

**MINNESOTA
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**Dakota County Multiunit Recycling Pilot Project
2017-2018 Contract Report**

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Contents

1. Introduction

- 1.1. Project Description.....3
- 1.2. Document Description3
- 1.3. Completed Activities3
- 1.4. Project Summary4

2. Results

- 2.1. Outreach.....5
- 2.2. Site Visits and Technical Assistance9
- 2.3. Final Results and Implementation12
- 2.4. Motivations for Participation in the Multiunit Pilot Program.....14
- 2.5. Individual Results of Pilot Program Participants16

3. Discussion

- 3.1 Outreach and Engagement Strategies25
- 3.2 Assistance/Implementation25

4. Conclusion27

List of Figures

- Figure 1. Number of Buildings Contacted by City.....8
- Figure 2. Number of Multiunit Program Participants by City8
- Figure 3. Number of Multiunit Participants by Housing Type9
- Figure 4. Types of Technical Assistance11
- Figure 5. Multiunit Participants’ Motivations for Participation in Program.....15

List of Tables

- Table 1. Multiunit Outreach Methods & Participants Yielded.....6
- Table 2. Multiunit Properties by Referral Type.....6
- Table 3. Engaged Multiunit Properties Summary.....6
- Table 4. Site Visit and Technical Assistance Totals11
- Table 5. Quantifiable Waste Diversion.....13
- Table 6. Pilot Program Participant Funding, Savings, and Diversion.....14
- Table 7. Multiunit Participants’ Motivations for Participation in Program15

Attachments to Final Report

- Attachment 1. Final Participant Update Summary

1. INTRODUCTION

1.1 Project Description

The Minnesota Waste Wise Foundation was contracted to assist Dakota County in providing outreach, technical assistance, research, liaison services, and recycling project implementation assistance for area multiunit residential dwellings including apartments, condominiums, and assisted living facilities. These efforts were focused on providing residents and on-site staff with the education and tools necessary to implement behavioral and infrastructural changes leading to increased waste diversion. This project was specifically interested in addressing the needs of the multiunit audience through tailored outreach and implementation strategies that apply best management practices to maximize behavioral changes leading to increased waste diversion

The desired outcomes of the project included:

- Provision of direct assistance to ten multiunit properties leading to increased resident recycling awareness and documented increases in waste diversion.
- Gathering and summation of lessons learned regarding the specific opportunities and challenges within each multiunit housing type.
- Provision of program improvement recommendations to Dakota County, ultimately guiding the rollout of a full-scale multiunit program.

1.2 Document Description

This is the annual report for 2017-2018 Dakota County Multiunit Recycling Pilot Program. The report includes information on all tasks included in the Scope of Services, along with results recorded for each property. The results for tasks 1-3, including outreach, technical assistance, and results are detailed below in the Completed Activities section.

1.3 Completed Activities

To achieve the desired project outcomes, Waste Wise completed and tracked the activities as they related to the following work plan tasks:

Task 1 - Provide targeted outreach to recruit eligible multiunit entities with high potential for waste reduction, recycling, and/or organics recovery to participate in the Pilot Program. This entails:

- a. Work with County staff to develop list of priority properties for outreach and recruiting, enhance existing outreach strategies.
- b. Initiate contact with property managers who have and do not have an existing relationship with Dakota County.
- c. Identify person at each property who will be main contract contact and foster this relationship for sustained collaboration with the County.

Task 2 - Provide technical assistance and consulting services to property owners and/or managers of an estimated 10 (ten) multiunit buildings to help them participate in the Pilot Program. This entails:

- a. Schedule and conduct an initial site visit with each eligible multiunit to provide support to complete and submit the Eligibility and Baseline Questionnaire and the Pilot Program Application to the County.
- b. Provide County-approved Pilot Program participants with necessary technical assistance to successfully implement projects and fulfill program requirements.
- c. Serve as a liaison for multiunit entities with recyclers and waste haulers to facilitate the implementation of improved organics and recycling collection systems and cost-effective waste management practices.

Task 3 - Report results of technical assistance. This entails:

- a. Provide technical assistance to property owners/managers to complete and submit the Final Report with completed Best Practices Checklist for each multiunit entity participating in the Pilot Program.
- b. Provide a written monthly status update that documents (1) multiunit entities contacted; (2) multiunit entities served; (3) types of services provided to each site; (4) property owner/manager contact information, including names of individuals, email addresses, telephone numbers, and operation location(s); (5) summary notes for each contact or attempted inquiry/outreach attempt; (6) status of recruiting and/or implementation for each site; and (7) recommended changes to program resources.
- c. Submit a final Multiunit Recycling Pilot Program report

1.4 Project Summary

The Minnesota Waste Wise Foundation developed a work plan and business outreach strategies with Dakota County. These components were based on an agreed upon priority properties list. Outreach services initially focused on engaging property management in face to face drop-in encounters without prior notice. Subsequent properties were contacted by Waste Wise following leads from municipalities, waste haulers, and Dakota County. Nine of the ten properties that signed program contracts were successful in implementing recycling improvements within the contract period. The tenth property received a contract amendment allowing for program implementation through November of 2018.

The following is a summary of the outreach, service, and implementation results for the contract period:

- Completed **44 outreach contacts to 29 distinct Dakota County multiunit properties yielding a 34% program acceptance rate.** 15 of these contacts were drop-in visits, 20 were email

contacts, and 9 outreach attempts were made by phone. Of the ten participants that ultimately contracted for participation in the Pilot Program, two (20%) were engaged via the drop-in method, four (40%) were warm leads engaged via email, three (30%) were warm leads engaged via phone call, and one (10%) sought assistance directly from the county.

- Completed **13 initial site visit evaluations** and an additional **37 on-site meetings** to further assist multiunit properties.
- Completed **67 technical assistance** and related research calls and emails to businesses.
- Completed **400 follow-up contacts** related to recommendations, incentive funding, program implementation, and diversion tracking.
- Facilitated **10 executed contracts totaling more than \$39,800** for recycling infrastructure and service enhancements and facilitated an additional 3 amendment contracts totaling over \$15,000 to provide outdoor recycling collection capabilities.
- To date, Waste Wise recorded **9 instances of measurable diversion at 6 different multiunit facilities amounting to 135,246 pounds** of new material diversion from landfills annually. Waste Wise did not include two instances of single stream recycling diversion and one instance of cardboard recycling recorded at newly constructed facilities as they would have engaged in these activities regardless of assistance and there is no accurate method for determining how much more material is being recycled as a result of technical assistance.
- A total average **increase of single stream recycling of 45.6%** was recorded among the four facilities that were able to report verified increases in diversion.
- Facilitated verified annual **cost savings of \$3,420** through implemented projects. This figure was calculated based on reported reductions in monthly bills and reported savings associated with eliminating hauler assessed contamination charges.
- Carried over one multiunit property into the business program and referred three additional properties to the business program to implement recycling improvements and apply for incentive funding in late 2018 or 2019.

2. RESULTS

2.1 Outreach

Minnesota Waste Wise initially engaged multiunit properties via in person, unannounced drop-in meetings per the recommendation of Dakota County. Subsequent outreach was conducting in a variety of methods including in person drop-ins, phone calls, and emails. In total, 20% of the program participants were initially engaged via the drop-in method while the remainder were engaged via phone or email following warm leads from cities, waste haulers, other program participants, or had reached out directly to Dakota County. While Waste Wise experienced no discernable differences between the different property types (Apartment, Condo, Assisted Living) in terms of the amount of outreach time required to engage them in the pilot program. Individual properties varied significantly in terms of the time required to implement their various recycling improvement programs. Implementation times were

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contingent on the number of units in a building, the types of improvements implemented (organics vs. single stream recycling), and the engagement level of staff and volunteers. Implementation activities were more involved and took longer at assisted living facilities than either apartments or condominiums. **Table 1** summarizes the outreach activities and percent of program participation. **Table 2** summarizes multiunit participants based on their referral type. **Table 3** provides a brief summary of the participants that actually engaged with the pilot program.

Table 1: Multiunit Outreach Methods & Participants Yielded

Method of Engagement	# of Outreach Contacts	% of Outreach Totals	Multiunit Pilot Participants Yielded	Percent of Pilot Participants Yielded
WW Doorknock	15	34%	2	20%
WW Email	20	45%	4	40%
WW Phone	9	20%	3	30%
Service Requested	N/A	N/A	1	10%
TOTAL	44	100%*	10	100%

Table 2: Multiunit Properties by Referral Type

Referral Type	# of Referrals	% of Referral Totals	Multiunit Pilot Participants Yielded	Percent Effectiveness of Referral Source
Direct County Referral	4	14%	4	100%
County Tax Records	10	34%	0	0%
Other Program Participant	4	14%	1	25%
Waste Hauler	1	3%	1	100%
Waste Wise Identified – Drop-in	3	10%	0	0%
City Staff	3	10%	2	66%
Multi Housing Association	4	14%	2	50%
TOTAL	29		10	

Table 3: Engaged Multiunit Properties Summary

Property Name	Dwelling Type	# of Units	Barriers	Initiatives Undertaken
Apple Valley Villa	Assisted Living	210	Lack of Resident Knowledge, Space, Resident Physical Restrictions	Single Stream Recycling Improvements
Arbors at Ridges	Assisted Living	62	Lack of Resident Knowledge, Resident Physical Restrictions, Employee Commitment	Single Stream Recycling Improvements, Organics Recycling, Plastic Film Recycling

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Artspace	Apartments (Median Income)	47	Lack of Resident Knowledge	Single Stream Recycling Improvements, Plastic Film Recycling
CityVuell	Apartments	120	Lack of Resident Knowledge	Single Stream Recycling Implementation (New Construction)
Covington Court Apartments	Apartments (Low Income)	158	Lack of Resident Knowledge, Recycling Contamination, Language (Spanish)	Single Stream Recycling Improvements
Lakeville Pointe	Apartments (Low Income)	49	Lack of Resident Knowledge, Recycling Contamination, Language (Spanish, Somali)	Single Stream Recycling Improvements.
Lexington Riverside	Condominiums (Senior)	130	Lack of Resident Knowledge, Resident Board Coordination	Single Stream Recycling Improvements, Plastic Film Recycling, Organics Implementation (through biz program)
RiverPointe	Condominiums	21	Lack of Resident Knowledge and Commitment	Single Stream Recycling Improvements
The Reserve at Mendota	Apartments (Luxury)	139	Lack of Resident Knowledge, Organics Contamination, Organics Smell/Pests	Single Stream Recycling Implementation, Organics Implementation
Westview Park Apartments	Apartments (Low Income)	298	Lack of Resident Knowledge, Language (Spanish)	Single Stream Recycling Improvements
TOTAL		1,234		

In order to reach the predetermined goal of ten program participants, Waste Wise needed to make contact with 29 different multiunit property managers. Over the course of the contract period, four participants who had initially agreed to program participation subsequently pulled their Pilot Program applications citing various concerns including poor timing with internal schedules, employee turnover, lack of resident interest, and lack of desire to sign the contract provided by Dakota County.

Dakota County has received interest beyond the Multiunit Recycling Pilot Program’s contract limit of ten participants, and is currently diverting interested participants to receive assistance through the Business Recycling Assistance Program.

Waste Wise conducted outreach in 8 cities (West Saint Paul (13), Burnsville (6), Eagan (3), Lilydale (3), Apple Valley (1), Hastings (1), Lakeville (1), and Mendota Heights (1)) yielding multiunit participation in seven of those cities (Lilydale (2), West Saint Paul (2), Apple Valley (1), Burnsville (1), Eagan (1), Hastings (1), Lakeville (1), Mendota Heights (1)). **Figures 1 and 2** display outreach by city and program participants by city.

Figure 1: Number of Buildings Contacted by City

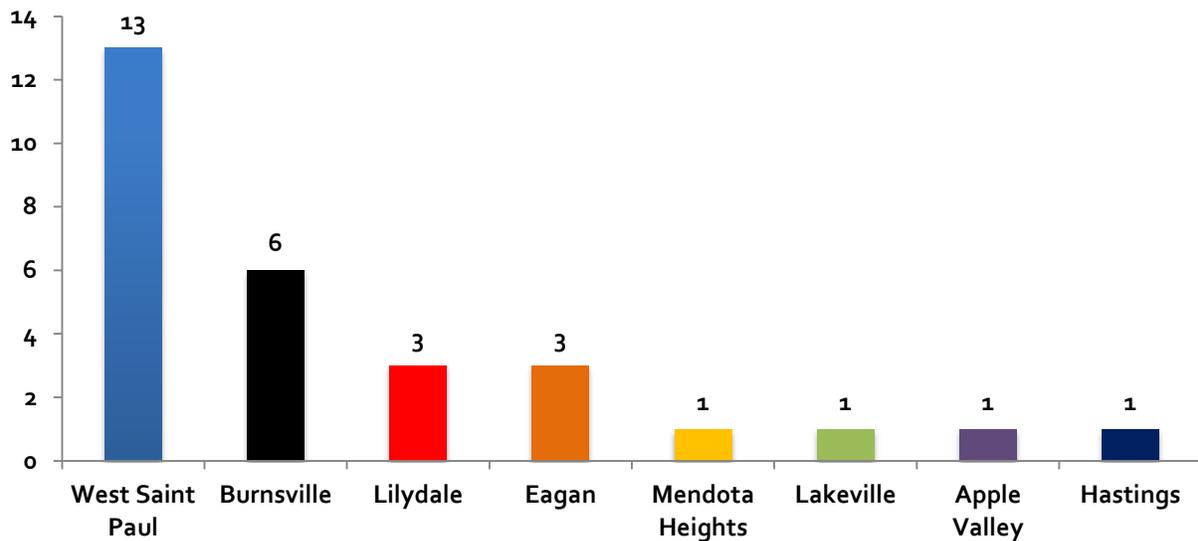
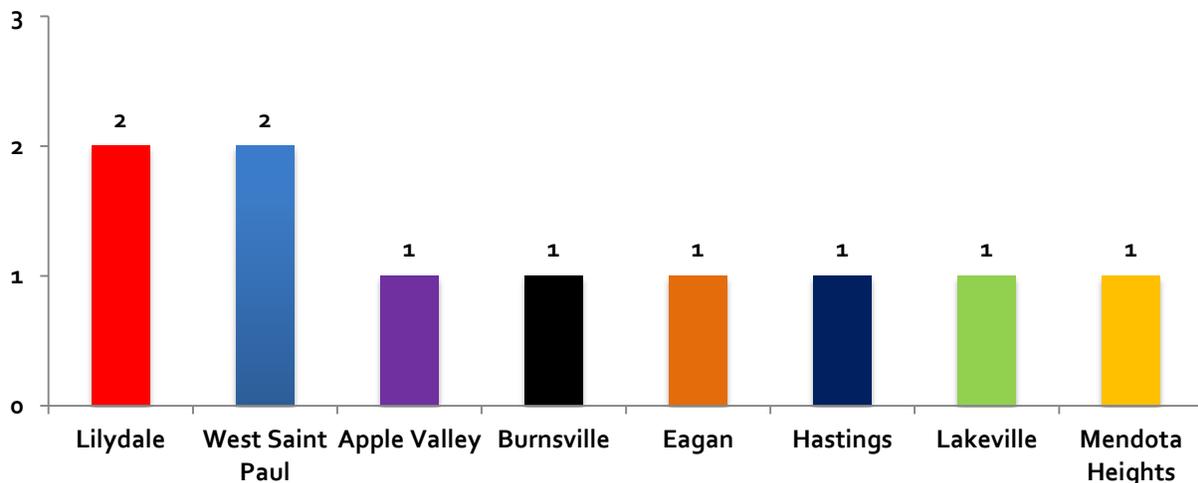
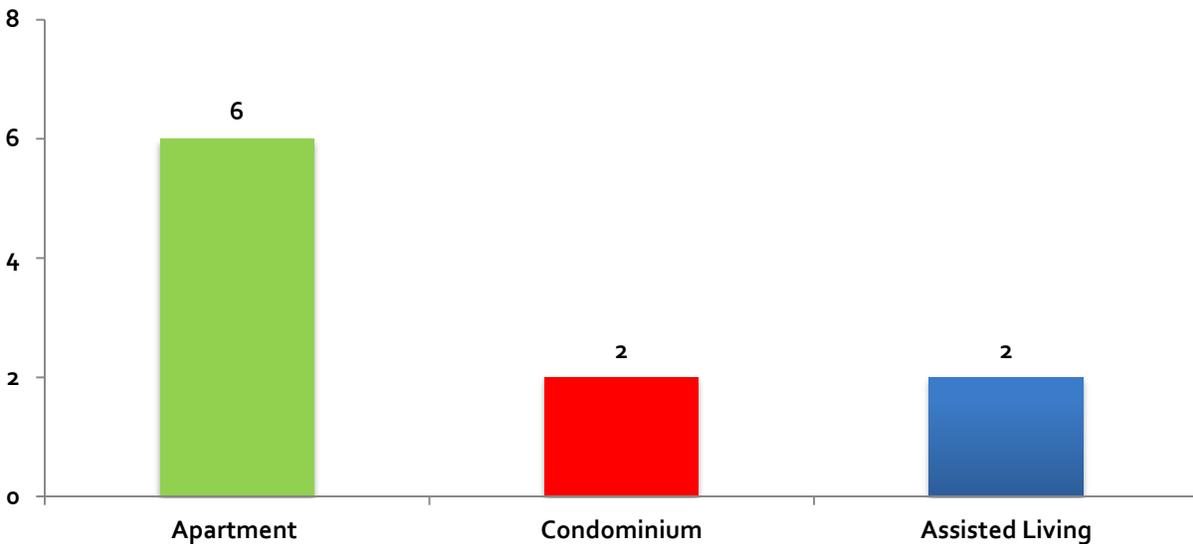


Figure 2: Number of Multiunit Program Participants by City



Waste Wise assisted businesses across 3 categories of multiunit properties including apartments, condominiums, and assisted living facilities. This breakdown of Pilot Program Participants is outlined in Figure 3.

Figure 3: Number of Multiunit Participants by Housing Type



2.2 Site Visits and Technical Assistance

After a multiunit property demonstrates interest in the pilot recycling program a series of technical assistance and follow up occurs generally taking place in the following sequence:

1. Waste Wise provides a site visit to identify opportunities for waste reduction, recycling, and organic waste diversion while outlining the Pilot Program and financial assistance available.
2. Based upon information gathered during a site visit, tailored recommendations are provided along with next steps for implementing recommendations.
3. Waste Wise assists business in determining program needs and applying for incentive funding.
4. Upon receiving recycling tools, Waste Wise works with multiunit property management, custodial teams, and champion residents to implement program (labeling and setting up bins, training staff, distributing resident totes and information, conducting resident education events or in-person interactions). Waste Wise continues to check in with management to troubleshoot issues with the program and ensure that bins are right-sized and that staff and residents understand the program.
5. Prior to the end of an applicant's contract period, Waste Wise completes the final site visit, quantifies any increase in diversion and cost savings, and addresses any program issues that have emerged or remain.

Waste Wise provided an initial site visit to 13 multiunit dwellings throughout the contract period. During these visits, Waste Wise documented each business' unique concerns and challenges along with barriers that contribute to these challenges. **Waste Wise was on site to visit multiunit dwellings an additional 37 times** for the purposes of meeting with haulers, filling out pilot program applications, providing staff and resident trainings, setting up bins, and other on-site assistance that may fall into steps 2-5 listed above.

In addition to site visits, Waste Wise offered ongoing technical assistance, defined as a direct service or dissemination of specific information meant to cause a change in behavior or lead to a quantifiable action taken by a business or organization. Examples of technical assistance that Waste Wise tracked included:

- **Pilot Program Application Assistance:** Includes any assistance targeted at helping a business to apply for and receive funding or assistance in completing contract requirements, such as reimbursement requests or final reports.
- **Recommendations:** Providing relevant information to a business on waste and recycling opportunities that would lead to increased diversion. Topics include single stream recycling, mixed fibers, organics recycling, plastic bags/film, hazardous/electronic waste, service related issues and recycling program improvements.
- **Connecting with Service Provider:** Sending contact information or directly connecting a multiunit to service providers, such as waste haulers, container vendors, or compostable products vendors to discuss existing or new services or products.
- **Educational Resources:** Providing suggestions or developing posters, flyers and other informational materials to help train employees and tenants on recycling programs.
- **Ordering Labels:** Estimating label needs, putting together orders, dropping off labels at participating multiunits, and conveying label information to participants or applicants.
- **Assessing Bins/Dumpsters/Signage:** Providing guidance on selection or improvement of collection bins, recycling posters and other signage and outside dumpsters in an effort to promote recycling.

Table 4 and **Figure 4** outline the service totals and types of assistance provided by Waste Wise throughout the contract period. Each of the service totals listed in Table 2 is a unique instance and is not double counted within another category.

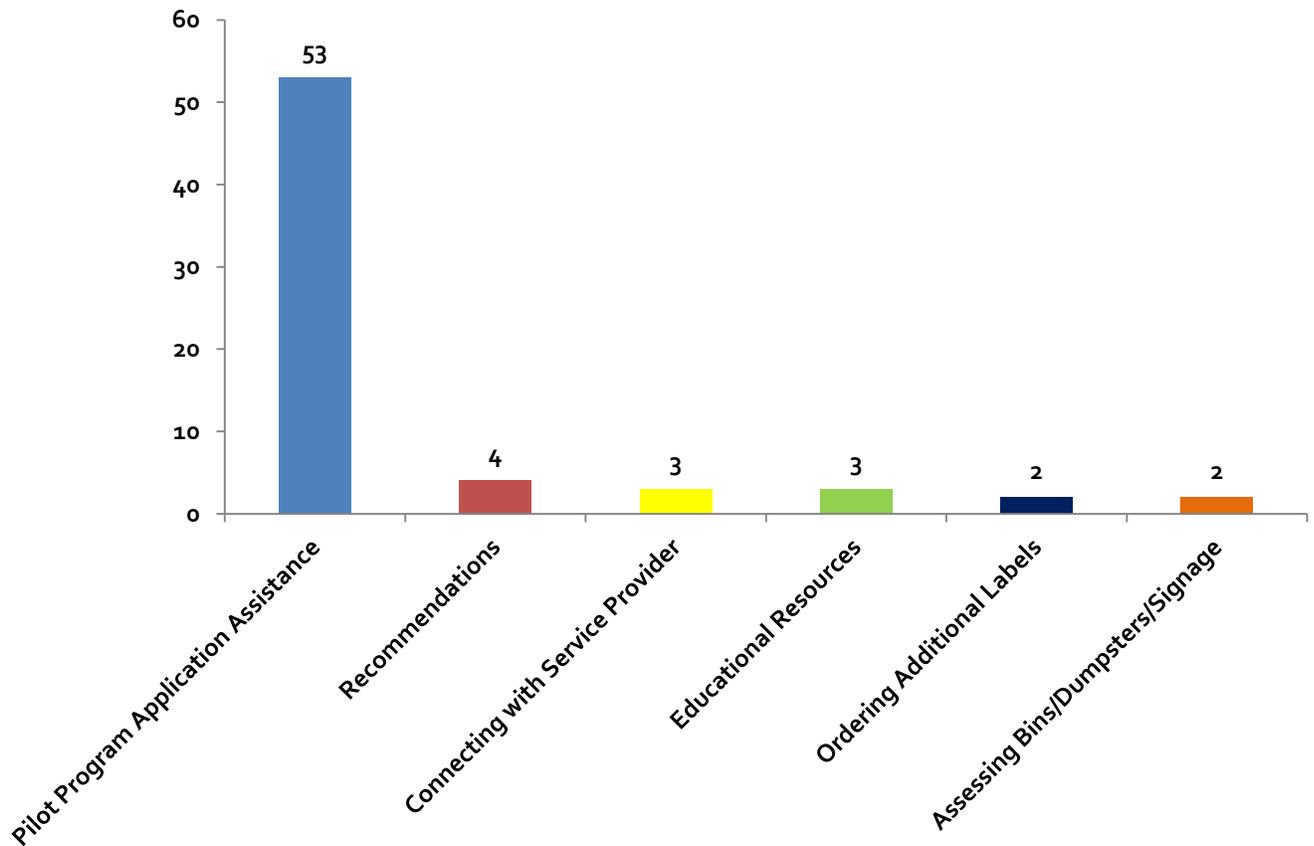
Table 4: Site Visit and Technical Assistance Totals

Multiunit Service Totals	Quantity
Instances of Outreach to Potential Program Participants (# of Contacts)	44
Number of Multiunit Properties Contacted (# of Properties Contacted)	29
Basic Site Visits Provided	13
Additional Site Visits (includes any on-site assistance after the initial evaluation)	37
Technical Assistance Provided to Pilot Program Applicants*	67
Participant Follow-up Contacts**	400

* Technical assistance includes any activity towards recycling program improvements that the property could not have accomplished without Waste Wise assistance including provision of reports/recommendations, connection with service providers, incentive program assistance, provision of educational resources, and ordering additional labels.

** Participant follow-up contacts include any instance of contact with participant for the purposes of spurring action, clarifying application status, scheduling visits and other events, and checking in on various program aspects.

Figure 4: Types of Technical Assistance



A total of 67 individual instances of technical assistance were provided to Dakota County multiunit dwellings throughout the contract period. Of these instances, the vast majority (53) were made to provide pilot program application assistance, highlighting the need for direct hand-holding throughout this process. Waste Wise only provided formal recommendations to participants that required that level of information in order to engage boards of directors or upper management in the decision making process. Waste Wise needed to connect multiunit property managers to service providers only if they were interested in adding a new service such as organics. A number of program participants were able to interact with their haulers independently of Waste Wise utilizing their existing relationships. Waste Wise recorded label ordering on only two occasions where additional labels were required beyond the initial order included in their grant applications; these instances were to provide plastic film labels for additional recycling collection. Waste Wise also recorded two instances of assessing bins outside of the initial site visit where the participant requested assistance in identifying a new bin that would fit their specific needs for a specific area.

Waste Wise conducted 400 follow up contacts during the contract period outlining the need for ongoing interaction with multiunit participants necessary to complete impactful participation in the Pilot Program. Examples of follow up contacts undertaken with all program participants include:

- Scheduling site visits or meetings.
- Checking in on whether a property has taken action following an instance of technical assistance.
- Providing reminders of next steps, suggestions, or other information that has already been disseminated.
- Sending updates on status of Pilot Program application.
- Corresponding with Dakota County staff and participant regarding projects.

2.3 Final Results and Implementation

Waste Wise works with all multiunit dwelling participants to gather and track waste diversion and cost savings associated with these improvements. This is most often represented by a building adding a single stream or organics recycling program, but can be represented by a business right sizing their services to more accurately reflect their reduced waste and increased recycling generation following education and collection improvements.

Minnesota Waste Wise quantifies waste diversion results using the following methods:

- Working closely with property managers to track how full dumpsters are upon pick-up to quantify volumes of recycling. Industry standard volume-to-weight conversions are then used to quantify weight estimates.
- Waste Wise uses a volume to weight conversion factor for single stream recycling based on the most recent EPA information available. The figure that Waste Wise uses (88 pounds per cubic

yard) is provided to the EPA by the Washington State Department of Ecology and aligns most closely with anecdotal information gathered from area haulers, material recovery facilities, and other waste and recycling professionals who are struggling to find a standardized conversion factor for the region. For residential organics, Waste Wise utilizes 300 pounds per cubic yard which lies within the various ranges provided on the EPA’s most recent information, but represents a slightly lighter weight than “food waste” since compostable products, paper towels, and tissues are also included in a residential setting.

- Utilizing reported changes in hauling levels on pre-implementation baseline surveys and post-implementation final report surveys.

All 10 pilot program participants implemented recycling improvements during the contract period, however not all have been able to right-size their services or otherwise verify quantifiable increases in waste diversion. **6 multiunit properties verified 9 unique recycling improvements resulting in quantifiable waste annual diversion totaling 135,246 pounds per year and \$3420 of ongoing annual cost savings.** Two instances of verified waste diversion involved implementation of organics recycling, three buildings implemented plastic film recycling processes, and four involved implementing or improving single stream recycling collection. Other buildings may be experiencing increased waste diversion but have not had time to realize consistent volumes of waste and recycling, or were newly constructed and thus did not have a baseline for comparison. **Table 5** displays the diversion results from each of these instances.

Table 5: Quantifiable Waste Diversion

Waste Category	# of Instances	Annual or One-Time	Estimated Diversion (lbs.)
Organics	2	Annual	39,000
Plastic Film	3	Annual	150
Single Stream Recycling	4	Annual	96,096
TOTAL RECYCLED	9		135,246

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Table 6: Pilot Program Participant Funding, Savings, and Diversion

Property Name	\$ Spent on Infrastructure	Reported Annual \$ Savings	Total Annual Waste Diversion Recorded (lbs.)	% Increase in Recycling
Arbors at Ridges	\$2,153.76	N/A – Right Sizing in Progress	23,400 Organics	Infinite
			50 Plastic Film	Infinite
Artspace	\$455.85	N/A – Right Sizing in Progress	50 Plastic Film	Infinite
Apple Valley Villa	\$10,188.30	N/A – Program Implementation in Progress	N/A – Program Implementation in Progress	N/A – Program Implementation in Progress
CityVuell	\$4,050.17	N/A New Construction	N/A - New Construction	N/A - New Construction
Covington Court Apartments	\$14,401.64	Cost Increase	18,304 Recycling	100%
Lakeville Pointe	\$2,195.08	\$960.00	9,152 Recycling	25%
Lexington Riverside	\$3,256.72	N/A – Right Sizing in Progress	4,576 Recycling	11%
			50 Plastic Film	Infinite
RiverPointe	\$236.06	N/A – Right Sizing in Progress	N/A – Right Sizing in Progress	N/A – Right Sizing in Progress
The Reserve at Mendota	\$4,798.74	N/A New Construction	15,600 Organics	Infinite
Westview Park Apartments	\$8,294.73	\$2,460.00	64,064 Recycling	100%
TOTAL	\$50,031.05	\$3,420.00	135,246 lbs.	

Two program participants (Westview Park Apartments and Lakeville Pointe) identified cost savings totaling \$3,420 in annual benefit. Westview Park reduced their monthly bills, while Lakeville Pointe eliminated fees associated with contamination in their recycling stream. Several participants indicated a desire to right size but needed more time in order to make a reliable decision that would not result in overflowing dumpsters. One participant (Covington Court) incurred additional cost as they added recycling services but couldn't downsize trash in conjunction with the reduction.

2.4 Motivations for Participation in Multiunit Pilot Program

As part of a property's participation in the multiunit pilot program, participants are asked to select a motivation for applying for an incentive from four categories:

- Compliance with the state's new commercial recycling mandate
- Commitment to corporate or community sustainability (environmental benefit)
- Cost savings through increased recycling or waste prevention and resulting lower level of service needed from my hauler (reduced container size, reduced frequency of service, and/or reduced taxes on trash)
- Other (Please Specify)

Figure 5 and Table 7 display motivations for pilot program participants' participation. The majority (75%) of participants reported that their commitment to corporate or community sustainability

was the top motivation for participating in the incentive program. 25% of applicants were primarily motivated by cost savings through a reduction in trash services, no participants listed the recycling mandate as their primary motivation which makes sense as all participants involved in the program already contracted for single stream recycling services and were thus already compliant with the mandate.

Figure 5: Multiunit Participants’ Motivations for Participation in Program

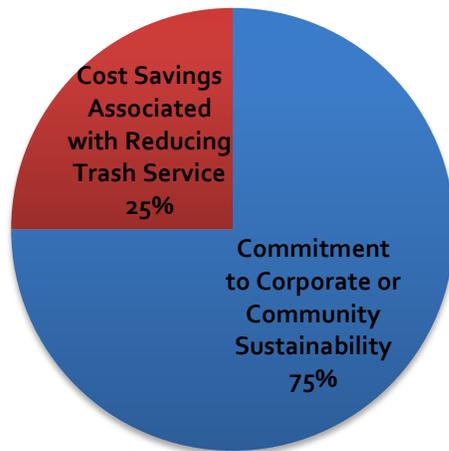


Table 7: Multiunit Participants’ Motivations for Participation in Program

Property Name	Commitment to Corporate or Community Sustainability	Cost Savings Through Increased Recycling or Waste Prevention
Arbors at Ridges	X	
Apple Valley Villa	x	x
Artspace	X	
CityVuell	x	x
Covington Court Apartments	X	
Lakeville Pointe		X
Lexington Riverside	X	
RiverPointe	X	
The Reserve at Mendota	x	x
Westview Park Apartments	X	

Bold "X's" represent that this was the participant's only selection; "x's" represent one of the two choices selected by a participant.

2.5 Individual Results of Pilot Program Participants

To showcase the efforts being made by participating Dakota County multiunit properties and to further promote the services provided by Waste Wise and the county, this section will outline in detail the steps that each property took to improve recycling, the effectiveness that these steps had, and also outline the challenges to implementation that were addressed or may still exist.

Arbors at Ridges – Burnsville

Background:

The Arbors at Ridges is an assisted living facility that houses approximately 80 residents in 62 units. The Arbors provides daily activities, multiple daily meal services, and has on-site health and wellness programs available. Staff at Arbors at Ridges includes management, administrative, activities, custodial, healthcare, and food service professionals, all of whom were impacted by the recycling improvements that were implemented on site. Arbors at Ridges referred themselves to the Pilot Program via a submission to the business incentive program's online request form.

Implementation:

Waste Wise began working with The Arbors in May of 2018 and provided a completed grant application to Dakota County in June. The Arbors engaged in recycling improvement activities and implemented a new organics recycling program that will collect materials strictly in the "back-of-house" kitchen areas and paper towel waste from public restrooms. All of the recycling totes, common area bins, compostable bin liners, dumpster labels, and education materials arrived in August. Waste Wise conducted in depth training to residents, nurses, kitchen staff, and custodial staff on the same day in which bins were placed in common spaces. On the following day following, organics recycling services began with their existing waste hauler (Aspen Waste Systems) and the residential recycling totes were distributed to all residents in door-to-door fashion by Activities Coordinator, Erin Schwartz who has extensive knowledge and passion surrounding this recycling initiative.



Results:

Although the Arbors at Ridges implemented their program relatively late in relation to the pilot program's timeline, they were able to report initial diversion results for organics recycling of an estimated 23,400 pounds of organic waste diversion annually. Arbors is currently generating approximately 1.5 yards of organics recycling on a weekly basis which when multiplied by a conversion factor of 300 pounds per yard and annualized comes out to the reported 23,400 pounds of diversion. Additionally, Arbors began a plastic film recycling program that is collecting approximately 23 gallons of clean film on a weekly basis. This material is being transported to a local retail drop off site and is estimated to amount to approximately 50 pounds of waste diversion annually. Waste Wise anticipates that dumpster right sizing will show verifiable increases in recycling as well since Schwartz commented that the recycling carts seem to be filling up faster than before the program launched.

Artspace – Hastings

Background:

Artspace in Hastings is home to 50-60 artist residents in 47 total units. These apartments function as homes and studios for the artists who live, work, and display their creations here. There are communal laundry rooms and a communal gallery space located inside the building. Artspace was identified as an interested property prior to the program even launching as a result of a referral from the city of Hastings. Artspace was thus one of the first properties to receive Waste Wise consultation and assistance. After an initial meeting in November of 2017, Artspace ultimately chose not to engage in organics recycling, but rather focused their efforts on improving their existing single stream recycling by providing residents with totes, paired common area bins, and extensive recycling education.



Implementation:

Grant application materials were submitted to Dakota County In January of 2018 and the contract was executed in February. Artspace received resident recycling totes, common area recycling and trash receptacles, education materials, and dumpster labels. Waste Wise assembled all totes, labeled and placed common area bins, publically displayed educational materials, and distributed totes to residents in door-to-door fashion providing education to every resident that was home. In August, Waste Wise led a resident education event that only four people attended, one of whom was the property manager Danielle Davis. Although the turnout for this meeting was low, the residents that were present were highly engaged, and the event was motivation for the property manager to begin a plastic film recycling collection program that now allows residents to place their shopping bags and other

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acceptable stretchy plastics into a common area receptacle. Davis now transports this collected plastic film to a local retail drop off site on her way home from work approximately once per week.



Results:

Artspace has not experienced a significant enough change in recycling volumes to alter their waste and recycling service levels. They have however noticed that the recycling that is being collected is much freer of contamination especially plastic bags and Styrofoam. Additionally, they are collecting approximately 23 gallons of plastic film on a weekly basis which is estimated to be about 50 pounds of material annually.

CityVue II – Eagan

Background:

CityVue II is a newly constructed apartment building that is home to approximately 180-200 residents in 120 units. CityVue II was referred to the pilot program by another participant that is owned by the same property management company (The Reserve at Mendota). This property has multiple communal areas including party rooms, a pool deck, and exercise facilities. CityVue II first met with Waste Wise in January of 2018 and it was determined by management that they would focus on single stream recycling both in resident units and in common spaces. Their application was submitted and approved in February, and the contract was executed in March.

Implementation:

Waste Wise arrived on site again in May to assemble the residential recycling totes prior to the building's grand opening. Totes were distributed directly to rooms that would soon be occupied along with all of the pertinent education materials regarding the program. Residents that signed leases after the building opened were provided with totes in-person upon their arrival. This building has waste and recycling rooms with dual chutes, one for trash and the other for recycling. Each chute was appropriately labeled as shown in the photo to the right. Common area bins were labeled and paired to ensure that



every trash can had a recycling partner throughout the building and in an outdoor area on the pool deck.

Results:

Since CityVue II was a newly constructed residence we cannot make assumptions regarding enhanced waste diversion. While they are reporting 110,000 pounds of single stream recycling per year, we don't have a benchmark to compare this figure to and thus cannot make assumptions regarding increased recycling resulting from participation in the pilot program. Upon the final walk through, Waste Wise was able to confirm that residents were "recycling right" as the single stream recycling dumpsters were largely free of contamination as shown to the right.



Covington Court Apartments – West Saint Paul

Background:

Covington Court Apartments are home to approximately 250-300 residents in 158 units with a significant Spanish speaking community. Covington Court was originally contacted via a drop-in visit following a lead from the Minnesota Multi Housing Association (MHA), and their Property Manager, Della Alick was immediately interested in participating in the program outlining her concerns with overflowing trash receptacles and significant contamination within their recycling. After initially meeting with Waste Wise in November, Covington Court was ready for grant submission in December and was approved and executed their contract in January. Covington Court was initially very excited at the prospect of pairing all of their outdoor bins with a recycling option, but they were notified by Dakota County that this was not under the scope of the initial pilot program and they would have to wait on outdoor implementation. Covington chose to implement a recycling education campaign that would provide all residents with recycling totes, provide education materials in both Spanish and English, label the dumpsters, update their lease agreements to include recycling information, and provide in-person recycling education at a spring event.



Implementation:

Alick was able to label the totes and place all common area bins utilizing internal staff and organized a recycling tote distribution day to coincide with an existing Spring Egg Hunt. Waste Wise was on site at the egg hunt event to educate residents in a face-to-face capacity and was successful in distributing

over half of the totes on that day. Remaining totes were distributed to residents as they came to the leasing office to pay rent or specifically to pick up their tote. Covington Court was ultimately able to utilize an amendment application to obtain outdoor recycling receptacles to pair with all existing trash cans and will be pouring concrete pads in the spring of 2019 on which to place both trash and recycling receptacles.

Results:

After implementing the new recycling initiatives and education, Covington Court needed to increase their recycling services to double their previous levels, adding 4 yards of weekly recycling capacity. This equates to annual estimated increase in waste diversion of 18,300 pounds. While they have increased recycling capacity, they still have far more trash service volume on a weekly basis and have not seen enough change in order to reduce the frequency of services for trash. Alick hopes that with the addition of the outdoor recycling bins in the spring that there may be an opportunity to right size their waste services and save money in the long-term.

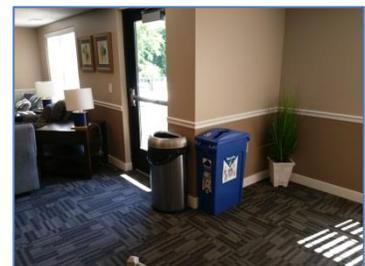
Lakeville Pointe – Lakeville

Background:

Lakeville Pointe is a rent controlled apartment building that is home to approximately 75 residents in 49 units. This building was engaged in the pilot recycling program following a request that was submitted to the county for recycling labels. Waste Wise first met with Roxanne Ferris, the Assistant Property Manager in May. Ferris chose to work to improve education surrounding single stream recycling and providing common area recycling and recycling totes to residents. Lakeville Pointe quickly completed their grant application, was approved, and finalized an executed contract ensuring that all recycling totes, bins, signage, and education materials were on hand in late June.

Implementation:

Waste Wise met with Ferris in July to assemble all of the recycling totes and place the common area bins and labels. Ferris sent out emails to residents alerting them of the changes and letting them know to expect a new recycling tote shortly. Lakeville Pointe has a dual chute system, one trash and one recycling, that received upgraded labeling to better direct residents on where to put their recycling versus their trash. Waste Wise returned in early June along with employees from Dakota Valley Recycling to distribute the recycling totes and education materials in door-to-door fashion to Lakeville Pointe residents. After everything was distributed to residents,



Lakeville Pointe worked with Waste Wise to complete an amendment grant application to obtain one outdoor recycling station that will be placed on their patio near the front entrance. Ferris also worked to include recycling language into their leases so new residents are aware of recycling expectations.

Results:

Following the improved recycling infrastructure and resident education, Lakeville Pointe was able to reduce their trash pick-ups from three times per week to just twice per week. This reduction equates to approximately 9,150 pounds of waste diversion annually and a reported cost savings of \$960 per year since they are no longer experiencing contamination charges as residents are recycling correctly and placing fewer plastic bags in the recycling. Previously Lakeville Pointe had experienced at least two monthly bills per year which included contamination charges. These contamination charges amounted to \$480/month.

Lexington Riverside – Lilydale

Background:

The Lexington Riverside is a primarily owner-occupied condominium complex that is run by a board comprised of highly engaged residents. Lexington Riverside is home to approximately 180-200 people living in 130 units. The demography of the building skews older and the board did not identify a large non-English speaking community. Waste Wise was referred to



Lexington Riverside by the City of Lilydale due to the engagement of a resident, Beverly Ryan, who has recently completed the Master Recycler/Composter program and leads the Recycling Subcommittee at Lexington Riverside. Waste Wise first met with Beverly and other members of the Recycling Subcommittee in November of 2017 and worked closely with this group to complete a grant application for resident recycling totes, common area receptacles, and resident education materials. Lexington Riverside has a sole chute for trash so residents must bring recycling down to one of two dumpsters located in the parking garage. The Recycling Subcommittee was extremely interested in the possibility of implementing organics recycling as well, but chose to begin with single stream recycling improvements and then add organics recycling at a later date after recycling had been effectively addressed. A pilot program contract was executed in February and recycling materials began to arrive in March.

Implementation:

In April, Waste Wise worked with a group of resident volunteers to label totes, place common area receptacles, and ensure that every trash can received a recycling partner and dumpsters and chutes

were well labeled. A plastic film recycling receptacle was placed next to each recycling dumpster and is serviced by Ryan who takes the clean film to a local retail drop-off location. In May, Waste Wise along with Dakota County returned to present at a resident recycling education event which was filmed by a master recycler/composter that needed to fulfill service hours. This video was provided to Lexington Riverside for use in ongoing education campaigns. Resident recycling totes were distributed following the recycling education event and ongoing education and surveys were administered by Ryan.

Results:

These efforts resulted in approximately one yard of increased single stream recycling being collected on a weekly basis, amounting to an estimated waste diversion of about 4,575 pounds per year. Lexington Riverside is also collecting about 50 pounds of plastic film per year and transporting it to a local retail drop off location. Lexington Riverside and Waste Wise are continuing to work on the finalization of a grant application for organics recycling that will be processed through the business program.

River Pointe Condominiums – Lilydale

Background:

River Pointe Condominiums are owner occupied residences for approximately 50 people housed in 21 units. River Pointe was referred to the program via the City of Lilydale who identified master recycler/composter Kate Kleiter as their point of contact. Waste Wise met with Kleiter in April and developed a plan to distribute recycling totes and education materials to all residents and adequately label the dumpsters. Kate was the only resident that had any desire to engage in organics recycling so this activity was omitted from the pilot program application.

Implementation:

River Pointe's pilot program was approved and the contract executed in June. All recycling materials arrived in August and Kleiter put together all of the totes to ready them for distribution to residents. Waste Wise and Dakota County attended a board meeting in September and outlined the recycling program and how residents can participate. Totes were distributed to residents that were present at this meeting and Kleiter distributed the remaining totes to absent residents following the meeting.

Results:

As this program is still in its early stages of implementation, River Pointe has not seen any opportunity to reduce trash services or a need to increase recycling services. Kleiter did report positive responses on River Pointe's final report and will continue to monitor the fullness of dumpsters to make any service changes as necessary.

The Reserve at Mendota – Mendota Heights

Background:

The Reserve at Mendota is a new luxury apartment building that is home to about 220 residents in 139 units. The Reserve at Mendota was referred to Waste Wise from their waste hauler, Republic Services. Construction of this building was taking place concurrently with The Reserve's participation in the pilot program. Waste Wise initially met with Building Manager, Molly Maher, in November of 2017 to outline the process for pilot program application. Maher was eager to undertake as many sustainability initiatives as possible at this location and chose to implement organics recycling for residents along with single stream recycling. This building was constructed with dual waste and recycling chutes and residents are expected to bring their cardboard and organics recycling down to dumpsters that are located in the parking garage.

Implementation:

The Reserve's application was approved and executed in February and materials were on hand for the building's grand opening in June. Waste Wise spent two days on site in early June to assemble the organics countertop compost collectors, recycling totes, place all common area bins, and label chutes and dumpsters. Waste Wise then placed all the recycling totes in units prior to the building opening. Maher distributed the compost collectors and certified compostable bags to residents who were interested in participating and provided them with information regarding the program and what materials are acceptable. Recycling language was imbedded into the lease language and residents are fully aware of expectations regarding recycling at The Reserve.

Results:

As this is a newly constructed facility all waste diversion is being recorded as new. At about 80% occupancy, The Reserve is recycling about 69,680 pounds per year and composting an estimated 15,600 pounds per year. Maher anticipates that organics recycling participation will increase as time goes on and that the stream will continue to improve in terms of contamination.

Westview Park Apartments – West Saint Paul



Background:

Westview Park Apartments consists of a network of 16 apartment buildings that owner Jim Tilsen reports as “naturally occurring affordable housing.” These buildings comprise a total of 298 units that are home to approximately 550 residents. There are three pools and ten picnic areas in addition to community gardens and various other greenspaces. There are no waste chutes within these buildings so all residents must bring both trash and recycling to outdoor waste enclosures located throughout the facility grounds. Westview Park Apartments were engaged via a drop-in visit by Waste Wise in November and management was immediately interested in participation in the pilot program as they had experienced ongoing difficulties with their waste management performance. Waste Wise worked with Westview to submit a grant application that was approved and executed by Dakota County in January. Westview chose to implement recycling improvements by obtaining residential totes, labels, and educational materials which were provided in both English and Spanish such as a kitchen cling, a notice placed within the tote explaining the improved recycling program, and a newsletter written in Spanish. Westview also addressed outdoor recycling deficiencies by adding recycling capabilities to all outdoor trash receptacles at picnic areas.

Implementation:

In March Waste Wise, Dakota County, and Cassandra Schuller, the Recycling Coordinator for West Saint Paul, worked to assemble all of the recycling totes, label recycling carts and trash dumpsters, and distribute totes via door-to-door interactions with residents. If a resident was not home at the time of tote distribution, their tote was left at the resident’s door. Waste Wise estimates that about 33% of the units answered their doors and engaged in a one to two minute conversation with a pilot program representative regarding recycling best practices. This task took a total of three days and provided evidence for the need for Spanish translation in some face to face interactions.

Results:

Following implementation, Westview was able to decrease the frequency of trash services and needed to double the frequency of recycling services. This improvement represents a total of approximately 64,000 pounds of new waste diversion every year and allowed Westview to save \$2,460 a year on their waste and recycling bills. Residents have both increased the quantity of recycling and improved the cleanliness of recycling and the waste enclosure areas in general. Westview recently utilized an amendment application to obtain outdoor recycling receptacles to place next to every existing trash can at picnic areas. Waste Wise will be applying arc shaped labels to these bins and ensuring that they are adequately paired with trash in late October.

3. DISCUSSION

The information gathered by Waste Wise through outreach efforts, on-site consultations, and technical assistance reveals that there are a wide variety of barriers and opportunities surrounding outreach and subsequent diversion of recycling and organics recycling programs at multiunit dwellings. Discussion items are broken out by pilot program phase: outreach and assistance/implementation.

3.1 Outreach and Engagement Strategies

Waste Wise conducted outreach to 29 different multiunit facilities leading to ten participants that executed contracts within the pilot program contract period. Waste Wise found that these properties were receptive to best practices surrounding pairing of bins in public spaces, color coding receptacles, displaying highly visible labeling with pictures of common materials, committing to ongoing resident education efforts including in written form within lease agreements, and providing equal access to recycling when possible.

Potential pilot program participants were initially identified by Dakota County and Waste Wise began by conducting cold drop-in visits which ultimately only yielded two program participants (Westview Park and Covington Court). All other program participants were warm leads either generated by referrals from other program participants, waste haulers, cities within Dakota County, or had contacted Dakota County directly regarding multiunit recycling assistance. This demonstrates that the most engaged participants are those that come to us from a referral source. The most fruitful referral sources were Dakota County, City staff persons, and the MHA.

If the multiunit pilot program is to continue in 2019, Waste Wise recommends utilizing a combination of drop-in visits, an outbound calling campaign similar to the business program, and always entertaining leads and referrals as they are brought to our attention. Although drop-in visits did not engage participants for this pilot, they did engage building managers who moved on to other participating properties and properties that are engaging in recycling outside of the pilot program. Additionally, it will be important to check back in with pilot program participants to ask them to identify other properties under their ownership that may be interested in the program as Westview (Rooftop 252) and The Reserve (CityVue II) were able to do.

3.2 Assistance/Implementation

Multiunit Pilot Program

Waste Wise believes that the results from the pilot program demonstrate the recycling successes that can be achieved by incentivizing recycling infrastructure improvements at multiunit residential buildings and engaging residents in recycling education. Waste Wise recommends that this program is continued in 2019 in some capacity as just a small fraction of the County's multiunit dwellings received assistance, and the average verifiable waste diversion from these projects demonstrates the significant impact in achieving the County's waste diversion goals in the long term.

Changes to Multiunit Program

While the pilot program showed great success, Waste Wise was able to identify a few opportunities for program improvements that could streamline the application process and lead to quicker program implementation and fewer program “drop-outs.” Potential program improvements include allowing outdoor bins on initial applications, providing a Busch Systems and Clean River bins on the container catalog, adding all multiunit educational materials to the online free label shop, and improving the outreach strategies used to garner participation in the multiunit program.

- **Outdoor Receptacles** – The original scope of the pilot program was confined to indoor waste and recycling improvements, however Waste Wise identified multiple buildings (primarily apartments) where there was significant outdoor waste generation and no recycling options. Initially, participants requiring outdoor recycling bins to fully address deficiencies in waste management practices were required to wait until the end of the pilot program term in order to determine if pilot program funds would be sufficient to fund these expenses. Waste Wise encourages Dakota County to allow for multiunit dwellings to apply for indoor and outdoor receptacles on the same application so they can effectively address all areas of recycling on their property at once, leaving no glaring holes in their programs.
- **Updated Bin Catalog** - Many of the totes and common area bins that are most appropriate for use in multiunit buildings are products that are not currently on the catalog and require the participant to order them and receive reimbursement. This reimbursement process has the potential to lead to participant confusion, implementation delays, and even program “drop-outs” resulting from perceived difficulties. Three properties (Shannon Glen 1&2 and Windham Hills) withdrew after their applications had been drafted since the process was perceived as too time intensive. Waste Wise recommends adding Busch Systems slim jims with signage holders and a two stream Clean River outdoor bin to the catalog. By having all of the most often used hardware available to facilities without the need for obtaining quotes, completing orders, and applying for reimbursement, participants would be much more eager to obtain the materials that will be most effective in diverting recyclable materials from the trash.
- **Adding to the Label Shop** – Currently Dakota County currently offers free labels via an online ordering tool on its website. Waste Wise recommends adding all of the additional educational materials and dumpster labels that are utilized in the multiunit program to this website. This addition would provide easy access for past program participants to ensure that they have well labeled bins either years they’ve completed their participation and would also be another avenue to engagement of future program participants.

- **Improved Outreach Strategies** – During the pilot program Waste Wise was tasked with direct outreach in order to garner participants. While these direct outreach methods eventually resulted in achieving the desired number of program participants, an ongoing program should be well communicated to the residents, multiunit building owners and managers, and multiunit property developers throughout the County. Similar to the business program, a multiunit residential program should have a web presence and be communicated publically in Master Recycler/Composter programs, directly to waste haulers, and in any direct communications with multiunit property decision makers. Participating properties should also be recognized publically so potential new residents can take into account a building's commitment to sustainable waste management practices when they are looking to move.

Resident Education Strategies

- **Initial Education and Tote Distribution** - Waste Wise utilized a number of resident education strategies throughout program implementation of pilot program participants. These strategies included one-on-one interactions engaged via door knocking, presenting at resident board meetings, tagging onto an existing events, and creating recycling specific events. In terms of directly interacting with as many residents as possible, Waste Wise found that door-knocking was most effective since resident events and board meetings are sparsely attended. While door-knocking efforts were effective in reaching about 30-40% of a building's population, the interaction time is limited. For this reason, Waste Wise recommends that an ideal resident education plan would include tote distribution via door-knocking followed by a recycling education event within a month of tote distribution.
- **Ongoing Resident Education and Recognition** – While Waste Wise's primary role in the pilot program was to aid in implementation of effective recycling programs, a very important aspect of effective recycling programs is ongoing resident education. Waste Wise recommends providing property managers with stock messaging plans regarding their recycling programs so they can take ownership of their programs in the long term. Additionally, residents should be kept abreast of their recycling progresses and have their efforts acknowledged. This is why Waste Wise recommends providing window clings to multiunit properties in the same way that they are provided to the business community.

4. CONCLUSION

During the 2017-2018 Dakota County Multiunit Pilot Program contract:

Waste Wise provided direct assistance to 10 multiunit properties, increasing annual landfill diversion by approximately 135,000 pounds. Waste Wise assisted these businesses in securing more than \$50,000 worth of issued contracts for the multiunit pilot program to improve waste

diversion. Waste Wise identified at least three multiunit properties that will submit incentive applications through the business program.

Waste Wise was able to gather valuable information regarding the tactics to successful recycling implementation and barriers restricting implementation of new or improved recycling programs in multiunit dwellings. In 2019, Waste Wise hopes to continue to assist multiunit properties, track useful data, document savings, and provide beneficial technical assistance services by utilizing information gathered during this pilot program. In addition to fine-tuning services to optimize results, Waste Wise will steer outreach to projects with high diversion and engagement potential based upon success in engaging from this pilot program.

Any ongoing efforts will continue to build multiunit awareness of recycling options while increasing landfill abatement in Dakota County. Thank you for the opportunity to work with Dakota County on multiunit residential waste management efforts.