

Multifamily Program Interviews

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Executive summary

In response to changes in Oregon’s recycling laws, the opportunity to recycle is being extended to all residential and commercial tenants of multi-tenant properties. The change will require cities and counties to ensure properties with tenants that share garbage collection service also receive recycling collection by July 2022. This requirement is for cities with 4,000 or more residents, cities within the Metro Service District and counties which manage programs within those cities’ urban growth boundaries. In order to support implementation of this statutory change, Oregon Department of Environmental Quality staff conducted telephone interviews with entities in the United States and Canada in order to research common practices in established multifamily recycling programs. Interviewees were asked about the characteristics of their program and jurisdiction including:

- Regulations and enforcement
- Strategies for education, technical assistance, and dealing with contamination
- Program strengths and areas for improvement
- Any other information or advice they wanted to provide.

The interview responses indicated a number of common practices, including single-stream recycling, mandatory requirements for landlords or managers to provide recycling, and a growing focus on organics collection. However, there was no standard definition on how many units qualify a property as “multifamily.”

Many programs agreed that the multifamily recycling sector is a challenging one, especially considering the small staff size that most programs employ coupled with large and growing multifamily populations. However, common themes emerged that encouraged success, including good relationships with local collection service providers, strong multifamily recycling legislation, collaboration with other programs, and a sense of flexibility and creativity among staff members.

Because sample size and geographic scope were limited, these findings may not be representative of all multifamily recycling programs. However, they provide insight into some common practices and successful strategies among some established programs.

1. Introduction

This report is prepared for the benefit of stakeholders in order to determine solutions that could be helpful to cities and counties that need to implement multi-tenant recycling by 2022. Stakeholders could include but not limited to garbage and recycling collection companies and associations, developers and builders, local and regional governments, materials management programs, multi-tenant property owners, property managers, planners, recycling processors, tenant and tenant associations, and others.

The Recycling Opportunity Act was passed in 1983, with the intent that everybody in Oregon should be provided with an opportunity to recycle. In cities of 4,000 or more populations and within the Metro area, that opportunity meant regular on-route collection of recyclable materials from all collection service customers, or an equivalently-effective program. However, as the law was interpreted and implemented, many residential and commercial tenants ended up being denied an opportunity to recycle because it was the landlord, rather than the tenants, who were considered to be the collection service customers. If the landlord decided not to use a recycling service, then the tenant did not have an opportunity to recycle. In 2015, the legislature corrected this with the passage of Senate Bill 265. One provision of this law is that by July 1, 2022, tenants will also be considered to be collection service customers, and so must directly be provided with the opportunity to recycle by their landlords and collection service providers.

By July 1, 2022, local governments will need to ensure that the opportunity to recycle is extended to residential and commercial tenants of multi-tenant properties. Local jurisdictions affected include cities with 4,000 or more residents, cities within the Metro Service District and counties which manage programs within those cities' urban growth boundaries.

In order to help guide implementation of the updated recycling law, the Oregon Department of Environmental Quality conducted research on common practices established multifamily recycling programs use. Researchers interviewed recycling programs in the United States and Canada about their multifamily work. This report offers a snapshot of program characteristics, recycling laws and strategies, and is intended to help to gain understanding of current multifamily garbage and recycling practices.

2. Methods

2.1 Sample selection

Twenty-eight organizations outside Oregon were selected for this study — see Appendix A for a listing. Programs were selected based on participation in Oregon Metro's 2016 Multifamily Program Interviews report, or from programs highlighted as successful in DEQ's 2017 Multi-Tenant Literature Review report.

2.2 Protocol for contacting programs

DEQ researchers obtained contact information from the Oregon Metro Multifamily Program Interviews report, from the studies listed in the literature review and from program websites. Programs were contacted by email to schedule an interview time, with the exception of one program, which was contacted by phone and completed the interview at that time. The researcher then called the interviewee at the scheduled time and asked a set of questions. Any follow-up material or information was given by email.

2.3 Data collection

Scheduled interviews were conducted over the phone with the program staff member working most closely with multifamily recycling. The interview included questions about the characteristics of the local jurisdiction, program staff, regulations and enforcement, education, program strengths, challenges and lessons learned. A full

list of questions asked can be found in Appendix B. The interview responses were recorded on a hard copy interview protocol and then transcribed into a digital format for data analysis.

2.4 Analysis

Responses were analyzed to find common themes. Because of the small sample size, only the themes with the highest frequency were used in the findings. The coding key can be found in Appendix C.

3. Findings

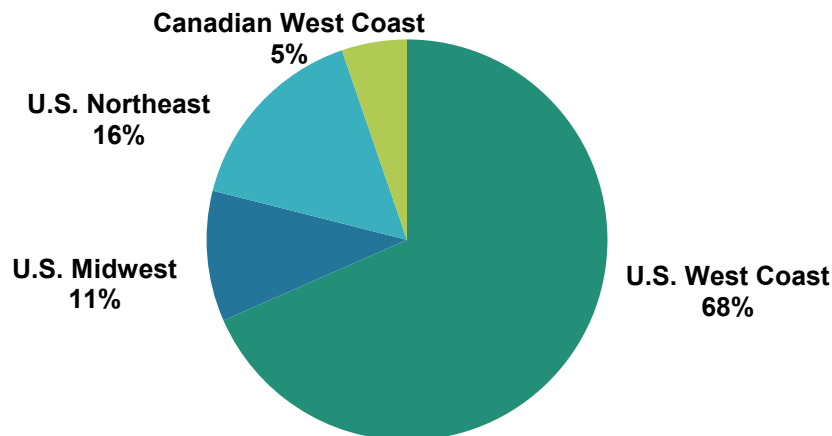
3.1 Jurisdiction characteristics

DEQ interviewed 19 programs out of 28, including cities and counties and non-profit organizations that conducted outreach, education, collection services or all of these efforts on behalf of their local jurisdictions. The defining characteristics of each program are detailed in this section — see Appendix A for a full list of programs.

3.1.1 Region

Sixty-eight percent of interviewed programs were from the West Coast of the United States, more than any other region — see Figure 1 and Appendix D. Due to the limited range and the small sample size used in this study, the responses in this report should not be taken as representative of all programs. The examples collected in this report can provide insight into challenges, successes stories and potential opportunities for improvement in the multifamily sector.

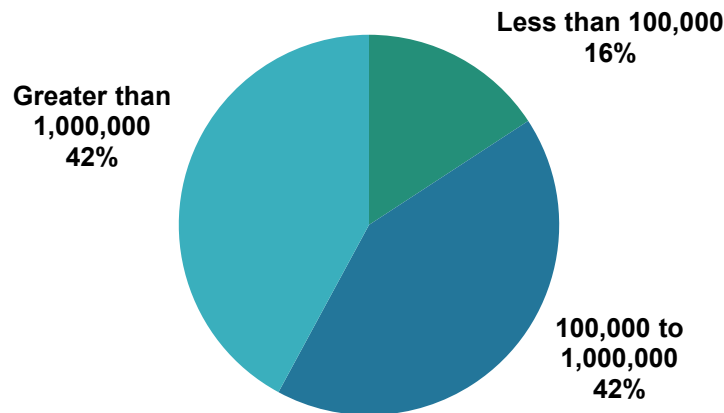
Figure 1: Geography of interviewed programs



3.1.2 Total population

The programs represented a wide variety of population sizes, from the smallest at about 40,000 (Culver City, California) to the largest at over 8.5 million (New York City, New York) — see Figure 2 and Appendix E. Programs that service 100,000 to one million people and more than one million people were the largest segments at 42 percent each.

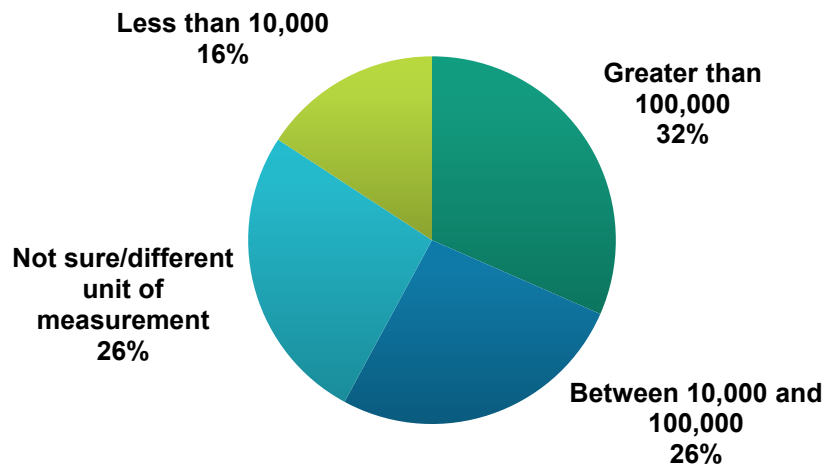
Figure 2: Size of population served by interviewed programs



3.1.3 Multifamily households

Most programs interviewed serve multifamily populations that are quite large — 58 percent said they are responsible for serving over 10,000 households — see Figure 3 and Appendix F. Twenty-six percent either were not sure of the total number of households in their jurisdiction or used a different unit of measurement such as number of properties or number of property management companies, which could not be translated into number of households.

Figure 3: Multifamily households served

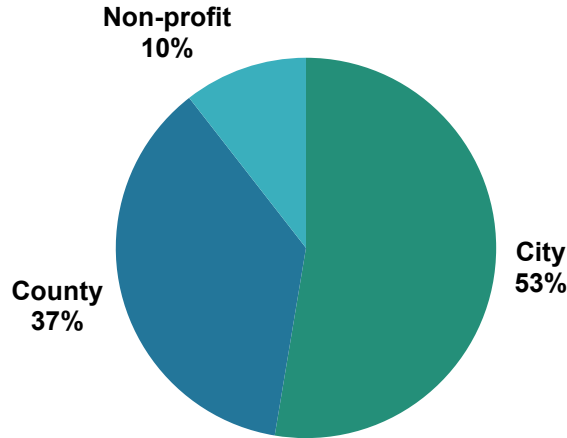


3.2 Program characteristics

3.2.1 Type of program

DEQ interviewed 10 city governments, which made up slightly over half the respondents. Seven interviewees were county governments. Two of the respondents were non-profit organizations that conducted outreach and education on behalf of a jurisdiction. One of them was also a garbage and recycling collection service provider — see Figure 4 or Appendix G.

Figure 4: Type of program

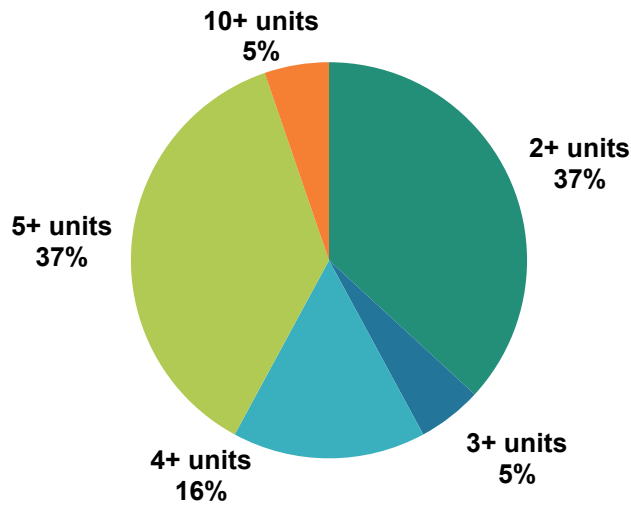


3.2.2 Definition of multifamily property

Programs define multifamily differently based on the number of units in a community or property. The two most common unit-size definitions of multifamily included properties with five or more units and properties with more than one unit with shared collection service at 37 percent each — see Figure 5 and Appendix H.

California state law requires properties with five or more units to provide recycling for their tenants. Five of the 19 interviewed programs were in California.

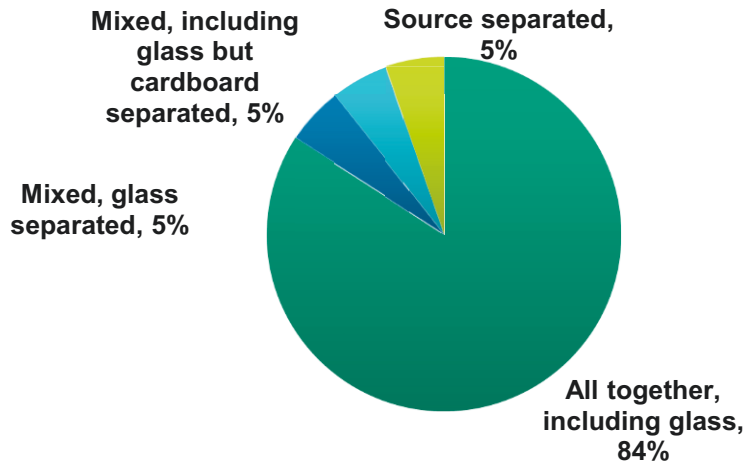
Figure 5: Unit-size definition of multifamily properties



3.2.3 Recycling streams

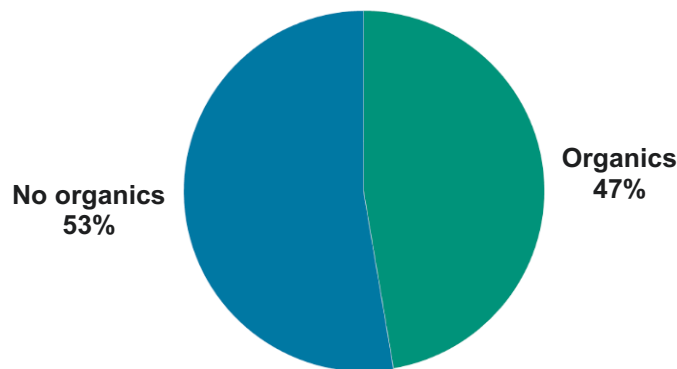
Eighty-four percent of interviewed programs (all but three) had single-stream recycling collection that included paper, plastic, metal, cardboard and glass — see Figure 6 and Appendix I. Some programs mentioned that they had recently transitioned away from a source-separated, glass-on-the-side program to single-stream.

Figure 6: Multifamily recycling streams



Almost half of the programs also collect organics from multifamily accounts — see Figure 7 and Appendix I. Many programs mentioned organics collection as something that they have started or piloted recently, or as something they are trying to start in the future, as seen in section 3.4 Future program expansions. California requires multifamily properties to separate and collect yard and garden waste but does not require food waste collection.

Figure 7: Multifamily organics collection



3.2.4 Multifamily recycling program staff

The amount of time programs are able to spend on multifamily work varies — see Appendix J. Figure 8 shows how much full-time equivalent staff time is spent working with multifamily properties (which may be spread among several people). Figure 9 illustrates whether or not any staff members dedicate all of their time to multifamily work. Seventy-nine percent of programs have at least some staff time available for multifamily work. Many noted that having staff time divided between many different sectors severely limits both the depth and breadth of their multifamily work, and is a disservice to their residents.

Figure 8: Combined staff time for multifamily work

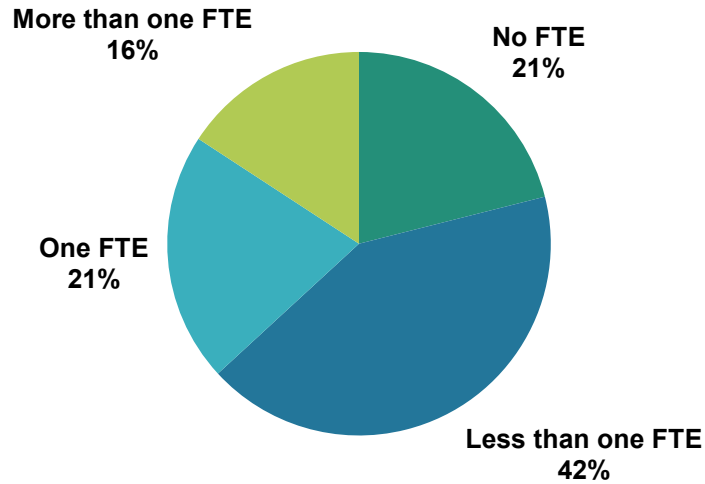
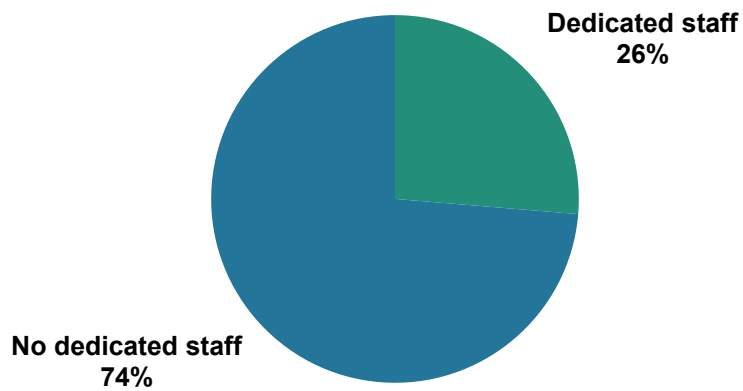


Figure 9: Dedicated staff to multifamily work

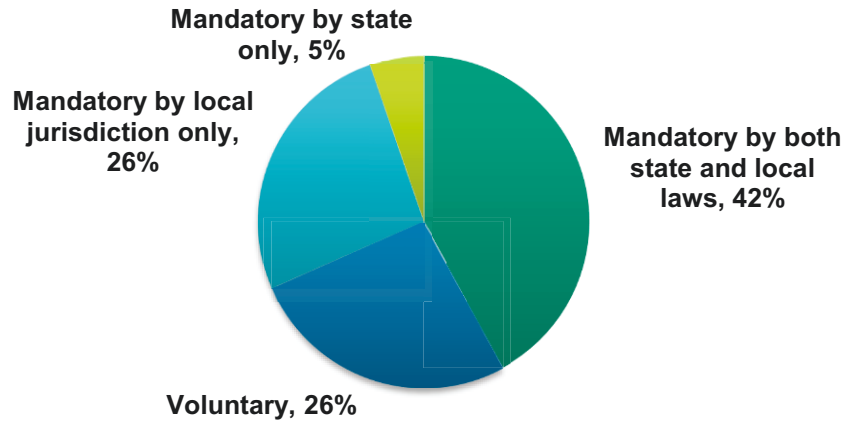


3.3 Legislation and enforcement

3.3.1 Mandatory vs. voluntary recycling at multifamily properties

Almost three-quarters of the programs interviewed required multifamily properties to separate and collect recycling by either state law, local law or both. The remaining programs were voluntary — see Figure 10 and Appendix K. Programs on both sides preferred recycling laws, saying that it provides motivation when they are recruiting properties to participate in recycling.

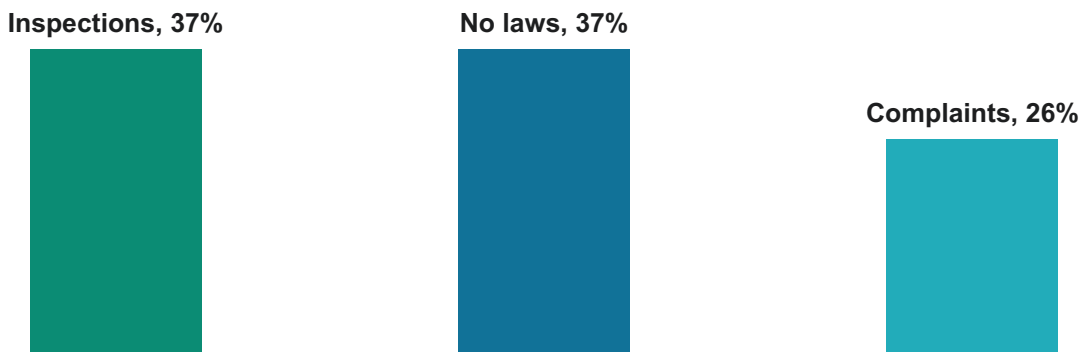
Figure 10: Multifamily recycling laws



3.3.2 Compliance

Programs primarily rely on two methods of ensuring compliance with recycling laws — inspections (with 37 percent using this method) and complaints (26 percent). Thirty-seven percent of programs are comprised of the programs that have voluntary multifamily recycling — see Figure 11 and Appendix L.

Figure 11: Methods of ensuring compliance with recycling laws*

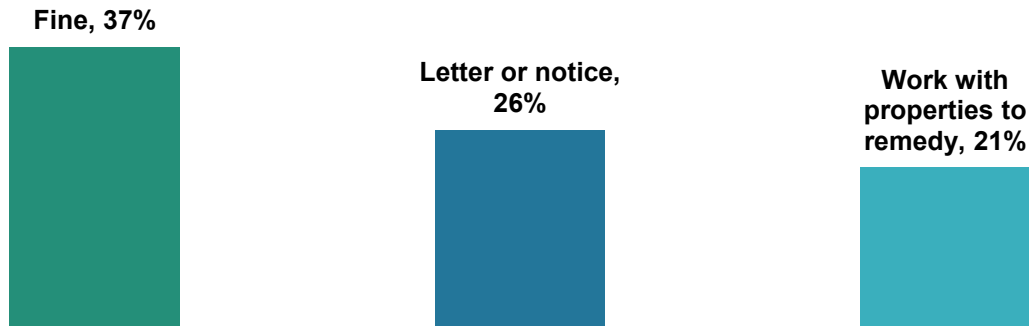


*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.3.3 Enforcement

When it comes to enforcement of recycling laws, programs generally rely on a combination of approaches, including a fine (37 percent), a letter or notice of violation to the customer (26 percent) and working with the property manager to remedy the situation and educate residents — see Figure 12 and Appendix M. Most programs mentioning a fine did not impose the fine after the first offense, but only after a certain amount of time elapsed without correction.

Figure 12: Approaches to enforcing recycling laws*

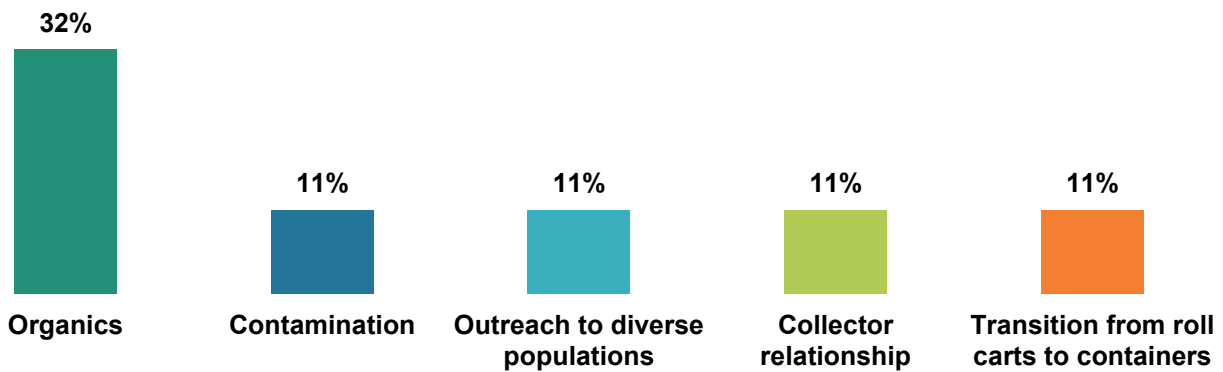


*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.4 Future program expansions

Many programs are looking to organics collection as their next area of recovery expansion, with thirty-two percent mentioning this as planned. This looks different for each program, with some continuing the organics work they have already been doing, some moving pilot programs into full implementation and others hoping to start multifamily organics collection for the first time. No other responses were nearly as popular, but reducing contamination, expanding outreach to more diverse populations, improving the relationship with collection companies and transitioning from roll carts to containers were also mentioned by more than one program — see Figure 13 and Appendix N.

Figure 13: Future program expansions*



*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.5 Education and outreach

3.5.1 Roles

Figures 14 and 15 show who is responsible for education, outreach and technical assistance — see Appendix O. For 68 percent of the programs, the local jurisdiction’s recycling program staff provides education and outreach and 42 percent provide technical assistance. It is also common for them to be performed by an outside organization, a franchised garbage and recycling collection company or interns. As a unique strategy, some programs utilized local high school students as interns or volunteers performing door-to-door outreach in the community. It is interesting to note that all programs that mentioned collectors providing outreach and education for residents are located in the state of Washington. So, even though Figure 14 makes it seem like this is a

common practice, in reality it may only be common in the state of Washington. However, the respondents indicating that their collection service provider offers technical assistance were located in a variety of states and provinces, so that is likely a more common practice.

Figure 14: Party conducting education and outreach

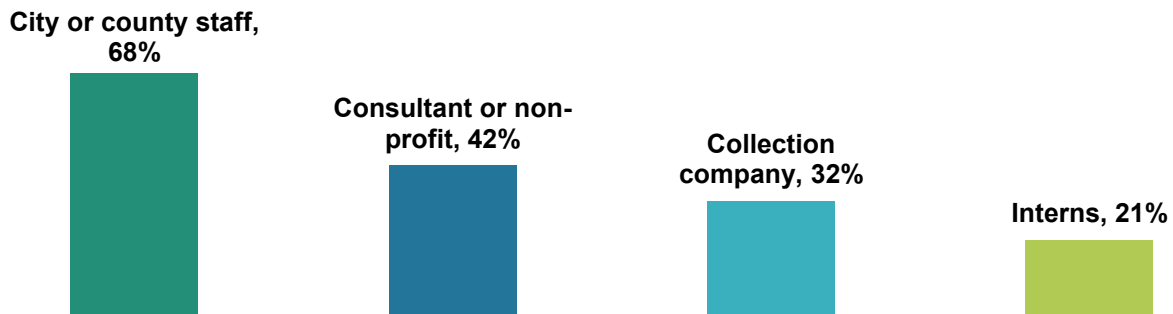
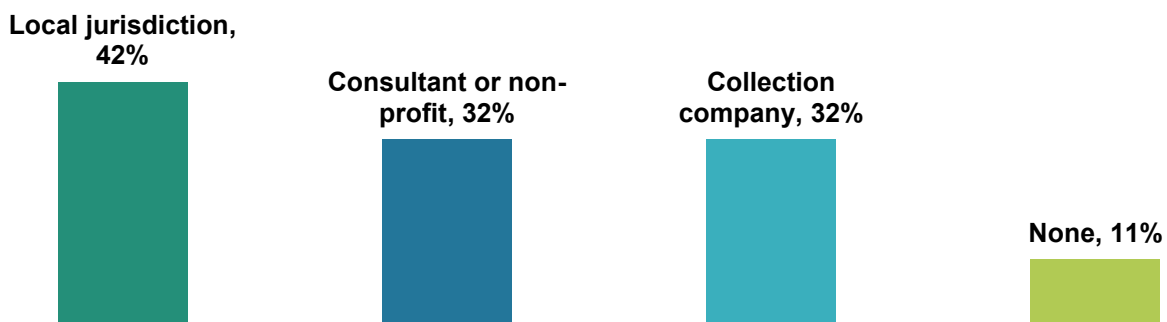


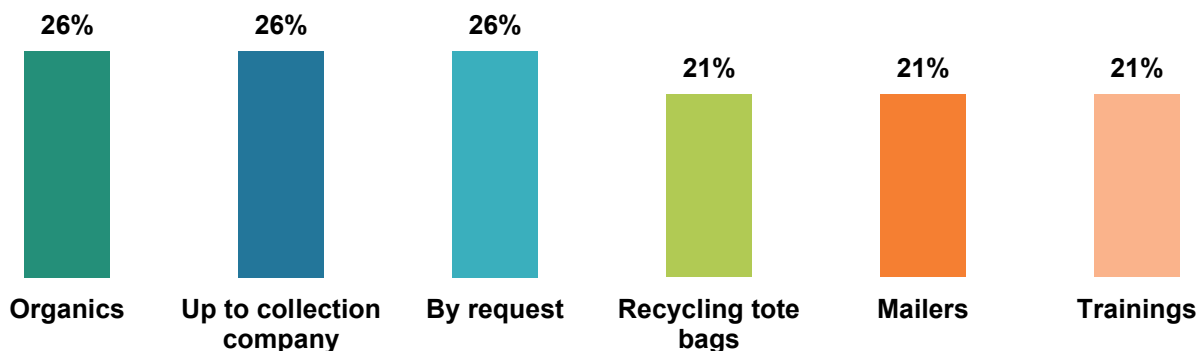
Figure 15: Party providing technical assistance



3.5.2 Education

Many programs provide a wide variety of education, including providing recycling tote bags, sending mailers, and providing trainings for residents and property managers — see Appendix P. One of the most commonly mentioned focus areas for education was organics, with 26 percent of interviewees mentioning that material type, as shown in Figure 16. Additionally, 26 percent of programs placed the responsibility of education on the collection company, and 26 percent mentioned a way for property managers to request education for their tenants, either by online order form or by phone call.

Figure 16: Nature of education*

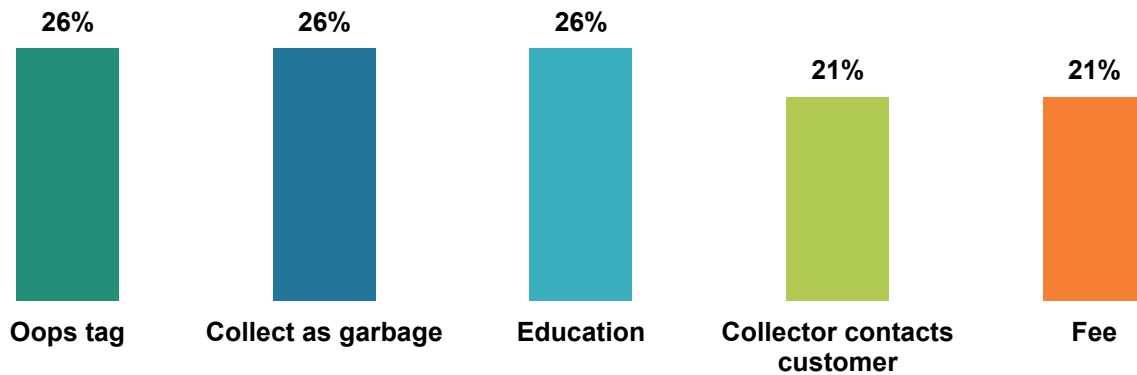


*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.5.3 Contamination

When dealing with contamination, programs often have a combination of approaches — see Appendix Q. As shown in Figure 17, the most common approaches (at 26 percent for each) were leaving an “oops tag” or note about incorrect preparation on the receptacle, collecting the contaminated recycling as garbage and charging the customer accordingly, or providing education follow-up with the residents, property manager or both.

Figure 17: Methods for dealing with contamination*

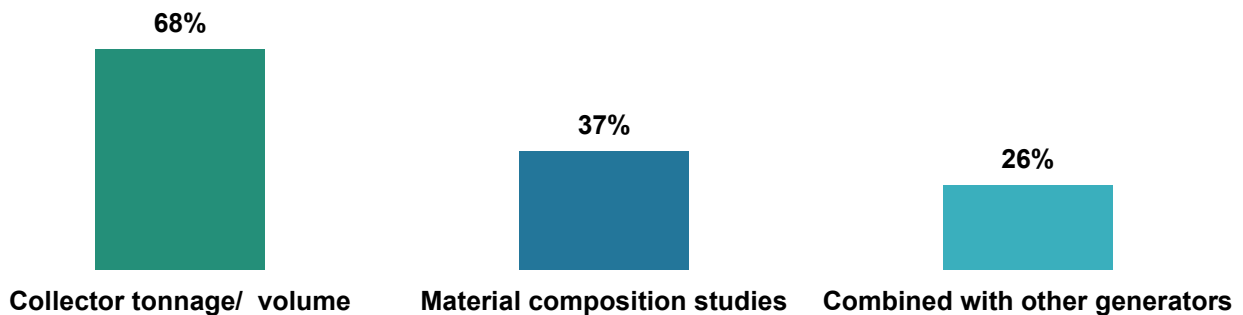


*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.5.4 Tracking and measurement

Most programs (68 percent) rely on collection service provider data for volume and tonnage of recycling collected. Thirty-seven percent have done composition studies with their customers to assess the recycling, but 26 percent mentioned that it was difficult to separate multifamily data because the collection routes were combined with commercial or single-family routes — see Figure 18 and Appendix R.

Figure 18: Tracking and measurement*



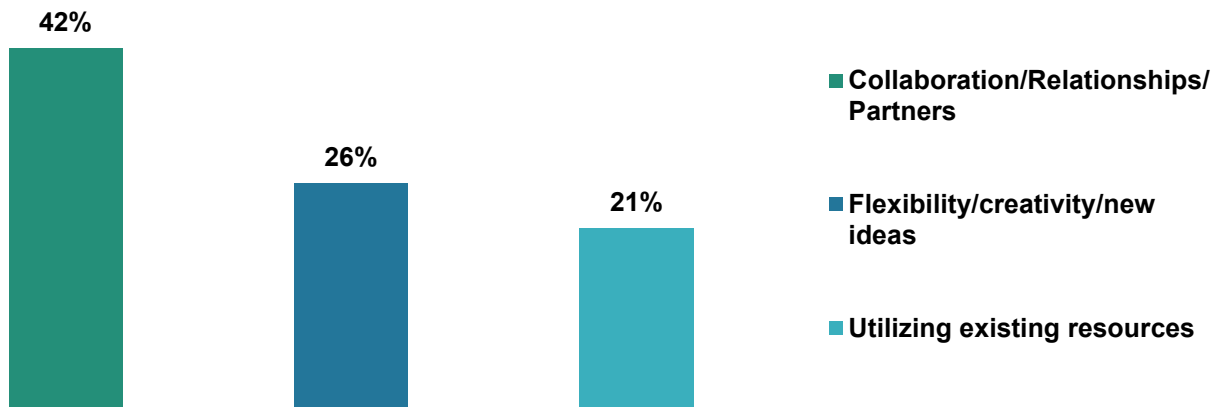
*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.5.5 Program strengths

When asked about the strengths of their program, interviewees gave varied responses that focused on three main themes. Forty-two percent mentioned a collaborative environment, relationship building or partnerships — the idea that one could not do it alone. Others emphasized a sense of flexibility, creativity or openness to new ideas as

keys to success. Lastly, they said that they are able to utilize existing resources in the community to their advantage instead of re-inventing the wheel — see Figure 19 and Appendix S.

Figure 19: Identified strengths of programs*

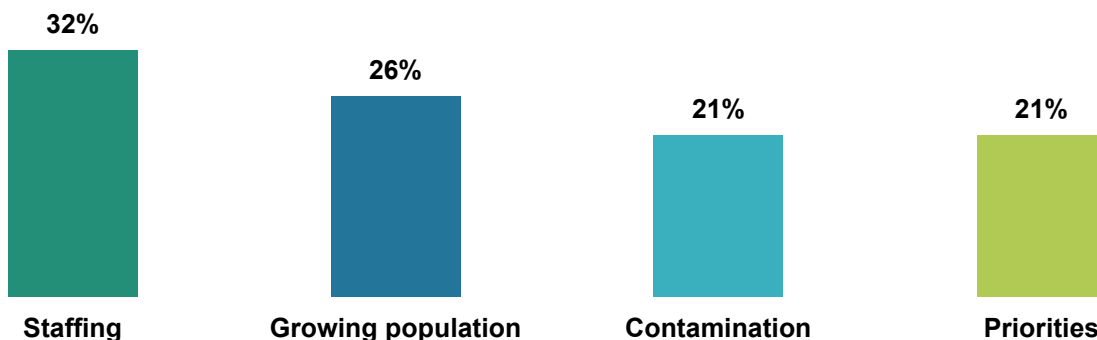


*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.5.6 Areas for improvement in program

Recognizing that multi-tenant recycling is a uniquely challenging field, the interviewees offered suggestions for improvement in their own program that would make their jobs a bit easier. There was a sense of strain on time and resources — 32 percent mentioned feeling short-staffed and 26 percent expressed a difficulty keeping up with a rapidly growing multifamily population. In addition, 21 percent said that contamination was a huge issue that they had not yet figured out how to address successfully. Twenty-one percent expressed the need for new priorities — either a shift in focus from single-family (which has thus far received most of the attention) to multifamily, or simply toward recycling in general — see Figure 20 and Appendix T.

Figure 20: Identified areas of improvement*



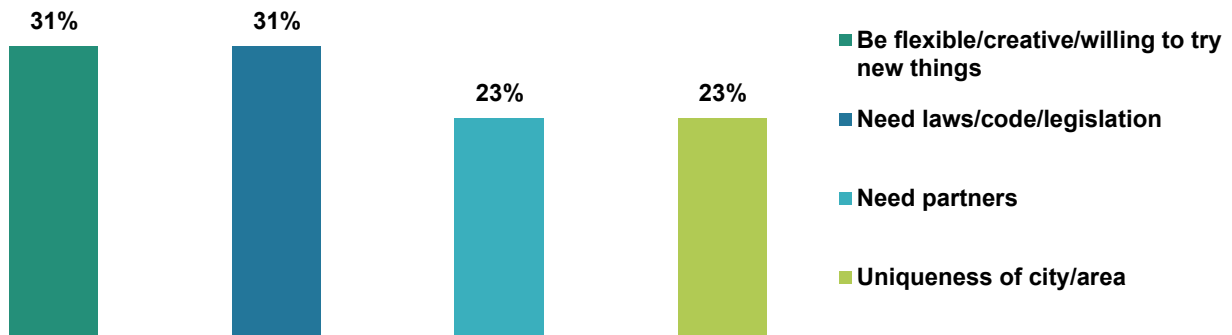
*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

3.5.7 Other comments

At the end of the interview, respondents were given a chance to talk about anything they were not asked about, or to offer advice to other programs. Themes reflected those of the strengths question, with 31 percent emphasizing the need to be creative and flexible, and 23 percent saying that working with partners is essential — see Figure 21 and Appendix U. In addition, 31 percent said that recycling legislation is crucial to having an effective program,

and 23 percent mentioned that their city or county was unique in some aspect (density, historical design or other), so applying similar strategies other places may not necessarily work.

Figure 21: Other comments*



*Percentages above do not add up to 100 percent due to programs mentioning more than one strategy or focus area in their responses.

4. Discussion

4.1 Limitations

4.1.1 Program selection

The scope of these interviews was quite limited, which may have led to biased results. Most of the programs were contacted based on participation in Oregon Metro’s 2016 Multifamily Program Interviews and from programs highlighted as successful based on DEQ’s 2017 Multi-Tenant Literature Review report. This emphasis on “successful” programs and programs that have already participated in interviews is inequitable, as it unintentionally excludes lesser-known programs and those who were not already selected by Oregon Metro. This is a missed opportunity to speak with a wider variety of programs who would have been able to offer additional insight.

4.1.2 Geographic scope

As shown in the findings, most of the programs interviewed were geographically located on the U.S. or Canadian West Coast, with 13 of the 19 programs located in California or Washington. Because of this, the findings may not be representative of programs nationwide.

4.1.3 Sample size

Only 19 programs were interviewed, which is a very small sample size compared to the large multifamily recycling programs that exist. As such, it cannot be claimed that the findings are representative of all programs

4.2 Conclusions

Due to the small sample size and other limitations described below, generalizations about all multifamily recycling programs cannot be made based on the responses in this report. However, the following observations can be made about the programs sampled:

- Single-stream recycling was the most common form of collection.
- There is no standard definition of what qualifies as a multifamily property.

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- Legislation is helpful, and most programs interviewed require property managers or owners to provide recycling for their tenants.
- Organics collection is a primary focus for the future.
- Overall, there is not enough staff working in multifamily recycling, especially considering large and growing multifamily populations, leading to a strain on time and resources.
- Good relationships with collection companies are key – many programs rely on collectors for data and education.
- The multifamily sector is challenging, but flexibility, creativity, and willingness to collaborate can make a program successful.

Appendix A

Table 1: Organizations selected and interviewed

Organization selected	Interviewed
Alameda County, Calif.	Y
Ann Arbor, Mich.	N
Austin, Texas	N
Bellevue, Wash.	Y
Castro Valley, Calif.	N
Culver City, Calif.	Y
Eureka Recycling, Minn.	Y
Federal Way, Wash.	Y
Hennepin County, Minn.	Y
King County, Wash.	Y
Kitsap County, Wash.	Y
Los Angeles	N
Miami, Fla.	N
New York	Y
Oakland, Calif.	Y
Olympia, Wash.	Y
Pennsylvania Resource Council (greater Pittsburgh, Pa. area)	Y
Philadelphia	Y
Pitkin county (Aspen), Colo.	N
Sacramento County, Calif.	Y
Salt Lake City	N
San Diego, Calif.	Y
San Francisco, Calif.	N
San Jose, Calif.	N
Seattle	Y
Snohomish County, Wash.	Y
Thurston County, Wash.	Y
Vancouver, B.C.	Y

Appendix B

Program interview questions

Multi-Tenant Recycling Program Interview — Non-Oregon Programs:

1. Local jurisdiction
2. Contact name
3. Email
4. Phone
5. Population served
6. Multi-family population
7. How do you define multi-tenant properties (multifamily or multi-commercial)?
8. What is collected? How many streams? (Found on their website?)

9. What are the administrative codes/ordinances that support your program? (Ask them to send them or research in advance — performance standards, responsible for education, landlord responsibilities, tenant responsibilities, enclosure development, equipment and signage standards, regulation, franchise/license/contract requirements, service levels, convenience standards, bulky waste)
10. Are there future program expansions you are preparing for?
11. How many FTE or volunteers are dedicated to multifamily or commercial outreach?
12. What is the role of staff (education and outreach, planning, regulation, enforcement)?
13. Do you provide education, materials or equipment to property managers or tenants (mailings, door to door, events, Media campaigns, equity-based outreach, flyers, bags, buckets)?
14. What technical assistance or training do you provide for property managers?
15. How do you address contamination?
16. How are multi-tenant programs tracked and measured (access to recycling, waste generation, diversion, customer or tenant feedback, growth projects, changes in demographics, etc.)?
17. How is compliance reported?
18. How is enforcement conducted?
19. What is the strength of your program?
20. What are its weaknesses?
21. Are there areas for improvement?
22. Is there anything else to share?

Appendix C

Table 2: Qualitative data coding key

	Code	Definition	Explanation
Definition of Multifamily	2+	2+ units	In general, any property with more than one unit where recycling is collected as one account qualifies as multifamily for the purposes of the recycling program.
	3+	3+ units	In general, any property with three or more units where recycling is collected as one account qualifies as multifamily for the purposes of the recycling program
	4+	4+ units	In general, any property with four or more units where recycling is collected as one account qualifies as multifamily for the purposes of the recycling program. There may be some exceptions.
	5+	5+ units	In general, any property with five or more units where recycling is collected as one account qualifies as multifamily for the purposes of the recycling program
	10+	10+ units	In general, any property with ten or more units where recycling is collected as one account qualifies as multifamily for the purposes of the recycling program
Collection streams	AT	All together	Mixed recycling is collected as a single stream, generally including paper, cardboard, plastic, metal, and glass
	MGS	Mixed, glass separated	Recycling is collected as two streams, generally with one stream including paper, cardboard, plastic, and metal; plus a separate glass stream

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	Code	Definition	Explanation
	MCS	Mixed, cardboard separated	Recycling is collected as two streams, generally with one stream including paper, plastic, metal, and glass; plus a separate cardboard stream
	SS	Source separated	The recycling stream is separated by material, with more than two different streams
	OC	Organics collection	Multifamily properties either have the option or are required to collect organic material separately, which may or may not include food
	NOC	No organics collection	There is no organics collection stream at multifamily properties – organic material goes in the garbage
Recycling laws	VOL	Voluntary	Property managers may choose whether they provide recycling collection service to their tenants. This includes jurisdictions where collection companies are required to provide the option to managers, but managers ultimately have the choice to provide it.
	MSL	Mandatory by both state and local laws	There exists both state and local code requiring multifamily property managers and/or owners to provide recycling collection service for their tenants
	MS	Mandatory by state only	Multifamily property managers and/or owners are required by state law to provide recycling collection to their tenants. There is no additional local code.
	ML	Mandatory by local jurisdiction only	Multifamily property managers and/or owners are required by local code to provide recycling collection to their tenants. There is no state law.
Future expansions	ORG	Organics	Either starting, expanding, or continuing organics collection to multifamily properties is a priority for the future
	CONT	Contamination	The program wants to focus on cleaning up contamination in the recycling and/or organics streams
	ODP	Outreach to diverse populations	The program wants to reach more diverse audiences, usually with more languages than English
	CR	Collector relationship	The program would like to improve the relationship and/or communication with their collection companies
	C2C	Transition from carts to containers	Multifamily properties are in the process of transitioning from a roll cart-based collection system to dumpster-style containers
Staff	NFTE	No FTE	No staff time is specifically allocated for multifamily recycling work
	L1FTE	Less than one FTE	Some staff time is specifically allocated for multifamily recycling work, but it does not add up to the equivalent of a full-time employee

Multifamily Program Interviews

	Code	Definition	Explanation
	1FTE	One FTE	The equivalent of a full-time employee is allocated for multifamily work, which may be spread among one or more people
	M1FTE	More than one FTE	More than the equivalent of a full-time employee is allocated for multifamily work, which may be spread among one or more people
	DS	Dedicated staff	There is one or more staff member who dedicates all their time to multifamily recycling work
	NDS	No dedicated staff	There are no staff member who specifically dedicates all their time to multifamily recycling work. In other words, multifamily work is done by staff who also have other responsibilities, or not at all.
Party or parties performing education	ECNP	Consultant or non-profit	Multifamily recycling education is done by an outside consultant, contractor, or non-profit organization
	ECC	Collection company	Multifamily recycling education is done by the local collection company or companies
	ECS	City or county staff	Multifamily recycling education is done by city or county staff
	EINT	Interns	Multifamily recycling education is done by city, county, or collection company interns
Types of education provided	EORG	Organics	Organics is a main focus for education, including contamination and new programs
	ERCC	Up to collection company	Education is the responsibility of the collection company
	ETB	Recycling tote bags	Reusable tote bags are given to residents to carry their recyclables from their unit to the collection area
	MAIL	Mailers	Education materials are mailed in the form of a brochure or flyer
	EREQ	By request	Property managers can request educational materials either online or by phone
	ETRN	Trainings	Recycling trainings are provided to property managers and/or tenants
Party performing technical assistance	TCNP	Consultant or non-profit	Technical assistance to property managers is provided by an outside consultant, contractor, or non-profit organization
	TCC	Collection company	Technical assistance to property managers is provided by the local collection company
	TLJ	Local jurisdiction	Technical assistance to property managers is provided by city or county staff

	Code	Definition	Explanation
	TNONE	None	No technical assistance is provided
Strategies for addressing contamination	TAG	Oops tag	A tag is left on a cart or container that is too contaminated to pick up
	CCC	Collector contacts customer	The collection company will contact the account holder for a container that is too contaminated to pick up
	FEE	Fee	The account holder must pay a fee for contamination, sometimes depending on how many times the offense has occurred
	CAG	Collect as garbage	The collection company collects the contaminated recycling or organics as garbage, usually charging the customer accordingly
	EDU	Education	Property managers and/or residents are targeted for education and outreach when containers are contaminated
Tracking and measurement	CTV	Collector tonnage/volume	The collection company collects data on tonnage and/or volume
	WCS	Waste composition studies	Waste composition studies or waste sorts are performed to gather data about the waste stream
	COG	Combined with other generators	Multifamily data is difficult to separate from other sectors because routes are combined with commercial or single family customers
Compliance	INSP	Inspections	Inspections of containers are performed to ensure compliance with regulations
	COMP	Complaints	Non-compliance is reported through resident complaints
	N/A	N/A	Program is voluntary, so compliance is not applicable
Enforcement	ENFL	Letter or notice	When non-compliance is found, a letter or notice is given to the property manager or owner
	ENFF	Fine	Fines are given out for non-compliance, sometimes varying depending on how many offenses have been committed
	ENFE	Work with properties to remedy	Staff will work with property managers and/or residents to improve their recycling as part of or in place of enforcement
Program strengths	CRP	Collaboration/Relationships/Partners	The program excels due to a collaborative environment, good relationships with collection companies, property managers and/or outside organizations, or partnerships with other programs
	FCN	Flexibility/creativity/new ideas	Staff are willing to be flexible, show creativity when approaching challenges, and open to new ideas

	Code	Definition	Explanation
	UER	Utilizing existing resources	The program takes advantage of existing resources to make their work successful
Areas for improvement	CON	Contamination	Contamination is an issue that still needs work
	STAFF	Staffing	There is not enough staff time to handle all challenges
	GROW	Growing population	The multifamily population is growing very fast, which is difficult to keep up with
	PRIO	Priorities	Program or agency priorities could be better aligned with multifamily recycling
Other/advice	FLEX	Be flexible/creative/willing to try new things	It is important to have an open mind, be creative and flexible when it comes to addressing multifamily challenges
	PART	Need partners	Staff can't do it alone – partnerships mean success
	LAW	Need laws/code/legislation	Laws about multifamily recycling aid staff in being able to perform their jobs well
	UNI	Uniqueness of city/area	Strategies used in this program may not be applicable to other programs because the city or area is so unique. Every place is different and requires different approaches

Appendix D

Table 3: Geography of interviewed programs

	Percent	Number
U.S West	68%	13
U.S. Midwest	11%	2
U.S. Northeast	16%	3
Canadian West Coast	5%	1
Total respondents	100%	19

Appendix E

Table 4: Size of population served by interviewed programs

	Percent	Number
Greater than 1,000,000	42%	8
Between 1,000 and 1,000,000	42%	8
Less than 100,000	16%	3
Total respondents	100%	19

Appendix F

Table 5: Multifamily households served

	Percent	Number
Greater than 100,000	32%	6
Between 10,000 and 100,000	26%	5
Not sure/different unit of measurement	26%	5
Less than 10,000	16%	3
Total	100%	19

Appendix G

Table 6: Type of program

	Percent	Number
City	53%	10
County	37%	7
Non-profit	11%	2
Total respondents	100%	19

Appendix H

Table 7: Unit-size definition of multifamily properties Multifamily

	Percent	Number
5+ units	37%	7
2+ units	37%	7
3+ units	11%	2
4+ units	11%	2
10+ units	5%	1
Total respondents	100%	19

Appendix I

Table 8: Multifamily recycling streams

	Percent	Number
All together, including glass	84%	16
Mixed, glass separated	5%	1
Mixed, including glass but cardboard separated	5%	1
Source separated	5%	1
Total respondents	100%	19

Table 9: Multifamily organics collection

	Percent	Number
No organics	53%	10
Organics	47%	9
Total respondents	100%	19

Appendix J

Table 10: Combined staff time for multifamily

	Percent	Number
Less than one FTE	42%	8
No FTE	21%	4
One FTE	21%	4
More than one FTE	16%	3
Total respondents	100%	19

Table 11: Dedicated staff to multifamily work

	Percent	Number
No dedicated staff	74%	14
Dedicated staff	26%	5
Total respondents	100%	19

Appendix K

Table 12: Multifamily recycling laws

	Percent	Number
Mandatory by both state and local laws	42%	8
Voluntary	26%	5
Mandatory by local jurisdiction only	26%	5
Mandatory by state only	5%	1
Total respondents	100%	19

Appendix L

Table 13: Methods of ensuring compliance with recycling laws — more than one response for some programs

	Percent	Number
Inspections	37%	7
No laws	37%	7
Complaints	26%	5
Total respondents		19

Appendix M

Table 14: Approaches to enforcing recycling laws — more than one response for some programs

	Percent	Number
Fine	37%	7
Letter or notice	26%	5
Work with properties to remedy	21%	4
Total respondents		19

Appendix N

Table 15: Future program expansions — more than one response for some programs

	Percent	Number
Organics	32%	6
Contamination	11%	2
Outreach to diverse populations	11%	2
Collector relationship	11%	2
Transition from roll carts to containers	11%	2
Total respondents		19

Appendix O

Table 16: Party conducting education and outreach — more than one response for some programs

	Percent	Number
City or county staff	68%	13
Consultant or non-profit	42%	8
Collection company	32%	6
Interns	21%	4
Total respondents		19

Table 17: Party conducting technical assistance — more than one response for some programs

	Percent	Number
Local jurisdiction	42%	8
Consultant or non-profit	32%	6
Collection company	32%	6
None	11%	2
Total respondents		19

Appendix P

Table 18: Nature of education — more than one response for some programs

	Percent	Number
Organics	26%	5
Up to collection company	26%	5
By request	26%	5
Recycling tote bags	21%	4
Mailers	21%	4
Trainings	21%	4
Total respondents		19

Appendix Q

Table 19: Methods for dealing with contamination — more than one response for some programs

	Percent	Number
Oops tag	26%	5
Collect as garbage	26%	5
Education	26%	5
Collector contacts customer	21%	4
Fee	21%	4
Total respondents		19

Appendix R

Table 20: Tracking and measuring — more than one response for some programs

	Percent	Number
Collector tonnage/ volume	68%	13
Waste composition studies	37%	7
Combined with other generators	26%	5
Total respondents		19

Appendix S

Table 21: Identified strengths of programs — more than one response for some programs

	Percent	Number
Collaboration/relationships/partners	42%	8
Flexibility/creativity/new ideas	26%	5
Utilizing existing resources	21%	4
Total respondents		19

Appendix T

Table 22: Identified areas of improvement — more than one response for some programs

	Percent	Number
Staffing	32%	6
Growing population	26%	5
Contamination	21%	4
Priorities	21%	4
Total respondents		19

Appendix U

Table 23: Is there anything else to share, or any advice — more than one response for some programs

	Percent	Number
Be flexible/creative/willing to try new things	31%	4
Need laws/code/legislation	31%	4
Need partners	23%	3
Uniqueness of city/area	23%	3
Total respondents		19