



Multifamily Program Interviews

December 2016

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Acknowledgements

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Multifamily program interviews summary

In 2016 the Multifamily Project Team contracted with Community Environmental Services to conduct and summarize 20 interviews with multifamily garbage and recycling programs run by local governments and community organizations throughout the nation and including Vancouver, British Columbia. The summarized interviews can be found in the Multifamily Program Interviews report.

Interviewed local governments were asked questions around program characteristics, outreach and stakeholder engagement, and compliance and measurement. Bulleted findings are below.

- Most local governments, 17 of 20, have some requirements or recommendations related to
 - Available service capacity also known as service volume
 - Material stream specific bin color
 - Bin location
 - Signage
- 12 of 20 local governments have requirements or recommendations related to mixed recycling volume. Most frequently this appeared as a specified volume/unit/week.
 - In one case mixed recycling service volume was expressed as a percentage of garbage service.
- Five of 20 local governments have requirements or recommendations related to garbage volume. Three of the five local governments have the same garbage and mixed recycling volume (1:1) recommended or required (Olympia, WA; Seattle, WA; San Francisco, CA).
- 14 out of 20 local governments have requirements or recommendations around collection container colors.
 - Most frequently blue was the preferred color for mixed recycling, green was the preferred color for yard debris/organics/food scraps.
- When local governments had signage specifications the most common characteristics noted were that signage should be:
 - prominent,
 - multi-lingual,
 - and image-based.
- There is no commonly accepted standard for measuring multifamily garbage and recycling collection program performance. Local governments measure all aspects of program implementation and performance differently. This also includes waste characterization studies. It is difficult to compare program performance and outcomes jurisdiction to jurisdiction.
- No jurisdiction had requirements or recommendations in all areas.

- Three local governments had no requirements or recommendations in the identified characteristics.
- As a region, the Portland Metro region has no requirements or recommendations in any of the identified characteristics. There is opportunity for the project team to identify and address the program characteristics we feel would be most beneficial for the region in the context of our multifamily garbage and recycling collection system.

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Introduction

This report is intended to inform Metro's Multifamily Recovery Project. The purpose of this report is to summarize program characteristics of multifamily garbage and recycling programs in an effort to better understand what characteristics lead to successful program implementation. The interviews were conducted via phone or email and written summaries were produced by Community Environmental services in August and September of 2016. Metro staff compiled the report.

PROGRAM CHARACTERISTICS SUMMARY TABLE

Jurisdiction	Garbage capacity	Recycling capacity	G to R weekly volume ratio	Container color is specified	Container location specified	Recycling co-located with Garbage	Signage standards in code	Signage standards include	Standardized enclosure size
	Gal/unit/week, Yard/unit/week or n/a	Gal/unit/week, Yard/unit/week or n/a	G:R or n/a	(yes/no)	(yes/no)	(yes/no)	(yes/no)	Multilingual, image-based, font size, location of sign or n/a	(yes/no)
Alameda County, CA	20gal/unit/week	12gal/unit/week	5:3	y	y	y	n	Recommendation only for prominent signs near recycling and garbage	n
Austin, TX	n/a	6.4gal/unit/week	n/a	n	y	y	y	Multilingual, image-based	n
Bellevue, WA	n/a	n/a	n/a	y	n	n	n	Labels are required	y
Castro Valley Sanitation District, CA	n/a	n/a	n/a	y	n	n	n		n
Federal Way, WA	n/a	n/a	n/a	y	n	n	n	Multilingual, image-based	n
Hennepin County, MN	n/a	n/a	n/a	y	n	n	n		n
King County, WA	n/a	0.12 CY/unit/week	n/a	n	n	n	n	Multilingual, image-based	y
Kitsap County, WA	n/a	0.1 cy/unit/week	n/a	y	n	n	n		n
Los Angeles, CA	n/a	12 gal/unit/week	n/a	n	n	n	n	Multilingual, image-based	n
New York, NY	n/a	n/a	n/a	y	y	y	y	Maintained with current recycling information	n
Oakland, CA	20gal/unit/week	5gal/unit/week	4:1	y	y	y	y	Recommendation only for prominent signs near recycling and garbage	y
Olympia, WA	0.125 Cy/unit/week	0.125 Cy/unit/week	1:1	y	n	n	n		y
Philadelphia, PA	n/a	n/a	n/a	n	n	n	n		n
Sacramento County, CA	n	30% of garbage	10:3	y	n	n	n		n
Saint Paul (Eureka Recycling), MN	n/a	22.5 gal/unit/week	n/a	y	n	n	n	Multilingual, image-based	n
San Francisco, CA	16gal/unit/week	16gal/unit/week	1:1	y	y	y	n		n
Seattle, WA	0.1 cy/unit/week	0.1 cy/unit/week	1:1	y	n	n	n		y
Snohomish County, WA	n/a	n/a	n/a	n	n	n	n	Multilingual, image-based	n
Thurston County, WA	n/a	n/a	n/a	n	n	n	n		n
Vancouver, BC	n/a	6.7 lb/unit/week ¹	n/a	y	y	y	y	Image-based, location of sign	y

¹ 6.7 lbs is a weekly per unit generation rate provided by the City of Vancouver, BC

ALAMEDA COUNTY, CA

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Rachel Balsley **Phone** 510-891-6524 **Email** rbalsey@stopwaste.org

Community: Alameda County

Program Title: Stop Waste, Multi-Family and Apartment Recycling

Program Dates: **From** _____ **To** ___ongoing___

General Solid Waste and Program Characteristics

- 5+ units on a tax lot (few variances on this definition depending on jurisdictions franchise agreement with haulers).
- Full-scale program for standard recycling. Pilot programs on organics are occurring in jurisdictions across Alameda County where there is not a full-scale, ongoing organics/plant debris collection.
- State law 8341 requires multi-family properties with 5+ units to provide recycling options (limited to recycling, not organics).
- Reporting on collection is enforced.
- Alameda County has a mandatory ordinance for collection with detailed language (mixed paper, cardboard, cans, bottles). This ordinance has two phases: recycling (first), organics (second). Second phase can be opted out or postponed by local municipalities.
- Stop Waste is enforcing mandatory recycling ordinance.
- Stop Waste informs property owners of their responsibilities to provide enough collection service for all materials produced onsite (by residents).
- An annual notice is required of property managers to tenants and on-site contractors (example: landscapers) of the requirements and location of bins.
- No penalty to property owner if residents do not separate.
- Mandatory participation/access: 80 - 90% of multi-family developments have access to recycling
- All but one collection system in Alameda County are privately run. Berkeley has a non-profit organization doing collection for residential and multi-family properties up to 9 units on a tax lot. Berkeley manages collection for multi-family properties of 10 plus.
- 3 stream separation approach: organics, co-mingled including glass, garbage.
- Color coding (common usage): commingled paper, metal, glass: blue carts, compost: green carts. garbage: black/grey carts. Note: there are some exceptions (does not apply to dumpsters). Local haulers have stood up for their company's color schemes.
<http://www.recyclingrulesac.org/ordinance-overview/>
- Recommended per unit volume: Garbage: 20 gal/unit/week, Comingle: 12 gal/unit/week
- In some cities within Alameda County, there have been some space allocation rules for initial setup (i.e. minimum volumes per unit) refer to website, Stop Waste supplies

guidance <http://www.recyclingrulesac.org/businesses-and-institutions-support-materials/>

- Composting volumes with determined with assistance from Environmental Science Association (consulting firm) as well as information from local jurisdictions on their perceived generational levels.
- Signage is recommended but not required.
- No space requirements at Alameda County level. Some cities have integration in their plan checks (development services).

Outreach and Stakeholder Engagement

- Most municipalities conducted outreach at the time of launch for their program.
- For the last 5-10 years outreach has been done for the introduction of organics service. Some information can be found on the separate jurisdictions websites.
- For new requirements, three mailers go out that highlight changes. Some haulers include notices in bills. This is typically when a specific jurisdiction has an agreement with the haulers.
- No specific intentional, equity based outreach.
- Broad media campaigns: “Ready, set, recycle” campaign was used as food scraps were included in the organics bin.
- Stop Waste has limited money budgeted for technical assistance. Usually used to assist municipalities in getting a program started and subsequent data collection.

Compliance and Measurement

- Majority of franchise agreements demand that collection services are available to all multifamily developments. Must provide recycling service in order to gain contract for garbage.
- Oakland just changed code to demand the provision of composting and recycling in all multi-family developments.
- Property owners are responsible for compliance.
- There is a mandatory ordinance requiring compliance. In January 2013, 50% of multifamily sites had attempted inspections by contractors.
- Since then, Stop Waste found that it was more effective to send enforcement letters based on review of account data.
- Additionally, compliance is largely based complaint based. The Non-Compliance Report Form is used. Referred to as “resident snitches”.

Wrapping up

Alameda County can see differences in varying municipalities’ implementation of programs. Example: Oakland did a universal rollout of carts which encouraged participation. Some problems came with this (property manager's hiding compost bins because they did not want to participate for fear of rodents). Stop Waste finds tenant outreach is expensive. Improvement

bumps tend to be short-term (six months to a year) as there is heavy turnover in multi-family housing.

Who else we may talk to?

Castro Valley Sanitary District (they have a service contract) because they have many multi-family accounts in unincorporated areas of the county.

AUSTIN, TX

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Aiden Cohen, Maddie Morgan, Roslyn Kygar **Phone** 512-974-3533

Email roslyn.kyger@austintexas.gov (Roslyn)

Community: City of Austin, Texas

Program Title: Austin Resource Recovery

Program Dates: **From** ___ 1999 ___ **To** ___ 2009/2010 ___

Commercial/Multifamily ordinance. This is 100+ unit multi-family housing and 100+ employee commercial operations were required to provide recycling services.

General Solid Waste and Program Characteristics

In 2011, the Universal Recycling Ordinance (URO) was passed which required commercial and multifamily residential properties to have garbage and recycling service for apartments, condominiums, mobile home parks, private funded dorms, assisted living facilities. Service levels for are shifting to any property more than single family by 10/1/2017.

- October 1, 2013: properties with 50 or more units
- October 1, 2014: properties with 25 or more units
- October 1, 2015: properties with 10 or more units
- October 1, 2016: properties with 5 or more units
- October 1, 2017: all multi-family properties

- The City of Austin provides hauling services for single family residential (up to four units),
- The program is full-scale, private collection, open-market,
- 2 stream source separation (co-mingled recycling and garbage),
- Five categories must be in the co-mingled group (plastics #1 and #2, paper, cardboard, glass and aluminum). Substitute materials can be proposed.
- Estimated 70% of Austin residents rent - not clear on which portion are in multi-family households, approximately 40% of Austin homes are multifamily units,
- Large in-migration (estimated 165 new people each day) feeds rental market,
- URO requires service capacity (participation),
- No color coding **required** but the following is suggested: black/brown for garbage, blue for co-mingle, green for organics,
- Recommended volumes: 6.4 gallons per unit per week for comingled recycling. Considered to be too low by resident reports. No recommendations for garbage or composting.
- All signs and stickers must indicate recyclable materials accepted, use graphic illustrations, and include both English and Spanish.

- The volumes for garbage are undefined. The recommended amounts for recyclable were a result of negotiation with stakeholders (haulers). Many residents considered the amount too low.
- Convenience requirements: recycling receptacles must be within 25 feet of garbage (10 paces),
- Property managers/owners are responsible for notifying new tenants and employees within 30 days of residency/hire and must do yearly review.
- The city of Austin provides support with brochures and newsletters.

Outreach and Stakeholder Engagement

Haulers and owners of multifamily properties were engaged during the development of policy for over a year before the URO was put in place.

Current outreach:

- Property owner or management is responsible for outreach,
- The City of Austin designs and provides materials but each property owner can choose how to use them,
- Materials are updated yearly but new languages are added as requested and new materials are developed routinely.
- Outreach is strong with a staff of 10 employees and five contractors.
- Concerning space: amendments to code are being formed to allow fewer parking spaces or changes in surface materials to encourage larger or additional enclosures at multifamily complexes.
- All land development codes are being addressed with a lens for Zero Waste goals.

Compliance and Measurement

Property managers and owners are responsible for compliance. The city of Austin requires yearly diversion plan reports. Audits are performed by identifying properties with no submitted report. If a property manager/owner fails to comply, site visits and warning letters are issued. Tenants also make complaints.

Wrapping up

The most oft recognized shortcoming is the small capacity requirements. Also, inconsistent color schemes for bins and inconsistent signage requirements. When amendments are made to the URO, these issues will be addressed.

Tenants and activists are pushing for increased capacity requirements.

The City of Austin's program stands out for having strong compliance. The success is attributed to having a large outreach staff and contractors as well as good customer service.

Who else we may talk to?

San Antonio

BELLEVUE, WA

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Jennifer Goodhart **Phone** 425-452-6197

Email jgoodhart@bellevuewa.gov

Community: City of Bellevue, Washington

Program Title: Commercial/Multifamily Recycling Program

Program Dates: From 2004 To Present

2004: Recycling program adopted

2013-14: Organics pilot

2014: Full recycling and composting program in haulers contract

General Solid Waste and Program Characteristics

- Multi-family is defined as 4 or more units on a tax lot,
- Full-scale voluntary program,
- Private system (the city contracts with Republic Service),
- 3 stream approach: garbage, co-mingle including glass, organics,
- 25,901 multifamily households served,
- 346 recycling accounts (103 include organics),
- 100% of multifamily properties have recycling available, 35% have organics available,
- Color Coding: Garbage is grey, recycling is blue, organics are green,
- No recommended volumes of service,
- Labels are required for dumpsters and carts (approved),
- Posters are made available for each waste stream.

Outreach and Stakeholder Engagement

- Door to door canvassing and outreach at community events within apartment complexes,
- Distribution of the following for multifamily residents:
 - tote bags for carrying recyclables distributed,
 - food waste buckets for each apartment,
 - eco-waste bag holder at site of compost drop off to line food waste buckets.
- Technical assistance is available for property managers.
During the pilot of the composting program, the city did a targeted outreach to 12 to 14 property managers of high rise apartment buildings in downtown Bellevue. A competition to increase recycling rates was held for six months. The winning property was awarded with one month's free garbage by the city.
- Haulers are responsible for outreach and education to property managers/owners (by rules) but the city provides support,

- Haulers are responsible for guides and labels but the city partners with them by providing supplemental materials such as step-by-step recycling/composting posters.
- Materials are updated annually.

Compliance and Measurement

- Contracts between the City of Bellevue and haulers address enforcement. Haulers are responsible for ensuring compliance by property owners.
- In addition to strong contract language, enforcement is also ensured by complaints that do directly to the city.
- Waste composition studies and tonnage reports are used as measurements/indicators of multi-family recycling performance. Additionally, customer satisfaction surveys are enclosed in bills by haulers.

Wrapping up

Bellevue has an “*amazing program*.” The organics program was modeled on industry best practices.

One cited improvement would be to have a stronger partnership with the hauler to assure that rules support compliance.

Jennifer suggested that a mandatory program would give it more strength. It is difficult to engage some residents without it being mandatory.

The Washington State Recycling Association’s multifamily recycling report was cited (again) as a guiding document.

http://c.ymcdn.com/sites/www.wsra.net/resource/resmgr/Multifamily_Study/Sorting_it_Out-The_State_of_.pdf

Appendix A:

Bellevue Solid Waste Code Review Draft Memorandum, August 28, 2015

CASTRO VALLEY, CA

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Michelle Wu **Phone** 510-537-0757 **Email** michellew@cvsan.org

Community: Castro Valley Sanitation District

Program Title: Multi-Family Recycling Program / Addition of food scraps

Program Dates: **From** __2006 / 2012__ **To** ___present_

General Solid Waste and Program Characteristics

- 5+ units on a tax lot,
- Full-scale program for standard recycling,
- Mandatory participation per county ordinance (Alameda). Castro Valley opted into the county program,
- Public/Private program: Castro Valley Sanitation District (CVSAN) contracts with Waste Management.
- Three streams:
 - Garbage,
 - Comingled recycling,
 - Organics including food scraps and yard waste.
- 161 multifamily properties (accounts). 146 of these have an organics component.
- 100% participation rate
- Colors specified: garbage is in a brown cart or Waste Management green dumpster, recycling goes in blue carts or white dumpsters (marked for comingled recycling), organics go in green carts or beige dumpsters.
- There are no set recommendations for per unit volumes of service. CVSAN provides technical assistance and does an assessment to make individual recommendations. This is also done with engagement by the hauler.
- No requirements for signs or location of signs.

Outreach and Stakeholder Engagement

- CVSAN conducted targeted outreach, produced supporting materials and followed up outreach efforts with an audit to identify needed improvements.
- In 2012, a survey was distributed across all population sectors with multiple languages and heavy use of images. A multifamily owner and manager group advised on their specific tenant populations and their specific needs.
- In addition to a yearly review of material at an owner/managers gathering, an online forum is used to answer questions and inform decision making. The zero waste program development was tested by property managers for local housing authorities.
- CVSAN is responsible for outreach to property owners and managers. They do this in tandem with haulers. Material is designed by CVSAN and updated as changes occur.

- Space requirements are not in CVSANs purview.

Compliance and Measurement

- Local jurisdictions are responsible for ensuring compliance. Currently, most enforcement is due to complaints. The business recycling program for the area has yearly audits. CVSAN is considering an expansion of the audits to multifamily accounts.

Wrapping up

Rates are structured to drive participation. Garbage service is matched with recycling and organics collection.

<http://www.cvsan.org/sites/default/files/downloads/MFDRateInsertFinal.pdf>

Dedicated staff and dedicated scheduling for outreach helps make CVSANs engagement with stakeholders strong.

FEDERAL WAY, WA

Multifamily Program Survey

Surveyor Name: Virginia Sarawati

Contact Information: Jeanetie Brizendine **Phone** 253-835-2771

Email Jeanetie.Brizendine@cityoffederalway.com

Community: City of Federal Way

Program Title: Federal Way Multifamily Recycling

Program Dates: **From** ____ 2007 ____ **To** ____ present ____

Served multifamily for 15-20 years Current iteration of program with single stream recycling

General Solid Waste and Program Characteristics

- In City of Federal Way, multifamily is defined as 4 or more attached units (in terms of codes and planning) but for solid waste, multifamily is any place with shared hauler bills. Mobile homes are also included in this category. If a multifamily property bills each of their units individually for garbage and recycling, by the Hauler's definition they would be considered as single family.
- The program is considered full scale and participation of properties is voluntary. Recycling services is included with garbage at no additional cost so most properties participate.
- The collection system is considered a public/private service in which the city has a municipal contract with Waste Management (WM). WM exclusively provides garbage and recycling for Residential and Multifamily but Commercial is provided through Open Market.
- There are 3 streams; garbage, comingle including glass, and organics (which is available at additional fee, thus not many properties participate).
- The program currently serves about 15,000 multifamily units and only 2 of the 150 complexes that the city serves does not participate in recycling.
- Standardized coloring for bins is written into their contract with Waste Management; Green for Garbage, Blue for Comingle Recycling and Grey for yard waste (organics). The coloring was determined by WM many years ago and switching the colors would be too expensive at this point. The bins are owned by WM.
- There is no recommended per unit volumes of service, it really is dependent on each property and their capacity and needs.

Outreach and Stakeholder Engagement

- The city has tried various outreach methods and did pilot projects specifically in outreach.
- Around 6-7 years ago, the city did a pilot outreach program at a mobile home park where 400 units shared recycling facilities (but each unit had individual garbage bins).

The pilot project worked with residents of 50 units and gave them individual recycling containers and educational materials.

- Staff followed up with residents before the truck arrived for the first 4 recycling collection to check the containers and give feedback to residents if there's contamination. The door to door repeated feedback resulted in improvement of quality and quantity of materials collected.
- Since then, whenever the city tries to launch a cart based program at a Multifamily property in collaboration with WM and their interns, they do the same 4 follow up feedback and have been doing so these last 3 years.
- For the first year, no tracking was done ahead of time so there was no way to compare to a baseline. Now they're doing a score based system with a grading rubric to indicate how well each property is recycling. Soon WM will have the first report with such data ready.
- The interns working on these outreach projects checks in with the same properties each year.
- Most outreach to residents is done at the request of property managers and there is no regular ongoing outreach otherwise. The educational materials and type of outreach provided are really dependent on what property managers request.
- Sometimes staff approach residents door to door with flyers and tote bags or the city mails the education materials directly to the residents. In other properties, the materials are given to the managers who then distribute them to residents at their discretion.
- Occasionally, the city also does informational sessions when requested by property managers.
- Whenever drivers from WM notice contamination in the recycling stream of a property, they are quick to contact the city who then work with the property manager on education or better signage and bin placement. Based on anecdotal feedback from drivers, this is usually effective in reducing contamination.
- Most of the responsibility for outreach falls on the city and city staff but the city is in the process of transitioning the responsibility to WM outreach staff.
- The city and hauler both play roles in designing the flyers and education materials. The flyers have clear graphics/pictures and is translated to multiple languages (Spanish, Russian, Korean).
- The city is currently working on codes for enclosure spaces and is looking at City of Seattle, City of Kirkland and King County for reference

Compliance and Measurement

- Since participation in recycling is voluntary, enforcement of compliance is not applicable.
- WM has a monthly tonnage report and recycling rate for the multifamily stream based on truck dump but it doesn't look at contamination. The recycling rate has gone up, from 5.4% in 2007 to 11.3% in 2016. Although recycling rate is still low, the quality of the recycling collected is better (less contaminated).
- No waste composition study has been done and there are no formal reports on contamination rates but the hauler did quarterly sorts at the MRF (so far only 8 sorts).

The data from those sorts were not enough to fully utilize as it gave only the overall contamination rate and the data itself was quite scattered.

Wrapping up

Missed Opportunities:

- There has been no baseline data for a comparison and formal report to leverage the success of one property to another. Just anecdotal reports from an outreach person is not enough to convince other properties to participate in recycling or implement changes.
- There were times where materials dropped off at property managers never got distributed to residents. It would have been better to invest time in door to door outreach instead.

Lessons learned

- It's helpful to go back to a property after launching a program to monitor containers weekly before pickup to make sure that the property has appropriate collection volume and capacity (sometimes maintenance staff throw away recycling because of overflow).
- No silver bullet, invest time to identify the challenges and barriers that a community might face.

Challenges:

- Valet service for trash/recycling is becoming a growing industry and their rules and policies regarding plastic bags may not be the same as the hauler's which creates challenges in reconciling those differences.

HENNAPIN COUNTY, MN

Multifamily Program Survey

Surveyor Name: Virginia Sarawati

Contact Information: Carolyn Collopy **Phone** 6125960993

Email carolyn.collopy@hennepin.us

Community: Hennepin County

Program Title: Multifamily Recycling Program

Program Dates: (current iteration) From ___2011___ To ___current___

General Solid Waste and Program Characteristics

- In Hennepin County, multifamily is defined as any property with 5 units or more.
- Multifamily properties are obligated to make recycling available to their residents as it is required by code.
- The collection system is considered a commercial private service. Multifamily properties contract directly with haulers through the open market and there are 7 privately owned MRFs in the county.
- The county's program is there to help properties get their residents to participate in recycling and is considered full scale. Participation in this program is not mandatory.
- The source separation and number of streams is dependent on the hauler the property contracts with but typically there are 2 streams collected at multifamily which are garbage and comingle recycling with glass. Occasionally there are properties that also collect organics but this is quite uncommon. Depending on which hauler the property contracts with, there might be slight variance on what materials are accepted in the recycling stream. There have been more standardization over the years and since about a year ago, all MRFs in the region have now converted into a single stream sort.
- There are about 150,000 multifamily households in Hennepin County but the county program currently serves about 45,000 households and the participation rate is 30%
- Color coding the collection bins is encouraged but it is dependent on the haulers. The county occasionally provides carts and provides labels to be used on dumpsters/carts that are color coded to black/grey/red for garbage, blue for recycling and green for organics.
- Data to make recommended per unit volume of service is not readily available because haulers and properties are not very forthcoming with the information. Based on visual observation, most properties have less than a 50:50 ratio between recycling and garbage (recycling is usually far less than garbage).

Outreach and Stakeholder Engagement

- Property managers are the ones who are primarily responsible for outreach to tenants on recycling. The kind of outreach conducted is therefore dependent on the property

managers/owners. Some property managers distribute educational materials and tote bags for recycling to tenants during move-in which have been provided by the county.

- The county's program also engages in door-to-door outreach and presentations if requested by a property owner/manager.
- The local government designs the educational material which would be tweaked based on feedback from property managers and haulers.
- There have been programs with a few properties that connected with organizations that collect and repurpose bulky household items such as Goodwill or Salvation army during move out season (particularly properties with a large student population). They were able to divert many large items associated with move out such as couches and avoid fines from haulers.
- Currently, there are no incentives in place to increase square footage of enclosure space and in fact, city ordinances work quite against it. Ordinances are in the works to ensure all new construction have at least a 2 chute system.

Compliance and Measurement

- The local jurisdictions (city), not the county, are the ones who enforce compliance to recycling requirements and the system is complaint based.
- A lot of the information on multifamily recycling program performance is anecdotal. There is limited data for tracking the performance of multifamily recycling (tonnage reports, volumes, diversion rates, etc.) but a waste composition study is in the works. This will be challenging because haulers are not forthcoming with their service volume information.
- Surveys are sometimes done to follow up on an outreach project or distribution of education materials.

Wrapping up

- The program continuously tries to improve itself and makes adjustment as needed but ideally changes in infrastructure issues (such as enclosure space) could be addressed in the future.
- One of the greatest challenges comes from lack of information (haulers and properties not forthcoming with data).

Multifamily Program Survey

Surveyor Name: Virginia Sarawati

Contact Information: Gerty Coville **Phone** 206-477-5271

Email gerty.coville@kingcounty.gov

Community: King County

Program Title: Multicultural Multifamily Outreach Recycling Best Practices Basics

Program Dates: **From** ____ 2012 (pilot) ____ **To** ____ 2014 ____

(Findings from Pilot Program were synthesized to formulate the Best Practices Basics in 2015 and is being rolled out)

General Solid Waste and Program Characteristics

- Multifamily in King County is defined as housing structures with more than 1 unit, including duplexes, condominiums and apartments.
- The pilot program is now full-scale as it is rolling out the Best Practice Basics.
- Participation of multifamily properties is voluntary in unincorporated King County. The collection system is a public/private partnership (King County works with Waste Management and Republic but only Waste Management was involved in the pilot program).
- Since it is a public/private partnership, there is no standardization across county on the color of collection bins. The preferred colors would be green for compost, blue for recycling and black/grey for garbage but the infrastructure is not conducive for these changes at the moment.
- Source separation approach is typically 2 stream: garbage and comingle including glass.
- Recommended comingle recycling volume is 0.12CY/unit and benchmark was based off of on-site audits during pilot program. The Pilot program increased the average per unit recycling capacity from 0.7CY/unit to 0.12CY/unit
- 8 properties were enrolled in pilot program which addressed infrastructure as well as education
 - Property managers could enroll for free as it was paid from the Hauler/County budget
 - Initially, the properties that participated in the pilot program had containers with the same colors (green) for garbage and recycling. After participating in the pilot program, all recycling containers were painted blue and were labeled with clear multilingual decals.
 - The garbage and recycling were co-located with an appropriately sized collection service (if there was not enough enclosure space, collection frequency was increased).
 - Outreach to residents was conducted

Outreach and Stakeholder Engagement

- A GIS analysis was conducted before even starting the process of site assessment for the pilot program.
- Site assessments and waste audits were done at 26 properties served by WM
- During this process, 20+ property managers were interviewed (not all contacted managers were responsive).
- Outreach and engagement with residents in those properties was done through a door to door approach and cultural competency in mind.
 - Staff who approached residents were representative of their cultural background (e.g. Spanish speaking communities were approached by bilinguals and Spanish speakers).
 - Tote bags and multilingual recycling guides were distributed to residents.
 - Establishing a relationship with the residents through events such as a recycling fair or community BBQ was also an adopted strategy.
- Outreach responsibility is a touchy partnership between King County, Haulers and Property Owners. The budget came from commodity value of collected recyclables where a portion of the sales of recyclables is set aside (depending on partnership). This is used for education and infrastructure changes.
- This partnership still ongoing during roll out of the program. Most haulers are still not used to rolling out multifamily recycling using a step by step method such as with the pilot program
- Service level ordinances are currently being reviewed

Compliance and Measurement

Since multifamily recycling participation is voluntary and not mandatory, there is no enforcement.

However, some of the next steps during roll out would be for some form of accountability to be embedded into Best Practices Basics; e.g

- Requiring the haulers to assess their tagged containers for contamination.
- Annual check in with properties to see if more outreach is needed (due to high turnover of residents) or changes in infrastructure.

Measurement or indicators of success:

- Waste Composition studies
- Tonnage reports/estimates
- Resident surveys
- Property manager interviews
- Time & cost analysis

Wrapping up

Lessons learned in hindsight:

Inclusion of members of the community in the design process is important. Don't make any assumptions or make design decisions before first having an in depth conversation with members of the community and conduct research into audience understanding and how to present the information (events, images to use, etc.)

Appendix B:

King County Multifamily Multicultural Pilot Presentation April 28, 2015

KITSAP COUNTY, WA

Multifamily Program Survey

Surveyee Name: Christopher Piercy, Recycling Coordinator

Contact Information: Phone 360-337-4898

Email cpiercy@co.kitsap.wa.us

Community: Kitsap County, Washington

Program Title: Kitsap County Public Works, Solid Waste Division, Multifamily Program

Program Dates: Pilot Program: 2010-2015: “first evolution of current program”

General Solid Waste and Program Characteristics

Multifamily Definition:

General Characteristics

- Service level of 3 or more units on a tax lot
- Focus is primarily on 50 or more units
- Once the larger developments are fully engaged, focus will shift to smaller complexes
- Mandatory pay, voluntary participation: service ordinance demands that all residents receive recycling options but residents can elect whether or not to use the collectors
- Private collection system
- 2 stream source separation (co-mingled recycling and garbage)
- Estimated 40,000 multi-family households,
- Overall residential (single-family and multi-family) participation is at 89%
- Color coding: grey carts with blue lid for co-mingle, green steel front load containers for garbage
- There are no additional program requirements.
- Volume requirements: Comingle (only) .1cy/unit/week
- Property manager or hauler determines garbage units. Cascadia recommendation helped determine the measure.

Outreach and Stakeholder Engagement

- 2010-111: outreach to property managers
 - Notebook with multi-family recycling guidelines
 - Signage for enclosures

A grant from the Washington Department of Ecology helped define barriers and allowed the hiring of Cascadia Consulting. During the pilot project multifamily complexes are recognized to be an underserved population. Haulers cited contamination as an issue as 96 gallon carts typically could not meet needs. Lower contamination rates (than single family residential) reported after increasing container size. (phase I)

Cascadia performed outreach at seven properties during the pilot. Small container size or too few containers was usually recognized and remedied. Following that change, door to door

outreach was conducted with supplies provided for moving recycling from the home to the dumpster or containers. (phase II)

Local government designs and is responsible for ongoing tenant outreach and/or education. It is constantly updated. All materials, at a minimum, are updated every five years.

Kitsap County works with property owners to adjust service levels of recycling that, in return, typically lower garbage hauling costs. Multi-family density is low enough in Kitsap County to do effective outreach.

An increase in multi-family developments in the county is increasing demands for outreach to property managers and residents.

Regarding enclosures: Kitsap County is work on code that will address new enclosures (size and quantity) for new development. It is important to have discussions about the monetary value to the owners of large complexes to pay less for hauling. It is “on the front of our minds”.

No green certification program on the residential side of solid waste.

Compliance and Measurement

The main focus from Kitsap County is on enclosure size. Chris stated that “space is King”. The county has stern language for haulers to ensure compliance. Cooperation is limited by the language of the service ordinance.

Kitsap County writes code. Local jurisdictions enforce it within city limits. Washington Utilities and Transportation Commission <http://www.utc.wa.gov/Pages/default.aspx> enforces code for unincorporated Kitsap County. Chris noted that a large portion of the population in Kitsap County lives in unincorporated areas.

Compliance is typically complaint based.

Waste composition studies, tonnage reports and estimates, and resident surveys are all used to track Kitsap County multi-family program performance. During the pilot, there was a focus on characterization studies. There was a resident survey, as well. In response, tools were developed for residents and distributed. Follow-up observation showed that the provided tools were used well by residents and recycling increased.

Currently, Kitsap County relies on hauler reports to identify problems.

Wrapping up

Chris wishes he could go back in time and change the prescriptive collection requirements. Code changes are needed currently to modify how the operations are conducted, i.e. changing from side load trucks to commercial front load trucks. Trucks for pick-up present efficiency problems

for haulers. Would have been better to start with a commercial service level for multi-family complexes (as opposed to treating it as a standard residential route).

More could have been done with additional budgeting. The metrics used were “at 10,000 feet” rather than “on the ground”.

Additional comments: enjoyed working with Cascadia Consulting. Their knowledge was beneficial and Kitsap County continues to use them.

Chris participated in project that sent a report to the Washington State Recycling Association. The group name was Multi-family Recycling Study Group. Property managers, haulers, recycling coordinators from around Washington State were interviewed. This report presented a broad view of current and desired practices.

Who else we may talk to?

McKenna Morgan at Cascadia has observations on Belgian practices (she was project lead on Kitsap County consulting project).

Angela Wallis, late of King County Housing Authority. Angela works with Full Circle Environmental. She participated in the Multi-family Recycling Study Group and Chris found her to be enthusiastic in sharing her broad experiences.

Multifamily Program Survey

Surveyor Name: Virginia Saraswati

Contact Information: Michelle Mikesell **Phone** 213-485-3884

Email michelle.mikesell@lacity.org

Community: City of Los Angeles

Program Title: Multifamily Recycling (Blue Bin Recycling)

Program Dates: **From** ____ 2007 ____ **To** ____ current ____

General Solid Waste and Program Characteristics

- In City of Los Angeles, multifamily is defined as 5 or more units attached to a property.
- The program is full scale and properties can enroll for no additional cost. The blue bins for collecting recycling are owned and provided by the city but the haulers are private businesses that the city contracts with through an open market.
- California State passed legislation (AB 341) that mandated multifamily properties to have recycling but not all properties are enrolled in the city's program.
- The program currently serves approximately 17,000 properties and about 402,000 units with participation rate at around 70%. However, properties that are not currently served through the city program could be contracting directly with a permitted private hauler and they are not required to report this.
- The source separation is Garbage and Recycling (comingled with glass). There is mandatory commercial organics recycling but at the moment, multifamily dwellings are not required to have a food waste diversion program.
- The city only provides 96 gallon roll cart bins for recyclables and the recommendation for multifamily is a maximum of 8 units sharing one bin (12 gal/unit/week).
- The color of the bins are specified for single family; black for garbage, blue for comingled and green for organics but aside from the blue colored carts that the city provides, this standardization doesn't necessarily apply to all multifamily dwellings.
- Education and outreach material is standardized across all haulers (the city provides access to these materials).
- There is no requirement that specifies where recycling bins should be located but the program does offer valet services.

Outreach and Stakeholder Engagement

- There was a pilot program from 2004-2007 and it was very similar to what the current full scale program looks like.
- Detailed information on what outreach was like during roll out is currently unavailable.
- Responsibility for current outreach and education is shared between haulers, property owners and the city. The kind of outreach really depends on the situation. If the hauler

notices contamination, they contact property managers and they discuss what outreach/education is needed to reduce contamination

Compliance and Measurement

- At the moment, there are no enforcement mechanisms in place to ensure all multifamily dwellings are enrolled in the recycling program because the property could be directly contracting with a private hauler to handle their garbage and recycling needs.
- The city is working on an Exclusive Franchise System for business and multifamily recycling that will come on line in 2017/2018 which will address the issue of service standard, compliance and enforcement.
- Currently, the system is primarily complaint based but the city also does a lot of random audits.
- The city currently measure the performance of the recycling program through haulers who must provide their weight tickets and a monthly report on how much recycling was collected to keep track of the diversion rates.
- A waste composition study was conducted a few years ago but it looked at City of Los Angeles overall and wasn't specifically for the multifamily program.
- Resident surveys were done at the initial stages of the program but none have been done in recent years.

Wrapping up

Challenges and lessons learned:

- It is useful to establish a feedback loop with all stakeholders. In the past, if there was a problem at a property (contamination, etc.), the haulers tended to take care of it by themselves and not report it to the city, however, the city handles service requests and complaints. Now haulers, residents and property managers/owners are encouraged to report any issue to the city so that the information is entered into a database and can be used to educate and keep everyone in the loop to ensure everyone's on the same page and working as a team.
- The city cannot make assumptions on which party is right when there is an issue and need to be able to mediate, thus, lines of communication are important
- To establish those lines of communication, the city meets with their haulers quarterly to ensure there's no repeat or trend of the same problem.

NEW YORK CITY, NY

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Kate Kitchener **Phone** 212-437-4433 **Email** kkitchener@dsny.nyc.gov

Community: New York City, NYC Department of Sanitation

Program Title:

Program Dates: From _____ 1989 _____ To _____ present _____

Local Law 19 of 1989 started the current program

Pilot program in effect for organics: different collection services are being tested

General Solid Waste and Program Characteristics

- Multi-family is defined as 10 or more units on a tax lot,
- Full-scale program Mandatory participation (funded by tax dollars)
- Consistent 3 stream separation approach (co-mingled paper, metal, glass and plastic, separate stream for cardboard),
- Used for multi-family as well as single family residential,
- Approximately 3.4 million households served, 17% participation rate for recycling,
- Color coding: metal, glass, plastic recycling goes in clear bags with a blue decal, paper & cardboard go in clear bags with a green decal, garbage goes in black bags. Pilot organics program has brown bins with an orange decal,
- Recommended per unit volume: none (because it is taxpayer funded),
- Multi-family buildings have specific signage for location of recycling and garbage bags. Heavy emphasis on bagging and tying.

Outreach and Stakeholder Engagement

In 1989, the city of New York distributed blue bins for paper

Added metal, plastic bottle and glass

In 2013, all rigid plastic was added

Reports related to stakeholder engagement during policy development and roll-out of programs

- <http://www1.nyc.gov/assets/dsny/about/inside-dsny/reports.shtml>

Local government is responsible for ongoing tenant outreach and education. They design materials, updating constantly. Currently electronics, organics and textile recycling have new programs. With each change in the recycling system, basic information is revisited and/or revised.

Per containers and enclosures: No incentives for development of enclosures but working with American Institute of Architects who encourage builders to consider serviceable facilities when developing new housing.

Compliance and Measurement

Compliance:

Local jurisdiction is responsible for ensuring compliance. There is an enforcement staff that does random inspections and there is an online complaint form that is typically used by tenants.

Measurement:

NYC uses waste composition studies (last one completed in 2013) and tonnage reports to track performance.

Wrapping up

Using electronics as an example - enforcement works. New York State banned disposal of certain electronics. Beginning in 2015, \$100 fines to people who put electronic equipment at the curb for disposal. Electronics recycling through e-cycleNYC was expanded as citations were being issued.

Biggest challenge is having a system that is part of the tax base. Kate states that she would prefer pay as you throw.

Who else we may talk to?

Thompkins County, New York

City of Toronto

OAKLAND, CA

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Wanda Redic **Phone** 510-238-6308 **Email** wredic@oaklandnet.com

Community: City of Oakland, California

Program Title: Oakland Recycles

Program Dates: **From** _____ 2015 _____ **To** _____ present _____

Current program: 7/1/2015 to present (Oakland Recycles, Zero Waste)

2005 to 2015: long standing franchise directed program

1995: first franchise agreement including recycling

General Solid Waste and Program Characteristics

- Multi-family is defined as 5 or more units on a tax lot,
- Full-scale program
- Mandatory participation by county rules and state statute
- Public/Private collection system: Franchises are managed
- 3 stream approach
 - Garbage,
 - Comingle including glass,
 - Organics.
- 3,500 buildings, approximately 55,000 households
- Color coding: Garbage is brown (some variance according to hauler), Comingle is grey with a blue label, Organics are green
- Recommended per unit volume
 - Garbage: 20 gal/unit/week
 - Comingle: 5 gal minimum/unit/week (25% base, additional capacity if containers fill up)
 - Organics, 5 to 12 units: 32 gal/week; 13+ units: 64 gal/week
- Alameda County code determined the volumes.
- Alameda County code requires signage standards and co-location of garbage, recycling and organics as well as signs for each stream..

Outreach and Stakeholder Engagement

- Oakland did not do a pilot program on organics.
- Using studies of communities that were similar to Oakland in population and diversity, Oakland planned their programs and engaged the community in conferences and other outreach.

- Wanda had no firsthand knowledge of intentional, equity-based stakeholder engagement. However, she indicated that it is policy to engage stakeholders as RFPs are being formed.
- Code requires new construction and renovation to have space for required garbage, recycling and composting bins and dumpsters.
- Ongoing tenant outreach and education is the responsibility of the haulers although they don't have the capacity to meet the needs.
- The City of Oakland and haulers share responsibility for outreach materials. Oakland designs and produces materials and haulers distribute in bills, on tags, etc.
- Technical assistance and outreach support is provided by the City to haulers.

Compliance and Measurement

- Alameda County recycling rules place on-site compliance on property owners/managers.
- The City of Oakland is responsible for compliance through hauler contracts.
- Alameda County provides inspection staff. They work with non-compliant properties to remedy problems. Fines are issued only as a last resort (after multiple visits).
- The City also relies on complaints, typically from residents for lack of bins.
- There is not a system in place to track performance of the multifamily program. As one is developed, it needs to match state statutes.
- Incentives are in place to promote adherence by property owners/managers.
- As mandatory state laws took effect, there were fewer opt-outs for recycling services.
- Oakland experiences high illegal dumping due to housing moves of local residents.

Wrapping up

Varying lifestyles of local residents demand outreach in new platforms (i.e. using social media to advertise methods of bulky item disposal). Partnerships in the community, especially with reuse non-profits, are helpful and encouraged.

OLYMPIA, WA

Multifamily Program Survey

Surveyor Name: Virginia Saraswati

Contact Information: Ron Jones **Phone** 360-753-8509

Email rjones@ci.olympia.wa.us

Community: City of Olympia

Program Title: Waste ReSources , Multifamily Recycling Program

Program Dates: **From** 1994 **To** present

General Solid Waste and Program Characteristics

- In City of Olympia, multifamily is defined as 5+ units for planning purposes but for solid waste, households would be considered part of a multifamily community if more than one household share the same waste collection receptacles. If there was a multifamily property where each unit had their own individual roll carts, those households would be considered single family.
- The collection system is considered a municipal service (Thurston County and City of Olympia use the same MRF) and the city provides 95 gallon roll carts for recycling.
- The program is full scale and participation is voluntary but since recycling is included with garbage collection at no additional charge, most properties do recycle. The recycling program is funded through the garbage rate.
- There is typically 3-4 streams collected; Garbage, Comingle with glass, Cardboards (for larger complexes that use dumpsters), and Organics (at additional cost).
- Because organics is only available at additional cost, not many multifamily properties participate in this program (the ones that do are the exception, not the norm).
- During the 1990's Multifamily recycling was collected through 2 streams using the same 95 gallon carts because papers (cardboard, mail, etc.) and various containers (cans, glass bottles, etc.) were collected separately.
- The program transitioned to single stream Comingle recycling in 2003.
- The program currently serves about 140 properties with units ranging from 4-357 per complex.
- Only less than about 5 known complexes do not participate in recycling so participation rate is greater than 90%.
- The city of Olympia tried to standardize the colors of the collection containers in 2008. Blue for recycling, black/grey for garbage and bright green for organics.
- Ideally, each 95 gallon cart would be shared by 3-5 households but the number of carts provided to each multifamily property is really dependent on property owners/managers and physical available space.
- A recommended volume of service is 0.5CY/unit/month (1.1CY of total solid waste/unit/month with a 50:50 ratio between garbage and recycling) and this number comes from a rudimentary calculation done many years on the average total waste from 6-7 properties of various sizes. A calculation based on newer figures is being planned.
- Service frequency for Multifamily is once a week (v.s. Single Family's every other week)
- There is a lot of unaccounted waste from purging during turnover and repairs.

Outreach and Stakeholder Engagement

- Because the program is so well established and has been around for quite a while, not much is known on the kind of outreach and engagement that was done during initial roll out of recycling for multi-family.
- The multifamily recycling program was initiated after the success of the single family recycling program (single families could enroll at no additional cost and could receive reduction in garbage fees if they participated in recycling). People felt that residents of multifamily properties should not be penalized and deprived of the same services simply because they live in such properties.
- The city's program provides brochures and does outreach by request from property managers/owners when they notice a lot of contamination in their streams. Properties risk losing their recycling services if contamination level is too high.
- The program conducts information sessions when outreach is requested in order to increase resident participation and reduce contamination. Not many property managers are on board with the idea of a move-in information package for new residents because recycling is not on their priority list.
- The City tries to check in or communicate with each property at least once a year.
- The City of Olympia is working towards Zero Waste (the goal was adopted in 2006). A new six-year plan was implemented in 2015 which includes strategies for Multifamily Recycling.
- The City has worked on planning and permitting to improve space for recycling containers at multifamily sites. Any new construction follows these requirements but not much can be done with older buildings with limited space.

Compliance and Measurement

- Since it is a municipal system and participation is voluntary, enforcement of compliance is not applicable.
- The City is currently working on the idea of an Annual Report Card for Multifamily properties to give them an indication of how well their properties are performing. The report would include their recycling rate and would include the context of the City's overall long term goals.
- The city keeps track of tonnage reports and has done city wide Waste Composition Studies.

Wrapping up

Lessons learned and challenges faced:

- To most property managers, filling up occupancy is of higher priority than managing solid waste which should be kept in mind when interacting with them in order to encourage recycling
- Sometimes there are owner of properties who live off site and hire managing companies who then hire an onsite managers. Additionally, property managers also go through

high turnover. The multiple layers of authority present a challenge when trying to push for decisions to be made and to establish a relationship with the property's community.

Appendix C:

Residential and Commercial Collection Services Studies, October 2014

Appendix D:

City of Olympia Waste Composition Study 2014

PHILADELPHIA, PA

Multifamily Program Survey

Surveyor Name: Virgina Sarawati

Contact Information: Marisa Lau **Phone** (215) 686-5577 **Email** marisa.lau@phila.gov

Community: City of Philadelphia

Program Title: Multifamily Recycling

Program Dates: **From** _____ 2009 _____ **To** _____ present _____
(single stream recycling)

General Solid Waste and Program Characteristics

- Philadelphia's current system for multifamily recycling is essentially 2-tiered. The City provides collections for properties with between 2 and 6 dwelling units, while buildings with more than 6 units are responsible for arranging for their own recycling and solid waste services, typically through a private hauler.
- City code mandates multifamily property owners/managers to provide recycling for residents but each property contracts directly with whichever private hauler they choose (open market bidding)
- For a summary of regulations governing municipal and private collection of refuse, see the website:
<http://www.philadelphiastreet.com/refuse-collection-fees/regulatory-summary>
- The Recycling Office staff estimates that there are approximately 115,000 households within structures with between 2 and 6 dwelling units..

Outreach and Stakeholder Engagement

- Multifamily properties were not targeted through any pilots prior to the roll out of single-stream recycling, which was introduced over a three-year period starting in 2009.
- The Recycling Office conducts outreach and education to both multifamily tenants and property owners/managers. A variety of methods are used, including direct mail, email, media, and street team canvassing. Some of the recycling initiatives target multifamily properties specifically.

Compliance and Measurement

- The City's Streets and Walkways Education and Enforcement Program (SWEEP) officers conduct inspections to ensure compliance on an ongoing basis. They respond to complaints, conduct random inspections, and also provide follow-up enforcement after street team canvassing; (see website for more details about SWEEP).
- In terms of measurement, the Recycling Office has identified sanitation areas with large numbers of properties with between 2 and 6 units. As they work to improve recycling

rates for the entire area, they'll adjust their outreach, education and enforcement efforts to make sure they are reaching these multifamily households.

Wrapping up

SACRAMENTO COUNTY, CA

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Etienne Ozorak **Phone** 916-875-4115 **Email** ozorake@saccounty.net

Community: Sacramento County, California

Program Title: Waste Management Program

Program Dates: **From** __2009__ **To** ____present____

General Solid Waste and Program Characteristics

Sacramento Waste Authority took effect requiring all businesses and multifamily properties to participate in recycling.

General Characteristics

- Multi-family is defined as 5 or more units on a tax lot,
- Full-scale program,
- Mandatory participation by county rules and state statute,
- Public/Private collection system (franchised routes),
- 2 stream approach
 - Garbage,
 - Comingle including glass.
- Color coding: Garbage is black, Comingle is blue.
- Recommended per unit volume:
 - Garbage: sufficient for tenant use,
 - Comingle: at least 30% of the volume supplied for garbage.
- Code enforcement staff recommended the volumes.
- The Sacramento Waste Authority sets code for collection.

Outreach and Stakeholder Engagement

- Sacramento County focuses on illegal dumping and blight.
- With the addition of organics (currently collection is limited to businesses), a contracted media firm will work on outreach.
- The City of Sacramento and Sacramento County are partnering with haulers to have money set aside for a full campaign.
- Sacramento County is responsible for the outreach of the multifamily garbage and recycling system.
- The haulers are required to financially support and sign off on materials.
- Enclosures: to date, no efforts have been made to deal with enclosure improvements or placement. A grant program is being formed to assist property owners with the construction of structures that would support recycling bins.

Compliance and Measurement

- Sacramento County, the City of Sacramento and the Sacramento Region Solid Waste Authority share responsibility for the compliance of the recycling program.
- The Environmental Management Department of Sacramento County has staff that does on-site inspections that are triggered by analysis of hauler billing.
- Tenant complaints for lack of recycling also cause on-site inspections.

Wrapping up

- A lack of a ban on self-hauling makes compliance difficult.

SAINT PAUL, MN

Multifamily Program Survey

Surveyor Name: Virginia Sarawati

Contact Information: Alex Danovitch **Phone** 253-835-2771

Email alexd@eurekarecycling.org

Community: City of St Paul (Eureka Recycling)

Program Title: Multifamily Recycling

Program Dates: **From** _____ **To** _____

City of St Paul has had multifamily recycling for around 20 years.

General Solid Waste and Program Characteristics

- In St Paul, multifamily is defined as 5 or more units per tax lot and properties are mandated by code to provide recycling services.
- The city operates on an open market system for haulers and Eureka has won the bid for the coming year. It is a revenue sharing system.
- Eureka spun off from a non-profit called Neighborhood Energy Consortium (which has served St Paul since 1988) and has been in existence for around 15 years.
- There are 2 streams collected at multifamily communities; garbage and commingle recycling with glass included. Eureka services recycling for the entire city while garbage collection is done through open hauling (different buildings may have different haulers).
- Eureka provides service for commercial composting but the city currently does not provide the service for residential dwellings yet.
- The recycling collection roll carts are city owned and Eureka contracted with the city the purchase these containers. In the upcoming contract, the larger dumpsters will be owned by Eureka instead of the city.
- The recycling containers are standardized in color (green) with clear labeling. However, there is no standardization of color for garbage because it depends on the hauler but typically it is black for garbage.
- Eureka currently serves around 40,000 households in 1,200 properties and participation rate is over 90%.
- The recommended volume of service is a 90 gallon cart/4 units/week which is 22.5 gallons/unit/week. This was estimated by averaging the recycling volumes from the last 20 years. However, Eureka also spends a lot of resources on “right-sizing” the service to each building and making sure that the capacity fits the property.
- There is nothing contractual regarding location of collection bins and location of signs but ideally recycling would be located in the same place garbage is to ensure it is not less convenient to recycle. There is an educational component in the contract.

Outreach and Stakeholder Engagement

- Eureka has never done a pilot program specifically for multifamily but they have tried various education models throughout the years.
- Eureka has done several Zero Waste Events to engage with residents and to promote reusables and is part of a Co-op for recycled product purchasing.
- Multilingual and more image based education materials have been developed because St Paul has quite a diverse population with many recent immigrants.
- There is a large Hmong community in St Paul, which historically have no written language. In their outreach effort, Eureka partnered with community groups and gave presentations in order to educate about recycling.
- There is dedicated staff who notes when carts are overflowing or if there is a lot of contamination. Postcards will be given to property managers or owners to notify them of the situation which is followed up by a site visit. They would be provided with education materials and resources to help them solve the problem.
- There are also annual mailings to update multifamily residents on the most current issues in recycling specific to multi family.
- In the past, Eureka has been primarily responsible for designing the education materials and conducting outreach. In the upcoming contract, the city will have a more active role in education and outreach while Eureka's role will be geared more towards customer service. It will be a collaborative effort.
- Since Eureka is a non-profit organization, education, quality of material and participation are key points to them, thus they prefer the collaborative approach in solving contamination as well as other problems.

Compliance and Measurement

- Recycling service is provided through property tax which means that all multifamily properties already pay for recycling regardless whether or not they participate in the program. There's no additional fine for not participating.
- Beyond just taking note of the places that are not on the service route, there is no one out there who regularly monitors or inspect buildings for recycling.
- There have been instances where recycling was pulled from a property because they were experiencing high contamination and did not make any efforts to improve despite continuous outreach. This happens very rarely.
- They've tracked data of tonnage and volume of recycling which was shared back to property managers and residents so they know how their building specifically is performing.
- Other indicators that have been used to measure performance:
 - Contamination
 - Waste composition studies that also compares multifamily to single family
 - Several resident surveys over the years
- The new trucks will have built in data collection software which will keep track of the number of carts at each location and the volume of the recycling.

Wrapping up

Some challenges and lessons learned:

- Each building is unique which can be challenging when trying to properly size the service.
- Staying on top of contamination is always an ongoing process.

Additional information:

Eureka has done a pilot project for residential composting which has been summarized here:

http://media.wix.com/ugd/8468e6_c743ad16d1914f69a27f4eec6163b9e4.pdf

A toolbook on multifamily recycling programs compiled by Eureka from several years ago:

http://media.wix.com/ugd/8468e6_8047246fe7b843618342470eb27d3a43.pdf

SAN FRANCISCO, CA

Multifamily Program Survey

Surveyor Name: Babs Adamski

Contact Information: Kevin Drew **Phone** 415-355-3732 **Email** kevin.drew@sfgov.org

Community: San Francisco, CA

Program Title: Fantastic Three

Program Dates: **From** _____ **To** _____ ongoing

General Solid Waste and Program Characteristics

On-going program, Multi-Family and Apartment Recycling

General Characteristics

- 6+ units on a tax lot.
- Full-scale program for standard recycling.
- Private system: Recology is contracted with the City of San Francisco in a permit system (by area, 97 separate permits).
- 3 stream+ separation:
 - Trash
 - Comingled recycling
 - Organics
 - Additional collections as requested (i.e. Battery Buckets)
- Program serves 700,000 residents in 8,600 buildings.
- 99.9% access rate.
- Color coding (common usage): Commingled paper, metal, glass: blue Compost: green, Trash: black Battery: orange
- Recommended per unit volume: Garbage: 16 gal/unit/week, Comingle: 16 gal/unit/week, Compost: 4 gal/unit/week
- Volumes were determined by previous program performance. Currently considering lowering trash category to 10 gal/unit/week.
- Program requires yearly review by property managers with residents, employees and contractors.
-

Outreach and Stakeholder Engagement

- Educational materials were distributed in multiple languages including Chinese and Spanish, hotlines set up by haulers, residents acted as “stewards” to assist neighbors and an advertising campaign at bus stops showing the three cart system was put in place during the launch.
- 1997 to 1999 - Pilot program
- 1999 to 2003 - Voluntary comingle program
- 2004 - Addition of organics

- 2009 – Mandatory three stream program
- Broad engagement including extra efforts in neighborhoods identified as underserved or with diverse cultures and multiple languages.
- Property owners are responsible for tenant outreach and education with support by the city for materials.
- Signmaker tool allows property owners and managers to make signs that reflect their collection system: <http://sfenvironment.org/signmaker>
- It has been 5 years since the City of San Francisco sent out a mailer on multifamily recycling.
- Currently, there is no language in planning code to encourage development of enclosures for trash and recycling. Building code has “weak” language but more designs are taking the streams into consideration (i.e. chutes for comingled next to trash chutes).

Compliance and Measurement

- The Department of Public Works conducts inspections based on reports of low diversion rates.
- Recology identifies accounts/buildings with high contamination rates.
- Rates are discounted by the percentage of recyclable and compostable materials diverted from the landfill stream. Customer account information identifies non-compliant properties.

Wrapping up

- Mandatory requirements make the program more robust but doesn’t get containers into buildings where they will be used. Residents are reliant on the efforts of property managers and owners.
- As building management changes norms to a more committed effort, residents follow suit.
- Characterization studies were helpful in identifying the needed infrastructure when pilots were launched. Recycling patterns were compared across neighborhoods with varying demographics.
- Good signage cannot be stressed enough.
- Pleasant environments in trash rooms and enclosures also encourage better participation.
- This article in BioCycle from 2002 gives a good overview of the switch to three streams for both multifamily residential and commercial accounts: <https://www.luminpdf.com/viewer/L5Rf3KER8kMkM798c>

SEATTLE, WA

Multifamily Program Survey

Surveyor Name: Babs Adamski

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Community: City of Seattle, Washington

Program Title:

Program Dates: **From** ___2005___ **To** ___present___

2007: City of Seattle adopted a zero waste strategy to increase recycling and reduce trash.

2005: Seattle Public Utilities launched a program to divert 60 percent of garbage going to landfills by increasing recycling.

General Solid Waste and Program Characteristics

- Multi-family is defined as 5 or more units on a tax lot,
- Full-scale program,
- Public/Private system (property owners pay city, city contracts with haulers),
- Over 60% of garbage is diverted by recycling and composting,
- 3 stream approach: garbage, co-mingle including glass, organics including food and garden debris,
- 140,000 household units in 5,000+ buildings.
- Color Coding: (recommended but not all haulers comply with their dumpsters):
 - Garbage: black
 - Commingled: blue
 - Organics: green
- Recommended volumes
 - Garbage: 0.1 cubic yard/unit/week
 - Commingled: 0.1 cubic yard/unit/week
 - Organics: For multi-family units: One (1) 96 gallon cart per 50 units, more as the property demands.

The solid waste compliance team developed these rates. As the program has matured, amounts have increased for co-mingled and organics collection.

- No requirements for signage location, signage standards or education requirements.

Outreach and Stakeholder Engagement

- Stakeholder analysis was done before expansion of program. Organizations, property managers and haulers are conferred with as each component of the program is changed.
- The goal for the city is 70% recycling rate by 2022.
- Per utility procedures, it is standard to have equity based tools and outreach done with race and social justice in mind.

- Local government is responsible for support and services including on-site technical assistance. Evaluation and data collection is done with consultants and hauler for properties of 100+ units. Tools and other support are given in response to the needs of the property.
- The design of materials and the outreach is done by the city but shared with haulers and property managers for review and feedback. Updated on an ongoing basis to reflect most current and important information.
- Feedback from property managers and other stakeholders is helping to identify barriers to recycling and composting. Focus groups will be conducted for individuals with limited English language proficiency. An online survey for property managers and residents was conducted to gather information on how to break down the barriers experienced by a broad population.
- On-site presentations for residents are conducted and property managers are invited to workshops where supporting materials (signs, pamphlets are shared). There is a stewardship program for a resident leader to help neighbors. Incentives are provided to some properties to help residents collect food waste (especially for low-income developments). One third of city residential properties have participated in one or more of these programs.
- Enclosure spaces:
 - New buildings have requirements for recycling and other solid waste.
 - Existing buildings space requirements are on a case-by-case basis to accommodate current solid waste requirements.

Compliance and Measurement

- The City of Seattle ensures compliance.
- Random inspections are done by a team of 10 compliance inspectors. They are responsible for both multifamily and commercial property recycling and garbage.
- Waste composition studies are done every four years for multifamily and single family residential program. This alternates with commercial program studies.

Wrapping up

Current room for improvement: a better tracking system (database) for multi-family characteristics including sections on co-location, interactions, 10 components of the recycling program.

SNOHOMISH COUNTY, WA

Multifamily Program Survey

Surveyor Name: Virginia Saraswati

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Community: Snohomish County

Program Title: Snohomish County Multifamily Tenant Outreach (A program with WM & ECOSS)

Program Dates: **From** _____ Oct 2015 _____ **To** _____ Dec 2015 _____

General Solid Waste and Program Characteristics

- In Snohomish County, "Multi-family structure" is defined as: any residential structure designed for occupancy by two or more families living independently of each other receiving solid waste collection service as an entire structure or complex and the structure or complex is billed for solid waste collection service as a whole and not by individual dwelling units . However, the program focuses more on apartments and not duplexes/triplexes, etc.
- The county operates transfer stations and has Revenue Sharing Agreements with several private haulers across the county. The MRFs are owned and operated by the haulers. In certain parts of the county, specific haulers have exclusive rights to collect. However, if a city becomes incorporated, they can choose to contract with whichever hauler they choose.
- The program is considered full scale and according to code (put in place since 1998), any hauler that provides garbage services in unincorporated areas is obligated to also provide recycling services (although tenants are not obligated to use those services and properties are not required to sign up for service).
- The source separation approach is dependent on the hauler that provides the service. Typically Garbage and Recycling are the two streams found in multifamily structures. Most haulers collect all recyclables into one stream (comingle including glass) but there are also those that collect recyclables separately through several streams.
- There are no standardized colors for the collection bins because it is dependent on the haulers' system.
The county currently does not specify a recommended per unit volume of service.
- Haulers are required to educate, promote and provide information on recycling as specified in county code.

Outreach and Stakeholder Engagement

- The responsibility for outreach and education is usually done in collaboration between haulers and county.
- In the past, outreach was done primarily by providing property owners/managers with information packages on recycling to give to their tenants but this approach was not very effective.

- Snohomish County conducted an outreach pilot project in collaboration with Waste Management (WM) and ECOSS in 2015 which placed an emphasis on door-to-door outreach with multilingual staff.
- They also placed new decals that were more image-based to differentiate recycling from garbage. A summary of this project was published and details can be found in the document.
- Prior to the outreach, in preparation, they interviewed and surveyed property owners and tenants.
- Creating incentives or codes to address enclosure space for recycling has been discussed on the county level but nothing has come out of it yet. The cities have more say in such matters.

Compliance and Measurement

- All the haulers are regulated by the Washington Utility and Transportation Commission. They handle rates, enforcement and complaints. The system is more complaint based rather than through random inspections.
- The county does not keep track of the program performance but the information would be readily available from the haulers if requested (volume, tonnage reports, etc.). Some of this information can be found in the Pilot Outreach report.
- A waste composition study that looked at the county overall was conducted and some information on multifamily was available. The details can be found in the published report.

Wrapping up

- The rate of return between the benefits and the resources that was expended in multifamily recycling outreach don't really add up, especially when the value of commodities is taken into account.
- Changing people's behavior is one of the biggest challenges, especially when recycling is not made convenient and easily accessible.
- Recycling participation level has increased with the introduction of the mandatory recycling code.
- Some discussion on product stewardship has been going on but not much have come out of it yet. Could be something to look into in the future.

Appendix E:

Snohomish County Waste Quantities and Composition

Appendix F:

Snohomish County Residential Collection of Solid Waste and Recyclables in Unincorporated Areas

THURSTON COUNTY, WA

Multifamily Program Survey

Surveyor Name: Virginia Saraswati

Contact Information: Allyson Ruppenthal **Phone** (360) 8672279 **Email**
ruppena@co.thurston.wa.us

Community: Thurston County

Program title: Multifamily Program

Program Dates: **From** ____ 2008 ____ **To** ____ current ____

General Solid Waste and Program Characteristics

- Multifamily in Thurston County does not have a specific definition but any dwelling with more than 1 unit would be considered Multifamily, including duplexes. However, the program tends to focus more on dwellings with more than 10 units.
- The program is considered full scale and participation in recycling is voluntary in unincorporated Thurston County as the county does not have regulatory authority to mandate this. However, most properties do participate due to the request of residents.
- Thurston county contracts with a private hauler who is responsible for collecting and processing the recyclable materials. City of Olympia processes its recyclables at the same site but the collection system there is considered public service.
- Thurston County currently serves approximately 9500 households/units and provides educational outreach for approximately 8500 households/units.
- There is no standardization across county on how recycling is collected as it is dependent on the private hauler and property managers but there is usually 4 streams: garbage, glass, comingle recycling, and organics.
- There is no standardization on the colors of the collection bins but usually Comingle is blue, Organics is green and Garbage is black/grey. The color for Glass collection varies a lot and some places repurpose old collection bins for it (bins from when comingle was not in place yet).
- Thurston County does not have any baseline data to make any recommendations on volume because the private hauler is not obligated to provide it. Typically haulers work with property managers to assess what the appropriate collection set up would be for each site and the county does not have a role in that process.

Outreach and Stakeholder Engagement

- There was no pilot program and outreach was mainly ad hoc
- Typically property managers ask the county to help with outreach and education of residents when there is reported high levels of contamination in the streams. At their own initiative, some property managers provide a recycling guide as part of their move-in package for new residents.

- The county does annual check-ins with property managers and haulers in case there are changes in what is accepted in the streams and if any new education and outreach may be needed.
- Some of the larger properties have “green teams” within their communities. The county helps with training and educating these teams who then continue outreach within their communities.
- Many of the multifamily properties have high turnover rates with residents from diverse cultural backgrounds.
- Haulers reported less contamination after educational outreach.
- The responsibility for education is usually shared between the County, Haulers and Property Managers and the set up is typically dependent on where the property is located.

Compliance and Measurement

- Since participation is voluntary, there is no compliance or enforcement. Additionally, since getting consistent good data from the haulers is difficult, there is no exact measurement for tracking the program performance.

Wrapping up

Hindsight and things that could be done differently:

- If possible, before even rolling out a new program, make sure that baseline data is available.
- If funding is available, create focus groups to learn more about target audience and do an annual survey

VANCOUVER, BC

Multifamily Program Survey

Surveyor Name: Virginia Saraswati

Contact Information: Steve Drake **Phone** 604-873-7190 **Email** steve.drake@vancouver.ca

Community: City of Vancouver, BC

Program Title: Multi-family Recycling

Program Dates: **From** 1999 **To** current

(gradual implementation with expanded materials collected over the years)

General Solid Waste and Program Characteristics

- In Vancouver BC, multifamily is defined as buildings with 5 or more units within its property.
- The collection of recyclables used to be considered a municipal service but now the city is transitioning to a fully contract system with MMB (Materials Management British Columbia) with Waste Management Canada (WM) as the contracted hauler.
- In the past, a mandatory recycling fee was in place for residential properties which discouraged most buildings from opting out of the program. As of January 2015, that fee is eliminated and recycling is free and there have been a few properties that have opted out from the service but a new by-law is now in place that states buildings must provide recycling collection.
- The city currently collects from 58,000 units (2,400 buildings) while their contractor, WM, collects from 90,00 units (2,500 buildings) and overall, recycling participation is well over 90%. Once the transition is done, all collection services will be done by WM.
- With the new MMBC contract, recycling will be collected in 3 streams; mixed paper, mixed containers and glass. In the contracted areas, WM has refused to add an additional glass stream and only collects 2 recycling streams but once the new contract takes place in October, they must collect the 3 streams separately.
- Additionally, there is garbage collection (which is provided by the private sector) and organics collection. Food scraps and yard waste are banned from landfill in Metro Vancouver thus buildings must also have collection for organics which the city provides at smaller buildings. In larger tall buildings, the service is usually provided through the private sector.
- The recycling collection carts are currently city owned and are all colored blue to differentiate from organics and garbage. However, there is no color differentiation between the various recycling streams, only different labeling.
- Currently, in areas serviced by the city, collection is done weekly. In areas serviced by WM, collection is sometimes done twice a week. There is no recommended per unit volume of service but based on the following study in 2014, the weekly per household recycling collected at multifamily properties was .00299 tonnes/unit/week or 6.7 lb/unit/week:

<http://www.metrovancouver.org/services/solid-waste/SolidWastePublications/2014SolidWasteManagementAnnualSummary.pdf>

- The new by-law which mandates multifamily recycling also has an education component to it. Buildings must provide an updated educational session and recycling guide for new residents and old residents at least once a year.

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Outreach and Stakeholder Engagement

- With the new three stream recycling system, the city had to re-label the collection carts at various buildings and a lot of door to door outreach was done to educate residents on the changes. Each resident was given a recycling guide and posters were given to property managers to post around the building.
- When the new contract rolls out, WM and MMBC will also do the same kind of outreach city-wide.
- Metro Vancouver is currently working on moving away from textual labels/posters and using a more image based labeling system with uniform colors and symbols throughout the region.
- There have not been much translation of materials (multilingual labels, posters, etc.)
- After transitioning, MMBC will be primarily responsible for education and outreach while the city will provide support through their website and phone service line. MMBC will be responsible for designing the education materials.
- The city has a “Garbage and Recycling Storage Facility Design Supplement” which gives information to developers on how their garbage rooms should look like (how much space is needed, where they should be located, etc). These guidelines are part of the zoning requirements for really large developments while smaller developments/redevelopments have to go through a review process and will be notified if their space is inadequate and will be recommended to re-assess their plans.

Compliance and Measurement

- In the past, there were no mechanisms to enforce buildings to provide recycling but the mandatory fee had the desired effect. The by-law that mandates recycling is still relatively new and the mechanism for enforcing compliance is primarily complaint based. Typically property managers are not resistant, they have just lapsed in updating their recycling program (re-ordering new carts, labels, posters, etc).
- The buildings that do opt out usually have a different service provider.
- The city tracks performance by monitoring volumes and contamination. A waste composition study that included a tonnage report/estimates was done in 2013 that looked at multifamily separately from single family.
- Surveys are done periodically and there have also been focus groups.

Wrapping up

Missed opportunities, things that can be done differently or challenges:

- More resources could be put into outreach. Packaging the information and educational materials into a more cohesive form with several translations has been put off for a while because the multifamily recycling program is currently in limbo.
- Customization in service and flexibility in regulation for buildings that would allow for such customization would be ideal.
- Although not an immediate priority, one of the challenges the city has faced is dealing with contamination because it would require pinpointing the source of contamination and assessing what steps would be needed to reduce contamination at those sites.