

Advancing Household Hazardous Waste Services in Ramsey County

Reducing Risk for All Residents

December 2020

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Definitions

Household Hazardous Waste (HHW) includes wastes generated from a household activity that exhibit the same characteristics as hazardous waste produced by non-households and are regulated by the Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA) or Ramsey County under MPCA rule. HHW includes unusable or unwanted household products that can harm human health or the environment if improperly disposed. Common examples of HHW include:

- **Ignitable Wastes** that can easily catch fire, such as paint thinner, brush cleaner, gasoline, kerosene, fuel oils, and oil-based paints.
- **Toxic Wastes** that are poisonous or harmful if swallowed, inhaled, or exposed to the skin, such as pesticides, wood preservatives, paint strippers, products which contain mercury (thermometers, fluorescent lights, etc), and spot removers.
- **Reactive Wastes** that react with other chemicals, water, or oxygen, such as flares and ammunition.
- **Corrosive Wastes** that are acidic or alkaline and can corrode or cause chemical burns, such as battery acids, pool acids, concrete cleaners, and drain, oven, and toilet bowl cleaners.

Stated simply, if a container has the words **caution**, **warning**, **danger** or **poison** on the label and still has product inside, it is HHW. Hazardous wastes produced in a household are not typically regulated, but to manage various risks should not be put in the trash and should be handled separately.

Advancing Household Hazardous Waste Services in Ramsey County

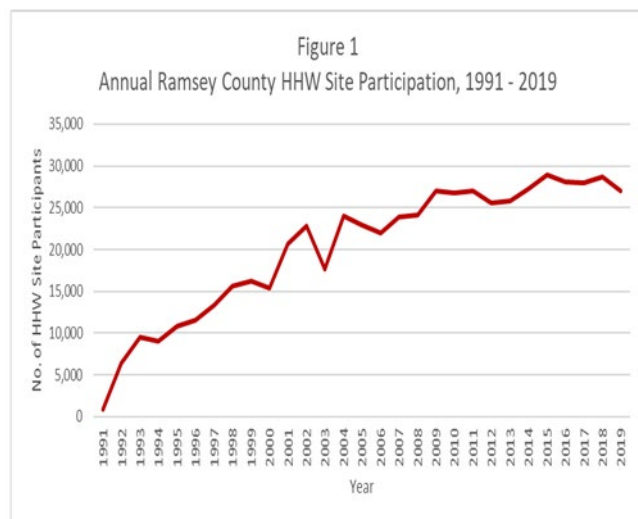
Executive Summary

Stemming from two strategies in the Solid Waste Management Master Plan, Ramsey County is evaluating how it provides household hazardous waste (HHW) services and providing redesign recommendations to ensure better service to county residents. Significant community engagement paired with convenient collection opportunities have been important in this work. This report is prepared at this time because the county’s ten-year agreement with Bay West for HHW services ends on December 31, 2022. Providing recommendations now provides ample time to develop and ensure appropriate roll-out of any service changes.

The current HHW management system was designed to focus primarily on environmental protection. Consistent with county priorities and the Solid Waste Management Master Plan, these new recommendations expand the focus to include environmental protection, racial equity, health equity, environmental justice, and economic benefits.

Current System: Since inception the county’s HHW program policy has been to use privately provided facilities and services for HHW collection and management. Bay West has been the service provider for over 20 years. Bay West owns and operates the year-round HHW collection site located on Empire Drive in Saint Paul, which serves as the location for HHW reuse, consolidation and shipping operations. Bay West also operates the county’s mobile collection events. Ramsey County residents “self-haul” their HHW items to the year-round facility or to the mobile collection events scheduled throughout the county. Bay West collects traditional household chemicals (paints, household cleaners, automobile fluids, pool chemicals, solvents, pesticides, mercury containing products etc.) as well as sharps (needles, syringes, lancets), propane tanks, batteries, and string lights.

Figure 1 shows steady growth in participation until 2009 after which it levels off. Participation is about equally split between the Bay West location and mobile sites. The HHW program has served over 586,000 participants from 1991 through 2019. During that time the program collected nearly 30 million pounds of HHW. Paint, both latex and oil-based, remains the principal material collected, at 50% of the weight. Ramsey County also provides separate services for collection of used motor oil at the Public Works facility in Arden Hills, and collection of old and unwanted medications at several locations.



Through a reciprocal use agreement (RUA) with six other metropolitan counties, Ramsey County residents have the option to take HHW to collection sites in those counties. In 2019 there were 3,546 Ramsey County residents that opted to take HHW to other county sites; predominantly Dakota and

Washington counties. In contrast, there were 295 residents of other counties that used Ramsey County sites, the majority coming from Anoka and Hennepin counties.

E-Waste: Electronic waste (e-waste) is one of the fastest growing waste streams, and includes televisions, computers, computer display monitors, computer accessories, VCR's, and tablets. Ramsey County does not collect e-waste at its HHW sites, and current policy is to focus on the state's product stewardship approach.

Minnesota's electronics recycling legislation signed into law in May 2007, was intended to require manufacturers to bear the cost of managing discarded e-waste. At present the full cost of e-waste management is not fully borne by manufacturers, and local governments and retailers that collect e-waste either subsidize or charge residents the cost for management. Attempts to update the Minnesota law have met with stiff industry resistance.

The e-waste law hasn't worked well for Ramsey County residents because of the fees charged by private and public collection entities. Initially, county residents could recycle electronics for free at retailers such as Best Buy and Staples. Retailers and counties now charge residents between \$25 and \$100 to recycle an old tube TV (CRT) depending on the size. Current options for properly disposing e-waste for county residents include:

- City clean-up events – held in the spring and/or fall, typical charge of \$8- \$10 per item.
- Other county HHW collection through the RUA, charge of \$10 (free in Washington County).
- Private retail stores and e-waste recycling companies that charge between \$25 - \$100 per item.
- Transfer stations that accept e-waste for a fee.

E-waste that is not recycled most often is placed in the trash. A 2014 Ramsey/Washington Recycling & Energy (R&E) waste composition study at the R&E Center found that 1.4% of residential waste was electronics, which for Ramsey County would be just over 4.4 million pounds a year.

Community Engagement: Consistent with a residents-first approach and to address stagnant participation in HHW collection, the department engaged members of the community about the HHW program. Engagement occurred in three ways: an online survey, listening sessions, and the county's biennial resident survey on waste and recycling. These methods were used to understand perceptions and opinions about current and future HHW services. Community engagement confirmed residents desire more comprehensive and easily accessible HHW services. The overall conclusions resulting from the community engagement are:

- HHW management needs are growing: HHW continues to be disposed of in the trash or poured down drains, more e-waste is being generated and thrown away, and e-waste services can be more effective.
- The current service is frustrating and inconvenient.
- There is a gap in HHW program service for some residents, particularly BIPOC (Black, Indigenous and People of Color) residents, elderly residents and those without transportation.
- Residents want an option that is easier, more convenient and low-cost or free. This includes curbside pick-up of all materials and a fixed drop-off location for all materials with more operating hours.
- Awareness of the program and services could be improved.

Future HHW Services: Two alternative ways of providing HHW services are presented for comparison. Figure S-1 compares the type and level of service between these two ways.

The first alternative is based on the status quo - the current collection system. This approach uses a contract with a private vendor, likely Bay West, which provides a year-round collection site with mobile satellite sites. This approach is outlined in the report to show how the status quo would function if continued. The key elements of the status quo are:

- Upon expiration of the current agreement at the end of 2022, enter into an agreement with Bay West through single-source procurement for a five-year term.
- Continue to use the Bay West facility as the county's year-round drop-off site.
- Continue mobile collection sites.
- Continue the VSQG collection site at the Bay West Facility.
- Continue to provide a reuse room at the Bay West Facility.
- Promote other options for disposal of e-waste.

The second alternative consists of a combination of service levels designed to work as a system to better meet community needs and expectations, and to emphasize equity and economics. Included are a county-owned environmental service center and a permanent satellite facility, both staffed by a private vendor, as well as house-side collection, multi-unit housing collection, and the addition of e-waste collection in partnership with local businesses. The elements of this alternative are:

- A county-owned Environmental Service Center (ESC) staffed by a vendor, open for convenient hours year-round incorporating additional, related environmental services for the public. It would be sized and designed with flexibility for the long term. It would be developed in a collaboration between the Public Health and Property Management departments.
- A county owned year-around fixed satellite site, that is a smaller facility than an ESC, and is located in the county to complement the location of the ESC. The satellite site would replace mobile collection events but would provide many more hours of service and operate all year. The same vendor that operates the ESC would staff the satellite site, increasing efficiency. It would be developed in a collaboration between the Public Health and Property Management departments.
- House-side/Multi-unit collection is designed to fit Ramsey County's demographics and is a way to increase participation and recovery and provide more equitable collection services to those without the resources to self-haul. The system proposed here is similar to the "Toxic Taxi" programs offered in Toronto and Sudbury, Ontario. The same list of HHW and electronic items would be collected house-side as collected via self-haul drop-off at the permanent facilities.
- Partnering with Others on E-waste. The department proposes a future e-waste system that builds on the existing system and public-private partnerships to increase opportunities to recycle e-waste, and addresses equity and economic benefits. The proposed system begins with the same options as those that currently exist, and added to that are additional services:
 - Contracts with selected private providers to create a broader collection network.

- Collection of e-waste at a county-owned environmental center, permanent satellite site and house-side/multi-unit collections at no charge to residents.

To address environmental, economic and equity benefits the private providers would need to meet three criteria through an agreement:

- *Environmental*: meet minimum county standards for e-waste collection and management including necessary certifications that demonstrate those standards and work with the county to provide a convenient collection network for residential drop off, and collaborate on outreach about e-waste;
- *Economic*: provide jobs and job-training to county residents; and
- *Equity*: work with the county to provide no-cost/low-cost technology hardware to county residents that demonstrate need based on income and/or unemployment.

Financial Analysis: Cost estimates were made for each of the alternatives. For the status quo alternative, cost associated with the current Bay West agreement were used, with adjustments made for the number of participants. For the proposed HHW system alternative, participation was projected based on the participation seen in other metropolitan counties as well as Ramsey County’s experience. Cost data were then applied based on state contract charges for labor and disposal. For e-waste data from other metro county e-waste services were evaluated and used to calculate participation, volumes and costs.

While total program costs will increase significantly (115%) under the proposed alternative system, as services expand to meet community expectations and focus on residents-first, the total cost per pound of HHW decreases with the proposed system by 24%. And the overall increase produces effective results, as there is a projected 73% increase in participation and a 183% increase in waste volumes collected. These are indicators of projected greater environmental protection and risk reduction in several categories, by properly managing a significantly greater volume of HHW.

Figure S-1: Comparison of Service Between Alternatives

Service	Status Quo	Proposed System
Year-around drop-off site	X	X
Mobile Collection Events	X	
Year-around satellite site		X
Very Small Hazardous Waste Generator Collection	X	X
Product Reuse Center	X	X
House-side collection		X
Multi-unit housing collection		X
Private vendor staffing	X	X
County staff oversight	X	X
E-Waste collection (in partnership with local recyclers)		X

Job-training opportunities at collection sites, e-waste partners		X
Jobs for county residents		X
Computer distribution toward filling the technology gap		X
Collection of non-HHW, such as recyclables		X
Hours of service available per year	~1,900	~3,300
Participation per year at year-around drop-off site	15,000	22,000
Participation at mobile collection sites	15,000	0
Participation at permanent year-around satellite site	0	20,000
Households Served by House-side and multi-unit service	0	12,000
Total Participation	30,000	52,000

Alternatives Analysis: The report includes a detailed matrix that compares the alternatives according to several criteria. The criteria are convenience, accessibility, flexibility, environmental justice – racial equity – health equity, financial considerations, resilience/sustainability, environmental risk, property damage risk, and occupational risk. In all criteria the proposed system changes perform better, mostly due to the increased level of service and increased recovery of HHW.

Department Proposed Action: If the County Board agrees in concept with the HHW redesign, the department would be allowed to proceed to further develop the system design. That would include:

1. Public Health working with Property Management to conduct a siting process to identify potential sites for an ESC and Satellite site;
2. Upon identification of sites, Public Health and Property Management would return to the county board for authorization to proceed with site acquisition and development;
3. Public Health and Property Management would select and prepare a contract with a consultant to assist in designing the ESC and Satellite Site;
4. Public Health would coordinate with other county departments to develop a scope and process to engage potential e-waste vendors for a partnership on e-waste collection and management; when ready, Public Health would seek appropriate county board action to implement the e-waste partnerships (this could occur as early as 2021);
 - a. Public Health would further design a house-side and multi-unit collection service including development of a scope of services; when ready, Public Health would seek appropriate county board action to implement house-side and multi-unit collection;
5. Public Health would develop a scope for vendor services to provide labor at county-owned ESC and satellite site.

Advancing Household Hazardous Waste Services in Ramsey County

Introduction

In 2020, Ramsey County Public Health conducted an evaluation of the county's household hazardous waste (HHW) management program with the intent to provide recommendations to ensure high quality HHW service to all county residents. The evaluation stemmed from two strategies in the county's Solid Waste Management Master Plan:

Ramsey County will review how it provides HHW services to its residents during the term of this Master Plan. The County will specifically examine the efficacy of using one or more additional year-round collection sites in lieu of mobile collection events, as well as possibly coordinating services with Washington County (Health and Environmental Risk Reduction, Page 21, Strategy #2).

Ramsey County will periodically review the list of items currently or potentially acceptable at HHW sites, determine how these items should be collected and managed, and determine how management of specific materials should be paid for... (Health and Environmental Risk Reduction, Page 21, Strategy #3).

The State has mandated metropolitan counties to provide HHW collection services since the early 1990s (Minn. Stat. §473.804). During that time the county has continually sought to ensure high-quality, convenient services, including offering no cost, drop-off HHW collection at a year-round HHW collection site and at seasonal satellite (mobile) sites. The service is currently provided by a private company, Bay West, under a multi-year agreement, including provision of the year-round HHW collection site for the county at Bay West's location in Saint Paul.

Ramsey County views HHW collection as an important risk reduction strategy in the East Metropolitan solid waste system. By keeping chemical and other hazardous waste generated by households separate from mixed municipal solid waste and managing it in an appropriate manner, the county is reducing environmental, financial, property, health and occupational risks. Since its inception, the HHW program has focused on encouraging reduction in the generation of HHW and separate collection of as much HHW as possible, in order to mitigate these risks. Significant community education and engagement, paired with convenient collection opportunities, have been important in this work.

This report is prepared at this time because the county's ten-year agreement with Bay West for HHW services ends on December 31, 2022. One objective of this report is to evaluate options for HHW collection and management after the contract term has ended. Moving forward with alternatives now provides sufficient time to develop and ensure appropriate roll-out of any service changes.

Current HHW Services

County-Managed HHW Programs

HHW Collection Sites: Since the HHW program's inception, the county has relied on privately provided facilities and services for HHW collection and management. For over 20 years, Ramsey County has contracted with Bay West Inc. for HHW collection and processing services. Bay West owns and operates a year-round HHW collection site ("base facility") located on Empire Drive just north of downtown Saint Paul. Bay West also operates the county's mobile, or satellite, collection events. Ramsey County pays Bay West according to a service fee outlined in the agreement. A base monthly fee covers costs associated with Bay West's facility, mobile/satellite sites, utilities, etc. A per participant fee covers labor costs by Bay West employees. Other fees include insurance, supplies, disposal of certain items, and pass-through costs.

Bay West accepts household chemicals (paints, household cleaners, automobile fluids, pool chemicals, solvents, pesticides, mercury containing products etc.) as well as sharps (needles, syringes, lancets), propane tanks, batteries, and string lights. Bay West is regulated by the United States Environmental Protection Agency, the Minnesota Pollution Control Agency (MPCA), Ramsey County, and the U.S. Department of Transportation. The MPCA and Ramsey County regularly inspect the Bay West facility, and Ramsey County inspects the mobile collection sites.

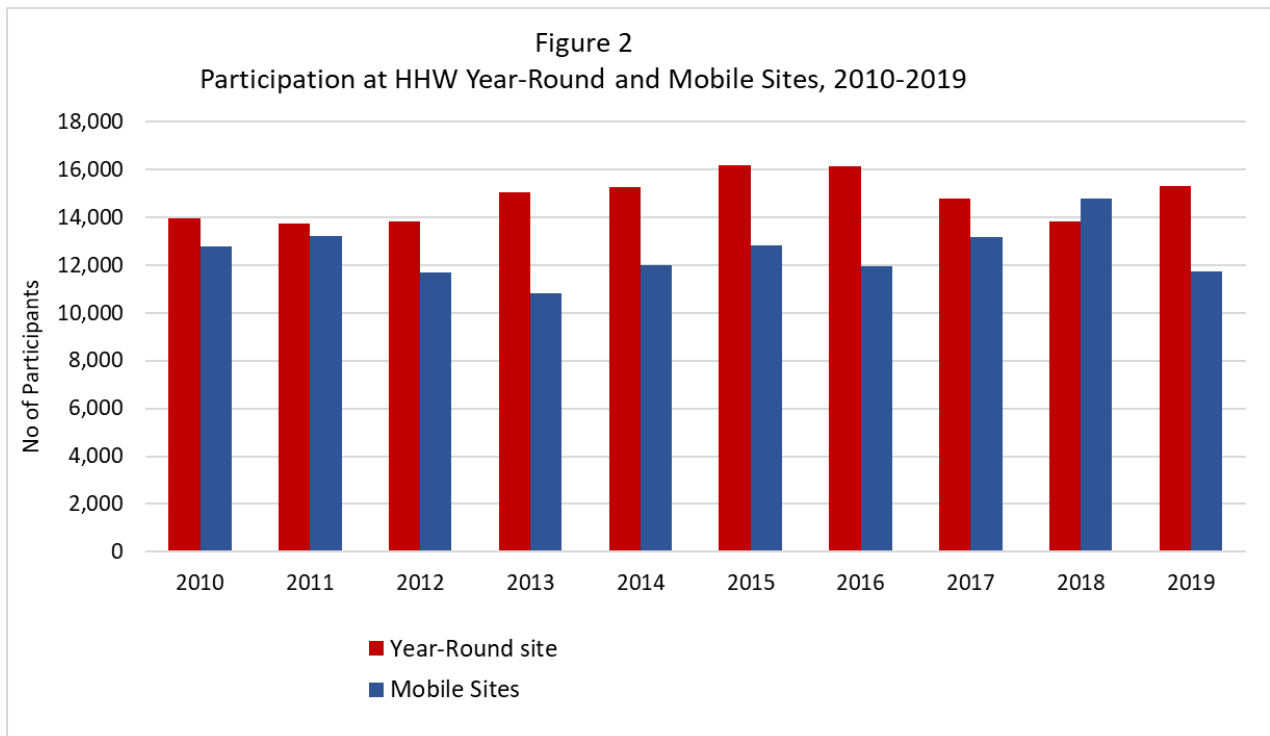
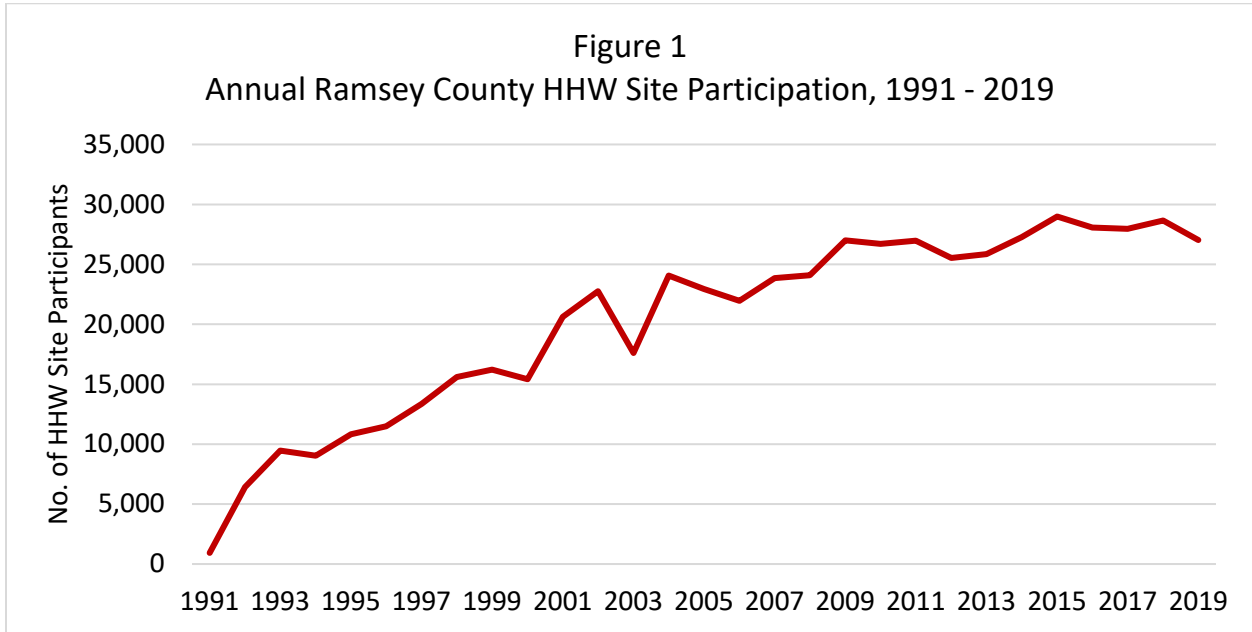
Ramsey County residents "self-haul" their HHW items to the base facility in Saint Paul or mobile collection events scheduled throughout the county. In addition to being a year-round collection site, the base HHW facility serves as the location for HHW reuse, consolidation, and shipping operations.

Ramsey County first established mobile collection events in 1992 in the cities of Roseville and Maplewood. These mobile events were established to provide additional, more convenient location options to self-haul HHW items for residents living in the northern portion of the county. Events are scheduled on Fridays and Saturdays from April through October each year. At the collection events, HHW is received from residents, sorted and placed into drums or large bins aboard a truck, then hauled to the Bay West base facility in Saint Paul at the end of the mobile collection event workday. Because of this, mobile collection events require additional labor from Bay West.

The mobile collection sites are popular with residents. County data indicate that they represent about 48% of total annual HHW program participant trips while operating at approximately one-half the annual hours of the Bay West base facility. In 2019, the county provided 79 mobile collection events in the cities of Arden Hills, Maplewood, Roseville, Saint Paul, White Bear Lake, and at other city clean-up events. Total participation includes mobile collection events plus resident visits to the Bay West base facility (52%) in Saint Paul.

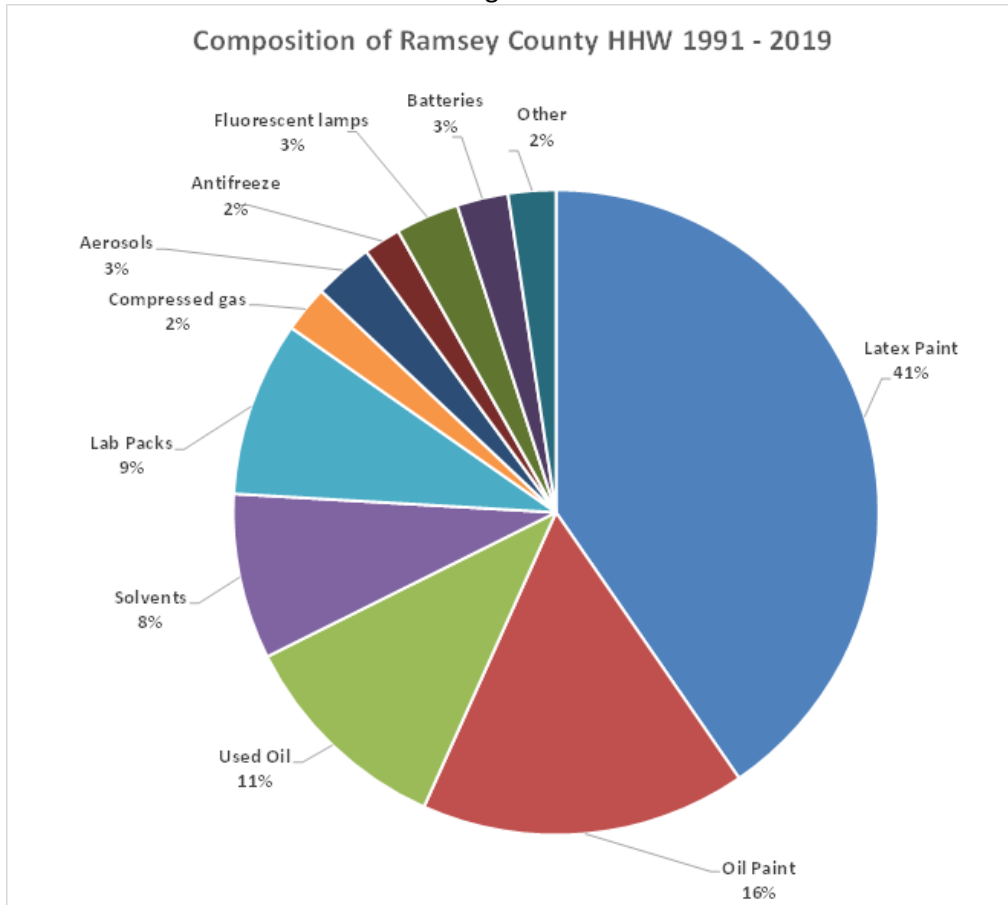
Ramsey County also provides additional, separate services for collection of used motor oil at the Public Works facility in Arden Hills, and collection of unwanted medications at several locations including the Saint Paul Ramsey County Law Enforcement Center, the Arden Hills Ramsey County Sheriff's Patrol Station, the Maplewood Police Department, the New Brighton Public Safety, the North St. Paul City Hall and the White Bear Lake Police/Fire Department.

The HHW program has served over 586,000 participants from 1991 through 2019. As shown in Figure 1, below, since program inception there was steady growth until about 2009, when participation leveled off. Figure 2 shows participation at the Bay West year-around site and the mobile/satellite sites.

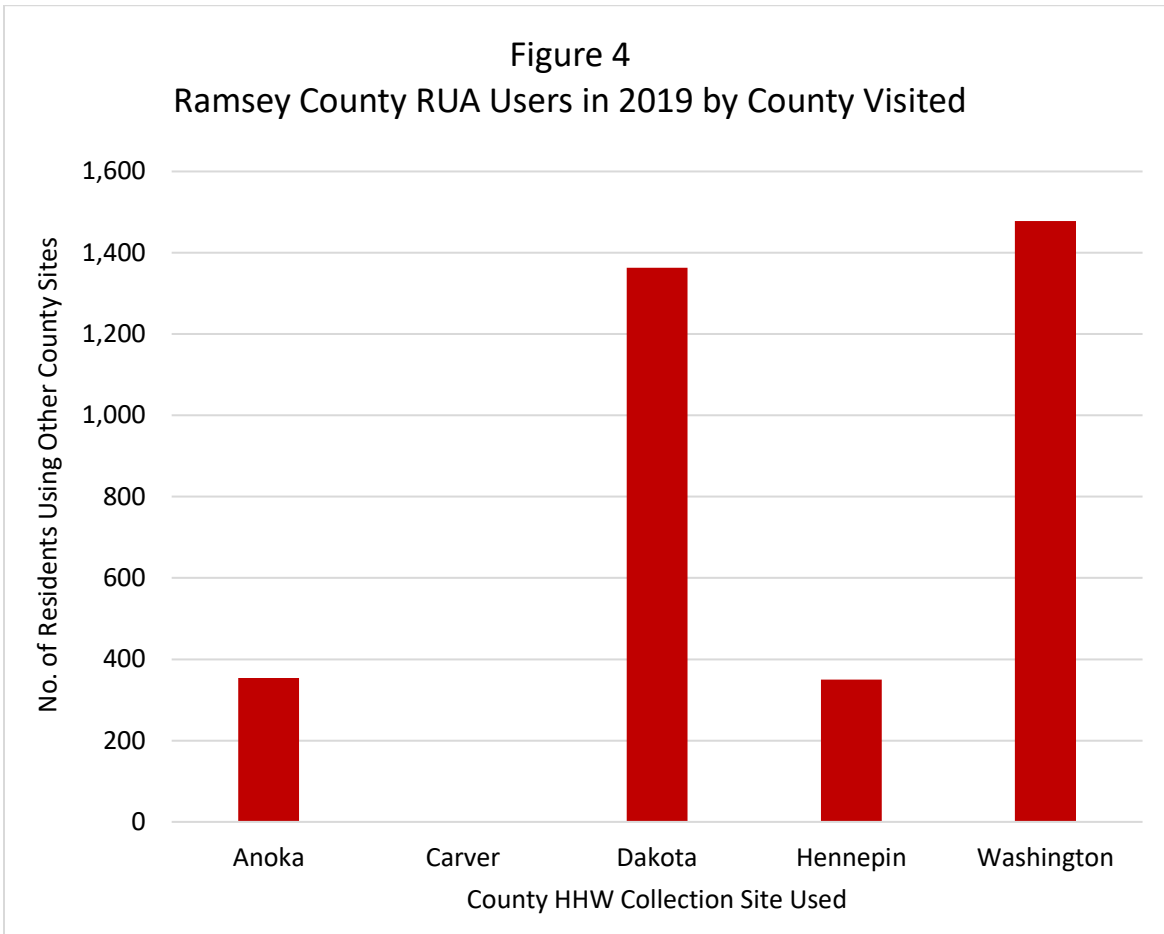


During the period of 1991-2019 the HHW program collected nearly 30 million pounds of HHW. The composition of the material collected in 2019 is shown in Figure 3. Paint, both latex and oil-based, remains the principal material collected, at 50% of the material collected by weight.

Figure 3



Through a reciprocal use agreement (RUA) with six other metropolitan counties, Ramsey County residents have the option to take HHW to collection sites in those counties. In 2019 there were 3,546 Ramsey County residents that opted to take HHW to other county sites; Figure 4 shows the county sites used, which were predominantly Dakota and Washington counties. In contrast, there were 295 residents of other counties that used Ramsey County sites, the majority coming from Anoka and Hennepin counties. Each time a resident uses another county’s HHW collection site, the county where the resident lives is charged \$35 by the county whose site was used. Of note, most reciprocal use by Ramsey County residents is to dispose of electronic waste. Among the seven metropolitan counties in the RUA agreement, five of the HHW programs accept electronic waste - all but Ramsey County and Anoka County.



Under state law, counties are indemnified for the management of HHW by the state as long as HHW collected by the counties is managed by the state’s HHW management contractors and counties operate consistent with MPCA guidelines. This is an important tool for managing long-term financial risk. Another tool is \$1 million in the county’s solid waste fund restricted for tort liability associated with HHW management.

The Product Reuse Center opened in 2013 and is a dedicated room at the year-round HHW base facility in Saint Paul where residents can take unused or partially used products like paints, automotive fluids, and household cleaners at no cost. Reuse Center participants must be 18 or older to take products. The Reuse Center has been well received since opening. In 2019, 8,680 participants reused 159,0712 pounds of products, at an estimated cost savings of \$49,287.

VSQG Program: In addition to residential HHW, the county has also contracted with Bay West since 2013 to receive and process hazardous items from very small quantity hazardous waste generators (VSQGs). VSQGs are small businesses including daycare centers, churches, non-profit community organizations, and other small commercial establishments that generate 220 pounds or less per month of hazardous waste. VSQG establishments are not legally defined as residential households for purposes of HHW collection program mandates but occasionally have similar types and amounts of hazardous

materials. Most of the approximately 1,900 hazardous waste generators licensed by the County are classified as VSQGs.

Other HHW Services

There are many other entities that collect items considered HHW. Examples include used motor oil, automotive batteries, rechargeable batteries, fluorescent lamps, medications, and electronic waste. Two items that deserve attention are paint and electronic waste.

PaintCare: Minnesota developed a product stewardship approach to unwanted paint through a law championed by the former Solid Waste Management Coordinating Board, of which Ramsey County was a member. An industry-created entity, PaintCare, has established collection sites at paint retailers, and reimburses county costs for collection and management of paint at HHW sites. In Ramsey County there are at least 17 businesses that collect paint. In 2019 the county received \$225,000 in reimbursement from Paint Care.

Electronic Waste: Minnesota also has a product stewardship approach to certain e-waste, intended to make manufacturers responsible for the cost of recycling unwanted electronics. Some elements of the law establishing the current product stewardship system are structured such that manufacturers do not bear the full cost of e-waste management, resulting in public subsidy at some locations. At the present time, e-waste is collected by Carver, Dakota, Hennepin, and Scott counties at their HHW sites, with a fee attached. Washington County collects e-waste but does not charge a fee.

E-waste is one of the fastest growing waste streams, and includes televisions, computers, computer display monitors, computer accessories, VCR's, and tablets. E-waste contains hazardous materials such as lead, mercury, cadmium and arsenic. It is important to keep these materials out of the trash and to assure recovery systems properly handle these hazardous materials to protect public health and the environment.

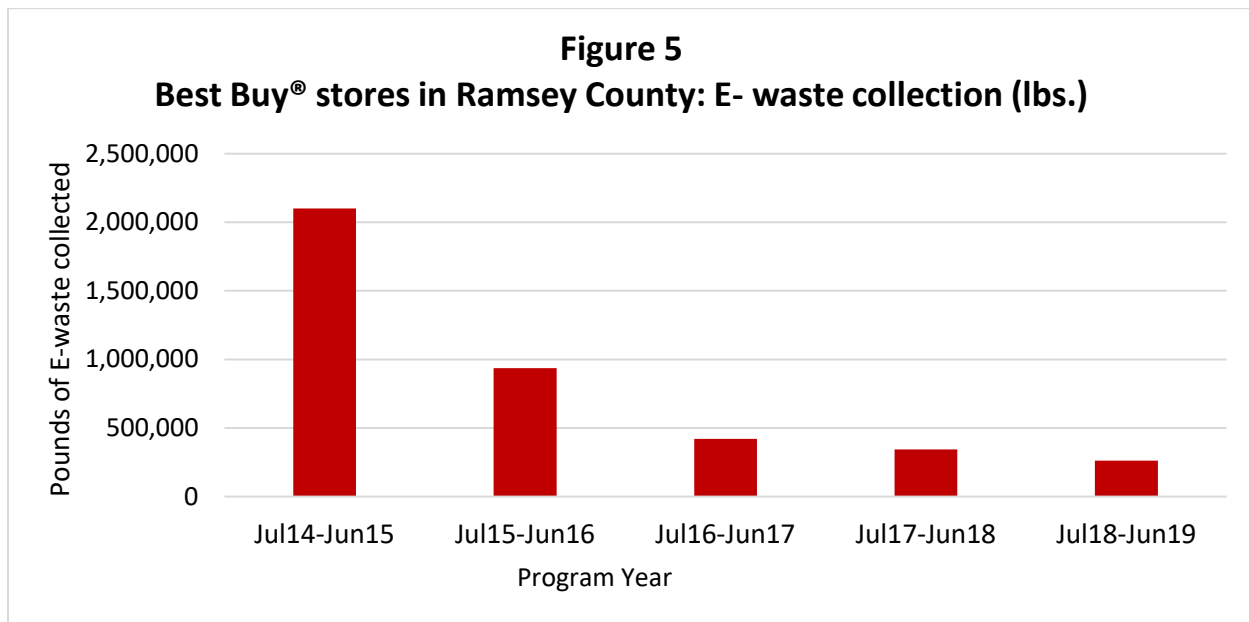
Electronics are not traditionally considered HHW but are collected in some HHW programs in the state. Minnesota's electronics recycling legislation was signed into law in May 2007 to provide a mechanism for proper management of certain electronic items and remove cost barriers residents might face in properly managing these items. Viewed as a product stewardship approach, the electronics recycling legislation targets the collection and recycling of video display devices sold to households/consumers, including televisions and computer monitors that meet the definitions in the Minnesota Electronics Recycling Act (Minn. Stat. §115A.1310). Manufacturers of video display devices must annually register and pay a fee to the state, are responsible for their collection and recycling from households/consumers in Minnesota, and file a report detailing the results of their collections for each program year. This policy approach is intended to require manufacturers to bear the cost of managing discarded electronics (e-waste).

At this time, the full cost of e-waste management is not borne by manufacturers, counter to the intent of the product stewardship approach taken by the state. Local governments that collect e-waste either subsidize management, or charge residents that drop-off e-waste for disposal to partially or fully offset the cost of e-waste management. Minnesota's e-waste law included provisions for manufacturers to pay for recycling costs under a product stewardship model based on weight of sales. Since then, new electronics have gotten smaller and lighter and as a result the law hasn't proven effective in keeping e-

waste recycling free or low-cost for residents. Manufacturers have been paying a smaller share of the total costs of e-waste management while residents or counties pay the difference. Recycling of old cathode ray tube (CRT) TVs has a large negative market value. While the costs of recycling CRTs is increasing, the weight of e-waste that manufacturers are responsible for recycling is decreasing. Attempts to update the Minnesota law have been met with stiff industry resistance.

The e-waste law hasn't worked well for Ramsey County residents because of the fees now charged by private and public collection programs. Initially, county residents could recycle electronics for free at retailers such as Best Buy and Staples. Retailers now charge residents between \$25 and \$100 to recycle an old CRT TV depending on the size. In the seven-county Twin Cities metro area, Ramsey and Anoka counties are the only two counties that don't accept electronics as part of their HHW program.

To illustrate: The weight of e-waste collected at the two Best Buy® stores in Ramsey County dropped 87%, from over 2 million pounds in 2015 to under 300,000 pounds in 2019 (Figure 5). This was triggered in 2015 when the retailer began charging for e-waste disposal.



Items not accepted at Ramsey County facilities currently include electronics such as televisions, computers, computer display monitors, other computer accessories, and any type of electronic device. Current options for Ramsey County residents to properly dispose of these items include:

- City clean-up events, typically held once or twice per year (spring and/or fall), with charges of \$8- \$10 per item.
- Drop off at another metropolitan county's HHW collection through the RUA, with a charge of \$10 (except in Washington County).
- Private retail stores and e-waste recycling companies that charge between \$25 - \$100 per item depending on the type and size.
- Transfer stations that accept e-waste for a fee.

E-waste that is not recycled is most often placed in the trash at residents' homes, and in some cases is illegally dumped in public spaces or at a place of business. In 2014, Ramsey/Washington Recycling & Energy (R&E) retained Foth Infrastructure & Environmental to conduct a waste composition study at the R&E Center. The Foth study identified that 1.4% of residential waste was electronics, which for Ramsey County would be just over 2,200 tons, or 4.4 million pounds. The use of lithium-ion batteries in electronics has grown substantially, and these batteries are associated with waste facility fires, resulting in increased risk of fire and higher property-damage insurance costs. This has been the case at the R&E Center, the Hennepin Energy Resource Center, and at least two metro-area transfer stations.

One of the challenges identified during community engagement about Ramsey County's current HHW collection system is that electronics are not accepted at the county's facilities. As noted earlier, five of the seven Twin Cities metropolitan counties accept electronics as part of their HHW programs; only Anoka and Ramsey counties do not. Many counties in Greater Minnesota also accept electronics.

HHW Services Evaluation

Community Engagement

Engagement Methodology

Consistent with a “residents first” approach and to address stagnant participation in HHW collection, the department engaged members of the community on these elements of the HHW program:

- *Awareness of HHW*: How aware are residents of the county’s HHW program, reasons that separate management is important, and disposal options.
- *Communication*: Residents’ preferred means of communication about county HHW programs.
- *Locations*: Whether residents have convenient access to services or a means of using the current HHW program. If not, what barriers exist.
- *Preferred way(s) to dispose of HHW*: New ideas the community has for HHW collection.
- *Other Items*: Preferred ways to dispose of items not collected by the HHW program now, such as e-waste.

The department’s approach used several community engagement methods to understand residents’ perceptions and opinions about current and future HHW services. Engagement occurred in three ways: an online survey, listening sessions, and the county’s biennial resident survey on waste and recycling.

Online Survey

In April 2020, the department surveyed residents about their experiences with the HHW collection program and suggestions for improving the program. The survey was promoted through a direct mailing sent to county residents who have used other county HHW programs, as well as online through an e-newsletter and the county’s website. Four hundred twenty-five responses were received. *(A report of the survey results is available upon request).*

Listening Sessions

Four online virtual listening sessions were held in April to collect feedback on Ramsey County’s HHW program. Online virtual listening sessions were conducted in place of in-person listening sessions due to health protocols implemented because of the COVID-19 pandemic. The purpose of the listening sessions was to gather feedback from the community on their experience with and knowledge of the county’s HHW program and what improvements or changes they would like from the program in the future.

An email was sent to organizations, groups and individuals in Ramsey County with an invitation to participate in the listening sessions. The listening sessions were also posted on Nextdoor in the Desnoyer Park, Shadow Falls, Halloween Block, Mac Groveland, Berkeley, and Highland Village neighborhoods. Twenty-one people participated during four listening sessions. One listening session was coordinated in partnership with the Saint Paul Public Housing Authority and only promoted to public housing residents. The other three sessions were promoted county-wide to the general public. Participants were a mix of ages, ethnicities, education levels, and income levels. There was also a mix where people lived and their housing situations, including people who rent an apartment, rent a house, or own their home. *(A summary of community engagement listening sessions is available upon request).*

Residential Survey

For over twenty years the department has conducted a biennial survey of residents using a research firm. The survey uses a stratified-random-sampling methodology, to ensure statistical relevance. The most recent survey was conducted in September 2018. Of the 700 total surveys completed, 350 were contacted via cell phone and 350 via landline. Overall, 51% of residents surveyed said that they have used an HHW collection site at some point; 23% report using an HHW collection site annually; and 49% have not used an HHW collection site. *(A full survey report is available upon request).*

Engagement Results & Conclusions

Overall, community engagement confirmed residents desire more comprehensive and easily accessible HHW services. One observation from the survey is that when people are motivated to clean out their homes, they do not want to wait to get rid of the waste. Residents reported that the current program operating hours, locations and accepted materials are not accommodating. Residents also reported feeling frustrated with the HHW collection process, that it took too much time, that when an item was not accepted (such as e-waste or non-hazardous materials) they were upset and confused.

Benefits to an effective HHW collection system that is conducive to proper disposal of HHW include:

- The waste is no longer in their home.
- It takes minimal effort to participate (no wait times, easy to find location, easy instructions).
- There is a feeling of accomplishment for “doing the right thing” through proper disposal and by bringing in the correct items.
- There are positive interactions with collection staff.
- Being successful in all aspects of the collection experience.

The overall conclusions resulting from the community engagement are summarized as follows:

- HHW management needs are growing: HHW continues to be disposed of in the trash or poured down drains, and e-waste services can be more effective.
- There is a gap in HHW program service for some residents, particularly BIPOC (Black, Indigenous and People of Color) residents, elderly residents and those without transportation.
- The current service is frustrating and inconvenient.
- Awareness of the program and services could be improved.

Awareness of HHW: How aware are residents of the county’s HHW program, reasons that separate management is important, and disposal options.

- The county should do more to increase awareness about why it is important to properly recycle and dispose of HHW items.
- Not all participants fully understand what materials are accepted. The current program is frustrating and confusing for residents.
- Of those who said that they are aware of HHW collection sites but have never used them, lack of transportation and time were the top barriers indicated. Transportation is a significantly bigger challenge for those age 55 and older, and time is a significantly stronger issue for those age 35-54. Other reasons cited included distance, inconvenient hours, and lack of awareness of the locations.

- Several respondents stated they have seen HHW disposed in the trash or poured down the drain.
- People like the reuse room – but many respondents did not realize Ramsey County had one.

Communication: Residents' preferred means of communication about county HHW programs.

- Residents want more education on hazardous waste and better promotion of events. This includes postcards with simple instructions mailed to households.

Locations: Whether residents have convenient access to services or a means of using the current HHW program. If not, what barriers exist.

- The changing dates and locations of the mobile collection events makes it difficult to plan for their use. Some respondents suggested doing more promotions about the mobile collection events.
- Waiting in long lines when using the mobile collection events was a common experience. Some residents were discouraged by the wait and ended up leaving.
- Some respondents stated the hours of the HHW collection sites were not convenient and that the locations were too far away.
- Several residents stated they do not have reliable transportation to self-haul their HHW to county collection sites.
- Lack of time and transportation are the strongest deterrents for suburban respondents. Transportation is also a bigger issue for those who rent and for respondents age 55 and older. Those age 18-34 are significantly less likely to know where collection sites are located than those 35-54.
- Some respondents stated that they drive their HHW and other items to collection sites in other neighboring counties, which is allowed under the RUA, mentioned above.

Preferred way(s) to dispose of HHW: New ideas the community has for HHW collection.

- Many respondents prefer the Washington County Environmental Center and would like to see something similar in Ramsey County.
- Electronics recycling is greatly desired.
- Residents want an option that is easier, more convenient and low-cost or free. This includes:
 - Curbside pick-up of all materials.
 - One drop-off location for all materials with more operating hours.
- Residents want organized HHW collection events at apartment buildings.
- Several respondents suggested the county should provide collection of HHW at their homes ("house-side collection"). Some respondents stated they would be willing to pay a small fee for house-side collection.
- Drop-off and/or pickup services should be accessible, convenient, and affordable.
- Some respondents want businesses to take back the hazardous products they sell and to alert customers when they are purchasing an item that is considered hazardous.

Other Items: Preferred ways to dispose of items not collected by the HHW program now, such as e-waste.

- Some respondents suggested that Ramsey County accepts items that are not hazardous waste when brought in by accident, so people are not discouraged from participating.
- Electronics should be included as part of HHW collection services at a low cost or free. In general, more items should be accepted.

Future HHW Services

Two alternative ways of providing HHW services are presented for consideration. The first alternative is the status quo, or the current collection system. This approach uses a contract with a private vendor, likely Bay West, which provides a year-round collection site with mobile collection sites. This approach could be used into the future and is outlined below to illustrate how the status quo would function if continued.

The second alternative consists of several elements that are proposed to work in a system that better meets community needs and expectations, and addresses equity and economic benefits. Included are a county-owned environmental service center and a permanent satellite facility, as well as house-side collection, multi-unit housing collection, and the addition of electronic waste collection in partnership with local businesses.

Alternative A: Status quo

In previous procurement processes the county identified the HHW services it wanted and issued an RFP for those services. The resulting contract specified those services and pricing structure. Since the program began, the contracts have included provisions for both a year-round site plus operation of mobile sites. The vendor is responsible for accepting, sorting, and preparing HHW for shipment. HHW is shipped using the state's HHW vendors, pursuant to the county's agreement with the MPCA for liability protection. HHW that is not managed using the state's vendor is not covered by the state's indemnification.

It should be noted that the most recent procurement process was in 2004, for a five-year agreement that resulted in Bay West providing services. In 2011, the department issued a request for expression of interest to determine if providers would respond to an RFP to provide HHW services in a facility that the vendor would provide. Bay West was the only entity to respond, and the County Board subsequently approved a five-year agreement with a five-year renewal option; essentially a ten-year agreement with Bay West.

Bay West has been an excellent service provider for the services it is able to provide at its current facility. Bay West's facility, however, has limited space, and does not have room to expand or provide additional services. Under the current system, the county needs to either wait for the next HHW RFP process, and add these services to a new vendor contract, or procure the services separately as additional contracts so that residents could go to different locations for different services. It should be noted that it is not likely that any vendors other than Bay West would respond to an RFP, based on the previously mentioned request for expressions of interest response. In following up, other providers indicated the expense of providing their own facility for a five-year agreement was not financially viable, unless the county is willing to bear the cost of a vendor-owned facility for a five-year agreement.

When Bay West was originally retained to provide a facility and services it was based in Saint Paul with local ownership. Since the current agreement was signed in 2012 the local owners have sold majority interest to an equity firm and relocated some of the Bay West operations to Fridley. In conversations with Bay West the firm is interested in continuing to provide service at its current location, or as a potential vendor at a county-owned facility.

A description of continuing the status quo:

- Upon expiration of the current agreement at the end of 2022, enter into an agreement with Bay West through single-source procurement for a five-year term.
- Continue to use the Bay West facility as the county's year-round drop-off site.
- Continue mobile collection sites.
- Continue the VSQG collection site at the Bay West Facility.
- Continue to provide a reuse room at the Bay West Facility.
- Promote other options for disposal of e-waste.

Alternative B: Proposed Alternate System with New Elements

This alternative consists of several elements that are proposed to work as a cohesive system.

These elements include:

- A County-Owned Year-Round HHW Site (Environmental Service Center).
- County-Owned Year-Round Satellite Site.
- House-Side/Multi-Unit Collection.
- E-Waste Partnership.

County Owned Year-Round HHW Site (Environmental Service Center)

An Environmental Service Center (ESC) would be a permanent county-owned and privately operated location for the county's year-round household hazardous waste (HHW) facility and would incorporate additional, related environmental services for the public. An ESC would be sized and designed with flexibility for the long term. It would be readily accessible and could be located centrally in the county, or toward the north or south. Ideally, the site would be three to five acres, with indoor building space of at least 20,000 to 25,000 square feet.

Services would include:

- Acceptance of HHW and other materials, such as needles and syringes, batteries, and medications.
- A 24/7 used oil and oil filter collection area, like the area currently operating at the Public Works facility in Arden Hills.
- A collection site for very small quantity hazardous waste generators (VSQGs).
- An HHW/product reuse area offering free products to the public.
- A retail area for sales of compost bins and rain barrels, indoor and outdoor educational opportunities.
- Space for future collection of recyclable materials from the public.
- Collection of e-waste in collaboration with non-profit partner organizations.

Design elements include:

- New construction or renovation of existing building(s).
- Enclosed building area of 20,000 to 25,000 square feet (depending on services offered) with an enclosed drive-through portico that can accommodate at least 40,000 residential vehicles per year.
- Designed for safety and security because of the materials handled.
- Retail space for HHW reuse and product sales.

County Owned Year-Round Satellite Site

A permanent satellite site would be a smaller operation than an Environmental Service Center, with the similar purpose of collecting HHW and providing related services. It would receive materials from residents through drive-in or walk up options. It would prepare some materials for shipment and transfer other sorted materials to the base facility for shipment.

A permanent satellite site would replace mobile (satellite) collections and serve as a year-round satellite site. This approach would simplify promotions, reduce confusion around seasonal sites changing location each month, and provide more hours of service to residents than mobile collection sites, and accept more materials.

A county-owned permanent satellite site would be in an area of the county that geographically complements the year-round site. If, for example, the year-round site is in the southern part of the county, a year-round satellite site would be in the northern part of the county, and vice versa. Sites with existing buildings that could be renovated could be evaluated as part of the siting.

House-side/Multi-unit collection

Currently there is only one collection method for proper disposal of HHW – resident self-haul of HHW to the Bay West year-round site or mobile collection sites. An additional collection method is “house-side collection,” a service in which collection occurs at residents’ households upon request. House-side collection could increase participation, provide more equitable collection services and promote safer, healthier homes.

House-side collection alone is not considered a complete collection system, but it would be a component of a more complete system. It would be layered on top of the current self-haul system to provide a collection service option to residents without access to a car or otherwise limited in their ability to deliver HHW to a site. This would remove a significant barrier faced by a number of residents to properly manage waste materials that should not go in the trash or down the drain.

A preliminary design of a house-side collection program would have the following collection standards:

General Program Logistics

- The same list of HHW and electronic items would be collected house-side as collected via self-haul drop-off at the permanent facilities;
- The county would contract house-side collection operations, or operate it with county staff and equipment;
- After collection, items would be hauled to the permanent HHW site for processing;

- All Ramsey County residents who meet criteria (for example, disabled, elderly, lack of transportation) would be eligible. Eligibility will begin with more restrictions, which will be eased with experience.
- There would be no charge to Ramsey County residents. The costs of the new house-side collection would be funded through the County Environmental Charge (CEC), which is the same source as the other HHW programs;
- After collection, items would be hauled to the HHW site for processing.

Logistics for Single-Family Dwellings (houses/buildings with one to four units)

- Residents would complete a request for service either by phone or online;
- A collection day would be scheduled after the request for service is accepted by county staff;
- House-side collections would be pre-scheduled, one-time events. Participating residents would need to submit a new request for service each time they wish to schedule a collection. As a rule, residents could be limited to two collection events per year.
- Materials would be collected in a leak-proof plastic container with a lid.
- About a week before collection, program staff would deliver the container to the participating residence. The container would be accompanied by written instructions (in various languages) and any paperwork needed, such as liability forms.
- HHW items would need to be placed in the container to be accepted. Electronics may be set outside of the container.
- On the morning of the pre-scheduled collection day, the resident would place the container next to the house or garage (as previously identified in the service request).
- Program staff would collect the HHW container and other eligible items (e.g., e-waste).
- If it appears the material set out is coming from a business and not a household, the items will not be collected. An education tag will be left to explain the reason for the rejection, follow-up contact will be initiated, and hazardous waste regulatory staff would be informed.

Logistics for Multi-Family Dwellings (buildings with five or more units)

- Building property managers would apply for HHW collection service.
- Upon approval for service, program staff and the building manager would agree on a collection schedule and a promotion plan for residents.
- Instructional materials would be provided to residents in various languages.
- Designated HHW collection area and containers would be established (e.g., inside of the trash/recycling enclosure).
- On collection day, program staff would collect the HHW containers and other eligible items and then replace the full container with a cleaned, empty container.
- Building manager would be responsible for ensuring all eligible items are placed inside the container as required before collection by program staff.

E-waste Partnership

The department proposes a future e-waste system that builds on the existing system and creates a public-private partnership to increase opportunities to recycle e-waste. The design of this system goes beyond e-waste management for environmental benefit, but also achieves economic and equity benefits for residents of the county. The current system and proposed future system are illustrated in Attachment 1.

The proposed system begins with the same options as those that currently exist, and added to that are additional services that include:

- Collection of e-waste at a county-owned environmental center and permanent satellite site at no charge to residents;
- Collection of e-waste through the proposed house-side and multi-unit collection program at no charge to residents; and
- Contracts with selected private providers to create a broader collection network with fewer barriers to participation.

To address environmental, economic and equity benefits the private providers would need to meet three criteria through an agreement:

- *Environmental*: meet minimum county standards for e-waste collection and management including necessary certifications that demonstrate those standards and working with the county to provide a convenient collection network for residential drop off, and collaborate on outreach about e-waste;
- *Economic*: provide jobs and job-training to county residents;
- *Equity*: work with the county to provide no-cost/low-cost technology hardware to county residents that demonstrate need based on income and/or employment status.

In addition, providers would need to:

- Accept e-waste collected at county HHW facilities up to vendor capacity limits;
- Meet strict measures for data security;
- Separate and refurbish usable computer hardware for reuse, and process non-usable equipment for recycling;
- Remain compliant with county hazardous waste requirements;
- Employ county residents at an established percentage of the workforce;
- Cooperate with departments in the county working on economic and equity goals;
- Coordinate outreach and community engagement with the department;
- Partner with the county to provide technology resources to eligible county residents;
- Keep records and provide data to assist the county in evaluating the collection program.

Working with e-waste partners on certain elements of this proposal could begin as soon as 2021, with special collections and pilot programs. This also creates the opportunity to continue the work that Workforce Solutions has begun to provide laptop computers to unemployed people.

Financial Analysis

For reference in discussing HHW system finances, Table 6 presents a comparison of the seven metropolitan county programs with total costs and costs per participant. These are “all-in” costs, including county staff time and outreach/promotional costs. In this comparison Ramsey County ranks 4th in total spending and participation, and 7th in cost per participant. It should be noted that the two

counties with the highest cost per participant are those without e-waste collection (Anoka, Ramsey). Accepting e-waste tends to draw more people to HHW services.

Figure 6: Metro County HHW Cost Comparison

2019 HHW Services Cost Per Participant			
County	Total HHW Cost	Participants	\$/Part.
Anoka	\$877,730	12,610	\$69.61
Carver*	\$653,173	15,117	\$43.21
Dakota*	\$2,531,762	60,230	\$42.03
Hennepin*	\$5,267,933	101,804	\$51.75
Ramsey	\$1,922,214	27,021	\$71.14
Scott*	\$829,819	13,576	\$61.12
Washington*	\$2,143,284	61,646	\$34.77
*Includes e-waste collection			

Capital Costs

The county has contracted with Bay West for over 20 years, during which Bay West has used only a portion of its Saint Paul building for HHW services. Since the beginning the vendor has charged a base-monthly-service-fee, which covered costs of providing the service including costs associated with the use of the building. The purpose of that fee has changed with time, incorporating the costs of the mobile site service in the current agreement. Bay West has recovered its ongoing cost of the service, essentially charging rent within this fee, but the specific amounts are not available to the county. Because of the way the base monthly service fee is constructed, it is difficult to determine the portion of this fee that could be used to compare to capital costs of alternative approaches, such as an Environmental Service Center and permanent satellite site system.

For Alternative B, estimates for capital costs for a county-owned ESC and permanent satellite site are based on a proposed design by Dakota and Scott counties. The estimated capital cost for a 24,000 square foot ESC on three to five acres of land is \$9 million, and for a 10,000 square foot permanent satellite site at \$3.8 million. Other cost estimates that can be capitalized (equipment, vehicles) total \$261,000. Total estimated capital costs are \$13.1 million.

The department proposes to use the county’s Solid Waste Fund for this capital expense. The following is an explanation of that funding source.

Minnesota law requires counties to carry out planning, development and management of an integrated waste management system. Metropolitan counties are mandated to prepare solid waste master plans that conform to the MPCA’s regional solid waste management policy plan, updated every six years. The Ramsey County Solid Waste Management Master Plan (2018-2023) was adopted by the County Board and approved by MPCA in 2017.

State law requires that revenue for waste management collected by a county be spent only on waste management purposes (Minn. Stat. Section 473.811, Subd. 9). The Ramsey County Attorney’s office has consistently stated that waste management funds may be used only for county activities included in the Solid Waste Management Master Plan.

The county environmental charge (CEC) provides most of the revenue for county solid waste activities. The CEC is a service charge imposed on generators of mixed municipal solid waste, collected and remitted by licensed solid waste haulers and facilities. License fees and grants make up a smaller portion of the revenue used by the county for solid waste purposes. In the past few years, annual CEC revenue has been between \$20 and \$22 million.

Because state law restricts the use of waste related funds, the county has created and maintained a solid waste fund which includes CEC funds that accrue in years when revenues exceed expenses. The current Master Plan includes policies that guide the use of that fund. Those policies are found in Chapter 12 of the Master Plan:

- i. Provide an Operating Reserve Fund for the Ramsey/Washington Recycling & Energy Center (R&E Center);
- ii. One-time waste management related expenses, such as purchase or development of fixed assets or capital equipment, including purchases for the R&E Center;
- iii. Maintenance of waste-related capital equipment/sites;
- iv. Financial incentives, such as grant programs, for the purpose of achieving solid waste goals; and
- v. Operating expenses that present significant opportunities for meeting environmental goals.

Over time, the Solid Waste Fund has had commitments identified for a number of projects. “Commitments” are specific purposes resulting from county board action that set aside solid waste funds. Two examples of commitments are funds set aside for the R&E Operating Reserve Fund, and \$1 million set aside for tort liability associated with HHW management. “Available” fund balance is understood to mean those funds that are available to be used pursuant to the solid waste financing policies in the Solid Waste Master Plan. Public Health has tracked the solid waste fund over time.

At this time, the department understands that the status of the available solid waste fund at the end of 2020 is expected to be about \$18.7 million. This is sufficient funding to cover the estimated costs of \$13.1 million for the proposed ESC and permanent satellite collection site, leaving \$5.6 million in available fund balance to carry into future years.

Annual HHW Cost Estimates

Cost estimates were made for each of the two HHW system alternatives, based on the county’s experience and with information from other HHW programs in Minnesota, other states, and Canada. For Alternative A, status quo, costs associated with the current Bay West agreement were used, with adjustments made for the number of projected participants.

For Alternative B, the proposed alternative system with new elements, participation was projected based on the participation seen in other metropolitan counties and programs outside the state, as well as Ramsey County’s experience. Cost data were then applied based on state contract charges for labor and disposal. For e-waste, data from other metro county e-waste services were evaluated and used to calculate participation, volumes and costs. The analysis produced the following results.

Alternative A: Status Quo

- Participation
 - Total: 30,000/year
 - Bay West Facility: 15,000/year
 - Mobile sites: 15,000/year
- Operations
 - Pounds of HHW collected: 1,600,000
 - Pounds of e-waste collected: 0
 - Total annual operating cost: \$1,370,895
 - Total cost per participant: \$45.70
 - Labor cost per participant: \$28.15
 - Disposal cost per participant: \$19.67
 - Cost per pound collected: \$0.86

Alternative B: Proposed Alternative HHW System

- Participation
 - Total: 52,000/year
 - ESC: 20,000/year
 - Permanent Satellite Site: 20,000/year
 - House-side/Multi-Unit: 12,000/year
- Operations
 - Total pounds collected: 4,524,000
 - Pounds of HHW collected: 2,964,000
 - Pounds of e-waste collected: 1,560,000
 - Total annual operating cost: \$2,942,227
 - Total cost per participant: \$56.58
 - Labor cost per participant: \$23.92
 - Disposal cost per participant: \$22.28
 - Cost per pound: \$0.65

Summary

Total program costs will increase significantly (115%) under Alternative B, as services expand to meet community expectations, focus on a residents-first approach and address equity considerations. The cost overall increase produces effective results, as there is a projected 73% increase in participation and a 183% increase in waste volumes collected in Alternative B compared to Alternative A. The total cost per pound of HHW decreases with the proposed system by 24% in comparison with the status quo projections. These are indicators of projected greater environmental protection and risk reduction in several categories, by properly managing a significantly greater volume of HHW.

In Alternative B, the total cost per participant increases 23% with the addition of more convenient and expanded services, but with labor costs reduced by 15% compared to Alternative A. The system design sees labor efficiencies in being able to move staff from service location to service location, allowing flexibility as demand changes.

Because these costs are projected at program maturity, and it will take some time to reach that point, this is not a projection for the first year of operation, which would be 2023. Regardless the department can prepare a budget to ensure there is funding available through the CEC that can cover these projections.

Analysis of Alternatives

Since the HHW program began in 1990, Ramsey County has outsourced HHW collection responsibility to private firms. During that time about 600,000 participants have delivered over 30 million pounds of material for proper management, an average of 51 pounds per participant. The composition of that waste from 1991 – 2019 is shown in Figure 3. Other metropolitan counties have also developed programs, and a summary of those programs is shown in Attachment 2.

Attachment 3 includes a detailed evaluation matrix that compares the alternatives according to several criteria. In all criteria the proposed system changes perform better, mostly due to the increased level of service and increased recovery of HHW.

The criteria are:

- Convenience: Two year-round sites increases hours of service availability by 73%, house-side service significantly increases convenience, and adding electronics through partnerships will meet resident needs, by making HHW service more “one-stop-shop.”
- Accessibility: The availability of service increases to 3,320 hours per year. This system is projected to serve 52,000 residents per year when mature.
- Flexibility: Both sites would be sized to allow for e-waste collection as well as other non-HHW materials, and be designed intentionally to allow for changes in service and materials. The county has more control over decisions.
- Environmental justice – racial equity – health equity: Increased hours allows greater availability of sites for residents with transportation, while house-side collection creates a significant improvement in service availability and helps to fill equity gaps in service. No-cost e-waste service addresses economic disparity issues, as does more convenient collection opportunities. Working with non-profit partners on e-waste reuse and recycling has

significant returns for solid waste dollars spent on e-waste management, helping with job-training and employment as well as availability helping close the technology gap.

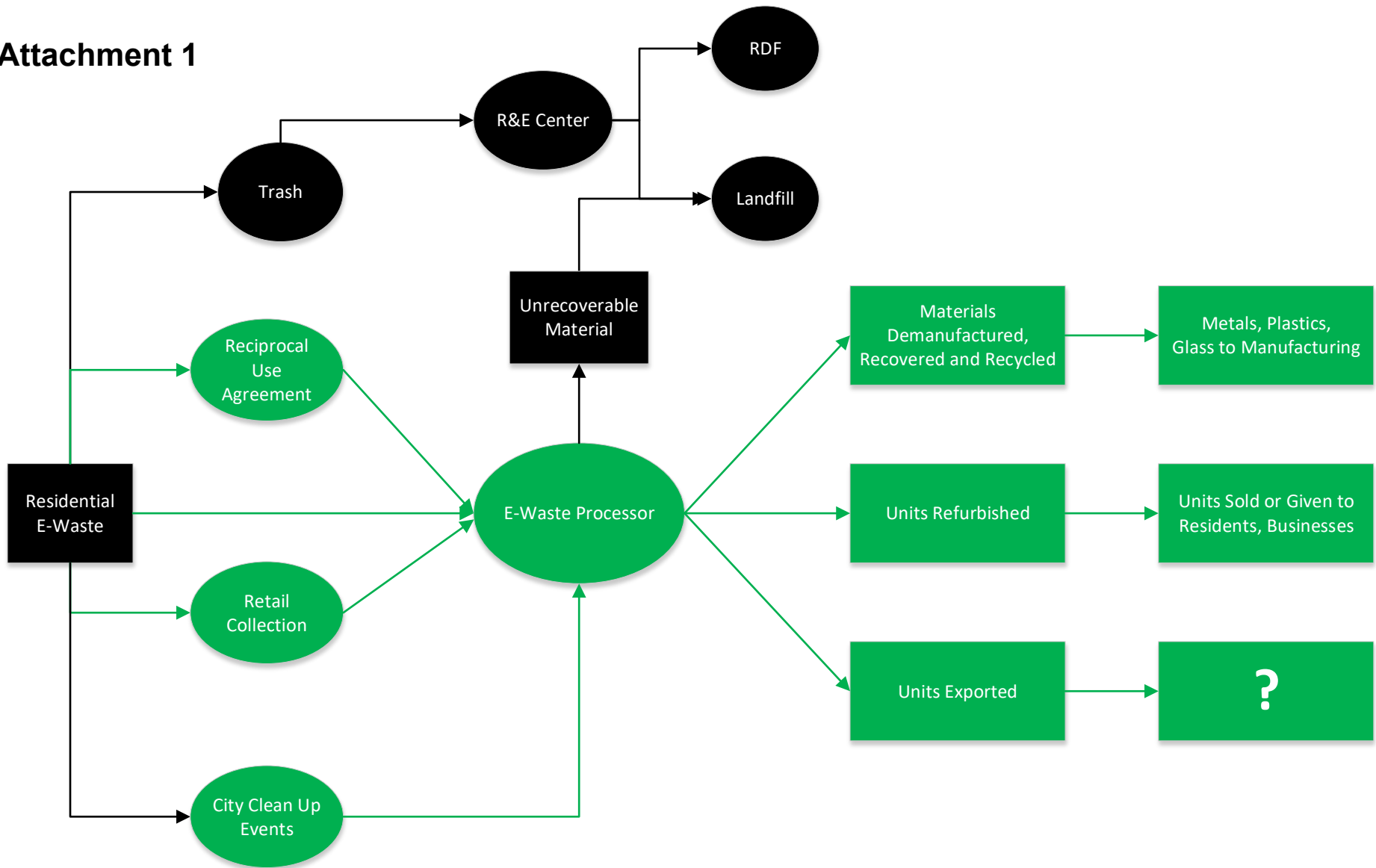
- Financial considerations are discussed in the previous section.
- Resilience/sustainability: New sites will enhance educational and outreach opportunities to help in understanding the waste management system and residents' roles in it. County ownership allows for adjustments in service to be made faster. County environmental goals can be applied during development.
- Environmental protection risk: Recovery of greater volumes of HHW means more materials properly managed resulting in a greater degree of risk mitigation, including those associated with e-waste. No cost collection reduces the risk of illegal dumping and associated environmental damage. VSQG services for small businesses will be in two locations, providing greater access to proper hazardous waste disposal.
- Property damage risk: Due to an increased level of service the risk of property damage to hauler vehicles, transfer stations and the R&E Center is reduced. Because the proposed system includes aggressive collection of e-waste, a greater proportion of lithium-ion batteries would be collected and properly managed.
- Occupational risk: Greater participation ensures appropriate management of HHW, and less worker safety risk for employees of haulers, transfer stations and the R&E Center.

Department Proposed Action

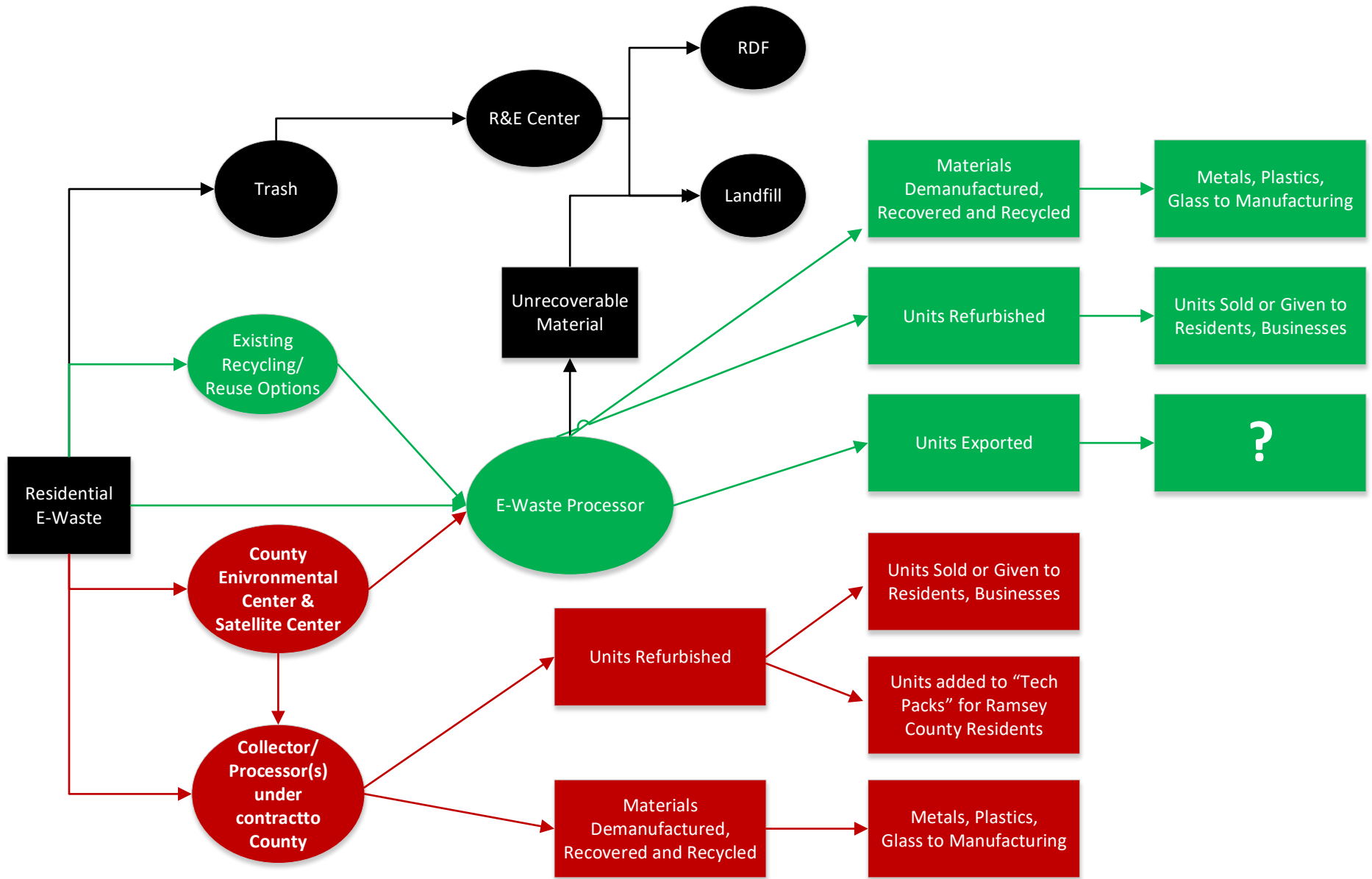
If the County Board agrees in concept with the HHW redesign, the department would be allowed to proceed to further develop the system design. That would include:

1. Public Health working with Property Management to conduct a siting process to identify potential sites for an ESC and Satellite site;
2. Upon identification of sites, Public Health and Property Management would return to the county board for authorization to proceed with site acquisition and development;
3. Public Health and Property Management would select and prepare a contract with a consultant to assist in designing the ESC and satellite site;
4. Public Health would coordinate with other county departments to develop a scope and process to engage potential e-waste vendors for a partnership on e-waste collection and management; when ready, Public Health would seek appropriate county board action to implement the e-waste partnerships (this could occur as early as 2021);
 - a. Public Health would further design a house-side collection service including development of a scope of services; when ready, Public Health would seek appropriate county board action to implement house-side and multi-unit collection;
5. Public Health would develop a scope for vendor services to provide labor at county-owned ESC and satellite site.

Attachment 1



Current E-waste Collection System



Future E-waste Collection System

Attachment 2

Metro HHW Program Summary							
County	HHW System	2019 Number of Participants	Facility Ownership	Size (sq. ft.)	Collection Facility Operated by	2019 Total Cost	Future Changes for HHW Program
Anoka County	<ul style="list-style-type: none"> • Year-round Site • 2 Event Collections 	12,610	Veolia Environmental Services, Inc.	4,800	Veolia Environmental Services	\$877,730	Long term vision is for a new county-owned facility.
Carver County	<ul style="list-style-type: none"> • Year-round Site • 2 Event Collections 	15,117	Carver County	12,372	Veolia Env. Services, County staff.	\$653,173	Long term vision is to build a second facility in Cologne. No set plans at this point.
Dakota County	<ul style="list-style-type: none"> • Year-round Site • 2 – 3 Event Collections 	60,230	Gopher Resources, Inc.	10,248	Gopher Resources, County staff oversight.	\$2,531,762	Together with Scott County has received state bonding funds to build a 24,000 sq ft new joint HHW facility on 8 acres.
Hennepin County	<ul style="list-style-type: none"> • 2 Year-round Sites • 5 to 15 Event 	101,804	Hennepin County	BP: 4,670 SH: 26,000	Allied Waste contractor County staff oversight.	\$5,267,933	.
Ramsey County	<ul style="list-style-type: none"> • Year-round Site • 77 Mobile collections 	27,021	Bay West	3,300	Bay West, Inc.	\$1,922,214	Planning for residents first HHW options.
Scott County	<ul style="list-style-type: none"> • Year-round site 	13,576	Scott County	5,500	County staff	\$829,819	
Washington County	<ul style="list-style-type: none"> • 1 Year-round • 7 Event Collections • Site 	61,646	Washington County	23,000	Clean Harbors, County staff oversight.	\$2,143,284	Building a second 22,000 square ft Environmental Center in Forest Lake

HHW Services Evaluation Matrix

Evaluation Criteria	<u>Status Quo</u> Privately-owned base facility; Privately Provided Drop-off Site; Mobile Sites April – October; No electronics; No house-side collection.	<u>Redesigned HHW System</u> County-owned Environmental Service Center (ESC); County-owned Permanent Satellite Site; House-side Collection; E-waste included.
1. Convenience	<ul style="list-style-type: none"> The current Ramsey County HHW system provides year-round collection at the Bay West facility in Saint Paul, and about 70 mobile satellite sites each year. Materials collected are traditional HHW but are not consistent with other Metro Area counties that offer more “full service” drop-off facilities (e.g., including electronics, etc.) Residents are asking for more convenient services. 	<ul style="list-style-type: none"> Without mobile sites the geographic distribution of collection is reduced, but two year-round sites increases service availability by 73%. House-side service significantly increases convenience and availability to residents that have previously not been able to access service. Adding electronics through partnerships will meet resident needs, by making HHW service more “one-stop-shop,” addresses environmental, equity and economic goals.
2. Accessibility	<ul style="list-style-type: none"> The current facility location (just north of downtown St. Paul) is somewhat centrally located, but residents are confused by the location and have difficulty accessing it. Mobile collection sites provide some help to reduce the drive distance, but the days/hours of operation are very limited and not as reliable as a permanent facility. Between the two services available 1,920 hours per year. This system is mature and serves about 27,000 participant per year. 	<ul style="list-style-type: none"> Accessibility of a new County-owned base facility and a permanent satellite site would improve accessibility based on the number of hours available and is not weather-dependent like mobile collection events. Geographic accessibility depends on the ability to site facilities with good road and traffic access. The availability of service increases to 3,320 hours per year. This system is projected to serve 52,000 residents per year when mature.
3. Flexibility	<ul style="list-style-type: none"> The Bay West facility, including the overall site, is space-constrained. Bay West does not have the inside building or outside yard space to add electronics or other materials to their Empire Drive facility. 	<ul style="list-style-type: none"> Both an ESC and a permanent satellite site will be developed with flexibility in mind, and be sized to allow for e-waste collection as well as other non-HHW materials. They will be designed intentionally to allow for changes in service and materials. With ownership by the county and not a private contractor, the county has more control over decisions.
4. Environmental Justice, Racial Equity, Health Equity	<ul style="list-style-type: none"> The current Bay West facility is located in the Thomas Dale neighborhood about six blocks north of the State Capitol building, and while it should favor any Saint Paul resident, the community engagement work demonstrates that there are gaps in service for a lot of BIPOC residents as well as those without access to transportation or are disabled. And while mobile sites are in various locations, residents must be available to haul their HHW on certain dates and have access to transportation. In most cases, residents currently must pay a private retailer or county for electronics recycling. 	<ul style="list-style-type: none"> For residents with vehicles, the location of an ESC and permanent satellite site is important, with access to major roads and convenient hours. House-side collection creates a significant improvement in service availability and should help to fill equity gaps in service. Providing no-cost e-waste service addresses economic disparity issues, as does more convenient collection opportunities. Working with non-profit partners on e-waste reuse and recycling has significant returns for solid waste dollars spent on e-waste management, with the investment helping with job-training and employment as well as availability of computer hardware to help close the technology gap.
5. Financial Considerations	<ul style="list-style-type: none"> Bay West provides very good service, but labor costs are at a premium. <ul style="list-style-type: none"> Total Annual Cost: \$1,370,895 Cost per participant: \$45.10 Cost per pound: \$0.86 Expected weight of HHW: 1,600,000 pounds 	<ul style="list-style-type: none"> County ownership of an ESC and permanent satellite site allows for competitive selection of vendors to provide labor. Using solid waste fund balance provides for lower annual building costs. <ul style="list-style-type: none"> Total Annual Cost: \$2,942,227 Cost per participant: \$56.58 Cost per pound: \$0.65 Expected weight of HHW: 4,524,000 pounds

Attachment 3

Evaluation Criteria	<p align="center"><u>Status Quo</u> Privately-owned base facility; Privately Provided Drop-off Site; Mobile Sites April – October; No electronics; No house-side collection.</p>	<p align="center"><u>Redesigned HHW System</u> County-owned Environmental Service Center (ESC); County-owned Permanent Satellite Site; House-side Collection; E-waste included</p>
<p>6. Resilience / Sustainability</p>	<ul style="list-style-type: none"> The Ramsey County HHW program does a very good job of emphasizing HHW and other waste reduction, but opportunities for improvement can still be leveraged. The current Bay West facility does not have adequate space for more environmental education opportunities and the private ownership structure limits the County's ability to innovate on how to use the facility itself as a learning tool. As a private business, the current Bay West facility offers limited flexibility in making operational changes to HHW collection, e-waste collection being an example. Broader environmental sustainability goals (e.g., use of alternative fuels for vehicles serving the County's program, building energy efficiency, etc.) can be incorporated into the next RFP. 	<ul style="list-style-type: none"> A county-owned ESC and permanent satellite site will allow and enhance educational and outreach opportunities to help in understanding the waste management system and residents' roles in it. A county-owned ESC and permanent satellite site allows county staff to make quick adjustments to operations when necessary. Broader environmental goals (e.g., use of alternative fuels for vehicles serving the County's program, building material selection, energy efficiency, etc.) can be applied during development, and can be a demonstration for the public to see.
<p>7. Environmental Protection Risk</p>	<ul style="list-style-type: none"> The current system recovers HHW and selected other materials from MSW and ensures that the materials collected are properly managed. This reduces the risk of environmental damage from those materials. However, e-waste is not currently being collected; the components and batteries contained within these devices adds to these risks. 	<ul style="list-style-type: none"> The proposed system will recover a greater volume of HHW than the current system and, therefore, ensures that a greater number of materials are properly managed, and a higher degree of risk mitigation, including those associated with e-waste. Further, no cost collection will reduce the risk of illegal dumping and associated environmental damage. VSQG services for small businesses will be in two locations, providing greater access to proper hazardous waste. Adding e-waste will enhance overall participation for both traditional HHW and non-traditional hazardous streams.
<p>8. Property Damage Risk</p>	<ul style="list-style-type: none"> Risk of damage to vehicles and equipment of waste haulers, transfer stations and the R&E Center is reduced. Two categories of waste pose the greatest risk to the R&E center: explosives (particularly propane tanks) and lithium-ion batteries. In the current system explosives are collected, and separate lithium-ion batteries are collected, but electronic devices with lithium-ion batteries are not. 	<ul style="list-style-type: none"> Due to an increased level of service the risk of property damage is reduced. The proposed system includes aggressive collection of e-waste, resulting in a greater proportion of lithium-ion batteries would be collected and properly managed.
<p>9. Occupational Risk</p>	<ul style="list-style-type: none"> Risk to workers in the waste industry is related to chemicals and materials that can cause injury upon exposure, fire or explosion. This can happen in trash compacting vehicles, when equipment such as front-end loaders is used, or when waste is processed. As HHW volumes collected increases, this risk to waste haulers transfer station employees and R&E Center employees is reduced. 	<ul style="list-style-type: none"> The projected increase in HHW collection with greater participation ensures appropriate management of HHW, and less worker safety risk for haulers, transfer stations and the R&E Center.
<p>10. Data Summary</p>	<p><u>Projections</u> Effectiveness:</p> <ul style="list-style-type: none"> Participation - Bay West Base Facility: 15,000/year Participation - Mobile collection sites: 15,000/year Pounds of HHW Collected: 1,600,000 Pounds of E-waste collected: 0 <p>Efficiency – Cost per pound: \$0.86/pound</p> <p>Cost</p> <ul style="list-style-type: none"> Total annual operating cost: \$1,370,895 Total cost per participant: \$45.70 Labor cost per participant: \$28.15 Disposal Cost per participant: \$19.67 <p>Capital Cost – included in Base Monthly Service Fee of \$8,000 per month</p>	<p><u>Projections</u> Effectiveness:</p> <ul style="list-style-type: none"> Participation – ESC: 20,000/year Participation – Permanent Satellite Site: 20,000/year Participation - House-side/Multi-Unit: 12,000/year Pounds of HHW Collected: 2,964,000 Pounds of E-waste collected: 1,560,000 <p>Efficiency – Cost per pound: \$0.65/pound</p> <p>Cost</p> <ul style="list-style-type: none"> Total annual operating cost: \$2,942,227 Total cost per participant: \$56.58 Labor cost per participant: \$23.92 Disposal cost per participant: \$22.28 <p>Capital Cost – use of Solid Waste Fund Balance: \$13,060,990</p>