30 actions that combined will keep as much as 211,100 tons from disposal.

### Approaching zero waste

The last set of actions move the county as close as possible to zero waste using state-of-the art technologies, mandates, state legislation, and investments in innovation. The last set includes 11 actions that have the potential to divert between 158,800 and 187,700 additional tons







## 2.3 Plan impacts

Collectively, the actions in the Zero Waste Plan are estimated to achieve between a 77% to 83% diversion rate. Nearly half of this diversion is from increases in organics recovery (45% of new tons diverted), and another 31% comes from increased recovery of construction and demolition debris and fibers (including paper, carboard, paperboard, cartons, and others). The actions aimed at increasing reuse and source reduction, which are both harder to influence and measure, are estimated to contribute 4% to 7% of the total impacts.

In addition to potential diversion, the potential capture rate for different materials was estimated. Capture rate is a measure of the proportion of a material that is recovered compared to generated. It differs from diversion rate since it looks at a single material rather than the full waste stream. For example, a county may have a diversion rate of 50% (meaning half of the materials discarded are kept out of the trash) that is achieved by capturing 90% of the available carboard, aluminum, and plastics and 25% of the available organics. Capture rates can help a community both gauge the relative success of their programs and identify additional potential for recovery.

Combined, the actions in the Zero Waste Plan have the potential to capture 80% to 90% of the currently recyclable materials and 83% to 91% of the currently compostable materials, depending on the material and the generator sector. For harder to recycle materials, such as bulky plastics, textiles, and household hazardous wastes, potential capture rates for Zero Waste Plan actions are in the range of 30% to 45% due to limitations in collection, sorting technologies, and viable end markets.

Figure 4 displays the total tons diverted by material type and the remaining tons in the waste stream once the Zero Waste Plan actions have been implemented. The proportion of the two is the material's capture rate. The figure shows that although there would be additional tons available to capture to potentially help the county reach zero waste, the opportunities are limited. The majority of available tons are those that remain in the trash (items that are currently not recoverable or may never be recoverable) and materials such as textiles, plastic films, bulky plastics, and others with limited technologies for recovery today.



### Figure 4: Potential capture rate with plan actions implemented

## 2.4 Moving beyond 80%

To achieve a diversion rate of 90%, the county will need to divert an additional 147,000 tons from disposal annually. This is above the approximately 500,000 tons that would potentially be diverted through the full implementation of the actions outlined in the plan. Despite the challenges, there are potential viable pathways to achieving zero waste. As shown in the Sankey diagram in Figure 5, the pathway to zero waste would require increased recovery of currently hard-to-recover items in the trash and changes in consumption and waste reduction. The pathway to achieving the last 10% is discussed in more detail below.



### Figure 5: Pathway to zero waste

The path to recovering the last 10% includes the following:

Maximizing recovery: To reach zero waste, capture rates for all recyclable and compostable materials would need to be approximately 85% to 90%. If the Zero Waste Plan were fully implemented, the county would achieve or be close to achieving this metric for many materials. Additional technologies, end markets, educational programs, and collection solutions would need to be identified to reach this rate for the harder to recycle materials in the stream.

Adoption of new technologies in sorting, recovery, and processing: There are currently no technologies used widely in the U.S. for the efficient recovery of materials like multi-layer laminates, very small items, and multiple other nonrecoverable items currently in Hennepin County's waste stream. The industry is constantly evolving to innovate and incorporate new technologies to recover more materials. This includes expanded use of artificial intelligence and robotic separation, improved optical sorting, chemical recycling technologies, secondary sorting facilities for plastics, and improvements in mixed waste processing. Reaching zero waste depends on the advancement and implementation of these new technologies, some of which are already being tested in the marketplace but not available at scale.

**Changes in consumption:** There are several programs in the action plan that focus on changing consumption habits through expanded education, awareness, and behavior change. Reducing consumption has impacts that go far beyond waste diversion and is integral in the county's approach to zero waste and circularity. To have major impacts on consumption and reach zero waste, the county will need to identify and implement a viable program to significantly change consumer behavior. This will need to go well beyond what other communities around North America have been able to achieve.

**Upstream impacts:** The materials sold and consumed in Hennepin County impact the county's ability to achieve zero waste. The county can somewhat influence what is sold by supporting local sustainable manufacturers, offering incentives and grants, flexing its procurement power, and expanding education efforts. All of these actions are included in the Zero Waste Plan. However, the county's ability to impact change at the scale needed is quite limited. Hennepin County operates as part of the global market and has limited influence on what is manufactured and sold in the region. This extends beyond just consumer packaged goods and includes clothing, food, furniture, electronics, appliances, and other consumer goods. This also includes the built environment and the materials that go into the homes and buildings in the county. To reach the highest rates of diversion, the county is reliant on macro-scale marketplace influences to change what is bought, sold, and built.

# Section 3: Zero-waste actions

The recommended zero-waste aims and actions presented in this plan were driven by community and industry stakeholder engagement, are technically and economically feasible, and were identified to maximize environmental and social benefits.

### Core aims

The actions are organized around four core aims:



Create a materials management system that reduces racial disparities and advances equity



Expand the reach of county waste education, grants, and programs



Adopt policies that accelerate the transition to a zero-waste future



Implement programs to advance circularity, reduce waste, and support reuse

Within each aim, the actions are further organized by the system need they address based on what was heard during engagement.

## Action phase and impact

For each action, the zero-waste action phase it belongs to and the estimated impact on tons diverted (represented by one to four recycling symbols) are identified. Tons diverted estimates include impacts on waste reduction, composting, recycling, and other activities that divert materials from landfill or incineration. The estimated amount of tons diverted for each action are included in Appendix B.

# Figure 6: Zero-waste actions and estimated impact on tons diverted

Impact on tons diverted	Estimated amount of waste diverted annually
22	Less than 826 tons
د، ۲ د ، ۲	826 to 3,300 tons
636363 636363	3,301 to 6,675 tons
53535353 63636363	More than 6,675 tons



Aim: Create a materials management system that reduces racial disparities and advances equity

Throughout the zero-waste planning process, county staff, community members, and industry stakeholders identified the following communities as being unfairly burdened by the current system: Black, Indigenous and other people of color (BIPOC), low-income families, residents with disabilities, and youth. This is especially prevalent for residents who live in cities with solid waste facilities, multifamily housing units or rentals, areas with high rates of illegal dumping and litter, densely populated communities or those by busy roads that experience more trash truck traffic, and areas affected by cumulative health impacts from multiple sources of pollution.

Inequity in the system places unfair economic burdens or costs on some communities, results in uneven access to services and opportunities, and creates pollution that is unfairly borne by certain communities and neighborhoods. This includes the impacts that facilities such as the Hennepin Energy Recovery Center (HERC) have on their adjacent communities. Creating an equitable zero-waste system will require all communities in the county contribute equitably to the effort. If only a portion of the county has access to programs that lead to zero waste or all the negative impacts of waste diversion are borne by a sector of the community, zero waste will not be achievable nor will the system be equitable.

The aim of the following set of actions is to reduce disparities, improve equity and participation, and ensure that future actions continue to promote equity in a zero-waste materials management system. It is important to note that these are not the only actions that are designed to address system inequities; actions listed under other aims also contribute to a more equitable system.

In total, there are 14 actions recommended to specifically address equity in the future zero-waste system.

Action	Phase	Impact
A.1 Expand drop-off options	Low-hanging fruit	52525252
A.2 Increase bulky item reuse and recycling	Low-hanging fruit	22222
A.3 Expand collection and drop-off options for hard-to-recycle items	System transformation	62626363
A.4 Add waste and recycling bins in public spaces	System transformation	23
A.5 Increase access to organics recycling options for multifamily residents	Low-hanging fruit	636363
A.6 Establish and maintain a community equity panel	Low-hanging fruit	23
A.7 Expand workforce development for living-wage, green jobs	Low-hanging fruit	23
A.8 Improve measurement to track progress and ensure accountability	Low-hanging fruit	23
A.9 Evaluate HERC upgrades to reduce impacts on community in the short term	Low-hanging fruit	63636363
A.10 Establish milestones to phase out the use of HERC as county approaches zero waste	Low-hanging fruit	23
A.11 Expand funding and support for community-centric solutions	Low-hanging fruit	6363
A.12 Provide financial incentives to increase participation in targeted communities	System transformation	636363
A.13 Implement low-income rate assistance	Low-hanging fruit	2223
A.14 Launch multifamily recycling champions program	Low-hanging fruit	23

# System need: Provide convenient and equitable access to recycling, composting, and other materials management services for all county residents

The gaps analysis identified lack of equal access to recycling, composting, and diversion options as a limitation to an equitable zero-waste system. Although access was generally available for residents in single-family homes and the majority of businesses, significant gaps were identified in access for residents in multifamly settings, particularly around organics recycling. Gaps were also identified for those without easy access to transportation and to services beyond conventional recycling. Collectively, these gaps contribute to system inequities since diversion options are not equally available to all community members. The following set of actions seek to expand access to services, reduce inequities, and increase diversion.

### A.1 Expand drop-off options

## Low-hanging fruit 2222

- Evaluate locations of existing drop-offs in relation to areas with high proportion of residents in multifamily settings, dense urban areas, rural areas with limited access to curbside services, and communities that do not have equal access to curbside services.
- Establish evaluation criteria to identify locations for investments in improved or expanded drop-off options. Use partnerships, such as with libraries, city or county buildings, schools, and businesses to expand the number of drop-offs in county.
- Evaluate options to support (with technical, financial, regulatory, or other assistance) neighboring businesses or properties that choose to consolidate and share services for recycling and composting (such as a shared dumpster) and consider allowing and providing financial incentives to those that share service with community to increase local access. Note that allowing shared dumpsters may require changes to local ordinances or regulations and will be a multiphase action.
- Expand the materials accepted to include a wider range of items, potentially including food waste.

# A.2 Increase bulky item reuse and recycling Low-hanging fruit 2223

Work with cities, communities, and nonprofit organizations in the county to increase collection and reuse opportunities for bulky items, such as by:

- Expanding collection opportunities either at the curb or via additional drop-offs.
- Hosting or financially supporting drop-and-swap events.
- Supporting community-led efforts to address transportation barriers and expand access for multifamily residents with mobility barriers.

# A.3 Expand collection and drop-off options for harder to recycle items

### System transformation 2222 23

Expand collection opportunities via curbside and drop-offs for harder to dispose items, including clothes and other textiles, household hazardous waste, plastic wrap, and appliances.

### A.4 Add waste and recycling bins in public spaces

### System transformation 23

- Add new collection stations or increase the number of existing public trash and recycling bins in areas of high need, which include areas with significant amounts of litter, limited curbside recycling options, and higher density of people.
- Work with cities, park districts, and transit providers to identify areas with high rates of illegal dumping and work to improve cleanup efforts.
- Expand and improve access to public collection containers to reduce litter and illegal dumping.

# A.5 Increase access to organics recycling options for multifamily residents

## Low-hanging fruit 2323

Increase organics recycling options available to multifamily residents by:

- Providing and evaluating incentives to property managers.
- Expanding the county's existing grant program that covers the initial start-up costs of collection, countertop bins, and compostable bags.
- Expanding organics drop-off site options in multifamily-dense areas.
- Considering longer term actions for partnering with cities to adopt requirements for service to multifamily properties or expand the scope of existing requirements in the county's recycling ordinance (Ordinance #13).

### System need: Ongoing community engagement in zerowaste processes to ensure transparency and accountability and reduce disparities

The community group cohort and industry stakeholders identified the need for increased transparency in zero-waste planning as well as a continued and expanded focus on equity in future planning. The following actions seek to capitalize on the momentum gained during the zero-waste planning process and build upon best practices identified in the community scan.

# A.6 Establish and maintain a community equity panel

### Low-hanging fruit

Establish a diverse community panel to provide input on future county zero-waste programs, actions, and facilities to help ensure the county waste systems will not put environmental justice areas of concern at greater risk or result in increased inequities. The panel will capitalize on the existing energy and engagement with the county's diverse communities and will be charged with:

- Hosting zero-waste community listening sessions on a regular basis and in a variety of formats (including online, in person, and in different parts of the county).
- Supporting collaboration on implementation.
- Raising awareness of county programs and facilitating the delivery of resources to communities.

County staff will continue to include its Racial Equity Impact Tool analysis in significant zero-waste decisions prior to implementation.

### A.7 Expand workforce development for livingwage, green jobs

### Low-hanging fruit

Expand the county's existing workforce development programming (such as mattress and battery recycling and deconstruction) to provide training, skills development, and job certifications to people hoping to work in the recycling industry. Workforce development will be centered around addressing gaps in the system, reducing racial disparities in income and employment, and creating new green jobs.

# A.8 Improve measurement to track progress and ensure accountability

### Low-hanging fruit どう

- Continue to advocate for increased compliance with state reporting requirements, improve data sharing, support consistent county reporting methodologies, and develop additional metrics for benchmarking (such as for waste prevention, climate impacts, and economic impacts) to ensure accountability.
- Present data in a manner that is accessible, transparent, and understandable to the public.

# System need: Reduce reliance on incineration and landfill disposal and create a more equitable system for managing waste

The Hennepin Energy Recovery Center (HERC) is a waste-toenergy facility located in downtown Minneapolis. The facility incinerates garbage and recovers energy and metal from trash. The HERC is a part of the county's integrated solid waste system. Although it is above landfill disposal in the state's hierarchy of waste management, it falls below all other options including waste reduction, recycling, and composting.

Throughout the community and industry stakeholder engagement process, the HERC was identified by some as a barrier to the formation of a fully equitable zero-waste system. The point-source pollution, noise, and truck traffic associated with the facility were specifically identified as concerns. In Hennepin County, residents and businesses put over 800,000 tons of stuff in the trash per year, with approximately 45% being sent to the HERC. Until the county can achieve zero waste, the need for an end-of-life destination for non-recovered items, whether it is an out-of-county landfill, incinerator, or some other option, remains. As the county approaches zero waste, the need for disposal will be reduced but will not disappear entirely. The following set of actions is aimed at reducing reliance on the HERC and increasing equity.

# A.9 Evaluate HERC upgrades to reduce impacts on community in the short term

### Low-hanging fruit 23 23 23

Continue to evaluate the potential for short-term upgrades and operational improvements at the HERC, including improvements in the capabilities for pre-sorting trash to increase material recovery and eliminate hazardous items from incineration, increases in pollution control measures, traffic reduction measures, or other operational improvements to the facility.

# A.10 Establish milestones to phase out the use of the HERC as county approaches zero waste

### Low-hanging fruit

Establish specific milestones for the long-term phase out of the HERC that are tied to performance metrics and include the identification of suitable alternatives for disposal of trash generated in Hennepin County.

Base the milestones on progress toward state goals, reduction in disposed tons, reduction in per capita trash generation, and diversion rates for materials such as organics, paper, and plastics.

# System need: Encourage participation in Hennepin County materials diversion programs by addressing system costs and barriers

Implementing actions that leverage and financially support local organizations and leaders, harness the power of the community, reduce financial barriers, and incentivize participation were highly supported by the action planning work groups. The following set of actions advance the connections and networks established during the zero-waste planning process, encourage participation, and reduce economic barriers.

# A.11 Expand funding and support for community-centric solutions

## Low-hanging fruit 2525

Provide funding and technical support to local organizations to support engagement with residents, businesses, and property managers and harness the power of community-centric solutions for zero waste.

- Projects would be developed and led by community partners and may range from providing recycling education sessions to developing locally managed reuse clinics or organics drop-offs for multifamily residents.
- Promote success stories of community-driven actions to engage more partners and share lessons learned and best management practices.

# A.12 Provide financial incentives to increase participation in targeted communities

### System transformation 2223

Explore and pilot models to provide direct financial incentives to residents and small businesses in low diversion areas. Incentives will be aimed at increasing participation in recycling, preventing waste, and reducing litter.

### A.13 Implement low-income rate assistance Low-hanging fruit 222

Work with cities to design and implement payment assistance programs for trash and recycling collection service. Programs will be designed to reduce participation barriers. Eligibility requirements may include age, income, disability, need, or others. Look to cities such as Denver, Los Angeles, Seattle, and Tuscon for leading practices in implementation.

# A.14 Launch multifamily recycling champions program

### Low-hanging fruit

Launch a multifamily recycling champions program to provide direct support to both renters and property managers through recycling champions who live at the property. Focus on properties in areas with low recycling participation and compensate residents for their time as recycling champions.



# Aim: Expand the reach of county waste education, grants, and programs

Community members and industry stakeholders identified both the need for and the challenge of significant behavior change on the path to zero waste. Lack of awareness on where, how, and what to recycle, services available, and how to participate were noted as some of the biggest barriers to achieving zero waste in Hennepin County.

Identified gaps include the need to address consumption and waste generation and to educate the community on the impacts that consumer choices have on the environment.

The following set of 15 actions rely on expanded engagement, technical assistance, and the growth and optimization of Hennepin County's existing grant programs to move the county closer to zero waste by raising awareness and impacting behaviors. They include actions designed to increase participation in existing and expanded programs. The need for additional organics processing capacity in the county is also addressed.

Action	Phase	Impact
B.1 Improve marketing of grant programs	Low-hanging fruit	53535353
B.2 Expand grants to businesses	System transformation	53535353
B.3 Expand grants for deconstruction and building reuse	System transformation	535353
B.4 Support upgrades to improve performance at material recovery facilities	System transformation	52525
B.5 Improve compliance with recycling requirements for multifamily and commercial generators	Low-hanging fruit	
B.6 Increase compliance with organics requirements in the recycling ordinance (Ordinance #13) and expand requirements	Low-hanging fruit	53535353
B.7 Expand reach of county waste education programming	Low-hanging fruit	22222
B.8 Expand partnerships to provide culturally relevant outreach	Low-hanging fruit	636363
B.9 Improve new resident education	System transformation	<u>د</u> ع
B.10 Launch a broad consumer campaign on food waste prevention	Low-hanging fruit	5353
B.11 Help schools prevent and divert more waste	System transformation	2323
B.12 Help businesses and multifamily properties prevent and divert more waste	System transformation	535353
B.13 Expand deconstruction and building material reuse	Approaching zero waste	
B.14 Develop large-scale organics processing infrastructure	System transformation	<u>د</u> ع
B.15 Support growth of community-scale composting sites	System transformation	2323
B.16 Increase capacity of transfer stations to manage organics	Approaching zero waste	5353

### System need: Enhance the county's grant programs to help businesses, schools, and institutions achieve zero waste while supporting neighborhoods and communities

Hennepin County provides funding and support to advance recycling and waste reduction in the community though a wide range of grant offerings. Examples of existing grants programs include business waste prevention grants, deconstruction and building material reuse grants, Green Partners environmental education grants, multifamily recycling grants, and school waste reduction and recycling grants. The following set of actions looks to build upon the existing grant programming to collectively increase the impact of the grants, expand their reach, and add new targets.

### B.1 Improve marketing of grant programs

## Low-hanging fruit 2222

- Develop and implement a countywide marketing strategy to raise awareness of existing and future grant programs.
- Include a pathway to provide grant writing and application assistance to those who need it, increase community storytelling to share successes, and get the assistance of local community partners for marketing.
- Leverage community partnerships to increase awareness of the grants with an emphasis on neighborhoods, communities, and businesses that have historically been underrepresented in grant applications.

### B.2 Expand grants to businesses

### System transformation 23 23 23 23

- Evaluate the existing business grant programs and identify pathways to expand the grant funding available for commercial generators.
- Design the grants to help businesses launch new organics recycling and food waste reduction programs as well as improve the effectiveness of existing programs.

# B.3 Expand grants for deconstruction and building reuse

## System transformation 25 25 25

Expand grants and incentives for commercial and residential building demolition and remodeling projects to encourage deconstruction techniques, building moves, incorporation of used building materials, and deconstruction training.

# B.4 Support upgrades to improve performance at material recovery facilities

## System transformation

Evaluate opportunities for upgrades at material recovery facilities in the county to expand material collection and the use of robotics and artificial intelligence for sorting and data collection by:

- Considering financial assistance, incentives, or grants to offset costs of equipment upgrades.
- Prioritizing facilities and projects that commit to providing a living wage.

### System need: Optimize the implementation and enforcement of the the county's recycling ordinance (Ordinance #13) to increase recycling, organics recycling, and diversion

The Hennepin County Recycling Ordinance (Ordinance #13) regulates the separation of recyclable materials, including organics, from solid waste in the county. The ordinance was most recently updated in 2018. The ordinance requires that cities have an ordinance to ensure curbside collection of recyclables from all residents and that cities provide residents of single-family homes the opportunity to participate in organics collection<sup>4</sup>. The ordinance requires that commercial generators implement programs for mixed recyclables. Commercial generators that produce more than one ton of waste per week must also implement a food scraps collection program. Food scraps may be diverted though donation, collection for animal feed, anaerobic digestion, or composting. The ordinance requires that multifamily property owners provide recycling services and education for tenants. It does not address organics recycling for multifamily.

The requirements for diversion and access are clearly laid out in the ordinance, and the ordinance follows best practices from the community scan. However, the gaps analysis found that enforcement of the ordinance is not as robust as needed and there are opportunities to expand the ordinance's reach. The following actions are designed to eliminate these gaps and increase the positive impacts of the ordinance.

# B.5 Improve compliance with recycling requirements for multifamily and commercial generators

## Low-hanging fruit 222222

Provide additional county resources to improve compliance with recycling requirements at multifamily properties and businesses. As a complement to increased compliance efforts:

- Increase technical support to building property managers and business owners to implement requirements and to increase program participation.
- Provide incentives through the expanded grant offerings.

# B.6 Increase compliance with organics requirements in the county's recycling ordinance (Ordinance #13) and expand requirements

## Low-hanging fruit 2222

- Increase staffing to support the implementation of business food waste recycling requirements.
- Evaluate other resources to improve compliance and participation, such as incentives and technical assistance.
- Consider expanding the applicability of the organics portion of the ordinance to maximize diversion of organics, including a gradual reduction in the minimum thresholds for commercian generators, adding multifamily properties to the organics requirement, and eventually requiring all generators to have organics service.
- Place an emphasis on the food rescue and donation option for compliance to deliver food to the best and highest uses whenever possible.

### System need: Provide consistent and relevant messaging and programming to fully engage residents, businesses, neighborhoods, and communities on the path to zero waste

Recycling systems continue to evolve as new programs are adopted, material composition changes, and processing technologies improve. Thus, county residents need regular information delivered in a variety of ways to ensure material recovery facilities, organics processors, and end markets receive good quality material while continuing to decrease the amount of disposed materials. To reach zero waste, engagement must also address consumption and encourage behaviors that reduce waste, increase reuse, and minimize litter and pollution.

Despite the strong outreach and education programs already implemented by the county, the gaps analysis and community and industry stakeholder engagement identified expanded education as a key action for the Zero Waste Plan. Additionally, the county's Climate Action Plan calls for expanded education around the climate impacts of consumption and reducing the environmental impacts of waste. These themes should be amplified in the zero-waste engagement.

# B.7 Expand reach of county waste education programming

### Low-hanging fruit 2223

Expand the reach of existing waste education programs and partnerships to ensure clear and consistent information on what is recyclable, compostable, and reusable, how to participate, who provides services, why zero waste is important, why certain materials cannot be recycled, and the impact of the materials we throw away.

- Expand collaborations with the private sector and nonprofit partners.
- Identify new marketing channels.
- Develop clear, consistent marketing collateral that identifies actions steps for community members and supports behavior change practices.
- Use research on the barriers and benefits of reducing wasted food at home to develop and implement a consumer campaign on food waste prevention.

- Increase participation in organics recycling programs by developing a broad campaign to promote the benefits, provide a call to action, and share helpful tips for getting started.
- Support youth environmental education programs that foster a connection to the natural world, promote a better understanding of our relationship to the environment, and motivate environmental stewardship.

# B.8 Expand partnerships to provide culturally relevant outreach

## Low-hanging fruit 2222

- Expand partnerships with local, community-based organizations and networks to understand what zero waste means for different communities and how to customize strategies, approaches, and messaging to resonate with different audiences.
- Provide culturally appropriate strategies based on community needs, such as recycling training sessions in different languages and interpreters for technical assistance to non-English speaking business owners.

#### B.9 Improve new resident education

### System transformation $\hat{\boldsymbol{\zeta}}$

Partner with or incentivize cities, property managers, and realtors to deliver consistent recycling and diversion information to people and businesses who move to a new address. Make it easy for residents and business owners to understand service options and requirements where they live and work.

# B.10 Launch a broad consumer campaign on food waste prevention

### Low-hanging fruit

- Use research on the barriers and benefits of reducing wasted food at home to develop the campaign.
- Use the campaign to support existing initiatives around food waste prevention.

# System need: Provide technical assistance to support diversion

The following set of actions are designed to provide hands-on technical assistance to businesses, contractors and developers, nonprofit organizations, multifamily properties, and schools. The technical assistance will help these generators set up new programs, address contamination, review contracts, and troubleshoot issues with odors, pests, or participation. Assistance will address gaps in resources, technical knowledge, and contracting for schools, help commercial generators and multifamily property owners comply with the the county's recycling ordinance (Ordinance #13) and expand service offerings, and target deconstruction.

### B.11 Help schools prevent and divert more waste

### System transformation 2525

Expand funding and staffing to increase technical assistance resources for schools:

- Consider supporting waste champions at school districts in lower income areas.
- Focus resources on helping school staff with solid waste contracting, setting up and optimizing school diversion programs, and engaging with students, staff, and families.

# B.12 Help businesses and multifamily properties prevent and divert more waste

### System transformation $\widehat{c}_{3} \widehat{c}_{3} \widehat{c}_{3}$

- Expand technical support to commercial generators, business owners, and property managers.
- Support compliance with recycling requirements for recycling and organics diversion, help set up successful multifamily recycling programs, and provide marketing collateral to support education and engagement.

# B.13 Expand deconstruction and building material reuse

## Approaching zero waste کے کے کے کے ک

Connect contractors, building owners, architects, and developers to deconstruction and used building material resources. Resources could include funding, local outlets for used materials, deconstruction training, sample project specifications, and used building material design guides to support the growth of deconstruction and building material reuse.

# System need: Address the need for increased capacity for processing organics

Organic materials make up the largest portion of Hennepin County's trash. The tons of organics diverted from the waste stream will continue to increase as the county implements new programs, such as enforcing and expanding organics requirements in the county's recycling ordinance (Ordinance #13). The following actions are recommended to ensure that there is both enough processing capacity for additional diversion and cost-effective access for haulers and generators.

# B.14 Develop large-scale organics processing infrastructure

### System transformation $\dot{\mathcal{L}}$

Increase the capacity of organics processing through direct development, establishment of partnerships, or support of private, commercial-scale processors. Include the potential to develop a county anaerobic digestor facility and private/public design-build for organics processing.

# B.15 Support growth of community-scale composting sites

## System transformation 2 2

Support the development and growth of community-scale composting sites (less than 5,000 cubic yards per year) and expand backyard composting through financial, technical, and educational assistance.

# B.16 Increase capacity of transfer stations to manage organics

### Approaching zero waste

- Support investments in transfer stations that complement the needs of organics collection programs and organics processing facilities.
- Consider the expansion of transfer capacity, the ability to manage different streams of organics, or the use of technology to implement innovative new methods that increase organics diversion.



# Aim: Adopt policies that accelerate the transition to a zero-waste future

To reach zero waste, policy will need to be crafted to ensure responsible recovery of material is standard practice throughout the community, not just the best practice. In the global community scan, well-designed policy at both the local and state/ provincial level was identified as a key component of successful zero-waste systems. The gaps analysis found that while an open market system, like Hennepin County's current system, does provide some benefits to generators and the industry, it also results in inequities in costs, service offerings, and data reporting. A fully open market system also creates an efficiency gap, results in multiple vehicles servicing the same street, and has adverse impacts on pollution, safety, and noise.

The following set of 17 zero-waste policy actions are designed to move the county closer to an equitable zero-waste system. They also complement the actions in Hennepin County's Climate Action Plan. For example, the Climate Action Plan identifies reducing food waste as one of the most effective solutions to addressing climate change and acknowledges the role that public purchasing has in advancing sustainability. The following zerowaste actions includes recommendations around addressing food waste and procurement.

Action	Phase	Impact
C.1 Support the transition to organized collection across the county	System transformation	63636363
C.2 Expand regional coordination for policies, facilities, and education	System transformation	<u>د</u> ، د،
C.3 Evaluate adding multifamily to single-family residential service	Approaching zero waste	د که د که
C.4 Require haulers to track and report multifamily waste data	System transformation	<u>د</u> ع
C.5 Require events to be zero waste	System transformation	23
C.6 Mandate participation in recycling and composting programs	Approaching zero waste	57575757
C.7 Adopt a single-use ban and zero-waste packaging requirements for food service	Approaching zero waste	22
C.8 Establish food waste reduction targets and timeline	Low-hanging fruit	23
C.9 Develop and implement a county plan to eliminate food waste	System transformation	57575757
C.10 Implement county procurement policies that support circularity	System transformation	2223
C.11 Require cart and dumpster color coding and labels	System transformation	636363
C.12 Prioritize extended producer responsibility	System transformation	53535353
C.13 Advocate for the repeal of the state's ban on bag bans	System transformation	<u>د</u> ع
C.14 Support adoption of truth in labeling legislation	Approaching zero waste	دَعْدَع
C.15 Advocate for minimum diversion requirement for construction and demolition projects	System transformation	57575757
C.16 Support adoption of right-to-repair legislation	Approaching zero waste	5353
C.17 Secure more state recycling funds	System transformation	23
C.18 Support changes to product stewardship for electronics recycling	System transformation	22
C.19 Reduce barriers for businesses to use refillable containers	System transformation	22
C.20 Revise building codes and zoning ordinances that inhibit recycling	System transformation	57575757

# System need: Propose and adopt county-level policies to reach zero waste, reduce pollution, and increase equity

The following set of policy recommendations can be implemented the county level. The policies address the county's open market collection system, food waste, procurement and purchasing, packaging, and generator behaviors. Collectively, the policies create a system in which zero waste can be achieved in Hennepin County.

# C.1 Support the transition to organized collection across the county

### System transformation 23 23 23 23

Work alongside cities and haulers to define roles and responsibilities and establish a roadmap to transition the county to more organized hauler collection systems. This transition will help reduce hauling impacts on infrastructure and neighborhoods, increase cost efficiency, improve access and equity for rate payers, reduce climate impacts, reduce pollution, and provide consistency in service options. Depending on the city and sector, this may include the adoption of hauler contracts, franchising, expanded licensing requirements, or other organized collection schemes for multifamily and commercial. The future organized collection system should:

- Incorporate hauler incentives, such as pay-asyou-throw, that favor reuse, hard-to-recycle items, increased diversion, and reduced contamination.
- Include a pathway for local and regional haulers to continue to operate within the system regardless of their size.
- Be used as a mechanism to explore a pilot for every-other-week trash collection combined with weekly organics collection.
- Support a transition to increased prevalence of alternative fuel sources for collection, such as compressed natural gas or electric vehicles, complemented by county funding or other financial incentives.

# C.2 Expand regional coordination for policies, facilities, and education

## System transformation

- Expand coordination with neighboring counties to advance regional planning for zero waste, such as with the Partnership on Waste and Energy, Solid Waste Administrators Association, or Recycling Education Committee.
- Areas of collaboration includes grants to support end market development, market development accelerators and matchmaking, regional planning for waste facilities, and regional agreements on acceptance of a common set of materials with labeling and consistent engagement.

# C.3 Evaluate adding multifamily to single-family residential service

### Approaching zero waste

Evaluate requiring cities to add all multifamily properties to their residential waste programs.

- Cities could work with private haulers to provide the service.
- Consider using state recycling (SCORE) or other funds to support the transition for capital equipment (trucks and dumpsters), contracting, marketing, or technical assistance.

# C.4 Require haulers to track and report multifamily waste data

### System transformation 23

- Modify hauler licensing language or work with cities to require haulers to report tonnage (disposal and diversion) from the multifamily routes they service for trash, recycling, and organics.
- Work alongside haulers to develop an effective tracking and reporting methodology that aligns with the existing state reporting structure while minimizing hauler impacts.

#### C.5 Require events to be zero waste

### System transformation $\hat{\boldsymbol{\zeta}}$

Work with cities to establish a countywide requirement that all events over a minimum size threshold (for example, 500 people) are required to be zero waste (have recycling, composting, and trash stations with limits or bans on single-use and non-compostable products).

# C.6 Mandate participation in recycling and composting programs

### Approaching zero waste $\widehat{c}_{3}$ $\widehat{c}_{3}$ $\widehat{c}_{4}$ $\widehat{c}_{5}$

Work with cities to adopt mandatory recycling and organics participation requirements for all generators. The requirements would ban recyclable or organic materials from the trash and mandate source separation. Enforcement would occur though on-call generator inspections and at the point of disposal. Include exceptions for lack of space, provide financial support for those that need it, and develop a monitoring/enforcement plan.

# C.7 Adopt a single-use ban and zero-waste packaging requirements for food service

#### Approaching zero waste どう

Design, adopt, and implement a policy to transition to zero-waste food service packaging and eliminate single-use, non-compostable, non-recyclable items in a phased approach:

- Ban the sale and use in county facilities and hosted county events.
- Work with cities and vendors to design a countywide ban for designated generators.
- Include language to transition to zero-waste packaging in ways that encourages the use of reusable containers or no-waste food service packaging.

# C.8 Establish food waste reduction targets and timeline

### Low-hanging fruit

Establish a baseline and target metrics to guide the identification of the largest areas of food waste and how to track progress in those areas.

# C.9 Develop and implement a county plan to eliminate food waste

## 

Develop and implement a county food waste prevention and rescue plan. Strategies may include increasing use and sale of imperfect produce, supporting federal and state tax incentives for food donation, encouraging school waste reduction programs such as shared lunches, longer lunch periods, and student engagement, considering regulations on food production to reduce waste, improving data tracking, supporting community food hubs, and providing education on food labels and expiration dates.

# C.10 Implement county procurement policies that support circularity

### System transformation 222

Develop and implement a county sustainable purchasing policy on par with other leading public entities and provide sustainable purchasing best practices:

- Provide model language for cities in the county and support widespread adoption of circularityfocused procurement.
- Address county procured electronics (computers, phones, others) and electronics waste.
- Ensure that policies align with and can be integrated into Climate Action Plan strategies.

# C.11 Require cart and dumpster color coding and labels

## System transformation 2222

Use hauler licensing, the county's recycling ordinance (Ordinance #13), and local city ordinances to require haulers operating in the county adopt phased deployment of a consistent cart color and labeling scheme.

- The colors would be coded by materials stream (blue for recycling and green for organics) to reduce confusion for users in the county.
- During the phase-in period, haulers would be required to provide up-to-date, easy-to-read stickers or other labels for carts and dumpsters that have yet to be replaced.

# System need: Support state laws that advance zero waste and materials circularity

The following policies must be passed at the state level. If adopted, they will help to advance zero waste across the entire state, not just in Hennepin County. Drafting, passing, and implementing these laws is not solely in the control of the county, so following through with these recommendations requires working across county and city borders, building coalitions, and planning for the long term. The state-level polices address access, upstream manufacturing, labeling, and construction and demolition debris, among others. Their implementation will require Hennepin County to collaborate with partners, stakeholders, and lawmakers to advocate for the adoption of the policies at the state legislature.

### C.12 Prioritize extended producer responsibility

### System transformation 22 22 23

- Lead the development of a state law for extended producer responsibility (EPR) for packaging and printed paper at the state level. EPR places responsibility for the end-of-life management of a product or material on the producers, importers, and/or wholesalers of that product or material. Under full EPR, producers are charged with designing, financing, and managing the systems for the end-of-life of goods.
- Consider the inclusion of eco-modulation fees, which, if properly implemented, send an economic signal to manufacturers that incentivizes recyclable and compostable packaging over nonrecoverable plastic and paper packaging.

# C.13 Advocate for the repeal of the state's ban on bag bans

### System transformation $\dot{\mathcal{L}}$

Work with state legislators, neighboring counties, and regional stakeholders to repeal Minnesota statute 471.9998 Merchant Bags, a state preemption prohibiting bans. The repeal would allow the county to support and adopt bans at city and county level.

# C.14 Support adoption of truth-in-labeling legislation

## Approaching zero waste

Support the adoption of truth-in-labeling legislation, similar to those adopted in California and Oregon<sup>5</sup>. The legislation would require manufacturers to clearly, consistently, and accurately identify local recyclability and compostability of packaging label claims.

<sup>5</sup> For example, the Oregon legislation requires that the state Department of Environmental Quality establish a task force to study and evaluate misleading or confusing claims regarding the recyclability of products made on a product or packaging. The California legislation (SBS 343) prohibits the use of the chasing-arrows symbol and the term "recyclable" on products that are not recyclable.

# C.15 Advocate for minimum diversion requirement for construction and demolition projects

## System transformation 222222222

Work with state legislators to adopt a mandatory minimum diversion requirement for construction and demolition projects. Continue to investigate alternative pathways to adopt the policy at a county or city level. Under the policy, construction and demolition projects over set thresholds and types (for example, residential remodels larger than 1,000 square feet and all new construction) would be required to recycle or divert a minimum percentage of total materials (for example, 50% required diversion) from landfill disposal.

- Use best practices, such as incentives, fully refundable deposits, and certificate of occupancy final approvals, to increase compliance.
- Consider how to incorporate mixed construction and demolition waste processing certifications into construction projects to reduce logistical and cost challenges for contractors.

# C.16 Support adoption of right-to-repair legislation

## Approaching zero waste

Support state level efforts on right-to-repair as laid out in the county's Climate Action Plan.

### C.17 Secure more state recycling funds

#### System transformation $\dot{\boldsymbol{L}}$

Advocate for increased state funding for SCORE, including solid waste management tax funds that are currently diverted to the general fund, evaluate permissible SCORE expenditures (115A.557, sub. 2), and advocate for deconstruction and reuse as eligible programs.

# C.18 Support changes to product stewardship for electronics recycling

### System transformation $\dot{\mathcal{L}}$

Amend e-waste statutes to cover collection and recycling program costs and expand access to electronics recycling for all residents.

# C.19 Reduce barriers for businesses to use refillable containers

### System transformation $\mathcal{L}_{\mathcal{A}}$

Support revisions to the food code that allow and prioritize the switch to reusables for takeout containers and food storage

# C.20 Revise building codes and zoning ordinances that inhibit recycling

### System transformation $\mathcal{L}_{\mathcal{L}} \mathcal{L}_{\mathcal{L}} \mathcal{L}_{\mathcal{L}} \mathcal{L}_{\mathcal{L}}$

Work to revise building codes and zoning ordinances that create barriers to providing recycling and organics service. Building codes should require adequate space for recycling in new construction, and those space requirements should extend to organics recycling, particularly in buildings that must have organics recycling to comply with the county's recycling ordinance (Ordinance 13). Zoning ordinances should allow flexibility for recycling infrastructure, specifically with respect to exterior enclosures.



Aim: Implement programs to advance circularity, reduce waste, and support reuse

Maximizing recycling, composting, and waste diversion alone will not be enough for the county reach zero waste. To truly reach a point at which 90% or more of all discarded materials are diverted from landfills, incinerators, and the environment, the county must broaden its focus to include upstream impacts, consumption, reuse, waste minimization, and the built environment. The materials sold and consumed, the buildings demolished and built, and the waste that is not generated in the first place will determine how close Hennepin County can get to zero waste.

Looking upstream will influence the county's ability to achieve broader climate goals and help to build resilient and robust local economies. The U.S. Environmental Protection Agency's systemsbased greenhouse gas emissions inventory, which accounts for the emissions that result from the production, transportation, use, and disposal of materials, shows that 42% of the greenhouse gas emissions in the U.S. are from materials management. On a global perspective, the 2019 Global Resources Outlook from the United Nations Environment Programme's International Resource Panel states that "up to half the global greenhouse gas emissions stem from the extraction and processing of materials, fuels, and food<sup>6</sup>".

Reducing waste and supporting reuse also has the potential to create local sustainable jobs. For example, Humanim, a nonprofit workforce development organization in Baltimore, MD, reports that for every one job that demolition creates, deconstruction creates 6 to 8.<sup>7</sup> A recent study conducted for the City of Austin, TX, found that circular economy activities in the city, which include waste reduction and reuse activities, contribute over \$1.1 billion in total economic activity to the region and creates approximately 6,300 permanent jobs<sup>8</sup>.

The following set of 12 actions related to circularity, waste reduction, and reuse are aimed at creating a resilient system that is good for people, the planet, and business.

<sup>&</sup>lt;sup>6</sup> http://www.resourcepanel.org/reports/global-resources-outlook

<sup>&</sup>lt;sup>7</sup> https://humanim.org/news/humanim-announces-closure-of-details-deconstruction/

<sup>&</sup>lt;sup>8</sup> The Recycling and Reuse-Related Economy of Austin, Summer 2020. TXP Inc., www.TXP.com

Action	Phase	Impact
D.1 Advocate for sustainable building codes	Approaching zero waste	52636363
D.2 Support and encourage city adoption of deconstruction policies	System transformation	2223
D.3 Require building demolition notifications	Low-hanging fruit	2223
D.4 Assess the feasibility of a building material reuse exchange warehouse and yard	System transformation	535353
D.5 Host and support expanded reuse, repair, and fix-it events and clinics	Low-hanging fruit	22
D.6 Establish brick-and-mortar reuse and repair centers	System transformation	6363
D.7 Support innovation on zero waste	Approaching zero waste	535353
D.8 Evaluate feasibility of providing tax benefits or other financial incentives for the reuse industry	System transformation	دعدع دعدع
D.9 Develop local and regional end markets for recyclable commodities	System transformation	دعدع دعدع
D.10 Develop local and regional end markets for construction and demolition materials	Approaching zero waste	د ۲ ۲ ۲
D.11 Adopt city and county specifications and policies to increase demand for finished compost	Low-hanging fruit	53535353
D.12 Study options for recovering recyclable materials from the trash	Approaching zero waste	53535353

# System need: Adopt programs to improve circularity of the built environment and reuse, recover, and divert construction and demolition debris

When it comes to the built environment, the county estimates that 80% of construction and demolition waste could be diverted, but only 30% is currently being diverted. The U.S. Green Building Council reports that buildings account for 40% of all greenhouse gas emissions, which makes addressing the built environment an imperative for both zero waste and climate action.

#### D.1 Advocate for sustainable building codes

### Approaching zero waste

- Advocate for research-informed changes to building codes and other regulations to increase use of reused and deconstructed materials in new construction and significant remodels.
- Investigate the potential to adopt requirements, incentives, or other actions that create a preference for reusing materials, including green/sustainable materials in construction, and phasing in quality materials that can be dissembled in the future.

# D.2 Support and encourage city adoption of deconstruction policies

### System transformation 2223

- Work with cities to develop model language and adopt policies that prioritize and incentivize building deconstruction over demolition.
- Work with industry representatives to educate policymakers on the value of deconstruction related to climate change and zero waste.

### D.3 Require building demolition notifications Low-hanging fruit 222

Require cities to notify the county of demolition permits and include data on project type and size. The county will publish the building demolition permit application data to increase salvage of reusable materials.

# D.4 Assess the feasibility of a building material reuse exchange warehouse and yard

## System transformation 222323

Assess the feasibility of a private/public partnership for a construction and demolition material exchange warehouse and yard. The facility could:

- Create a construction materials bank where materials can be examined, repaired, and shared.
   Examples of materials that can be amassed and shared include rubble, fill, bricks and pavers, stone and boulders, clean dimensional lumber, and compost.
- Include a retail area for reusable materials, such as cabinets, lighting, doors, and others.



# System need: Increase reuse, repair, and waste reduction actions countywide

The gaps analysis and community and industry stakeholder engagement identified the need for the county to invest in reuse-focused businesses, activities, and programs. Equitable access to reuse infrastructure, like stores, and resources, like durable goods, was identified as a gap. These resources are especially needed in low-income and rural areas. The following actions will help reduce waste, increase reuse, support local economic opportunities and job creation, and foster innovation in local and regional circularity.

# D.5 Host and support expanded reuse, repair, and fix-it events and clinics

### Low-hanging fruit

Increase support for existing repair and reuse mobile and temporary events like Fix-It Clinics.

- Expand programs to reach more neighborhoods and community members. Include clinics for sewing, bike repair, small electronics, and tool sharing.
- Tie programs into county job creation and workforce training programming and skill sharing. Include virtual options and partnerships with existing organizations to expand reach.

# D.6 Establish brick-and-mortar reuse and repair centers

## System transformation 222

Expand reuse and repair clinics to establish fixedlocation neighborhood reuse or repair hubs, a reuse mall, or other facilities for upcycling, sharing, refurbishing, and reusing. Similar to the mobile events, connect efforts with workforce development and job training to supporting local green jobs.

### D.7 Support innovation on zero waste Approaching zero waste

Support existing zero-waste businesses, identify gaps, and develop innovation hub and districts to engage with local entrepreneurs and incubate new ideas and activities that can lead to a more circular economy.

- Explore options for the co-location of reuse, recycling, manufacturing, and retail businesses in a central facility or area, sometimes called a resource recovery park.
- Reserve space for tenants focused on using recycled materials, including both conventional recyclables and organics as well has harder to recycle materials such as plastic films and textiles, as feedstock.
- Establish through partnerships and include maker spaces, small business support services, mid-scale manufacturing spaces, and a retail component.

# D.8 Evaluate feasibility of providing tax benefits or other financial incentives for reuse industry

### System transformation 25 25

Evaluate pathways and options to provide tax benefits for reuse and repair businesses.

- Determine feasibility at the county level and advocate at the state level if needed.
- Include restaurants that implement reusable to-go programs and companies that offer takeback programs.

# System need: Improve circularity through the support and development of regional end markets

A successful circular economy depends on thriving end markets for the recycling and organics that are collected. By supporting end markets, the county can help increase demand and create a pull for additional materials that, in turn, drives supply. Supporting economic circularity on a regional level also creates local jobs and businesses by keeping valuable resources local. The following set of programs is focused on supporting end market development in the region.

# D.9 Develop local and regional end markets for recyclable commodities

### System transformation 2223

Complement state efforts to develop local and regional end markets through grants and public/ private partnerships.

- Grants can range from mini seed grants (less than \$10,000) for rapid support of local business development to large-scale grants for development of regional end markets.
- Look to programs in Colorado, Michigan, and Washington that couple end market development support with elements from accelerator programs to leverage public sector grants with private sector investment to grow regional circular projects.
- Include road construction to spur the use of reusable and recycled materials in municipal road construction and maintenance projects.

# D.10 Develop local and regional end markets for construction and demolition materials

## Approaching zero waste

Support and incentivize the growth of end markets for construction and demolition materials (such as asphalt shingles, gypsum board, ceiling tiles, carpet, and dimensional lumber) through collaboration with agencies, financial support, and other actions.

# D.11 Adopt city and county specifications and policies to increase demand for finished compost

## Low-hanging fruit

Work with cities to implement a set of actions to increase the use of finished compost in city and county activities. Actions include:

- Model language for ordinances that require the use of soil amendment with sod installation and landscape projects (for example, contractors must apply 4 cubic yards of STA-certified compost for every 1,000 square feet of project area).
- City specifications for the use of compost in green infrastructure, parks, top dressing, and capital projects including roadside revegetation and run-off control.
- Local government buyback requirements.
- Engagement with city staff, landscapers, and landscape architects to share best practices for compost application and address concerns and barriers related to compost application.
- Establishment of test plots and storytelling to demonstrate the advantages of compost use.

# D.12 Study options for recovering recyclable materials from the trash

### Approaching zero waste

Study options for recovering reusable and recyclable materials that remain in the trash after residents and businesses have separated out their recyclables. Mixed waste processing facilities use a variety of technologies and manual sorting to recover reusable, recyclable, and compostable materials from the trash. Combining mixed waste processing with existing source separation programs has the potential to significantly increase recycling rates. Leading zero-waste cities and counties have incorporated post-collection processing into their efforts to advance their diversion programs.

Conduct a cost/benefit evaluation and feasibility analysis to determine whether the county should invest in the post-collection recovery of reusable and recyclable materials from the trash. This may be particularly useful for sectors of the county that struggle to source-separate materials, such as multifamily properties and small businesses.

- The operation could occur at an existing transfer station or an off-site location.
- Could be limited to high value, easily recoverable items (such as cardboard, ferrous metals, and plastics #1 and #2)
- Would be a supplement, not a replacement, to programs focused on increasing source-separation behaviors by generators.

# Appendix A: Bibliography

Item	Date
Hennepin County zero-waste baseline assessment	July 2022
Comparative system scan	July 2022
Industry stakeholder summary report	July 2022
Hennepin County gaps analysis	July 2022
Phase 1 community cohort report	July 2022
Online engagement findings	July 2022
Zero-waste actions draft memo	October 2022
Zero-waste future board briefing presentation	January 2023
Zero Waste Plan summary of process report	January 2023

# Appendix B: Impact analysis results

ID	Name	Tons Iow	Tons high	Source redux Iow	Source redux high	% Diversion Iow	% Diversion high		
	Low hanging fruit (106,900 to 119,800 tons diversion, 3,900 to 4,100 tons source reduction)								
B.1	Improve marketing of grant programs	5,000	5,600	-	-	0.40%	0.40%		
B.5	Improve compliance with recycling requirements (Ordinance 13) for multi-family and commercial generators	17,400	19,200	_	-	1.40%	1.50%		
B.6	Increase compliance with Ordinance 13 organics requirements and expand requirements	32,100	36,300	-	-	2.50%	2.90%		
B.7	Expand reach of county waste education programming	4,800	5,800	300	300	0.40%	0.50%		
B.8	Expand partnerships to provide culturally relevant outreach	3,600	4,400	700	700	0.30%	0.30%		
B.16 (new)	Launch a broad consumer campaign on food waste prevention	400	400	1,200	1,400	0.00%	0.00%		
C.8	Establish food waste reduction targets and timeline	-	-	-	-	0.00%	0.00%		
A.1	Expand drop-off options	7,000	7,800	-	-	0.50%	0.60%		
A.2	Increase bulky item reuse and recycling	3,200	3,600	-	-	0.30%	0.30%		
A.5	Increase access to organics recycling options for multi- family residents	5,300	5,900	-	-	0.40%	0.50%		
A.6	Establish and maintain community equity panel	-	-	-	-	0.00%	0.00%		
A.7	Expand workforce development for living wage green jobs	-	-	-	-	0.00%	0.00%		
A.8	Improve measurement to track progress and ensure accountability	-	-	-	-	0.00%	0.00%		
A.9	Evaluate herc upgrades to reduce impacts on community in short term	9,400	10,400	-	-	0.70%	0.80%		
A.10	Establish milestones to phase out the use of herc as county approaches zero waste	-	-	-	-	0.00%	0.00%		
A.11	Expand funding and support for community-centric solutions	2,600	2,800	500	500	0.20%	0.20%		
A.13	Implement low-income rate assistance	900	900	-	-	0.10%	0.10%		
A.14	Launch multi-family recycling champions	600	600	-	-	0.00%	0.00%		
D.3	Require building demolition notifications	1,700	1,900	700	700	0.10%	0.10%		
D.5	Host and support expanded reuse, repair, and fix-it events and clinics	300	300	500	500	0.00%	0.00%		
D.11	Adopt city and county specifications and policies to increase demand for finished compost	12,600	13,900	-	-	1.00%	1.10%		

ID	Name	Tons Iow	Tons high	Source redux low	Source redux high	% Diversion Iow	% Diversion high
	System transformation (183,300 to 211,100 tons	diversion,	9,200 to 1	0,200 tons	source re	duction)	
B.2	Expand business organics grants	8,400	9,400	-	-	0.70%	0.70%
B.3	Expand grants for deconstruction	3,100	3,500	1,400	1,600	0.20%	0.30%
B.4	Support upgrades to improve performance at material recovery facilities	4,400	5,000	-	-	0.30%	0.40%
B.9	Improve new resident education	700	700	100	100	0.10%	0.10%
B.10	Help schools prevent and divert more waste	1,400	1,600	100	100	0.10%	0.10%
B.11	Help businesses and multi-family properties prevent and divert more waste	3,900	4,500	600	600	0.30%	0.40%
B.13	Develop large scale organics processing infrastructure	-	-	-	-	0.00%	0.00%
B.14	Support growth of community scale composting sites	2,300	2,500	-	-	0.20%	0.20%
C.1	Support the transition to organized collection across the county	9,300	10,500	-	-	0.70%	0.80%
C.2	Expand regional coordination for policies, facilities, and education	2,900	3,300	-	-	0.20%	0.30%
C.4	Require haulers to track and report multi-family waste data	-	-	-	-	0.00%	0.00%
C.5	Require events to be zero waste	400	400	100	100	0.00%	0.00%
C.9	Develop and implement county plan to eliminate food waste	37,800	44,400	2,100	2,500	3.00%	3.50%
C.10	Implement county procurement policies that support circularity	-	-	800	1,000	0.00%	0.00%
C.11	Cart and dumpster color and label requirements	3,200	3,600	-	-	0.30%	0.30%
C.12	Prioritize extended producer responsibility	30,300	37,100	1,500	1,700	2.40%	2.90%
C.13	Advocate for the repeal of the state's ban on bag bans	-	-	-	-	0.00%	0.00%
C.15	Advocate for minimum diversion requirement for construction and demolition projects	44,000	49,600	-	-	3.50%	3.90%
C.17	Secure more score funds	-	-	-	-	0.00%	0.00%
C.18 (new)	Support changes to product stewardship for electronics recycling	600	600	300	300	0.00%	0.00%
C.19 (new)	Reduce barriers for businesses to use refillable containers	-	-	400	400	0.00%	0.00%
C.20 (new)	Revise building codes and zoning ordinances that inhibits support and increase recycling	11,200	12,600	-	-	0.90%	1.00%

ID	Name	Tons Iow	Tons high	Source redux low	Source redux high	% Diversion low	% Diversion high
	System transformation (183,300 to 211,100 tons	diversion,	, 9,200 to 1	0,200 tons	s source re	duction)	
A.3	Expand collection and drop-off options for hard to recycle items	6,100	6,900	-	-	0.50%	0.50%
A.4	Add waste and recycling bins in public spaces	800	800	-	-	0.10%	0.10%
A.12	Provide financial incentives to increase participation in targeted communities	3,300	3,700	-	-	0.30%	0.30%
D.2	Support and encourage city adoption of deconstruction policies	1,400	1,600	700	700	0.10%	0.10%
D.4	Assess the feasibility of a building material reuse exchange warehouse and yard	3,100	3,500	600	600	0.20%	0.30%
D.6	Establish brick-and-mortar reuse and repair centers	1,400	1,600	200	200	0.10%	0.10%
D.8	Evaluate feasibility of providing tax benefits and other financial incentives for reuse industry	2,000	2,200	300	300	0.20%	0.20%
D.9	Develop local and regional end markets for recyclable commodities	1,300	1,500	-	-	0.10%	0.10%

ID	Name	Tons Iow	Tons high	Source redux low	Source redux high	% Diversion low	% Diversion high
	Approaching zero waste (158,800 to 187,700 tor	ns diversio	n, 4,600 to	5,400 tons	s source re	duction)	
D.12	Conduct feasibility study of recovering recyclable materials from the trash	82,600	97,200	-	-	6.50%	7.60%
B.12	Expand deconstruction and building material reuse	5,900	6,900	1,200	1,400	0.50%	0.50%
B.15	Increase capacity of transfer stations to manage organics	2,900	3,300	-	-	0.20%	0.30%
C.3	Evaluate adding multi-family to single family residential services	1,100	1,300	-	-	0.10%	0.10%
C.6	Mandate participation in recycling and composting programs	52,900	63,300	-	-	4.20%	5.00%
C.7	Adopt a single use ban and zero waste packaging for food service	200	200	300	300	0.00%	0.00%
C.14	Support adoption of truth in labeling legislation	1,900	2,200	-	-	0.10%	0.20%
C.16	Support adoption of right to repair legislation	900	1,100	200	200	0.10%	0.10%
D.1	Advocate for sustainable building codes	7,000	8,200	2,200	2,600	0.60%	0.60%
D.7	Establish a county-wide innovation hub	2,100	2,500	700	900	0.20%	0.20%
D.10	Develop local and regional end markets for C&D materials	1,300	1,500	-	-	0.10%	0.10%

## Appendix C: Zero Waste Actions – Full Listing

All zero waste actions and programs discussed during the Phase 2 engagement (work groups) are presented below. Actions are organized by work group. As a result, individual actions discussed in multiple work groups are repeated.

#### ADVANCING CIRCULARITY

3 - C&D - END MARKETS - Support / incentivize growth of end markets for C&D materials (e.g., asphalt shingles, gypsum board, ceiling tiles, carpet, dimensional lumber) through collaboration with agencies, financial support, siting, and others. Provide reliable storage of salvaged material, explore innovative reuse options.

4 - C&D - DECONSTRUCTION POLICY - Work with cities and state agencies to educate policy maker on the value of deconstruction, adopt policies that prioritize and incentivize building deconstruction over demolition. Include model codes for cities, work with public housing authorities and institutions (schools, hospitals, etc.).

5 - C&D - SALVAGE BUILDING MATERIALS POLICY - Require cities to notify county of demolition permits & publish building demolition permit applications so deconstruction firms can better salvage reusable materials, county to provide list of preferred deconstruction firms at time of permit application.

6 - C&D - MINIMUM DIVERSION REQUIREMENT POLICY - Require construction and demolition projects over a size threshold to recycle or divert a min. % of total materials; diversion could be source separated or sorted at a mixed waste processing facility. Potential details: deposit fee system, C.O. based on proof, submission of waste management plans, amp up requirements over time, options for fees based on project type and size, construction emissions standards, excluding concrete in measured weight.

20 - HAULING - EV AND EMISSIONS - Provide incentives, rebates, requirements for to accelerate a transition of collection vehicles and other rolling stock to electric and/or the clean alternatives.

27 - ENGAGEMENT - DECONSTRUCTION AND BUILDING DESIGN - Connect demolition contractors /owners / developers with reuse options and resources; educate architects on design for deconstruction; develop resources for how to write salvage into specs; help developers better understand cost/ benefit with more sustainable materials.

33 - ENGAGEMENT - WASTE PREVENTION COMMERCIAL - Expand commercial engagement on waste prevention actions, incentivize local businesses to use compostable materials, incentivize local purchases to minimize packaging and transportation.

37 - GRANTS - BUILDING MATERIALS - Offer rebate programs, tax breaks, or other incentives to encourage use of more durable or reused building materials and support local green jobs; ensure inspectors/plan reviewers are aware of reuse priorities and support them; build into RFP/Contract proposals a necessity to reuse building materials.

39 - GRANTS – DECONSTRUCTION - Continue to offer (or expand) grants and incentives for small commercial projects to use deconstruction techniques, structural move projects that relocate entire properties, projects that install used building materials. Fund deconstruction training programs to increase deconstruction workforce with diversity emphasis

52 - CIRCULARITY - INNOVATION HUB - Develop innovation hub or districts to incubate new businesses using recycled materials as feedstock; consider innovation challenge around specific waste streams, partner with cities for funding, partner with innovation grants for business to provide space.

62 - PROCUREMENT - COUNTY LEVEL - Leverage County and city spending power to improve circularity by partnering with suppliers with favorable circular economy offerings; adopt a county sustainable purchasing policy to lead by example, consider materials marketplace platform

65 - FINANCIAL - TAX BENEFITS FOR REUSE - Provide tax benefits for reuse and repair businesses, include restaurants that implement reusable to-go programs, consider sales tax reduction option for repair services, include incentives for companies that offer take back programs.

70 - SHARING ECONOMY - C&D - Establish or support reuse warehouses for building materials, evaluate county-run options alongside C&D landfills; create a material 'bank' for temporary storage of construction materials where the materials are examined, repaired, and shared.

71 - SHARING ECONOMY – REPAIR - Offer more repair / reuse events like Fix-It Clinics, sewing, and bike repair, offer after school training job program, provide workshop space with access to tools, advertise skill sharing, offer virtual options. Programs provided by county or financially supported by county

78 - ZERO WASTE - BLOCK PILOT - Get one small zone (a block or two) to fully implement a local zero waste model as a test pilot / example of what a local reuse economy could look like, encourage a zero waste multi-unit pilot as well.

84 - SHARING ECONOMY – REUSE HUBS - Develop neighborhood reuse or repair hubs, a 'reuse' mall, or other facilities for upcycling, sharing, refurbishment, and reuse and building local green jobs, partner with food shelves, parks with rec centers, ensure proximity to transit, aggregate a map/guide of all facilities.

116 - EQUITY - COMMUNITY OWNERSHIP OF ABANDONED AREAS - Community groups take over abandoned properties for community benefits (e.g., composting, community gardens etc.). Consider utilizing abandoned facilities as educational malls/ interactive spaces to discuss waste.

135 - BY-PRODUCT SYNERGY - Promote statewide exchange program for large manufacturers / businesses who have excess of a specific type of waste that can be input for another business.

#### **BLUE STREAMS**

10 - CODES - SPACE FOR RECYCLING - Advocate for requirements for new and significant remodels of multifamily buildings to have a recycling/organics room and/or chutes that are accessible and convenient for all residents; modify building codes to allow for more collection space and access for haulers. Provide incentives, grants, or tax breaks. Expand requirements to all commercial buildings, all local govt. buildings.

11 - COLLECTION - HARD TO RECYCLE - Expand collection opportunities (either via curbside or drop off) for hard-to-dispose items, i.e., textiles, clothes, household hazardous waste, plastic wrap, and others

25 - ENFORCEMENT - ORD 13 RECYCLING - Enforce the Ordinance 13 recycling requirements for multifamily and commercial; require or offer incentives for building/property managers/owners to provide quarterly education/reminders to tenants and residents; develop incentive program to reward positive behavior change.

30 - ENGAGEMENT - NEW RESIDENTS - Partner with or incentivize cities and/or haulers to deliver consistent recycling and diversion information to people who move to a new address, create mapping tool so new residents can see requirements and who to contact, create contact form for renters to request recycling, requirement literature be sent to property managers, deliver info through door-knocking

54 - MANDATORY PROGRAMS – RECYCLE - Require that households and / or businesses properly separate recyclables from the trash; consider accompanying this with a disposal ban; consider incentives so small businesses and schools are not disproportionally impacted; develop education, a monitoring plan and eventually a program to provide feedback for improper recycling (e.g., oops tags, etc.).

59 - POLICY - MULTI-FAMILY PAYT - Enact a volume-based pay-as-you-throw fee structure for trash for multifamily with rebates and incentives at the building level.

60 - POLICY - SINGLE FAMILY PAYT - Enact a volume-based pay-as-you-throw fee structure for trash for single family residential across entire county, ensure that rates differentials are significant enough to encourage diversion behaviors; consider system that is equitable and doesn't financially burden certain households more than others.

69 - COLLECTION - SHARED DUMPSTERS / SERVICE RECYCLING - Help neighboring businesses or properties consolidate and share services for recycling and composting; consider allowing and providing financial incentivize to those that share with community; provide certification and other recognition tools to promote those that share service.

86 - HAULING - CART COLOR / LABEL REQUIREMENTS - Require haulers to phase in color coded collection carts and dumpsters by material stream to reduce confusion for users; provide up-to-date, new, easy-to-read labels for carts that are not up for replacement yet.

102 - CODES - BUILDING CODES - Develop codes addressing the materials in the built environment - establish requirements and / or incentives for reusing materials when possible, including green materials in construction, and phasing in quality materials that can be dissembled in the future.

110 - ZERO WASTE - FRIENDLY STORES - Audit and incentivize stores to carry easier-to-recycle packaging and packaging with better labeling (e.g., How to Recycle labels); publish list of "recycling friendly" stores.

111 - JOBS - WORKFORCE DEVELOPMENT - Workforce development program to provide training, upskilling, certification, etc. to people hoping to work in the recycling industry.

112 - ENGAGEMENT - PUBLIC COMMITMENT - Create an opportunity for the public to evaluate businesses and multifamily residences commitment to sustainability; consider giving them a 'sustainability grade' based on certain criteria; recycling and organics could be an easier way to start.

121 - ENGAGEMENT - JANITORIAL STAFF - Engage with janitorial staff, through property managers and/or unions, at office buildings, schools, event spaces, malls, institutions etc. to ensure waste is properly disposed in the correct receptacle.

133 - COMMERCIAL - GREEN BUSINESS RECOGNITION - Create a Green Business recognition program to highlight how business are successfully implementing recycling/organics programs, work with cities to promote these events.

#### EQUITY AND ACCESS

2 - SHARING ECONOMY - BULKY ITEM REUSE - Expand opportunities for bulky item reuse and donation, increase access, address transportation barriers, create community bulky item drop offs, partner with community donation orgs, subsidize hauling for swap events, dedicate County location for swap, 'how to' kits for hosting swaps, promote with social media channels

14 - EQUITY - COMMUNITY PANEL - Establish diverse community panel to provide input county zero waste programs; pay community members to be on board; board to voice residents' needs and concerns; ensure waste systems will not put environmental justice areas of concern at greater risk; include racial equity impact analysis in zero waste decisions, provide transparency and accountability, ensure authentic diversity beyond just race.

16 - DROP-OFF SYSTEM - EXPANDED ACCESS - Improve / increase drop offs (recycle, organics) in multifamily dense, urban, and rural areas; align drop offs with public transportation routes and/or link with community resources; explore mobile drop-off sites or events, encourage / incentivize businesses and stores to be in drop-off network, use sliding scale payment options for drop-offs

17 - DROP-OFF SYSTEM - HARD TO RECYCLE - Increase opportunities for hard-to-recycle item drop-offs, including collection events for hard-to-recycle items in urban, multi-family, rural, and areas with limited access.

18 - DROP-OFF SYSTEM – POLICY - Advocate for better access to drop offs by eliminating city/county residential requirements for drop-offs ("You can drop things off here only if you live in this city"), work with transportation companies (Uber, Lyft, Nice Ride, Transit) to provide rides to or near the drop offs.

28 - ENGAGEMENT - COMMUNITY LED SOLUTIONS - Leverage and financially support local leaders to: harness the power of community; identify cultural values and connections; raise awareness of available services and supports; increase participation, focus on communities that have historically been underserved, tap into faith-based groups to share messaging, market programs through neighborhood associations, invest in community groups to support engagement, provide incentives for adults to take education classes, provide ongoing funding to local environmental organizations

44 - HAULING - CONTRACTS / FRANCHISE - Investigate potential for cities or the county to adopt hauler contracts, franchising, or other organized collection scheme for multifamily and commercial; establish a roadmap to organize collection to reduce impact on the infrastructure and neighborhoods; provide hauler incentives in agreements (incentives for diversion, reduced contamination, others).

47 - HAULING - MULTI-FAMILY REPORTING - Require haulers to report on the multifamily properties they service for recycling and organics

48 - HAULING - SCHEDULES AND OUTREACH GUIDES Leverage the hauler licensing ordinance to develop clear schedules and outreach guides; guides should be consistent with the guidance provided by the Recycling Education Committee (REC); consider county / municipal use of online lookup tools, such as Recollect, clear consistent messaging posted in buildings, offered to agencies serving unhoused populations.

49 - HERC - PHASE OUT - Establish milestones to phase out the Hennepin Energy Recovery Center (HERC) as county approaches higher levels of diversion; includes identification of alternatives for disposal of MSW generated in Hennepin County. Milestones for phasing out acceptance of materials at HERC that have higher / better use elsewhere or cause inefficient / high pollution combustion. Milestones to include a definitive shut down.

50 - HERC - EVALUATION AND UPGRADES - Evaluate upgrades at the Hennepin Energy Recovery Center (HERC) to increase presorting of MSW and material recovery, reduce hazardous items from incineration, increase pollution control measures, and other operational improvements to the facility.

55 - MULTI-FAMILY – BULKY - Expand bulky-item programs for multifamily and encourage reuse / donation for bulky items that could be targeted at specific audiences, provide a county pick up / reuse center for large items.

56 - MULTI-FAMILY - ORGANICS COLLECTION - Increase access to hauler-provided curbside composting for multifamily buildings; Options include: offer incentives or rebates for property managers and residents; long term consideration of requirement for service, incentives for remodels to create bin space, property tax credit for multifamily property owners who participate in organics recycling.

79 - ENGAGEMENT – MULTIPLE LANGUAGES - Provide community recycling training sessions in different languages; provide interpreters and not just translations; offer commercial technical assistance for non-English speaking business owners. Connect culturally on what recycling looks like, incorporate community knowledge, get people that look like the audience to engage, work with cultural centers within cities, provide education/assistance/financial support to individuals at multifamily properties, provide a translators

87 - FINANCIAL - SUBSIDY FOR SERVICE - Subsidies, rebates, or bill discount to reduce burden of recycling and organics service costs for low-income customers and improve participation,

88 - MANDATORY PROGRAMS - MULTI-FAMILY - Require cities to add all multi-unit properties to their residential waste programs, if they opt out provide list of alternatives rather than a fee.

93 - FINANCIAL - RESIDENTIAL INCENTIVES - Reward residents and provide incentives to increase participation, especially for lowincome families (ideas: stipends for recycling captains, reward programs for recycling, financial incentives for neighbors hosting backyard composting for their street, etc.)

94 - ENGAGEMENT - INFORMATION SHARING - Widely share information with the public on the costs, benefits, and burdens of the solid waste system, who generates materials, who is paying for the system, who is profiting, increase funding to expand education and outreach channels, emphasize school education, partner with private partners to promote.

130 - EQUITY - COMMUNITY LISTENING - Host 'Zero Waste' community listening session on a more regular basis and in variety of formats (online, in person, in different parts of the county etc.) to encourage continued participation and feedback.

#### GREEN STREAMS

9 - CIRCULARITY – ORGANICS - Adopt policy to procure finished compost to support end market. Require cities to do the same, look to advance the requirement at the state level. Consider pairing with market study of end users

10 - CODES - SPACE FOR RECYCLING - Advocate for requirements for new and significant remodels of multifamily buildings to have a recycling/organics room and/or chutes that are accessible and convenient for all residents; modify building codes to allow for more collection space and access for haulers. Provide incentives, grants, or tax breaks. Expand requirements to all commercial buildings, all local govt. buildings.

13 - POLICY - ZERO WASTE PACKAGING REQUIREMENTS - Adopt a county zero waste packaging ordinance, enforce the use of reusable, recyclable, and BPI certified compostable materials by businesses, events, stadiums, institutions, restaurants, foodservice vendors; include recycling signage requirements. Offset costs with grants.

22 - END MARKETS – ORGANICS - Suite of actions to grow compost uses such as: requirement for soil amendment for sod installation, landscape projects; inclusion in municipal climate resiliency planning; support / grants for carbon farm projects, public education program (uses and benefits of compost), grants for businesses that collect and/or use their own compost, engagement with landscapers

24 - ENFORCEMENT - ORD 13 ORGANICS - Enforce the Ordinance 13 commercial organics requirements; consider reducing threshold levels to below 1 ton per week (or 8 cubic yards) in the future and ramp up to require all generators to comply; Potential details: hire enforcement staff, enact fines, provide awards to entities that compost/divert organics, partner with ethnic chamber of commences / business councils for outreach, create easy way to report non-compliance.

30 - ENGAGEMENT - NEW RESIDENTS - Partner with or incentivize cities and/or haulers to deliver consistent recycling and diversion information to people who move to a new address, create mapping tool so new residents can see requirements and who to contact, create contact form for renters to request recycling, requirement literature be sent to property managers, deliver info through door-knocking

35 - FOOD WASTE – PLANNING - Develop and adopt a county food waste reduction, resiliency, recovery plan; Strategies examples: using imperfect produce; supporting federal / state tax incentives for donation; school food waste reduction; changing regulations on food production; improving data tracking; community food hubs/fridges; education on - food labels, expiration dates, recovery and rescue program, storage, menu planning; create network of food donators and recipients; encourage restaurants to offer 'normal' portions, increase/change requirements of larger generators.

36 - FOOD WASTE - SCHOOL WASTE MINIMIZATION - Establish a school policy to allow students to place uneaten, pre-packed food into donation area / share table for other students to eat, refrigerate excess food for reuse.

38 - GRANTS - COMMERCIAL ORGANICS - Re-evaluate (and potentially expand) grants to launch composting (organics collection) at businesses, details include: mailer / email outreach to property managers / tenants, grants specific to nonprofits, virtual session for applicants on how to apply, grant success case studies, base grant on diversion, decrease funds if stream is heavily contaminated.

53 - MANDATORY PROGRAM – COMPOST - Require that households and / or businesses properly separate food scraps and food soiled paper from the trash; consider accompanying this with a disposal ban. Include exceptions for lack of space. Details include incentivize by making it 'free', tied in with pay-as-you-throw system, education resources and bins, require large commercial producers first before households / smaller businesses.

56 - MULTI-FAMILY - ORGANICS COLLECTION - Increase access to hauler-provided curbside composting for multifamily buildings; Options include: offer incentives or rebates for property managers and residents; long term consideration of requirement for service, incentives for remodels to create bin space, property tax credit for multifamily property owners who participate in organics recycling.

58 - ORGANICS - LARGE SCALE PROCESSING - Increase available capacity for organics composting through large or regional facilities, could include public-private partnership, colocation at wastewater treatment plant, county / city run, or other options, research potential sites early to ensure environmental justice is served.

89 - FOOD WASTE – TRACKING - Work with food establishments (grants, incentives, or requirements) to use food waste tracking/ inventorying software, evaluate if County can make the food waste tracking products available for free to the public and / or food establishments

104 - FOOD WASTE - MANDATORY RESCUE - Mandatory food rescue / donation program for large generators.

119 - ENGAGEMENT - AD FACILITY TOURS - Host student field trips and community events at the anaerobic digestion facility.

120 - FOOD WASTE – PARTNERSHIPS - Partner with food justice orgs, farms and produce distributors to glean excess/imperfect produce for use in schools, county foodservice, unhoused residents, and for county events. Utilize Master Recyclers/Composters for volunteer gleaning / distribution hours.

121 - ENGAGEMENT - JANITORIAL STAFF - Engage with janitorial staff, through property managers and/or unions, at office buildings, schools, event spaces, malls, institutions etc. to ensure waste is properly disposed in the correct receptacle.

125 - ENGAGEMENT - LANDFILL LANGUAGE - Mandate the use of the word 'landfill' or 'incineration' in commercial and multifamily settings to increase awareness around disposal, provide information around pollution and trade-offs with options.

132 - PROCUREMENT – RESTAURANTS - Cooperative purchasing agreements for restaurants to purchase BPI certified compostable products.

#### NEIGHBORHOOD SOLUTIONS

2 - SHARING ECONOMY - BULKY ITEM REUSE - Expand opportunities for bulky item reuse and donation, increase access, address transportation barriers, create community bulky item drop offs, partner with community donation orgs, subsidize hauling for swap events, dedicate County location for swap, 'how to' kits for hosting swaps, promote with social media channels

16 - DROP-OFF SYSTEM - EXPANDED ACCESS - Improve / increase drop offs (recycle, organics) in multifamily dense, urban, and rural areas; align drop offs with public transportation routes and/or link with community resources; explore mobile drop-off sites or events, encourage / incentivize businesses and stores to be in drop-off network, use sliding scale payment options for drop-offs

26 - ENGAGEMENT – COMMERCIAL - Expand technical assistance pgm. for business owners; example details: onboarding and training for new employees; monthly lunch and learns; recording trainings; signage for participating businesses'; platform to connect businesses with each other for support / mentorship; include property owners / multi-family businesses in program.

28 - ENGAGEMENT - COMMUNITY LED SOLUTIONS - Leverage and financially support local leaders to: harness the power of community; identify cultural values and connections; raise awareness of available services and supports; increase participation, focus on communities that have historically been underserved, tap into faith-based groups to share messaging, market programs through neighborhood associations, invest in community groups to support engagement, provide incentives for adults to take education classes, provide ongoing funding to local environmental organizations

31 - ENGAGEMENT - GENERAL EDUCATION - Provide clear and consistent information on what is recyclable and reusable, available services, why recycling is important, why certain materials cannot be recycled, the impact of the materials we throw away; ensure messages and messengers are tailored to resonate with specific audiences, use local leaders to deliver culturally specific engagement, community-based efforts at the neighborhood level, offer trainings in other languages, provide videos and tours of facilities, leverage digital resources for residents; utilize social media to reach new/younger audiences, partner with 'influencers', school groups, community colleges, and social orgs.

32 - ENGAGEMENT – SCHOOLS - Improve technical assistance resources for schools, support for developing and understanding waste hauling contracts; emphasize organics recycling, reducing food waste, reusable service ware, school gardens; partner and provide resources / outreach to families, parent groups, PTO boards and school boards; facilitate feedback system for teachers / admin to identify gaps; establish a 'Green Liaison' per school; provide sufficient compost / recycling bins; create turnkey lessons for different grades.

41 - GRANTS - MICROGRANTS FOR BUSINESS - Expand micro-grants to businesses to make the transition to circularity; grants for small businesses working in reuse and repair - not just for nonprofits, support local green jobs / economic development, open ended grant for unique projects.

57 - ORGANICS - SMALL SCALE COMMUNITY - Support small-scale organics infrastructure including; technical assistance/resources/ badges for home/backyard composting; composting sites at the block, opportunities for community gardening and composting; incentives/rebates to purchase compost bins/tumblers; tie in with Master Gardeners program; partner with senior centers as garden/compost sites; have local groups build and sell / donate bins; grant support for neighborhood / backyard composting; network for finished compost sharing; compost giveaways, provide financial incentives for neighbors hosting backyard composting for their street, give starter kit bins / bags at no cost.

66 - FINANCIAL - INCENTIVES FOR REUSE - Provide financial incentives for private businesses focused on repair and circularity, eliminate or reimburse sales tax for used items.

69 - COLLECTION - SHARED DUMPSTERS / SERVICE RECYCLING - Help neighboring businesses or properties consolidate and share services for recycling and composting; consider allowing and providing financial incentivize to those that share with community; provide certification and other recognition tools to promote those that share service.

79 - ENGAGEMENT – MULTIPLE LANGUAGES - Provide community recycling training sessions in different languages; provide interpreters and not just translations; offer commercial technical assistance for non-English speaking business owners. Connect culturally on what recycling looks like, incorporate community knowledge, get people that look like the audience to engage, work with cultural centers within cities, provide education/assistance/financial support to individuals at multifamily properties, provide a translators

80 - ENGAGEMENT - MULTIFAMILY - RECYCLING CHAMPIONS - Expand multifamily technical assistance to include cohort of residential ambassadors from cities; include composting assistance and education focused on commercial property managers (note that some of this is already underway in the County); provide funding for meetings/presentations at buildings; encourage property managers to recruit residents as recycling ambassadors.

81 - ENGAGEMENT - MULTIFAMILY GO GREEN - Develop a 'green apartment' program to model success / best management practices - recycling, composting engagement, and reuse programs within multifamily buildings; develop education and certification program for commercial property managers, target property owners who own lots of properties; other hyper-local programs for multi-family complexes; encourage properties to form sustainability committees

87 - FINANCIAL - SUBSIDY FOR SERVICE - Subsidies, rebates, or bill discount to reduce burden of recycling and organics service costs for low-income customers and improve participation.

93 - FINANCIAL - RESIDENTIAL INCENTIVES - Reward residents and provide incentives to increase participation, especially for lowincome families (ideas: stipends for recycling captains, reward programs for recycling, financial incentives for neighbors hosting backyard composting for their street, etc.)

105 - DROP-OFF SYSTEM - MANDATORY POLICY - Policy that every neighborhood should have a smaller collection site / drop-off within a certain distance (walkable and bikeable).

108 - ORGANICS - COMMUNITY SCALE SITES - Support the development (grants, technical, permitting) of community scale composting sites to increase access to compost and overall processing capacity.

114 - MULTI-FAMILY - HAULING PROBLEM SOLVING - Problem solving (beyond 311) solution for multi-family residents & neighbors when private waste haulers are not emptying dumpsters.

115 - FINANCIAL - COMMUNITY-BASED SOLUTIONS - Add a surcharge on tipping fee to pay for community -based solutions and for coordinated community, city and county to address cumulative pollution impacts.

116 - EQUITY - COMMUNITY OWNERSHIP OF ABANDONED AREAS - Community groups take over abandoned properties for community benefits (e.g., composting, community gardens etc.). Consider utilizing abandoned facilities as educational malls/ interactive spaces to discuss waste.

130 - EQUITY - COMMUNITY LISTENING - Host 'Zero Waste' community listening session on a more regular basis and in variety of formats (online, in person, in different parts of the county etc.) to encourage continued participation and feedback.

#### POLICY

1 - FINANCIAL - ADVANCE DISPOSAL FEE - Adopt ordinance that places a fee on the sale of certain disposables, potential litter, or toxic items (ex. disposable shopping bags, fast food wrappers, cigarettes, pesticides, batteries (vape pens)). Fee covers end of life, creates disincentive for purchase. Focus on items where a consumer has a choice between alternatives.

4 - C&D - DECONSTRUCTION POLICY - Work with cities and state agencies to educate policy maker on the value of deconstruction, adopt policies that prioritize and incentivize building deconstruction over demolition. Include model codes for cities, work with public housing authorities and institutions (schools, hospitals, etc.).

6 - C&D - MINIMUM DIVERSION REQUIREMENT POLICY - Require construction and demolition projects over a size threshold to recycle or divert a min. % of total materials; diversion could be source separated or sorted at a mixed waste processing facility. Potential details: deposit fee system, C.O. based on proof, submission of waste management plans, amp up requirements over time, options for fees based on project type and size, construction emissions standards, excluding concrete in measured weight.

10 - CODES - SPACE FOR RECYCLING - Advocate for requirements for new and significant remodels of multifamily buildings to have a recycling/organics room and/or chutes that are accessible and convenient for all residents; modify building codes to allow for more collection space and access for haulers. Provide incentives, grants, or tax breaks. Expand requirements to all commercial buildings, all local govt. buildings.

12 - COMMERCIAL - SINGLE USE WARES - Advocate for an update to health codes to allow reuse models in foodservice where wares are washed offsite by a third party. Clearly define what is / isn't reusable and provide support (grants, incentives, others) to help restaurants offset costs.

53 - MANDATORY PROGRAM – COMPOST - Require that households and / or businesses properly separate food scraps and food soiled paper from the trash; consider accompanying this with a disposal ban. Include exceptions for lack of space. Details include incentivize by making it 'free', tied in with pay-as-you-throw system, education resources and bins, require large commercial producers first before households / smaller businesses.

54 - MANDATORY PROGRAMS – RECYCLE - Require that households and / or businesses properly separate recyclables from the trash; consider accompanying this with a disposal ban; consider incentives so small businesses and schools are not disproportionally impacted; develop education, a monitoring plan and eventually a program to provide feedback for improper recycling (e.g., oops tags, etc.).

60 - POLICY - SINGLE FAMILY PAYT - Enact a volume-based pay-as-you-throw fee structure for trash for single family residential across entire county, ensure that rates differentials are significant enough to encourage diversion behaviors; consider system that is equitable and doesn't financially burden certain households more than others.

73 -POLICY - RESTAURANT SINGLE USE BAN - Prohibit foodservice establishments from providing expanded polystyrene (Styrofoam) takeout containers; require single-use takeout containers be recyclable or compostable; encourage used of reusable containers and ban or fee on plastic bags for to-go orders. Include incentives and financial support for restaurants to offset costs. Ramp up program over time to allow businesses time to plan.

74 - POLICY - COUNTY SINGLE USE BAN - Ban single-use items in county facilities and hosted county events.

75 - STATE POLICY – EPR - Lead the development and adoption of producer responsibility policies at the state level - evaluate pairing program with a bottle bill, a value added tax, eco modulation fees, or other options. Ensure policy covers imported and distributed goods.

76 - STATE POLICY - PREEMPTION REPEAL - Repeal state preemption to allow/support bans at city/county level.

77 - STATE POLICY - TRUTH IN LABELING, REPAIR INDEX, COMPOSTABILITY - Support MNCC's composting labeling bill and / or other 'truth in labeling' legislation to identify recyclability / compostability of packaging; consider adopting requirement for publication of repair scores/indexes.

85 - MANDATORY PROGRAMS - LARGEST CITIES - Requirements for the largest cities such as multifamily composting program, commercial collection franchise zones including education for generators, increased city involvement in commercial organics recycling collection, provide more drop off options, food donation and prevention of wasted food, or others.

90 - POLICY - GENERAL SINGLE USE BAN - Ban single-use plastics and / or require fee for single-use goods across entire county, include event centers, concert venues, and sports arenas.

92 - STATE POLICY - ORGANIZED COLLECTION - Amend the organized collection statute so that it applies only to municipal solid waste.

100 - POLICY - E-WASTE - Suite of policies to address e-waste in the county including EPR or advance disposal fees, requirements for disassembly, county contracting, and / or prohibition from exporting waste.

101 - MEASUREMENT - CITY TRANSPARENCY - Policy that cities must provide a website that shows amount of material collected for garbage, recycling, organics, etc. The transparency page would include the specific end market for each recyclable commodity. Require that haulers or MRFs provide end market info to cities that contract with them.

102 - CODES - BUILDING CODES - Develop codes addressing the materials in the built environment - establish requirements and / or incentives for reusing materials when possible, including green materials in construction, and phasing in quality materials that can be dissembled in the future.

104 - FOOD WASTE - MANDATORY RESCUE - Mandatory food rescue / donation program for large generators.

105 - DROP-OFF SYSTEM - MANDATORY POLICY - Policy that every neighborhood should have a smaller collection site / drop-off within a certain distance (walkable and bikeable).

106 - MANDATORY PROGRAMS - ZERO WASTE EVENT REQUIREMENT - Events over a minimum size threshold are required to be zero waste.

107 - NATIONAL POLICY – PLASTICS - Support national standards for plastic to encourage producers to manufacture and sell packaging that can be recovered in the existing recycling system.

117 - FINANCIAL - WASTE SURCHARGE - Establish new or increase existing waste surcharge to capitalize recycling and recycling businesses, revenues go into economic development / job training.

128 - STATE POLICY – LOBBYING - Lobby the state legislature to pass laws that help with the County's zero waste efforts.

136 - MANDATORY WASTE AUDIT & PLAN - Mandatory completion of waste audits and submission of waste reduction for largest generators in County - include public and private sector.

#### SYSTEMS AND INFRASTRUCTURE

8 - PROCESSING - CHEMICAL RECYCLING / ADVANCED RECYCLING - Evaluate feasibility of chemical recycling or advanced recycling technologies for hard-to-recycle plastics, textiles and other items currently destined for the landfill.

21 - END MARKETS - LOCAL AND REGIONAL - Support local / regional end market development through grants and innovative programs (could neighborhood, county, regional or state level effort), increase local green job opportunities. Include reuse and alternatives to high carbon intensity products in end markets.

42 - GRANTS – MRFS - Provide grant funding to material recovery facilities (MRFs) for equipment upgrades that help to reduce contamination and increase recovery, prioritize grant funding for facilities / projects that provide living wage.

46 - MEASUREMENT – REPORTING - Collaborate to increase compliance with state reporting requirements, improve data sharing, consistent county reporting methodologies, and develop additional metrics beyond traditional weight-based measurement. Examples include generation, source reduction, GHG impacts, job creation, or other metrics. Present data in a manner that is accessible, transparent, and understandable.

49 - HERC - PHASE OUT - Establish milestones to phase out the Hennepin Energy Recovery Center (HERC) as county approaches higher levels of diversion; includes identification of alternatives for disposal of MSW generated in Hennepin County. Milestones for phasing out acceptance of materials at HERC that have higher / better use elsewhere or cause inefficient / high pollution combustion. Milestones to include a definitive shut down.

50 - HERC - EVALUATION AND UPGRADES - Evaluate upgrades at the Hennepin Energy Recovery Center (HERC) to increase presorting of MSW and material recovery, reduce hazardous items from incineration, increase pollution control measures, and other operational improvements to the facility.

51 - HERC - INFORMATION SHARING - Provide more information about HERC and the impact on the surrounding community. Include cost / investment information, impacts on different demographics and community members, add Continuous Emissions Monitoring (CEMS) data. Ensure data is from a trusted sources and presented in a language / format that is accessible to the public.

52 - CIRCULARITY - INNOVATION HUB - Develop innovation hub or districts to incubate new businesses using recycled materials as feedstock; consider innovation challenge around specific waste streams, partner with cities for funding, partner with innovation grants for business to provide space.

58 - ORGANICS - LARGE SCALE PROCESSING - Increase available capacity for organics composting through large or regional facilities, could include public-private partnership, colocation at wastewater treatment plant, county / city run, or other options, research potential sites early to ensure environmental justice is served.

61 - PROCESSING - POST-COLLECTION SORTING OF TRASH - Evaluate efficacy of sorting trash after collection; look at options to develop or contract with existing facilities to remove and recover reusable, recyclable, and compostable materials from source-separated trash.

63 - COLLECTION - PUBLIC SPACE RECYCLING - Make it standard to have a recycling paired with every public trash can, phase to organics in the future. All bins clearly labeled with visuals and text. Ensure county-wide consistency. Adopt standard colors and lids for these bins.

64 - ENGAGEMENT - REGIONAL COORDINATION - Coordinate with neighboring counties/states to encourage consistent education and best practices; collaborate on the development of end markets and infrastructure; get involved with regional planning for siting facilities and planning how materials will be processed, regional acceptance of materials with labeling and engagement.

67 - END MARKETS - ROAD CONSTRUCTION - Incorporate reusable and recycled materials into municipal road construction and maintenance projects, support adoption regionally. Include recycle glass in road specs (where appropriate) and use of compost in roadside revegetation, run-off control, or medians.

68 - STATE POLICY - SCORE FUNDS - ADVOCATE for increased state funding for SCORE, including solid waste management tax funds that are currently diverted to the general fund; evaluate permissible SCORE expenditures (115A.557, sub. 2) and advocate for deconstruction and reuse as an eligible program.

70 - SHARING ECONOMY - C&D - Establish or support reuse warehouses for building materials, evaluate county-run options alongside C&D landfills; create a material 'bank' for temporary storage of construction materials where the materials are examined, repaired, and shared.

82 - LANDFILL - PHASE OUT - Establish milestones, resources, and funding mechanisms to phase out the use of landfills as county reaches zero waste, start with a phase out period that prevents landfills from expanding and then move to full phase out.

84 - SHARING ECONOMY – REUSE HUBS - Develop neighborhood reuse or repair hubs, a 'reuse' mall, or other facilities for upcycling, sharing, refurbishment, and reuse and building local green jobs, partner with food shelves, parks with rec centers, ensure close proximity to transit, aggregate a map/guide of all facilities.

91 - FINANCIAL - Landfill Fees - Increase landfill fees to fund waste reduction and recycling, include C&D landfills and mechanism to prevent any new fees having undue burden on lower income portions of county.

108 - ORGANICS - COMMUNITY SCALE SITES - Support the development (grants, technical, permitting) of community scale composting sites to increase access to compost and overall processing capacity.

109 - ORGANICS - TRANSFER STATIONS PROCESSING - Expand capacity for accepting and consolidating organics at existing transfer stations or building new transfer stations.

117 - FINANCIAL - WASTE SURCHARGE - Establish new or increase existing waste surcharge to capitalize recycling and recycling businesses, revenues go into economic development / job training.

126 - ENGAGEMENT – HAULERS - Engage with haulers to identify the ways they can improve current service and capacity, provide rebates/incentives and support for haulers.

127 - HAULING - CART TAGGING REQUIREMENTS - Require haulers to tag residents' curbside bins that have contamination to further education residents.