



CITY OF KIRKLAND
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MEMORANDUM

To: Kurt Triplett, City Manager

From: Jenna Higgins, Recycling Programs Coordinator
Tracy Durnell, Environmental Education and Outreach Specialist
John MacGillivray, Solid Waste Programs Lead
Kathy Brown, Public Works Director

Date: December 14, 2015

Subject: Multifamily Recycling Municipal Code Revision

RECOMMENDATION

Staff recommends that City Council receive a staff presentation on multifamily recycling and adopt the recommended revisions to *Kirkland Municipal Code 16.08.12 (G) Waste Reduction Plan, Multifamily Residential Recycling* to ensure the adequate provision of recycling capacity to multifamily residents.

BACKGROUND

Improving recycling diversion at multifamily properties is an ongoing challenge for local solid waste management jurisdictions throughout the United States. Many jurisdictions, including the City of Kirkland, are striving to improve multifamily recycling and are pursuing this goal using a variety of tools.

On September 2 and October 7, 2015, Solid Waste staff provided the Public Works, Parks, and Human Services Committee (the Committee) with presentations on the successes achieved and challenges faced by staff when endeavoring to increase recycling diversion at Kirkland's 500+ condominium and apartment properties. Staff also presented potential tools to improve this effort. There are two major challenges: first, ensuring each property has recycling service on-site; and, second, making sure that each property has enough recycling capacity to contain all of the recyclables produced by residents. The materials provided to the Committee are included for reference as *Attachments 1, 2, and 3*.

Recycling Capacity Rate

Solid Waste has adopted an unwritten standard for existing multifamily properties which recommends that each property have at least a 1:1 ratio of recycling capacity to garbage capacity, or a 50% recycling capacity rate (RCR). The RCR represents the potential recycling diversion rate that could be achieved if all recycling container(s) were full every time they were

picked up. For example, a property with a 4-yard garbage service and a 6-yard recycling service would have a RCR of 60% (6yd recycling/(4yd garbage + 6yd recycling) = 60%).

WAC 51-50-009 of the State Building Code requires local jurisdictions to require all new buildings to provide sufficient space for storage of recyclable materials and solid waste, and for some jurisdictions this means at least 50% of the capacity is for recyclable and compostable materials. Kirkland’s current Pre-approved Plan standard, which requires an equal amount of space for recycling for new multifamily and commercial developments, is included in *Attachment 1, Policy G-9*.

Kirkland’s approach is to help all multifamily properties achieve an RCR of 50%. As shown in *Table 1*, currently less than half (48%) of Kirkland multifamily properties meet the 50% recycling capacity standard. The average RCR for all properties combined is 40%.

Percentile	Number of Properties
0-%	3
1-25%	42
26-49%	223
50%+	253

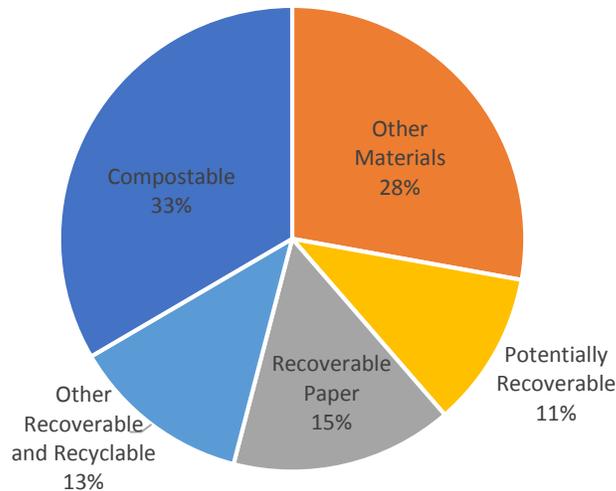
Compared to the RCR which represents *potential* diversion, the Recycling Diversion Rate (RDR) represents the *actual* diversion of recyclable materials from the landfill. The goal is to make the RDR equal to the RCR. This 50% RCR standard is just one of a variety of tools used by Solid Waste staff to try to bridge the gap between the lofty single family recycling diversion rate (without yard waste included) of 44% versus the incrementally-improving-but-still-underperforming multifamily recycling diversion rate of 20%.

Multifamily Waste Stream Characterization

Waste stream characterizations can help to understand the percentage of recyclable and compostable materials that are currently landfilled. Waste stream characterization studies only look at the items disposed of in the trash. While Kirkland has not completed its own waste characterization study, the data from the [2011 King County Waste Characterization Study](#) suffice to approximate Kirkland’s own multifamily waste stream.

Chart 1 below shows the aggregate composition of King County’s multifamily waste stream. About 72% of the waste collected from multifamily properties could be recovered for recycling (39%) or composting (33%). If extrapolated to Kirkland’s 2014 multifamily waste stream and converted to annual tonnage, **8,300 tons** of Kirkland’s multifamily waste stream could be recycled or composted but is being landfilled instead. In terms of regular recyclables such as paper, plastic, glass, and metal, about **4,500 tons** could be recovered each year from Kirkland’s multifamily properties. Currently, only 2,500 tons of Kirkland’s multifamily recyclables and 160 tons of compostable materials are actually diverted from the landfill each year.

Chart 1: King County Multifamily Waste Stream (2011)*



*2011 King County Waste Characterization and Customer Survey Report

Recoverable Paper – Paper materials for which recycling technologies, programs, and markets are well developed, readily available, and currently utilized. An example of Recoverable Paper is newspaper and cardboard.

Other Recoverable – Other, non-paper materials (plastic, metal, and glass) for which recycling technologies, programs, and markets are well developed, readily available, and currently utilized. An example an Other Recoverable is PET (plastic) bottles.

Compostable/Potentially Compostable – Organic materials typically accepted for use in commercial compost or digestion systems. An example is unpackaged/scrap vegetative food.

Potentially Recoverable – Materials for which recycling technologies, programs, and markets exist, but are either not well developed or not currently utilized. Examples include used oil filters, paint, expanded polystyrene, or mattresses.

Other Materials – Materials that are not readily recyclable or face other market-related barriers. An example problem material is used plastic trash bags.

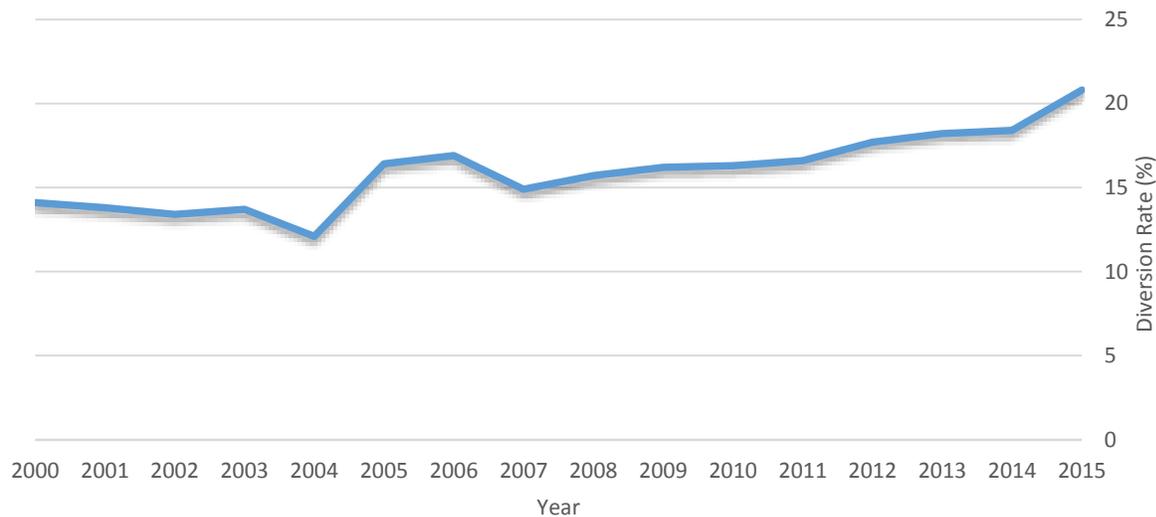
While it is not an exact science converting tonnage (weight) to cubic yards (volume), Kirkland has enough recycling volume in place to achieve only a 40% multifamily recycling diversion rate, while King County has a goal of achieving a combined (single family, multifamily, commercial, and self-haul) diversion rate of 70% by 2020. While both single family and multifamily customers have access to unlimited recycling, multifamily property managers infrequently take full advantage of this service. This reinforces the need to not only increase Kirkland’s multifamily recycling capacity but to also continue to provide intensive education and

outreach to property managers and residents to help them fully utilize their increased recycling capacity.

KIRKLAND'S PROGRAMS AND SUCCESSES

Since 2007, excluding internal staff labor, Kirkland Solid Waste has expended over \$130,000 in State and County grant funding toward improving its multifamily recycling diversion rate, which has resulted in an incremental increase in recycling at multifamily properties, from 15% in 2007 to 20% in 2015. Additional assistance has been provided through the City's advantageous contract with Waste Management (WM), where WM provides, upon request, unlimited recycling capacity at no additional cost to multifamily properties and is required to provide assistance with education and outreach through annual mailings and contacts with multifamily residents and property managers.

Figure 1: Multifamily Recycling Diversion Rate (2000-2015)



Kirkland's Multifamily Recycling Program Goals

There are three fundamental goals for Kirkland's multifamily recycling program:

1. To ensure all multifamily properties have on-site recycling;
2. To ensure property managers and tenants have enough recycling capacity for their recyclable materials; and,
3. To provide comprehensive education and outreach to remove barriers and encourage managers and tenants to fully utilize their recycling capacity.

Best Management Practices to Address Barriers

Kirkland has adopted a number of proven best management practices to improve multifamily recycling. These strategies address a variety of barriers to successful recycling in multifamily

environments. City staff offer personalized visits and customized programs to meet the needs of properties. Tools used by staff can include the following:

- Recycling baskets/bags
- Education and outreach materials
- Signage
- Organics collection
- Presentations to tenants
- Door-to-door education
- Waste audits
- Recycling dumpsters to replace carts
- Unlimited recycling service from WM
- Standard development plans (require space at new or remodeled properties)
- Partnerships with Property Managers
- Partnerships with low income housing programs (King County Housing Authority)

Multifamily Recycling Successes

The City of Kirkland has focused considerable effort on working with multifamily property representatives over the past few years. Specifically in the last year, the City developed its [Multifamily Recycling Toolkit](#), a set of resources to share with property managers and tenants to help improve and increase recycling. This toolkit of resources is available through property site visits and online. Managers are able to print their own materials from the website or order them for free through the City.

Over the past nine months, the City has worked with over 20 properties, providing over 350 individual recycling containers and guides, as well as posters and improved signage on dumpsters, presentations, and door-to-door resident outreach. Actively engaging and working with property managers and tenants requires a significant investment of staff time and resources, but the benefits have proven to outweigh the costs.

- At Kirkland Heights, a 180-unit property in Kingsgate, the City worked with Waste Management and property management staff to develop a brand new recycling program. Recycling dumpsters were added throughout the property, adding 54 cubic yards of recycling capacity where there used to be none. The property's RCR went from 0% to 40%, and the changes helped them save \$1,600 per month – almost \$20,000 per year. Residents attended a recycling kickoff party, where kids played recycling games and each household could take home a recycling guide and container for their home after making a recycling pledge.



- Staff also worked closely with the property management team at Cambridge Place/Village at Juanita, a 130-unit condo and apartment complex, to increase recycling capacity and add compost service while increasing resident education. The property added additional recycling carts to each enclosure area; reduced garbage service; added City-provided composting service; and provided recycling starter kits and education to residents coming into the office. Through this program, the property is now saving over \$800 per month, and has increased their RCR from 14% to 34%. Because of the success of the program, property management is considering rebuilding the enclosures to accommodate recycling dumpsters, to meet the increased demand for recycling space.
- Small properties can benefit from recycling programs too. Brookside Park, a 16-unit condo complex in Moss Bay implemented recycling this year. After adding recycling service, they found they could decrease their garbage service. The City provided recycling containers, guides, and posters to all residents, and helped the property go from a 0% recycling capacity rate to 48%, while also saving almost \$100 per month on their bill.

Kirkland's current multifamily program has been largely successful at making incremental improvements to the recycling diversion rate. Using the combination of tools directed at changing behavior is and will continue to be effective, yet certain access and convenience standards are needed to further advance multifamily recycling success. Staff believes new heights in multifamily recycling diversion can be reached through City Council legislation that requires all existing and new properties to have recycling on site, and to have a minimum ratio of recycling service to garbage service.



STAFF RECOMMENDATION

Kirkland's current KMC 16.08.12 (G) only "urges" multifamily properties "... to choose to participate in placement for collection for recycling the following materials: newspapers, mixed papers, and recyclable bottles, cans and plastic containers ..." but does not require multifamily properties to have recycling service or have enough recycling capacity for residents.

As shown below, staff is proposing a modest revision to KMC 16.08.12 (G) that would require all multifamily properties to offer recycling service to its residents and offer at least a 1:1 ratio of recycling capacity to garbage capacity. The proposed revision also encourages properties to use recycling dumpsters versus carts when space is available. The airspace in dumpsters is more amenable to accommodating larger recyclables, such as unbroken-down cardboard boxes. In addition, it is suggested that when possible, recycling and garbage should be co-located to improve access and diversion. Further, the code revision provides property owners with the

ability to request a variance, and provides staff with some discretion in enforcing the code where a property is already close to the 50% recycling rate requirement or does not have enough space to accommodate the mandated increase in capacity.

Proposed KMC Revision

KMC 16.08.012 (G) Multifamily Residential Recycling. Multifamily residential customers ~~may choose and by the city are urged to choose to~~ **shall** participate in placement for collection for recycling, **at a minimum**, the following materials: newspapers, mixed papers, and recyclable bottles, cans and plastic containers. Recyclable materials will be collected on the same pickup schedule as solid waste collections. Recyclable materials shall be placed in **properly-labeled recycling Detachable Containers or recycling carts** distributed by the city's solid waste collection contractor. **Where space is available, Detachable Containers shall be used in lieu of carts. All multifamily properties shall provide to residents a minimum total weekly volume of recycling capacity equal to or greater than the total weekly volume of garbage capacity. To the greatest extent possible, garbage, recycling, and compost containers should be co-located. Multifamily residential customers using containers will receive two or more recycling carts as determined by the size of the solid waste container: The Public Works Director or designee may vary the requirements of this subsection at his or her discretion or upon the request of the property owner if, in the opinion of the Director, the variance is necessary or reasonable. The variance must be in writing and may be revoked by the Director at any time if the necessity for the variance ceases to exist or for any other reason determined by the Director or designee, which determination shall not be made unreasonably. The revocations will be effective on a date or time selected by the Director, which may be immediately if circumstances so require.**

Container Size	No. Recycling Carts
2 or fewer yards	2
3 or 4 yards	3
6 yards	5
8 yards	6
10 yards	8
20 yards	15
25 yards	19
30 yards	23
40 yards	30

EDUCATION AND OUTREACH PLAN

The education and outreach plan will be integrated into the larger multifamily recycling effort in which staff has targeted and offered assistance to properties based upon their recycling capacity rate ranking by percentile. Properties will be notified via an informational postcard mailing in groups with the lowest recycling capacity rates (0-10%) contacted first, followed by 11-25%, 26-35%, and finally the 36-49% group. Staff will follow up with properties most in

need of assistance to help get them to or close to the updated code requirement. To prevent confusion and pre-empt calls and emails, properties already in compliance with the new code will not be contacted.

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**DEPARTMENT OF PUBLIC WORKS
PRE-APPROVED PLANS POLICY**

Policy G-9: GARBAGE AND RECYCLING RECEPTACLES AND ENCLOSURES

Kirkland Zoning Code Chapter 115.45 requires all new multifamily, mixed use, and commercial structures to provide adequate and convenient space for the collection, storage, loading, and pickup of garbage and recyclable material. When constructing new garbage and recycling enclosures, the Storage Space Area and Volume Requirements criteria stated below shall be met.

While not required, it is strongly recommended that consideration be given to using dumpsters for the collection of both garbage and recyclables.

For standard enclosure design plan examples, see CK-G.01. Enclosures shall substantially comply with the referenced plan diagrams, but alternative configurations may be approved by the City when site constraints exist. Waste truck accessibility to enclosures is limited by the turning radius templates shown in CK-G.02.

Storage Space Area Design Standards and Capacity Requirements

- (1) The total weekly capacity of all recycling dumpsters and/or carts shall be equal to or greater than the total weekly capacity of the garbage dumpsters and/or carts. Total weekly capacity equals the size of all garbage or recycling containers expressed in cubic yards x number of service days per week.
- (2) Each enclosure shall provide space for two (2) 64-gallon commercial organics collection carts.
- (3) The minimum required area for the collection and storage of refuse and recyclable materials shall be at least 150% the sum of the dumpster and/or cart footprints to be contained within.

Example 1: A property has a 3-cubic yard (4' x 6') garbage dumpster serviced once per week and a 4-cubic yard (5' 6" x 6') recycling dumpster serviced once per week. The enclosure area required is calculated as follows:

$$(4 \times 6) + (5.5 \times 6) + (2 \times 4.5) = 66 \text{ square feet}$$
$$66 \text{ square feet} \times 150\% = 99 \text{ square feet minimum required enclosure area}$$

Example 2: A property has a 6-cubic yard (6' x 6') garbage dumpster serviced once per week and six 96 gallon recycling carts serviced twice per week. The required enclosure area is calculated as follows:

$$(6 \times 6) + (6 \times 6.3) + (2 \times 4.5) = 82.8 \text{ square feet}$$
$$82.8 \text{ square feet} \times 150\% = 124.2 \text{ square feet minimum required enclosure area}$$

- (4) Containers for refuse and recyclable materials shall be located adjacent to one another within the same enclosure.
- (5) Enclosures shall be designed to provide adequate, safe, and efficient accessibility for service vehicles. All service vehicle access openings shall be at least 10' 6" wide.
- (6) Enclosures shall be equipped with lockable gate doors that open with a minimum 90 degree swing. Any roofed structure over enclosures for stationary dumpsters shall have a vertical clearance of 14'.
- (7) Enclosures shall be designed to allow walk-in access without having to open the main enclosure service gate(s).
- (8) Enclosures should be convenient for residents and businesses. In general, enclosures should be provided within 200'-300' of each resident/business.
- (9) Enclosure areas shall be constructed on a level concrete or suitable equivalent hard-surfaced pad. The grade of the pad shall not exceed three (3) percent.
- (10) Enclosure areas shall include a precast wheel stop or other approved barrier.
- (11) The enclosure space shall not be used for purposes other than for the storage and collection of refuse and recyclable materials.

Available Cart Specifications:

	<u>Dimensions (w x d)</u>	<u>Footprint (sq ft)</u>	<u>Cubic Yard Equivalent</u>
20-gal cart	19" x 24"	3.2 sq ft	.10 cy ³
35-gal cart	19" x 24"	3.2 sq ft	.17 cy ³
64-gal cart	24" x 27"	4.5 sq ft	.30 cy ³
96-gal cart	26" x 35"	6.3 sq ft	.50 cy ³

Available Dumpster Specifications:

	<u>Dimensions (w x d)</u>	<u>Footprint (sq ft)</u>	<u>Configuration</u>
1 cubic yard	6' x 2' 5"	14.5 sq ft	Casters or no casters
1.5 cubic yard	6' x 2' 6"	15 sq ft	Casters or no casters
2 cubic yard	6' x 3'	18 sq ft	Casters or no casters
3 cubic yard	6' x 4'	24 sq ft	Casters or no casters
4 cubic yard	6' x 5' 6"	33 sq ft	Casters or no casters
6 cubic yard (flat top)	5' x 6'	30 sq ft	No casters
6 cubic yard (slant)	6' x 6'	36 sq ft	No casters
8 cubic yard (flat top)	5' 6" x 6'	33 sq ft	No casters
8 cubic yard (slant)	5' 6" x 6'	33 sq ft	No casters

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Washington Multifamily Recycling Study Group
Review of Multifamily Recycling Programs in the United States and Canada**

COMMITTEE MEMBERS

- Sabrina Combs, City of Bothell, WA
- Jack Harris, Blue Marble Environmental
- Jenna Higgins, King County Housing Authority
- Sara McCabe, Seattle Housing Authority
- Gretchen Newman, Washington State Department of Ecology
- Angela Wallis, King County Housing Authority
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- McKenna Morrigan, Cascadia Consulting Group

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INTRODUCTION

This report presents findings of a survey of solid waste and recycling agencies (organizations outside of Washington State) in the United States and Canada to identify and assess multifamily recycling programs. The project findings are represented in six focus areas, including:

1. Policy and Regulation
2. Incentives
3. Promotion and Education
4. Educational Materials
5. Containers
6. Barriers and Challenges

This work was developed by the Washington Multifamily Recycling Study Group (WAMRS). The committee included fourteen members who conducted telephone and email surveys of forty-three agencies and waste management companies who were asked about successful multifamily recycling and food scrap collection programs.

The committee selected respondents from the ten Environmental Protection Agency (EPA) regions in the United States, and in Canada. Each committee member was responsible for identifying and surveying three to four cities per state in their region. Respondents were asked to provide examples from their jurisdictions of multifamily best management practices, regulations, education and promotion strategies, incentives used to increase recycling, and challenges/barriers to increased recycling and food waste composting.

This survey and its development, research and findings analysis occurred over a period of one year between April 2012 and April 2013. Following are the profile findings:

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PROFILES

1. Policy and Regulation – “Make it Mandatory & Enforce It”

Interviews revealed many jurisdictions across the country have regulations requiring recycling services for multifamily dwellings, but that few focus on enforcement.

- **Notable Recycling Ordinances and Laws:**

- Solid Waste Authority’s ordinance requires that 30% of waste collection capacity at multifamily developments be dedicated to recycling. (Sacramento CA)
- City assesses a fee of \$2.60 per residential unit to the property owner to cover the cost of recycling program. For group housing (e.g., fraternities and sororities), the fee is \$1.30 per resident, based on the capacity of the facility. (Champaign, IL)
- Through Assembly Bill 341, the State of California requires commercial enterprises and multifamily developments with five or more units to adopt recycling practices. AB 341 also sets a goal of 75% recycling by 2020. (California)
- Nevada counties with populations of 100,000 or more must provide for curbside collection of recyclables. Plans for construction or major renovations of multifamily developments must include provisions for the placement of recycling containers on the property. (Nevada)

- **Noteworthy Enforcement:**

- City’s Mandatory Recycling Ordinance requires that any building that generates waste in Cambridge must recycle. All new multifamily developments with 75 units or more must submit a recycling plan to the Department of Public Works. Drivers report back about contamination issues and staff work to get them into compliance. City inspectors can give \$25 fines for non-compliance. (Cambridge, MA)
- Property managers are required to provide recycling bins at multifamily buildings. Housing inspections are done every 24 months to ensure participation in recycling program. (Ann Arbor, MI)

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2. Incentives – “Create a Reason to Participate”

Respondents indicated incentive options can entice residents to participate in programs. The profiles highlight a mix of creative ways to encourage participation.

- **Financial**

- Cost savings through recycling with discount offers or decrease in garbage container size. (San Francisco, CA; Nevada)
- “WRAP” program provides rebates for service and start-up costs for complexes ready to start a new recycling program. Also includes, free on-site recycling assessments, guideline posters, and help developing communication materials, as well as general technical and logistical recommendations. (Fort Collins, CO)
- City offers up to \$2,000 to reimburse recycling program startup costs (covers equipment and tenant education). (Honolulu, HI)
- A partnership of the city, local hauler and RecycleBank enhance recycling for residents who participate to receive points to redeem coupons/vouchers at local and national retail establishments. (San Jose, CA)
- Residents of buildings with 20 or fewer units pay individually for garbage service so they have a direct incentive to recycle (recycling is free). (Portland, ME)
- Multifamily properties that exceed County garbage threshold standards must contract separately for additional collection and service costs, creating an implicit financial incentive to maintain lower garbage volumes. (Baltimore County, MD)

- **Freebies or Giveaways**

- Provides recycling tote bag for use in unit to sort, store and transport recyclable items to the outside recycle containers. (Langley, British Columbia)
- City Staff delivers a free 18-gallon recycling collection container to each unit. (Portland, ME)
- Create a drawing when Property Managers submit orders in time to create an increase in participation. (Portland, OR)

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- Department of Environment provides free consultations to property owners and managers as well as free kitchen pails for each unit. (San Francisco, CA)
- An incentive and education program is in development and will provide in house recycling bags (for tenants to bring out to recycling bins/dumpsters) providing door to door outreach and additional waste reduction and recycling support. (Boulder, CO)
- **Award Programs**
 - Reward to the property manager as part of a competition between complexes to identify the best trash enclosure (design, access, customer education). (San Jose, CA)
 - “Recycler of the Month” award for the best complex, media attention; environmental award from mayor. (San Diego, CA)
 - Volunteer based “Ambassador” program provides recycling support and training opportunities. (Langley, British Columbia)

3. Promotion and Education – “Build a Network-Make it Relationship Intensive, Face-to-Face and Continuous”

Creating and maintaining relationships between property managers, residents and the community is crucial.

- **Direct Relationships with Managers**
 - Engage with and form a close, consistent relationship with building managers and provide timely customer service. (Ann Arbor, MI)
 - It is more efficient and successful to work with owners and managers in several neighborhoods than it is to work with several tenants in one building. (Boise, ID)
 - Employ a dedicated staff person to assist building managers with program implementation, resident education and material distribution. (Prince George, MD)

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- **Face-to-Face with Residents**

- The “Green Apartments” campaign utilizes staff to go door to door and talk about recycling with apartment residents. (San Francisco, CA)
- Attend board meetings or apartment open house events to talk with residents and distribute educational materials. (Boise, ID)
- New York City engages volunteers with the Apartment Building Recycling Initiative (ABRI), a program for residents who want to help better the recycling at their building. (New York, NY)

- **Continuous Outreach**

- Ongoing promotion and outreach (i.e., monthly email newsletter to property manager) is important due to high turnover.(Portland, OR; Cambridge, MA)
- Consider using a tracking system such as driver reports as a way to monitor successes and obstacles and as a way to check in with managers about the building’s recycling progress. (Eureka Recycling, MN)

4. Educational Materials – “Make them visual, translated & accessible”

Print and web-based materials letting residents know how, where and what to recycle are key components of an education strategy. At the same time, some formats and modes of distribution may be more effective with regard to increasing recycling than others.

- **Rely on visual images**

- Communication with pictures is helpful in communities with limited English proficiency. (Portland, ME; Eureka Recycling, MN)

- **Translate materials into multiple languages**

- Distribute information in residents’ native languages helps reach a broader audience. Bilingual flyers with English and another language and container stickers may be particularly effective. (Largo, FL; Urbana, IL)

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Review of Multifamily Recycling Programs in the United States and Canada

- **Use a variety of formats**
 - Consider diverse ways in which residents access information. Making materials available in print via door hangers, flyers, campaign signs and web. (Fort Collins, CO; San Antonio, TX)

- **Distribute widely and often**
 - Recycling information may be useful to residents in multiple locations: on refrigerator magnets or their in-unit collection container; in common areas; on outdoor containers, as well as posted around outdoor enclosures. High resident turnover may also demand frequent distribution. (Boise, ID; Portland, OR)

5. Containers – “Make them clear and convenient”

Convenience and clear marking of recycling containers is important to creating an environment that makes recycling easy and accessible.

- **Labels and Signage**
 - Local ordinance requires accurate labeling on containers. (Chittenden County, VT)
 - Recycling carts have a bilingual decal with photos showing what’s accepted in the recycling. (Urbana, IL)
 - Jurisdictions offer signs, stickers and posters online for residents and property managers. (Portland, OR)
 - If not all dumpster enclosures have recycling, agencies provide clear instructions and map for where to deposit recyclables. (Fort Collins, CO)

- **Size and Space**
 - Cities develop bylaws and ordinances that require sufficient space for recycling containers. (Chilliwack, British Columbia)

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Review of Multifamily Recycling Programs in the United States and Canada

- The City defines the financial savings that complexes can achieve should they downsize their garbage bins and provide space for more recycling bins. (San Jose, CA)
- Poor aesthetics of recycling area can be a barrier to participation (too dark, outside in weather, unsightly, odor). (Langley, British Columbia)

- **Convenience Factor**

- Recycling has to be as convenient as garbage disposal, so agencies recommend recycling chutes or recycle containers on each floor to make it easy for residents to participate. (Baltimore County, MD)
- Many agencies provide in-unit collection containers for transporting recyclables to central dumpsters or carts.
- Agencies work with existing space constraints and use clear bags for recycling collection. (New York, NY)
- Staff provides personalized assistance on the types of containers to provide onsite. (Prince George County, MD)
- For compost collection, city provides countertop compost bins or reusable Tupperware containers, as they don't smell and don't require expensive bags. (Boulder, CO)

6. Barriers and Challenges – “You Are Not Alone!”

Space limitations, contamination, resident turnover, language, education and outreach, and manager opposition to recycling programs were challenges widely cited by the jurisdictions interviewed.

- **Space**

- Many respondents reported “space” or “space constraints” as a general challenge. (Prince George County, MD; New York, NY; Baltimore County, MD; Chittenden County, VT; San Diego, CA; Alameda County, CA; Hamilton

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Review of Multifamily Recycling Programs in the United States and Canada

County, OH; St. Croix County, WI; State of Nevada; Fort Collins, CO; Boulder, CO)

- New and old buildings alike experience problems with insufficient space for recycling containers or inadequate access for collection vehicles. Notably, amendments to local bylaws are in process to address this issue for new buildings. (Chilliwack, British Columbia)

- **Contamination**

- Contamination was reported as a general problem, with various causes cited, including insufficient garbage capacity, illegal dumping, and lack of resident knowledge of the correct way to recycle.

- **High turnover**

- Several respondents expressed that a transient community with tenants moving in and out negatively impacts recycling by creating a continuous demand for outreach and education. This can lead to high marketing costs. (Largo, FL; Middletown, CT; Cambridge, MA; Portland, OR; Ann Harbor, MI; Champaign, IL)
- College towns or communities with nearby colleges can have high turnover with a low level of community investment or waste reduction awareness. (Boulder, CO)

- **Outreach & Education**

- Many multifamily developments provide housing for college students, who may follow different recycling rules at home. (Bloomsberg, PA)
- Challenges providing outreach materials to property managers. (Washington, D.C.)

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Review of Multifamily Recycling Programs in the United States and Canada

- Need for repeated outreach due to high turnover of multifamily residents. (San Jose, CA; Portland, OR; Ann Arbor, MI; Champaign, IL)

- **Opposition to participating in recycling**

The government recycling professionals interviewed repeatedly cited opposition to recycling from property managers. Some examples of manager concerns about recycling include:

- Loss of parking spaces to provide recycling containers. (Raleigh, NC)
- Additional costs to provide recycling. Rebates do not encourage managers to participate. (Fort Collins, CO; Hamilton County, OH)
- Opposition to recycling by multifamily housing associations. (Baltimore County, MD; Dubuque, IA)

- **Language Barriers**

- Recycling professionals perceived that educating residents about recycling in communities with multiple languages and cultures can be a challenge. (Cambridge, MA; Prince George County, MD; Boise, ID; Portland, OR; Honolulu, HI; Urbana, IL; Dubuque, IA; Iowa City, IA; Salt Lake City, UT)

Multifamily Recycling Ordinances Compilation

Alameda County, California. (ORDINANCE 2012-1)

Provide container(s) for Source Separated Covered Materials and other Source Separated Recyclable materials at the same location as the Property Owner provides container(s) for Solid Waste collection, unless all Solid Waste from the property is taken to and processed through a High Diversion Mixed Waste Processing Facility. The container(s) shall be of sufficient number and size to hold the Recyclable and Refuse quantities reasonably anticipated to be generated at the location and bear prominent signage on or near the containers clearly describing the proper segregation and storage of Recyclable and Refuse materials.

Atlanta, Georgia. (ORDINANCE 07-0-1335)

The owners of any multi-family dwelling, including public housing, consisting of six or more living units, or the homeowners' association of condominiums or townhouses consisting of six or more living units shall furnish commercial containers for the collection of recyclables, including, at a minimum, the materials the city collects as part of its curbside recycling program, which materials includes glass, plastics, newspapers, and aluminum cans. The capacity of the containers shall be adequate to hold the recyclable material of residents of the multi-family dwelling, and shall be of a size not less than three (gallons) multiplied by the number of living units.

Austin, Texas. (ORDINANCE Ord. No. 20140612-010)

The responsible party for a premises of which all or part is used for multi-family residential use shall ensure that tenants and employees have access to on-site recycling services ... To ensure adequate storage capacity for recyclable materials, affected properties shall ensure that recycling capacity exceeds certain minimum weekly quantities. Affected multifamily property owners shall ensure that recycling capacity exceeds 6.4 gallons per dwelling per week. This weekly service capacity can be met, for example, with either [a] weekly service of one 64-gallon cart for ten dwelling units, or weekly service of a one cubic yard collection container for 32 dwelling units. Recycling collection areas shall be located within 25 feet of landfill trash collection points and provide continuous access for tenants and facility maintenance personnel.

Service providers will place large signs, stickers, or placards in English and Spanish (and other languages as appropriate) on their exterior containers and compactors on or near the point of entry to identify their purpose (landfill trash, compostable materials, or recyclables) and the materials accepted.

Affected properties shall educate all employees, tenants, and businesses within 90 days after an affected property's URO effective date and annually thereafter educate a new employee, tenant, or business within seven days of employment or becoming a tenant [and] inform all employees and tenants about any changes in the recycling program within 30 days of changes in materials accepted Affected properties shall submit a Recycling Plan on a City-provided form that describes the trash and recycling services and education offered at the property.

Champaign, Illinois

The monthly recycling fee for a multifamily dwelling shall be two dollars and sixty cents (\$2.60) per dwelling unit in a multifamily dwelling.

The number, area and location of said recycling station areas shall be sufficient and adequate to accommodate all of the containers provided by the City and encourage and promote recycling efforts as determined by the Public Works Director or the Director's designee. City [will] determine appropriate number of recycling containers for collections from multi-family dwellings with five (5) or more dwelling units. The Public Works Director or the Director's designee is hereby authorized to determine from time to time the size and number of City recycling containers that must be used by an owner of a residential building. The Public Works Director may direct the owner of said building to increase or decrease the number of recycling containers that must be used at said location if ...said increase or decrease is necessary to more appropriately accommodate said utilization.

[A]ll owners of any multifamily dwelling with five (5) or more dwelling units, all owners of any structure that shares trash disposal facilities with any multifamily dwelling with five (5) or more units, and all owners of dormitories or rooming houses must provide recycling collection services to such structures shall participate in educational and promotional activities sponsored by the City to promote recycling by those occupying their residential buildings in the following manner: Disburse promotional and educational materials provided by the City to all occupants. Inform all occupants at the time of initial occupancy and annually thereafter of the types of recyclable materials accepted and the location of recycling containers. All occupants shall be provided this information upon occupancy and annually thereafter.

Decatur, Georgia. (ORDINANCE O-07-13)

All multiple dwelling properties with more than four units not serviced under the residential unit collection process must provide on-site recycling services. The service agreement must provide, at a minimum, once (1) per week on-site collection of recyclable materials. Containers used to collect the recyclable material should have adequate capacity and durability to function efficiently and meet the spatial constraints of the multiple dwelling. Containers provided by the collector or private contractor or commercial solid waste or recycling firm for recyclables, including compactors, shall be clearly labeled in English and in other languages if appropriate, including an indication of the material to be placed in the container and the word "recycling" or "recyclable" or the "chasing arrows" recycling symbol. The recycling containers at a multiple-dwelling property shall be placed in a location or locations at least as convenient to tenants as the refuse containers, including trash chutes, insofar as is practical.

Fort Worth, Texas.

The Landlord of each Multi-Family Dwelling Complex with eight or more Units must submit a recycling plan ... [which] describe[s] the materials to be recycled, the method of collection and storage of recyclables, and the frequency of pick-ups by an approved waste hauler. The plan shall also include a diagram of the property showing the location(s) where containers for the collection of recyclable materials will be placed. The Landlord of each Multi-Family Dwelling

Complex with eight or more Units must implement the approved recycling plan within thirty (30) days of approval of the plan by the Director.

San Antonio, Texas. (ORDINANCE 2010-12-09-2016)

Owners or managers of multi-family properties shall provide a recycling plan. Prior to the multi-family property owner or manager initiating the start of recycling collection service in accordance with this ordinance, a "recycling plan" must be developed and submitted to and approved by the Department. Owners or managers of multi-family properties must supply recycling containers ... placed in an appropriate location, to make the disposal of recycling material as convenient as garbage material and which offers equal access opportunity to a recycling container as a garbage container for tenants of the properties. Recycling collection service shall be required on a frequency sufficient to avoid containers which are overflowing. Recycling containers shall be of appropriate size and number for anticipated recyclables generated at the property. At a minimum, owners or managers of multi-family properties must provide clear and visible signage on the containers. Information, including the types of recyclable materials accepted and the location of recycling containers must be distributed to all tenants upon the commencement of providing recycling services and upon move-in of a new tenant. All occupants must be given information and instructions upon any change in recycling services to the property.

San Diego, California. (ORDINANCE O-19678)

For multi-family residential facilities [the] responsible person shall provide on-site recycling services to occupants. Occupants of multi-family shall participate in a recycling program by separating recyclable materials from other solid waste and depositing the recyclable materials in the recycling container ... We strongly encourage a recycling rate of 50% or higher. A MINIMUM OF 40% recycling services is needed. The recycling services required shall include, at a minimum, all of the following:

- (1) Collection of recyclable materials at least two times per month;
- (2) Collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;
- (3) Utilization of recycling receptacles which comply with the standards in the Container and Signage Guidelines established by the Department;
- (4) Designated recycling collection and storage areas; and
- (5) Signage on all recycling receptacles, containers, chutes, and/or enclosures

For multi-family residential facilities, the responsible person shall ensure that occupants are educated about the recycling services as follows:

- (1) Information, including the types of recyclable materials accepted, the location of recycling containers, and the occupants responsibility to recycle pursuant to this Division, shall be distributed to all occupants annually;
- (2) All new occupants shall be given information and instructions upon occupancy;
- (3) All occupants shall be given information and instructions upon any change in recycling service to the facility.

Thurston County. (ORDINANCE 13696)

[T]he hauler, in conjunction with the owners/managers, will evaluate each multifamily complex ... to determine collection needs based upon factors including: number of units; if individual recycling bins will be provided for each dwelling unit or larger joint recycling bins will be provided for joint residential use; and space and access constraints for recycling trucks.

ORDINANCE O-4511

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO THE WASTE
STREAM REDUCTION PLAN AND AMENDING KIRKLAND MUNICIPAL
CODE SECTION 16.08.012.

1 Whereas, the Kirkland City Council is committed to the
2 protection of the natural environment through an integrated natural
3 resource management system to protect and enhance our natural
4 environment for current residents and future generations; and
5

6 Whereas, the Washington State Legislature in RCW 70.95.010(6)
7 (c) found that it is the responsibility of the city and county governments
8 to "assume primary responsibility for solid waste management and to
9 develop and implement aggressive and effective waste reduction and
10 source separation strategies;" and
11

12 Whereas, the Washington State Administrative Code WAC 51-
13 50-009 requires all local jurisdictions to require that space be provided
14 for the storage of recycled materials such as paper, metal, and glass
15 and solid waste for all new buildings; and
16

17 Whereas, Kirkland Zoning Code Chapter 115.45 requires all new
18 multifamily, mixed use, and commercial structures to provide adequate
19 and convenient space for the collection, storage, loading, and pickup of
20 garbage and recyclable material; and
21

22 Whereas, Kirkland Department of Public Works Pre-Approved
23 Plan Policy G-9 requires that, for new multifamily properties, the total
24 weekly capacity of all recycling dumpsters to be equal to or greater than
25 the total weekly capacity of the garbage dumpsters and/or carts; and
26

27 Whereas, lack of adequate recycling capacity is one of the
28 barriers to increasing recycling diversion in the multifamily sector and
29 less than one-half of Kirkland's existing multifamily properties meet the
30 Kirkland Zoning Code and Pre-approved Plan policy for the provision of
31 adequate recycling capacity; and
32

33 Whereas, Seventy-two percent of the solid waste produced by
34 Kirkland's multifamily properties could be diverted from the landfill for
35 recycling or composting and the percentage of multifamily residential
36 recyclables diverted from the landfill is substantially lower than the
37 percentage diverted by single family residences.
38

39 NOW, THEREFORE, the City Council of the City of Kirkland do
40 ordain as follows:

41 Section 1. Section 16.08.012 of the Kirkland Municipal Code is
42 amended to read as follows:

43
44 **16.08.012 Waste stream reduction plan.***

45 The waste stream reduction plan applicable to the entire city of
46 Kirkland is composed of the following elements:

47 (1) Goal. The goal of the waste stream reduction plan is to divert
48 from the solid waste disposal stream certain types or classes of materials
49 and thereby reduce the amount of solid waste delivered to the King
50 County approved solid waste disposal sites, including Cedar Hills.
51 Performance goals related to waste diversion rate, tonnage of waste
52 reduced and percentage of customers at each service level have been
53 established to monitor progress.

54 (2) Program Elements.

55 (A) Effective January 1, 1990, the city established a local program
56 for collection and disposal of household hazardous waste materials.
57 (The program elements are contained in Exhibit A to Kirkland Resolution
58 R3566.)

59 (B) Provision for alternative collection and/or handling of special
60 commercial wastes as defined in Section 16.04.155, in order that special
61 commercial wastes, which either are or have potential to be nonsolid
62 waste materials which have been determined by the King County solid
63 waste division to be nonacceptable for disposal at Cedar Hills and
64 thereby require a special handling. (The program elements are set forth
65 in Exhibit A to Kirkland Resolution R3466.)

66 (C) Cooperate and jointly participate with the King County solid
67 waste division in programs for waste reduction, education and publicity,
68 including programs supporting use by all segments of the community of
69 products manufactured in whole or in part from recycled materials.

70 (D) Yard Waste Recycling. The city of Kirkland has determined
71 there is within the King County area a market for the recovery and
72 utilization of yard waste. The city, during 1989, conducted a pilot
73 voluntary yard waste pickup collection recycling program, which
74 resulted in a thirty-seven-percent diversion from and reduction in the
75 Kirkland to Cedar Hills waste stream. Beginning in March 1990, the city
76 has instituted a source separated yard waste curbside collection and
77 recycling program on a voluntary basis for residential customers. (The
78 program elements are contained in Exhibit A to Resolution R3466.)

79 (E) Other Recyclable Materials. Subject to the then existence of
80 economically viable markets for the following recyclable materials,
81 establishment of programs either mandatory or voluntary within the
82 implementation timelines, required by Chapter 431 Laws of 1989 (and,
83 where possible, the earlier timelines proposed by the King County solid
84 waste division), to include collection and disposal for recycling of the
85 following:

86 (i) Newspapers;

87 (ii) Mixed papers;

88 (iii) Glass bottles, recyclable plastic bottles and aluminum cans;

89 (iv) Organic waste;

90 (v) Electronic waste;
 91 (vi) Textile waste;
 92 (vii) The voluntary recycling by or for commercial customers of
 93 cardboard, newspapers, mixed, computer and office papers, yard waste,
 94 and construction waste. Depending on cost analysis and available
 95 markets, these recycling programs may be carried out through
 96 utilization of any of the following collection and disposal options: utilizing
 97 the current city solid waste contract collector, a third party collector or
 98 drop box or recycling buy-back centers. Where drop box or recycling
 99 buy-back centers are not utilized, recycling collection shall to the extent
 100 feasible be accomplished curbside;

101 (viii) Other recyclable materials at such time as there exists for each
 102 such material an economically viable market.

103 (F) Penalty for Excessive Waste Generation. Whenever a solid
 104 waste customer receives notice from the solid waste collector of
 105 excessive waste generation, such customer shall make application to
 106 the city of Kirkland for an excessive waste generation permit.

107 The city shall, upon request of the customer, issue an excessive waste
 108 generator permit and shall notify the solid waste collector of its issuance.

109 There shall be no charge for the issuance of an excessive waste
 110 generator permit. However, the city reserves the right to hereafter
 111 impose a waste stream reduction incentive charge or excessive waste
 112 generator permit fee on excessive waste generators. The imposition of
 113 such fee or charge and the amount thereof shall be established by
 114 ordinance.

115
 116 (G) Multifamily Residential Recycling. Multifamily residential
 117 customers ~~shall may choose and by the city are urged to choose to~~
 118 participate in placement for collection for recycling, at a minimum, the
 119 following materials: newspapers, mixed papers, and recyclable bottles,
 120 cans and plastic containers. Recyclable materials will be collected on the
 121 same pickup schedule as solid waste collections. Recyclable materials
 122 shall be placed in property-labeled Detachable Containers or recycling
 123 carts distributed by the city's solid waste collection contractor. Where
 124 space is available, Detachable Containers shall be used in lieu of carts.
 125 All multifamily property owners shall provide residents with a minimum
 126 total weekly volume of recycling capacity equal to or greater than the
 127 total weekly volume of garbage capacity. To the greatest extent
 128 possible, garbage, recycling and compost containers should be co-
 129 located. The Public Works Director or designee may vary the
 130 requirements of this subsection at his or her discretion or upon the
 131 request of the property owner if, in the opinion of the Director, the
 132 variance is necessary or reasonable. The variance must be in writing
 133 and may be revoked by the Director at any time if the necessity for the
 134 variance ceases to exist or for any other reason determined by the
 135 Director or designee, which determination shall not be made
 136 unreasonably. The revocations will be effective on a date or time
 137 selected by the Director, which may be immediately if circumstances so
 138 require. Multifamily residential customers using containers will receive
 139 two or more recycling carts as determined by the size of the solid waste
 140 container:

Container Size	No. Recycling Carts
2 or fewer yards	2
3 or 4 yards	3
6 yards	5
8 yards	6
10 yards	8
20 yards	15
25 yards	19
30 yards	23
40 yards	30

141 Section 2. This ordinance shall be in force and effect five days
142 from and after its passage by the Kirkland City Council and publication
143 pursuant to Section 1.08.017, Kirkland Municipal Code in the summary
144 form attached to the original of this ordinance and by this reference
145 approved by the City Council.

146
147 Passed by majority vote of the Kirkland City Council in open
148 meeting this _____ day of _____, 2016.

149
150 Signed in authentication thereof this _____ day of
151 _____, 2016.

MAYOR

Attest:

City Clerk

Approved as to Form:

City Attorney

PUBLICATION SUMMARY
OF ORDINANCE O-4511

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO THE WASTE STREAM REDUCTION PLAN AND AMENDING KIRKLAND MUNICIPAL CODE SECTION 16.08.012.

SECTION 1. Amends Kirkland Municipal Code Section 16.08.012 relating to the waste stream reduction plan and allows for greater multifamily residential recycling.

SECTION 2. Authorizes publication of the ordinance by summary, which summary is approved by the City Council pursuant to Section 1.08.017 Kirkland Municipal Code and establishes the effective date as five days after publication of summary.

The full text of this Ordinance will be mailed without charge to any person upon request made to the City Clerk for the City of Kirkland. The Ordinance was passed by the Kirkland City Council at its meeting on the _____ day of _____, 2016.

I certify that the foregoing is a summary of Ordinance _____ approved by the Kirkland City Council for summary publication.

City Clerk