CITY OF KIRKLAND
Department of Public Works
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www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager

From: Kathy Brown, Public Works Director
John MacGillivray, Solid Waste Programs Supervisor
Jenna McInnis, Recycling Programs Coordinator

Date: October 6, 2016

Subject: 2017-2018 Solid Waste Rates

RECOMMENDATION

It is recommended that the City Council receive a presentation of the proposed 2017/2018 Solid Waste rates, consider alternatives for funding multifamily recycling program assistance, and adopt a final solid waste rates ordinance. The ordinance included in the packet is the "base rates" ordinance that was presented to the Council in September 20. This memo identifies three additional options to the base rates that would be assessed to multifamily rate payers to provide additional resources to improve the multifamily recyling rate. These options include:

Base Rates + .50 FTE Multifamily Education and Outreach Specialist (1% MF rate increase)
Base Rates + 1.0 FTE Multifamily Education and Outreach Specialist (2% MF rate increase)
Base Rates + $40,000 for Multifamily Consultant Services (.7% MF rate increase)

Amendments for each of the options will be provided at the Council meeting and the Council should adopt either the base rates ordinance or amend it to include one of the three options.

BACKGROUND

At its September 20, 2016 meeting, the City Council received a presentation on the proposed 2017/2018 Water, Sewer, Surface Water and Solid Waste rates. The adoption of the proposed Solid Waste rates were delayed until the second City Council meeting in October due to the Metropolitan King County Council's (MKCC) delay in adopting a waste disposal fee for the 2017/2018 biennium. On September 26, 2016, the MKCC adopted a rate of $134.59/ton, an 11.99% increase from the current $120.17/ton.

MULTIFAMILY DISCUSSION

At its September 20th meeting, the City Council asked staff to define the "average" multifamily solid waste customer, as is the practice with single family residential customers, so the impact of any rate increase could be better evaluated. City Council also expressed an interest in hearing alternatives for adding Solid Waste staff funded out of the multifamily/commercial sector and dedicated to working on reducing waste and increasing recycling diversion at multifamily properties.

Definition of an Average Multifamily Customer

The multifamily sector comprises approximatey 43% of the available housing units in Kirkland and accounts for 23% of all solid waste (trash, recycling, and organics) landfilled, recycled, or composted in Kirkland. The number of units per property range from two up to over 400. The service levels available to multifamily properties include four sizes of garbage carts, seven sizes of dumpsters, and six sizes of roll-off containers. Service may be provided to multifamily containers up to six times per week. Additionally, many properties have more than one trash enclosure and the size of the containers are dependent upon the number of residents using the container. Accordingly, it's challenging to define the "average" multifamily customer and calculate an average bill.

For the purposes of answering this question, staff broke the multifamily sector in three distinct property sizes: small, medium, and large. To define the average size of a multifamily property within each subgroup, staff calculated a weighted average of the number of units available on each property. After having defined the weighted average number of units for each subgroup, a typical level of solid waste service for each property size was determined and used to calculate the average monthly multifamily bill.

Table 1: Average Multifamily Customer

Property Size	Weighted Average	Average Trash Service Level
Small (2-20 units)	7 units	1- 1.5 cy^3 serviced 1x/week or 3 – 96 gallon carts serviced 1x/week
Medium (21-99 units)	46 units	1- 4 yd^3 serviced 3x/week
Large (100+ units)	188 units	5 – 6 yd^3 serviced 1x/week

Multifamily Recycling Introduction

Cities in King County and around the United States struggle to improve multifamily recycling rates. The barriers to increased multifamily recycling are very different than those in single family environments. A lack of monetary incentives, high resident turnover, and infrastructure limitations are just a few of the challenges faced.

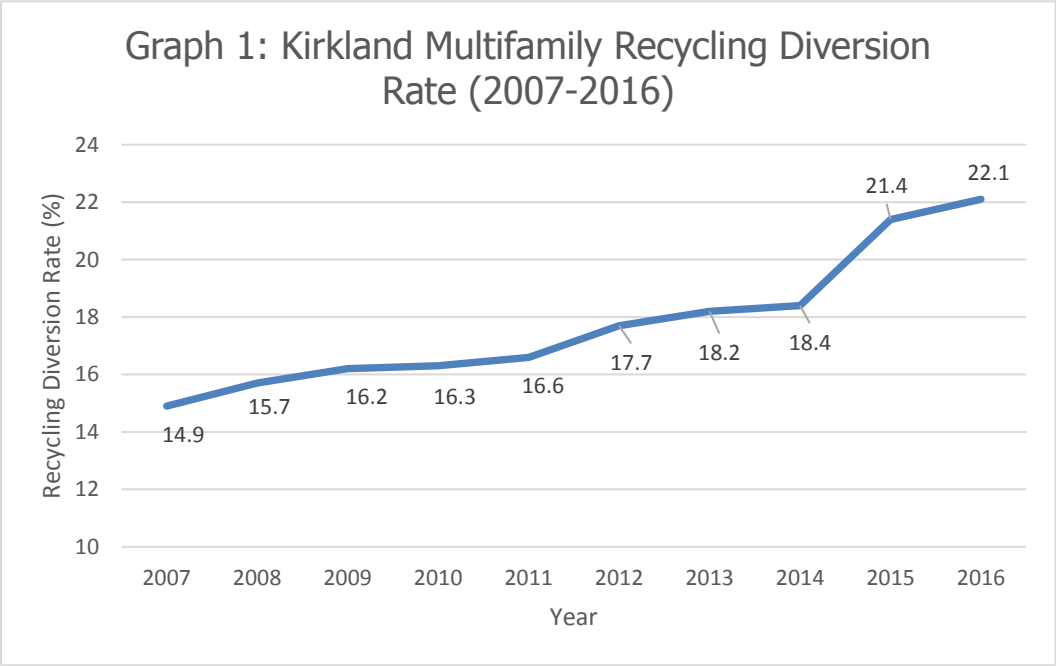
In order to improve the multifamily recycling rate, best practices indicate that reaching tenants individually and repeating the messages of education is necessary. This type of outreach and education is time intensive, and requires more effort than for single family residents. Each property requires a different approach and plan, so the resources needed for each are comparably more substantial. For more information on the challenges faced in the multifamily, please review *Attachment 1: Multifamily Recycling Staff Memo 1-5-16* and *Attachment 2: Washington State Recycling Association Multifamily Report.*

Performance of Kirkland's Multifamily Recycling Program

City of Kirkland Solid Waste staff has focused more resources on its multifamily program over the past few years, leading to significant improvements in multifamily recycling. As shown in *Graph 1*, since 2014, the multifamily recycling rate has increased from 18% to over 22%. In previous years, there were minimal increases in the diversion rate. However, when compared to the single family recycling diversion rate without yard waste (42%), multifamily (22%) still lags

behind by approximately 20 percentage points, which demonstrates the need for more resources dedicated toward closing the gap.

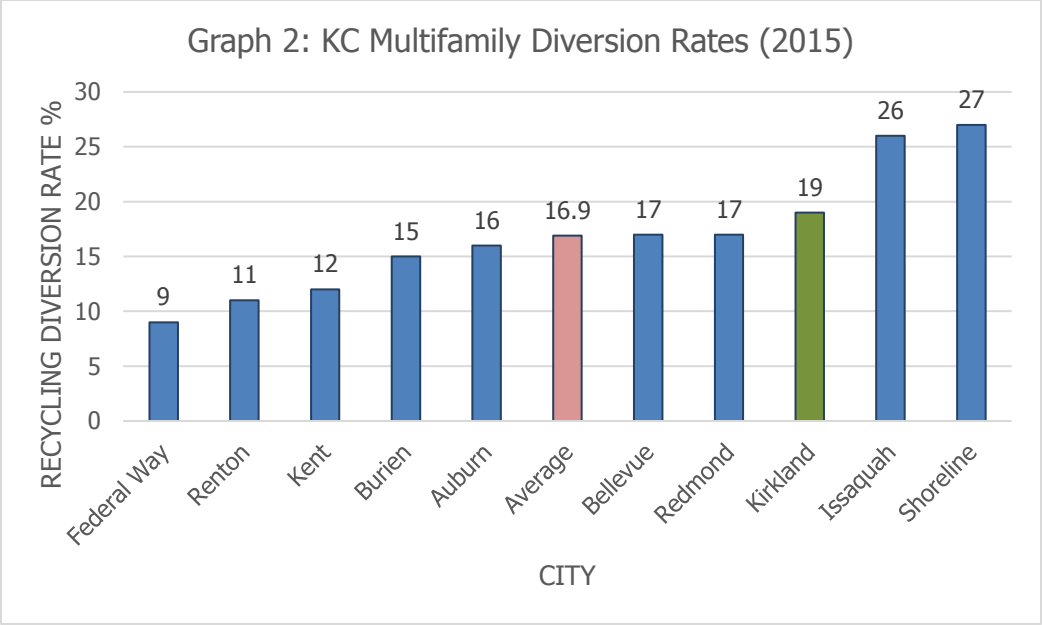
City staff has worked to ensure that all multifamily properties in Kirkland have recycling, setting up new recycling programs in 2015 at seven properties that did not have any recycling. Kirkland Solid Waste staff created the multifamily recycling toolkit in 2015 to assemble a suite of resources specifically directed toward multifamily properties and property managers, enabling staff to customize tools. Further, the multifamily recycling ordinance amendment passed by City Council in 2016 requires that multifamily properties offer equal amounts of recycling and trash service. This variety of resources allows staff to continue to work with and improve multifamily recycling throughout Kirkland.



Graph 1: Data provided by Waste Management tonnage reports.

Over the past couple of years, the staff has worked with over 35 property managers, providing over 500 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 cost as the recycling diversion rate has climbed.

King County reports adjusted diversion rates by removing the estimated weight of contaminants culled from processed recyclables. In King County, Kirkland multifamily recycling diversion rate ranks 10th among 35 cities reporting 2015 data. However, many of those cities have small multifamily populations or define townhouses with single family services as multifamily, which can make it more challenging to provide meaningful comparisons of diversion rates between cities. As shown in *Graph 2*, among ten cities with significant multifamily populations of a comparable size to Kirkland, Kirkland's recycling diversion rate ranks third, behind Shoreline and Issaquah but slightly ahead of Bellevue and Redmond.



Graph 2: King County rates are adjusted so as to remove the estimated weight of contaminants in organics and recycling containers, and add the weight to disposal so the KC diversion rates are slightly lower than those reported by Waste Management.

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. Some of the tools used by staff 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 Waste Management
- 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 residential recycling service requirements (KMC 16.08.012 (G))

Multifamily Staffing Levels

Kirkland's Solid Waste program is currently staffed with a 1.0 FTE Solid Waste Programs Supervisor, a 1.0 FTE Recycling Programs Coordinator, and a .50 FTE Environmental Education and Outreach Specialist (EOS). Two part-time interns are also hired in the spring and summer months to provide support for existing recycling programs and special events. The current EOS position is augmented with an additional .25 FTE through the use of grant funding, to bring the total staffing level to 2.75 FTEs (excluding interns). Responsibility for work on multifamily recycling generally falls to the Recycling Coordinator and EOS positions with a limited level of support from the Supervisor. Historically, the Recycling Coordinator and EOS, on average, dedicate the equivalent of a .50 FTE to multifamily recycling efforts, depending upon the demand for services from tenants and property managers and the scope of planned education and outreach efforts.

As shown in *Table 2,* staff has identified general tasks and additional hours that could be provided over and above the current level of service if new staff or a consultant were hired to assist staff in an effort to increase multifamily recycling diversion. If a new position or equivalent funding for a consultant were provided, the total FTEs dedicated to working solely on multifamily recycling would approximate a 1.0 FTE. In its evaluation, staff determined that a .50 FTE position or equivalent number of consultant hours would be the most ideal and effective at increasing multifamily recycling diversion and that there would not be enough one-time and ongoing work if a 1.0 FTE were added. The addition of a .50 FTE or equivalent funding for a consultant would allow staff to double its level of education and outreach to multifamily property managers and tenants without reaching the point of diminishing returns. In multifamily outreach, over-staffing does not translate into a proportionate increase in performance as success depends primarily upon the cooperation of property managers and owners, some of who can be resistant to help.

Table 2: Tasks for New Position or Consultant	**Hours per week**
Evening presentations	2
Outreach to property managers (calls, emails, stop by property) at lowest diversion properties (less than 25%), to increase ratio of existing services	5
Conduct waste audits	3
Door-to-door tenant outreach distributing containers and information, and follow up visits with feedback flyer.	5
Update materials in Multifamily Toolkit	1
Site visit follow ups to check contamination	2
New development plan review	2
Proposed Additional FTE Dedicated to Multifamily	.50
Current FTE Dedicated to Multifamily	.50
Total FTE Dedicated to Multifamily	1.0

PROPOSED SOLID WASTE RATES

Solid Waste Rate Assumptions

The following factors and drivers were influential in drafting the proposed 2017-2018 solid waste rates:

- **King County Solid Waste Division Disposal Fee Increase**
  On July 21, the King County Executive transmitted its proposed 2017/2018 disposal fee and budget to the MKCC. The proposal included a 14.6% increase in the disposal fee from $120.17/ton to $137.75/ton. On September 26, 2016 the MKCC adopted its final rate of $134.59/ton, an 11.99% increase. King County has not increased its disposal fee since 2013. The drivers in the adopted rate included:

  - Debt service on bonds issued for the construction of the new Factoria Transfer Station in Bellevue
  - Inflationary increases in cost centers (wages, taxes, insurance, rent)
  - Equipment replacement and maintenance (Capital Equipment Recovery Program)
  - Maintenance of post-closure landfill maintenance fund
  - Improvements in service reliability (Landfill area development, regulatory compliance, operational changes)
  - A $2 million transfer station demand management study for the Northeast County. (It should be noted that the City of Kirkland, and other MSWAC cities, are requesting that the scope of this study include the entire County, rather than just the northeast portion.)

- **Consumer Price Index Rate Adjustment to WMI.**
  The City is contractually required to grant WMI an annual CPI adjustment to the collection/service component of its wholesale rates paid by the City by 100% of the Seattle-Tacoma-Bremerton Metropolitan Area for Urban Wage Earners and Clerical Workers (CPI-W 1982-1984) in the period ending in June of each year. The allowed rate adjustment for 2017 is 1.99%. The rate model conservatively forecasts a 2018 CPI increase of 2.46%.

- **Maintain the cash reserve.**
  One of the goals in the 2015-2016 solid waste rates was to replenish the depleted solid waste cash reserve back to $1,300,000. The cash reserve was drawn down to under $508,000 in 2012 from a high in 2009 of approximately $1,800,000. As the Solid Waste Utility pays WMI monthly, but bills its customers every two months, maintaining a sensible cash reserve allows the City to pay WMI monthly and bill its customers in arrears. Currently, the Solid Waste Utility cash reserve stands at approximately $1,338,200 and has been replenished at a slightly higher rate than expected due to the strong economy. Completing the cash reserve replenishment helps absorb the local cost increase in 2017-2018.

- **A steady but stable rate of downsizing.**
  As has been discussed, Kirkland experienced an abnormally high rate of downsizing once linear rates were established in 2009 and for a two year period after annexation between June 2011 and 2013. Downsizing becomes an important factor when customers choose to change their service level from a larger service level (96/64 gallon) to a smaller service offering (35/20/10 gallon) where the City's retail rates are lower than the

wholesale rates paid to Waste Management. The downsizing drew down the solid waste cash reserve to a dangerous level in 2012. Over the course of 2014-2016, the rate of downsizing has stabilized to predictable, pre-annexation levels so the rate can once again be forecasted in the rate modeling at 3/10 of one percent per month for the 2017-2018 biennium.

- **Maintain or reduce the commercial to single family cross subsidy.**
  Multifamily/commercial to single family residential cross subsidies are not uncommon in utility rates. However, the cross subsidy has been gradually reduced; the proposed solid waste rates further reduce the annual cross subsidy to approximately $267,000 per year from $290,000 per year in 2015-2016 and $390,000 per year in 2013-2014. Per City Council Resolution R-5210, the cross subsidy will be reduced to zero by 2022 unless there are signifcant changes to the economy or regional rates.

- **Maintain the "nearly linear" rate structure to encourage waste reducion and recycling.**
  In 2009, the City Council adopted a linear rate structure in which the cost per gallon in Kirkland's retail rates were equalized amongst all service offerings. This rate structure naturally encourages downsizing since customers do not receive a discount for having a larger cart size as is the case in a pure cost-of-service model. Linear rates encourage customers to reduce their waste and to recycle more, which has been foundational in *maintaining or marginally increasing* Kirkland's high annual single family recycling diversion rate, particularly after annexation when Kirkland added 10,000 previously serviced under cost-of-service rate structure. Kirkland's linear rate structure is but one tool in a suite of tools used to reduce waste and increase recycling diversion and, historically, linear rates have served to reduce waste and increase diversion incrementally rather than acutely. Since 2012, the single family recycling diversion rate has increased by 1.5 percentage points from 67.9% to 69.3%; garbage tonnage has been reduced by 1.8%; and recycling tonnage collected and diverted has remained flat. In the multifamily sector, linear rates tend to be less effective, as property managers tend to be hesitant at lowering service levels for fear of overflowing dumpsters and illegal dumping. Pricing signals also tend to be less effective with multifamily as property managers and tenants don't receive any benefits or recognition of reducing disposal costs.

- **Multifamily Recycling Assistance**
  Additional rate model scenarios were run to show the impact of adding additional staff or equivalent consulting support to improve multifamily recycling diversion. The costs for the additional assitance were allocated entirely to the multifamily/commercial rates.

  Base Rates: No Additional Multifamily Staff

  As noted previously, staff currently spends the equivalent of a .50 FTE working on multifamily recycling projects. Under this alternative, staff would reprioritize other single family residential, commercial, and special projects and focus more attention on mutlifamily recycling, raising the level of staff focused on multifamily to a .75 FTE. Other resources such as intern staff and grant funding would be used as backfill to ensure maintenance of current service levels. **The Base Rates do not include an average rate increase to multfamily/commercial in 2017 or 2018. The overall average combined rate increase would be 2.5% in 2017 and 1.7% in 2018.**

Alternative 1: .50 FTE Multifamily Education and Outreach Specialist

In this alternative, Solid Waste would add a .50 FTE Education and Outreach Specialist dedicated to working on mutlifamily tasks and projects as outlined in *Table 2.* The total cost for this position would be approximately $126,142 over the biennium. Costs include wages, benefits, annual IT support, and one-time office start-up. Staff expects to have challenges filling a part-time position with an individual with multifamily experience. **This alternative would result in an 1.0% increase in 2017 and 0% increase in 2018 to the multifamily/commercial sector only. The overall average combined rate increase would be 3.0% in 2017 and 1.7% in 2018.**

Alternative 2: 1.0 FTE Multifamily Education and Outreach Specialist

In this alternative, Solid Wate would add a 1.0 FTE Education and Outreach Specialist dedicated to working on multifamily tasks and projects as outlined in *Table 2.* This position would cost $236,283 over the biennium and **result in a 2.0% increase in 2017 and 0% increase in 2018 to the multifamily/commercial sector only. The average combined increase would be 3.4% in 2017 and 1.7% in 2018.**

Alternative 3: Consultant Funding

This alternative would build $40,000 per year into the multifamily/commercial rates over the biennium for a total of $80,000 to be used to hire a consultant with experience working on multifamily recycling programs to support existing City staff. Before annexation, Kirkland contracted successfully with a consulting firm to help with multifamily recycling. This option is the least expensive of the two alternatives as it avoids benefit costs and would likely be the most impactful due to the initial expertise of the consultant. $40,000 would provide the equivalent hours of a City-employed .50 FTE. **This alternative would result in an 0.7% increase in 2017 and 0% in 2018 to the multifamily/commercial sector only. The overall average rate increase would be 2.8% in 2017 and 1.7% in 2018.**

Proposed Solid Waste Base Rates

As shown in *Table 3,* a two-year, solid waste rate is being proposed, with an overall average increase of 2.5% in 2017 and 1.6% in 2018. The rates are "front loaded" in 2017, as the MKCC passed a stable two-year rate with no increase in 2018. In order to maintain or slightly improve the subsidization of the single family residential sector by the multifamily/commercial sector, the rate increases are unequal with proposed 2017 and 2018 increases for single family of 4.6% and 2.9%, respectively. No increase is proposed for the multifamily/commercial sector in either 2017 or 2018. The proposed rates for the roll-off sector (containers >10 yd^3 in capacity) are cost of service with no cross subsidies.

Table 3: Proposed 2017-18 Solid Waste Rate Increase

Sector	Base Rates		Alt 1: .50 MF FTE		Alt 2: 1.0 MF FTE		Alt 3: MF Consultant	
	2017	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**
Single Family	4.6%	2.9%	4.6%	2.9%	4.6%	2.9%	4.6%	2.9%
MF/Commercial	0.0%	0.0%	1.0%	0.0%	2.0%	0.0%	0.7%	0.0%
Roll-off	2.0%	2.3%	2.0%	2.3%	2.0%	2.3%	2.0%	2.3%
Average	2.5%	1.7%	3.0%	1.7%	3.4%	1.7%	2.8%	1.7%

The average residential customer would pay $2.02 per month more than in 2016 by the end of 2018 or an average of about $1.01 per month over the 2017-2018 biennium, as shown in *Table 4*. The 35 gallon garbage cart is used as the benchmark of the typical customer as 55% of Kirkland's residents subscribe to the 35 gallon weekly service level. The table below illustrates the total customer cost billed to the customer including the base rate, the effective utility tax rate of 10.5%, and the hazardous waste fees collected and remitted to the Local Hazardous Waste Management Program of King County.

Table 4: Monthly Impact to Typical Single Family Customer				
	2016	**2017**	**2018**	**End 2018**
35 gallon/weekly	$23.73	$24.83	$25.56	
10.5% Utility Tax	$2.49	$2.61	$2.68	
KC Haz Waste Fee	$1.46	$1.46	$1.46	
Total	$27.68	$28.90	$29.70	
Increase/month		$1.22	$0.80	$2.02
Increase/year		$14.64	$9.60	$24.24

Monthly Rate Impact to Average Multifamily Customer

As shown in *Table 5*, the monthly impacts to the average multifamily customer vary by service type and service level. The rates for customers with cart-based services would increase while the rates for customers with dumpster-based services would decrease. However, the overall average rate increase still balances to 0%. This is due to Council direction given for the 2013/2014 biennium in which staff was directed to ensure that the cost for cart services were the same for single family and multifamily/commercial customers. The policy was carried forward in the 2015/2016 rates and is observed in the proposed 2017/2018 rates. The wholesale cost of cart-based service is substantially lower than for single family cart-based service so the multifamily/commercial cart retail rates are higher than they normally would be if the multifamily/commercial rate was not hardwired to the single family rate. Consequently, as the cost of the multifamily/commercial carts are disproportionately increased, the prices of dumpster services must be decreased to achieve an overall average 0% increase. The differences between the cart and dumpster rates are similar in Alternatives 1, 2, and 3.

Table 5: Base Rate Monthly Impact to Average Multifamily Customer*						
Customer	**Service Type**	**Service Level**	**2016**	**2017**	**2018**	**End 2018**
Small	Carts	3 – 96 gal 1x/week	$222.15	$230.06	$236.70	$14.55
Small	Dumpster	1 – 1.5 cy 1x/week	$145.12	$144.44	$143.97	($1.15)
Medium	Dumpster	1 – 4 cy 3x/week	$782.78	$778.91	$776.16	($6.62)
Large	Dumpster	5 – 6 yd^3 serviced 1x/week	$1,916.56	$1,907.11	$1,900.48	($16.08)

*Prices include Local Hazardous Waste Management Program Fee of $1.46 per cart and $12.01 per dumpster and 10.5% City utility tax.

Average Rate Impact of Multifamily Assistance to Multifamily Customers

As discussed above, there are three alternatives to providing multifamily recycling assistance. The least expensive option is to provide $40,000 per year to fund consulting services which would increase multifamily rates by 0.7% in 2017 and 0% in 2018. The second least expensive option would be to authorize the addition of a .50 FTE Education and Outreach Specialist. This alternative would increase multifamily rate by 1.0% in 2017 and 0% in 2018. The most expensive alternative would be to add a 1.0 FTE Education and Outreach Specialist. Under this

option, the multifamily rates would increase by 2% in 2017 and 0% in 2018. Under all the alternatives to the Base Rates, there is no rate increase in 2018 so as to not exacerbate the commercial/multifamily to single family cross subsidy.

Council Action Needed

State law requires that the Solid Waste Rates by adopted by the end of October in order to provide public notification of any rate increases by January 1, 2017. The Council can adopt the attached "Base Rates" ordinance, or amend it with any of the three options discussed in the memo.

Recycling staff have achieved substantial progress towards increasing the multifamily recycling diversion rate over the past two years with current staffing levels. However, there still remains a significant gap between the single family (42%) and multifamily (22%) sectors and there is ample room for improvement. Staff is confident that current staffing levels can continue to improve on the multifamily recycling rate if the Council preference is to keep the base rates to minimize impacts on Solid Waste rates. If Council wishes to increase resources to multifamily recycling diversion, the most flexible and least costly of the three alternatives is to appropriate $40,000 in consultant services to assist existing staff, followed by adding the .5 FTE.

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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%.

Table 1: Kirkland Multifamily Recycling Capacities

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

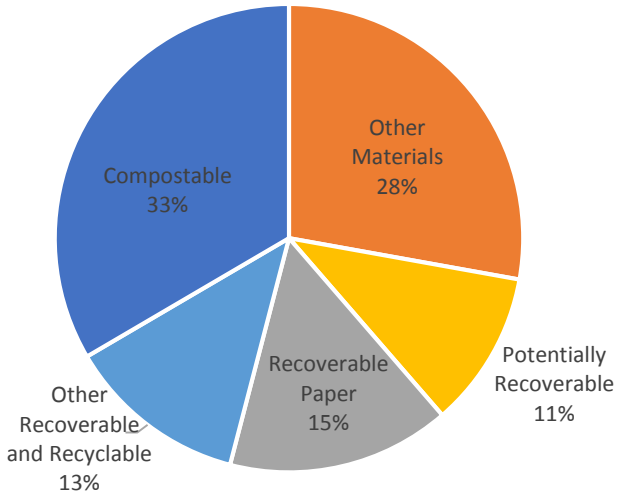
Compared to the RCR which represents *potential* diversion, the Recycling Diversion Rate (RDR) represents the *actual* diversion of recyclable materials from the landfill. The goal is to make the RDR equal to the RCR. This 50% RCR standard is just one of a variety of tools used by Solid Waste staff to 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-under-performing 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.

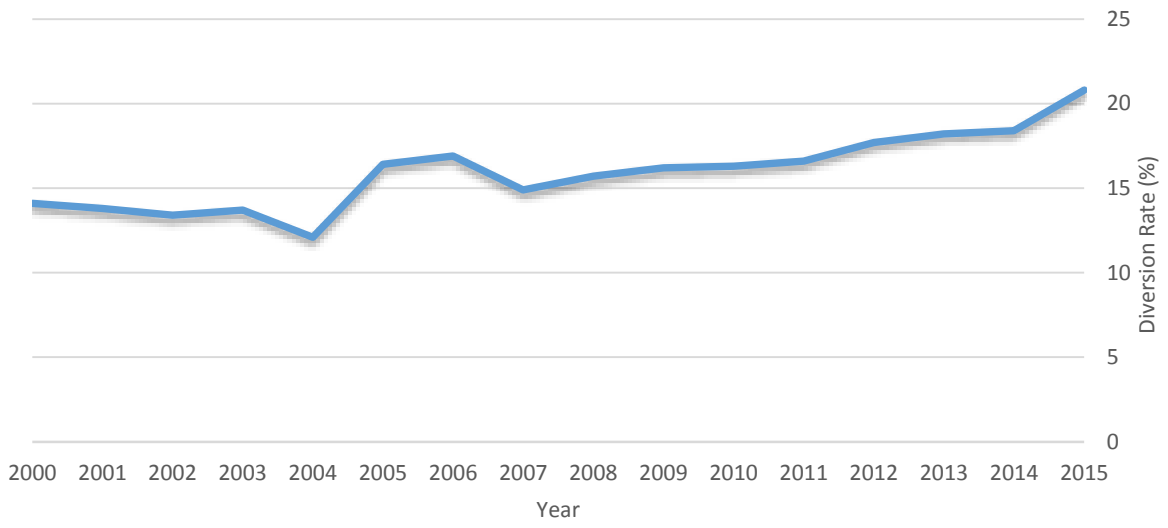
While it is not an exact science converting tonnage (weight) to cubic yards (volume), Kirkland has enough recycling volume in place to achieve only a 40% multifamily recycling diversion rate, while King County has a goal of achieving a combined (single family, multifamily, commercial, and self-haul) 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 of 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.

ATTACHMENT 2

Sorting It Out:

The State of Multifamily Recycling in Washington State

Washington State Recycling Association
Washington Multifamily Recycling Study Group (WAMRS)
July 3, 2014

Table of Contents

Acknowledgements 1
Executive Summary 3
Recommendations 5
Current State of Multifamily Recycling in Washington 6
Varying perspectives about Barriers and Challenges 7
Collection Logistics 9
Convenience Makes a BIG Difference 9
The Container Matters 10
Potential Logistics Solutions to Identified Challenges 11
Conclusion 12
Policy & Regulation Influences 13
Service level Ordinances—Including Mandatory recycling 13
Jurisdictional Contracts 13
Building Code Requirements for Recycling Container Enclosure Standards 14
Funding for Waste Reduction and Recycling Efforts 14
State Regulation of solid waste and recycling service: WUTC 15
Barriers and Their Potential Policy Solutions 15
Conclusion 17
Education and Outreach 18
Current Educational Strategies 18
Education Practices Seen As Most Successful 19
Conclusion 22

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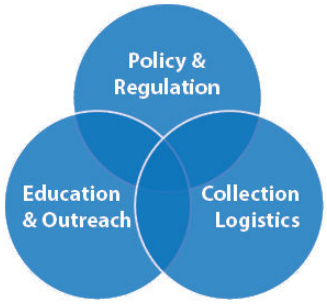
Executive Summary



This report is the culmination of two years of effort by recycling and solid waste professionals to understand and improve multifamily recycling in Washington State. In the spring of 2012, the Washington State Recycling Association (WSRA) convened more than 30 recycling professionals from all around Washington to design and implement a study of multifamily recycling. These and other stakeholders formed the Washington Multifamily Recycling Study Group (WAMRS), and agreed to participate in several committees to accomplish four objectives:

- **Characterize Washington multifamily recycling programs.**
- **Draw greater attention to multifamily recycling in Washington.**
- **Identify best practices in Washington multifamily recycling and food waste composting programs.**
- **Make recommendations for next steps.**

This resulting report briefly contextualizes multifamily recycling in Washington, explains findings and makes recommendations, and is based on the compilation of three research activities:

The reports developed for each of the three research activities can be found at:

http://www.wsra.net/?page=WAMRS

1. A survey of Washington governmental jurisdictions, primarily cities and counties ("Agency Survey Report")
2. A survey of property managers and owners of multifamily properties in Washington, including executive interviews with property managers (Survey of Property Managers—Multifamily Recycling Survey Report 2013 *by Elway Research and Full Circle Environmental*)
3. A review of multifamily recycling programs from across the United States and Canada ("Review of Multifamily Recycling Programs in the United States and Canada")

Preliminary findings were presented at the WSRA Washington Recycles Every Day (WRED) special event in June 2013 titled "Sorting it Out: The State of Multifamily Recycling in Washington." Almost 100 industry professionals and property managers attended. In the preliminary findings, the committee concluded the following:

- *In most cities and counties across Washington, there is minimal or no targeted focus on multifamily recycling.*
- *Substantially varying perspectives about multifamily challenges and barriers exist, with a wide assortment of attempts to achieve results.*
- *Statewide there is a lack of reliable data regarding recycling rates and tonnages specific to multifamily recycling. This prevents adequate documentation of measures to quantify "success."*

As this work progressed, the WAMRS team further discerned that multifamily recycling success is not found in one strategy, but depends upon three components being simultaneously

employed. This effort did not identify which component had a greater impact on successful recycling programs (i.e. causality). The three components are:

1. Collection logistics
2. Policies and regulations
3. Education and outreach

The key takeaways from each of these components are detailed below.

1. COLLECTION LOGISTICS:

Successful programs incorporate effective logistics into program design, including:

- Cart placement for convenience, access, and ease of use
- Space needs for containers both inside units and outside buildings
- Collection, storage and transport of recyclables and organics from housing units to collection points
- Container color coding
- Truck accessibility

Appropriate placement of collection containers and placement and design of waste enclosures may help with participation, reduction of contamination and prevention of illegal dumping. Some local governmental solid waste and recycling agencies in Washington provide in-unit and counter top collection baskets or bags for residents to use to collect and transport materials from housing units to outdoor containers.

Color-coded collection containers for recycle, organics and garbage, and the placement of recycling and food waste containers near garbage containers make it more convenient for residents to participate in material diversion programs.

Finally, clear signage, labels, and posters clarify what is and is not accepted in containers. Cameras, lights, barriers, or other mechanisms to prevent illegal dumping may also be helpful.

2. POLICY AND REGULATION:

Policy solutions exist to address issues such as contamination and illegal dumping through ordinance and contract specifications. Examples of policy and regulations influencing multifamily recycling programs in Washington include:

- Service level ordinances (including mandating recycling programs)
- Jurisdictional contracts (including embedded rates for recycling)
- Building code requirements (solid waste and recycling enclosure standards)
- Funding for waste reduction and recycling (Department of Ecology and county grants)
- The Washington Utilities and Transportation Commission (WUTC) (State regulation of service providers regarding rates, territories, transportation, etc.)

The most influential regulations affecting multifamily recycling and food waste composting programs occur at the city and county levels. Popular examples of underutilized strategies include design standards for waste enclosures that provide necessary space for solid waste, recycling and food waste composting containers; rate structures that incentivize recycling and composting programs and encourage reduction of waste; and service level ordinances requiring recycling or banning recyclables from the garbage.

Significant opportunity exists to utilize these tools to benefit multifamily recycling and food waste composting in Washington.

3. EDUCATION AND OUTREACH:

Most educational strategies used by property managers and recycling professionals are passive in application such as websites, flyers, brochures, container labels, newsletter articles and posters. Several jurisdictions in Washington have demonstrated that multifamily recycling and food waste collection benefit from more active education methods such as resident orientations upon move-in, door-to-door outreach, and property manager trainings.

With changing demographics in Washington, it is important to address non-English speaking communities about recycling and food waste collection through translated materials, interpreters at events and trainings, and outreach designed for cultural relevance.

Education, employed wisely with smart logistics and policy, is crucial to material diversion.

Recommendations

The following next steps are proposed for consideration for continued efforts to improve multifamily recycling in Washington:

- Convene stakeholders to determine how to more successfully measure state-wide multifamily tonnages and recycling rates
- Provide a forum to discuss effective outreach tools and strategies, and how to build more active multifamily recycling outreach in Washington.
- Compile and publish evaluated best practices for multifamily recycling logistics, education and policy
- Address illegal dumping
- Better engage recyclers/haulers in future studies

Current State of Multifamily Recycling in Washington

The 1989 "Waste Not Washington Act" formalized the waste reduction and recycling efforts already building in Washington by establishing a hierarchy for solid waste. The top priority was defined as waste prevention, commonly including reduction up front plus repair and reuse.

Recycling was declared the second priority, followed by proper garbage disposal in legal landfills. The Washington State Department of Ecology was authorized to provide grants and support for solid waste programs targeting waste reduction and recycling and has been a significant partner in the efforts of local government. These efforts "caught fire," resulting in many substantial projects and accomplishments, and a strong recycling rate when compared to other states.

While Washington is nationally recognized as a leader in recycling and composting efforts, there are notable differences across the state. Recycling services, costs, programs and policies vary from city to city and county to county. These variations are affected by many factors, including rural/urban location, proximity to materials recovery facilities (MRFs), jurisdiction budgets dedicated to recycling activities, the density of multifamily properties, and political will.

Washington does not have segregated multifamily recycling reporting within the Annual Solid Waste Status Report. This is partly due to some jurisdictions collecting multifamily recyclables in the same loads with residential single family recyclables. In other places, recyclables are collected in dumpsters (and occasionally in drop boxes or compactors), and serviced on the recycling haulers "commercial" routes.

Each of these configurations depends on a number of factors including how a city contracts with service providers, minimum service levels for county-regulated areas, and service provider preferences and routing efficiencies. Because multifamily refuse and recycling is not segregated from residential or commercial routes, the quantities are mingled with residential and commercial tonnage data, resulting in no concrete (or measurable) breakout for multifamily quantities.

This lack of accurate, identifiable tonnage data along with inconsistency in the methodologies used to estimate multifamily refuse and recycling make it nearly impossible to determine a state wide multifamily recycling participation rate or calculate tonnage of recyclable materials collected from this sector.

There is limited data for identifying how many multifamily properties in Washington have access to recycling service. Data from the Washington State Department of Ecology indicates that 87 percent of Washington residents have access to curbside recycling.[1] All King County cities, which represent approximately 29% of the state's population[2], have converted to commingled recycling over the last 10 years. Additionally, twenty-nine percent of multifamily properties responding to the survey reported having single material (otherwise known as source separated) recycling collection, such as cardboard, paper, aluminum or glass. Seventy percent of respondents said they have "all-in-one" containers for recycling.

[1] http://www.ecy.wa.gov/beyondwaste/bwprog_swCurbsideRecycling.html
[2] http://quickfacts.census.gov/qfd/states/53/53033.html

Forty percent of responding property managers statewide indicated that food waste collection is set up at their properties, while 90% stated that their properties recycle. Seventy-two percent of responding Seattle properties reported food waste collection service for residents, while 26% of properties located in King County outside the City of Seattle reported providing composting[3].

Less than 25% of properties across the rest of the state offer food waste composting:

- Eastern Washington: 25%
- Far west/Olympic Peninsula: 22%
- North Sound: 19%
- Pierce/Kitsap County: 16%

In Eastern Washington, just 23% of reporting properties provide *both* recycling and food waste composting collection.

Varying perspectives about Barriers and Challenges

The views of local government staff and property managers differ regarding primary recycling and composting challenges at multifamily properties. Recycling professionals view contamination and space as the top two challenges, while property managers cite culture and habits of residents, and illegal dumping as their top two challenges.

Survey responses--Perceived "Top" Multifamily Recycling Challenges

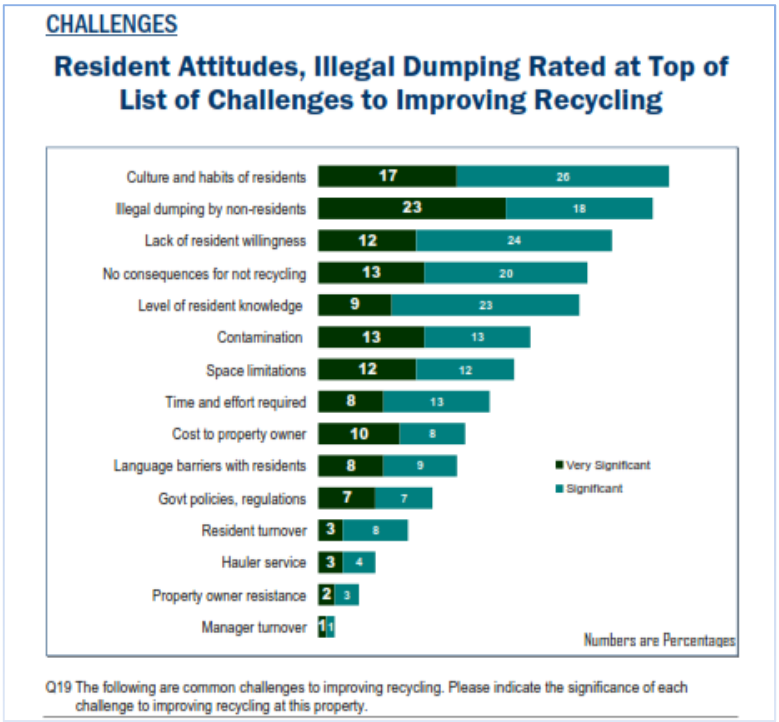
Ranking	Agency Representatives[4]	Multifamily Property Managers[5]
1	Contamination	Culture & habits of residents
2	Space	Illegal dumping by non-residents
3	Lack of manager support	Lack of resident willingness
4	Resident or manager turnover	No consequences for not recycling
5	Resident knowledge	Resident knowledge
6	Residents won't participate	Contamination
7	Multicultural and language challenges	Space

United States recycling professionals perceive resident turnover as a major challenge to conducting recycling education in multifamily developments[6].

Similarly, nearly 80% of Washington local government agency respondents reported that resident turnover is a key challenge. This challenge ranked fourth of 13 possible challenges[7].

[3] *Note: As of 2013, Seattle reports a 96% subscription rate among multifamily properties for food waste collection.*
[4] "Agency Survey Report"
[5] Survey of Property Managers, p. 19
[6] "Review of Multifamily Recycling Programs…"
[7] "Agency Survey Report" p.15

Interestingly, *property managers* do not view resident turnover as a primary challenge. For them, turnover ranked 12th of 15 challenges. Managers ranked illegal dumping as the second most prevalent challenge. Managers also said that assistance to reduce illegal dumping was the third best strategy for *improving* recycling at their properties.[8]



In addition to illegal dumping, the other top challenges for property managers are each related to the *behaviors* of multifamily residents associated with their knowledge, choices and habits.

Eight out of ten managers said they were willing to do more to encourage recycling, including one in four who were willing to do "much more."[9]

In addition, property managers reported that the size of the building affected organics collection[10]

Property Size and Organics Collection	
# units	% with composting service
1-20	55%
21-100	42%
100+	27%

[8] Survey of Property Managers p. 20
[9] Survey of Property Managers p. 21
[10] Survey of Property Managers p.9

Collection Logistics

Collection logistics are integral to the success of multifamily recycling. How much material is captured and diverted depends upon which materials are accepted in recycling containers, and how those materials get to the bins. Service, container placement, and convenience are all critical factors to consider for multifamily properties.

Multifamily recycling and solid waste collection logistics are impacted by a number of factors in Washington, including the crucial role recycling service plays. Because of the variety of recycling service providers, markets for recyclable materials, and policies which influence recycling logistics, recycling is not the same in every city or county in Washington. These logistics significantly impact how much a given multifamily property can recycle. Notable factors include:

1. The space *inside* of buildings for recycling collection and/or consolidation.
2. The space *outside* of buildings for recycling carts or dumpsters that are serviced by haulers.
3. Availability of recycling collection services: (*Which recyclables are collected, and what are the sorting requirements?)*
    a. Commingled recycling — cans, bottles, paper, cardboard collected in one bin
    b. Source-separated recycling — single materials like paper or glass in separate bins
    c. Food waste and/or organics collection
    d. Bulky and re-usable items collection

Convenience Makes a BIG Difference

Convenience was rated as paramount by property managers when asked about the difference between "properties where recycling works well and properties where recycling does not work well."[11] Specifically, sixty percent of respondents rated "recycle containers near garbage containers" in the top five most successful things they have done for recycling/composting. Twenty-five percent rank it number one. Location of bins was most important, followed by passive information such as signs, and direct efforts like incentives and talks.

When local jurisdictions were asked about the recycling challenges particular to their jurisdiction, they responded[12]:

- Space constraints for recycling containers (70%)
- Hard for residents to access containers (34%)
- Recycling capacity was less than garbage capacity (40%)

Tips from the field…

"It needs to be as convenient as possible. People will not walk out of their way. The location of bins is important, and if possible, the property should provide a usable recyclable container/bag/can for residents to put recycling in their units. "

--Property Manager Interviewee #3.

Property managers surveyed also made specific suggestions for convenience in multi-level complexes including:

- recycling chutes,
- in-unit containers or compost bins,
- centralized waste areas, co-located bins,
- and bins on every floor

[11] Survey of Property Managers p. 7
[12] "Agency Survey Report"

Additionally, ten of 13 property manager interviewed[13] made various statements that accessibility and convenience were important. Comments included:

- "…put recycling bins in the laundry rooms on each floor with posters." *–Property Manager Interviewee #7*
- "…multiple areas throughout the property, with garbage and recycling dumpsters always located together." *–Property Manager Interviewee #6*
- "…having access to several different bins. Recycling area is big, and trash looks small so it draws people to recycling. "*–Property Manager Interviewee #4*

Tips from the field…

"While the common wisdom is for containers to be located together, sometimes I find that the level of contamination requires more separation. Setting up one area for garbage and another for recycling and food waste can help reduce that problem."

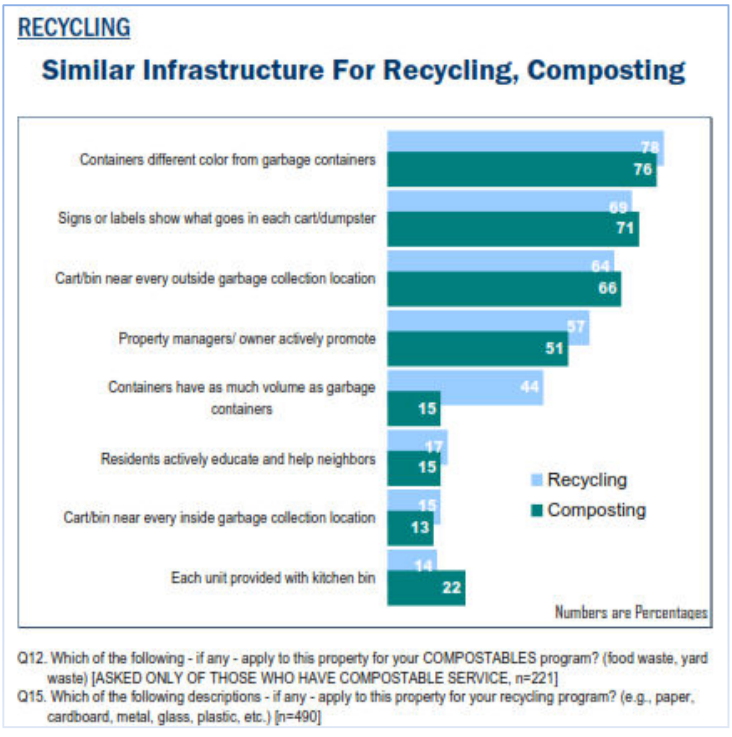
--Jack Harris, Blue Marble Environmental

Another solution reported by a property manager of a high-rise property included locating agency-provided small organics carts on each floor of the building, and having staff transport the material to the outdoor container. The manager expressed appreciation for the agency-provided in-unit kitchen compost buckets, which have made food waste collection more convenient for residents.

The Container Matters

All the education in the world won't help if there isn't a place to put that bottle or can.

When asked which factors make the most difference between sites that recycle well and those that recycle poorly, managers rated bin convenience, container size, and signage over educational strategies.[14] Logistics were also cited by interviewed agency representatives from across the country as a significant issue for multifamily recycling. Active promotion by managers of recycling/composting programs ranked fifth, below locating recycling and composting containers near garbage containers, posting signs at collection points, providing recycling information to all residents, and utilizing different-colored containers.[15]



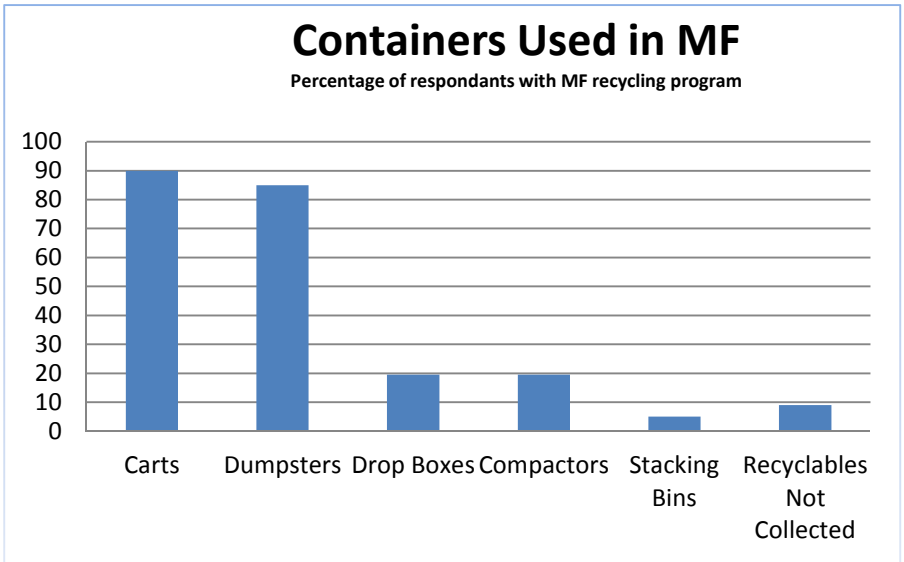
Having enough space for recyclables in the recycling container impacts the amount of recycling collected. Interestingly, in

[13] Survey of Property Managers appendix p. 10-25
[14] Survey of Property Managers p. 22
[15] Survey of Property Managers p. 17

Washington, garbage capacity is as still reportedly more than recycling capacity at a significant percentage of multifamily properties. Only forty-four percent of property manager respondents reported "[recycling] containers have as much volume as garbage containers."[16]

Since 56% of properties have less recycling capacity than garbage, even if multifamily residents are motivated to recycle, they may not have the container space to do so.

Agency survey respondents identified carts and dumpsters as the primary collection containers used and most reported using more than one type.[17]



Potential Logistics Solutions to Identified Challenges

Agency staff and recycling service providers have an opportunity to enhance multifamily recycling by improving container logistics for both indoor and outdoor collection points. Whether this is through providing indoor containers for floors of high rises, providing counsel upon set up of indoor containers in common areas, or through grouping containers outdoors where residents have easy access, these partners play an important role in creating the logistical foundation that can enhance a program.

During the Survey of Property Managers interviews several challenges were expressed related to the logistics of recycling collection. While anecdotal, property managers and recycling professionals offered the following potential solutions to some of the identified challenges in multifamily properties:

INDOOR COLLECTION CHALLENGES:

- Each unit in a multifamily building may not have been built with space for a recycling or composting container in the same location as the garbage bin (i.e. under the kitchen sink).
  - ✓ Consider providing a compact recycling bin or bag for collection for each unit.
- Larger buildings may have trash chutes or trash rooms on each floor which may not have sufficient space for recycling or food waste collection.
  - ✓ Consider providing "porter" service daily for recyclables collected on each floor.
  - ✓ Consider additional signage at trash chutes that discourage recycling in the garbage, such as: "No recyclables in trash chutes please. Recycling is located at *X*."

[16] Survey of Property Managers p. 15
[17] "Agency Survey Report" p. 9

OUTDOOR COLLECTION CHALLENGES:

- Carts or dumpsters need to be large enough and located with successful recycling in mind.
    - ✓ Consider increasing the volume of recycling capacity available and potentially reducing garbage capacity.
- Property managers and recycling service providers decide where and how to place bins and residents have little input in these decisions.
    - ✓ Consider how to make recycling most convenient for residents while also attending to space and truck access constraints.

Conclusion

It is important to ensure that collection logistics are thoughtfully employed when setting up or working to improve a multifamily recycling system at a given property. Convenience factors and the types of containers are also critical to consider when planning local government recycling programs. The types of containers, how materials are sorted, and even the color of bins can have a significant impact on recycling efforts, as logistics play a key role for successful multifamily recycling.

Policy & Regulation Influences

Appropriate policy and regulation contribute significantly to the success of multifamily recycling and food waste composting programs. Currently in Washington, regulations affecting multifamily recycling programs exist primarily locally, at the city and county level. With the exception that curbside collection programs must exist in urban areas, little policy governing multifamily recycling exists at the state level in Washington. However, several regulatory policies and mandates at the county and city levels impact multifamily recycling in Washington:

Service level Ordinances—Including Mandatory recycling

Service level ordinances and contracts which require "embedding" recycling service costs within solid waste rates are increasingly common at the city and county levels, and significantly help increase multifamily property participation in recycling. City ordinances in Marysville and Seattle mandate that all multifamily properties must have recycling containers on site (with reasonable exemptions for hardship or lack of space). In 2011, Seattle mandated food waste cart subscriptions for all multifamily properties.

Jurisdictional Contracts

In Washington, incorporated cities have the authority to set rates and collect solid waste from residents and businesses. This work can either be carried out by the city or contracted out to a private collection company. Cities enjoy a unique position, as they can set rates to support their solid waste programs. Recycling is incentivized by folding its cost into the garbage rate. Moreover, the garbage rates can be set on a Pay As You Throw (PAYT) basis, where the larger volume containers cost significantly more. This method further incentivizes recycling by encouraging residents to think about the amount of material disposed.

Just one of the responding 48 agencies within Washington reported a rate structure in which recycling collection is more expensive than garbage collection. In addition, over half of agency respondents noted that the fee for collecting recyclables is embedded in the garbage rate. Therefore, the customer has no choice to pay additional for recycling, and is in fact incentivized to recycle. Many communities have increased their multifamily recycling participation rate from the low twentieth percentile to the seventies, eighties and nineties as a result of an embedded rate for recycling services, along with targeted multifamily outreach and education programs (see box).

Since the majority of multifamily complexes fall within incorporated city limits, cities have a tremendous amount of

Tips from the field…

Embedded rate policies established in jurisdictions such as Snohomish County and the cities of Everett, Arlington, Marysville, Edmonds and Lynnwood, coupled with promotional outreach and education programs, have increased recycling participation rates from 20% to 80-90%.

The City of Olympia has compulsory (mandatory) garbage for all customers. In 1994 Olympia made the decision to provide recycling to multifamily residents at no additional fee. This resulted in over 95% of properties including recycling service on site.

influence on the success of multifamily recycling programs through their rate-setting authority.

Cities can leverage their influence when negotiating contracts with private hauling companies. Requirements such as education programs, quality assurance of the recycling stream, and performance measures for overall system performance can all be incorporated into contract terms. If a city elects to provide its own collection service, program costs can be integrated into their operations through customers' rates. The city can also set program outcome targets, and staff can track and enforce them.

In cases where cities opt to contract out their collection services, performance measures can also be included in the contract, such as:

- Contamination rate studies
- Education for chronically poor-performing accounts
- Outcome-based targets (vs. output based), i.e. contamination thresholds
- Providing on-site assistance for multifamily accounts

Building Code Requirements for Recycling Container Enclosure Standards

Some jurisdictions, such as Olympia and Kitsap County, have implemented policies requiring adequate space for recycling and food waste composting containers in remodeled and new multifamily solid waste enclosures which make on-site recycling more feasible and functional.

Funding for Waste Reduction and Recycling Efforts

The model for funding recycling programs in Washington is fairly universal – a combination of tipping fee revenues and state-provided grant funding. The most consistent and significant source of supplemental funding to local governments in Washington is the Coordinated Prevention Grant (CPG) Program. This program is funded through the Model Toxics Control Account (MTCA) – a tax on petroleum and other toxic products sold in Washington. In the 2013-2015 biennium, this program will distribute $28.24M to local government solid waste programs and health departments, based on population.

The revenues from these sources are split among high priority programs in most cases, such as moderate risk waste (MRW) facility operations, disposal system operations, or broader recycling outreach. In many cases, multifamily recycling falls to the bottom of the recycling funding priorities, behind commercial and single-family residential sectors. This was evident in the agency survey, where less than half of jurisdictions under 100,000 in population allocated funding for multifamily recycling outreach.[18]

Another tool local governments and waste collection companies can employ to implement more robust recycling education programs are revenue-sharing agreements. These agreements are used in unincorporated areas where tariffs are governed by the Washington Utilities and Transportation Commission (WUTC). Recent changes to solid waste transportation regulations allow solid waste collection companies to retain up to 50% of the revenues from recyclables collected, if that additional funding is used for programs that are consistent with the solid waste management plan in that particular county, and if the company has an agreed-upon plan with

[18] "Agency Survey Report" p. 2

county government to institute programs to increase recycling. Currently King and Snohomish counties have implemented such agreements with their certificated companies. The agreements in those counties have significantly enhanced the focus on multifamily recycling education programs, including pilot projects to increase diversion during the fall of 2013.

State Regulation of solid waste and recycling service: WUTC

A relatively unique collection system occurs in the unincorporated parts of Washington. Collection companies are issued exclusive rights to collect garbage and residential recyclables in a given territory. Rates are set by the WUTC, based on a cost of service plus reasonable profit model. The purpose of this system is to provide universal service to all customers within a given boundary, regardless of how geographically remote the customer is. Since multifamily complexes are often classified as residential accounts, their recycling often falls within a WUTC certificated area, and its established rates.

In these WUTC areas, access to curbside recycling is limited to areas that are designated as urban in the county solid waste management plan, unless a specific service level ordinance has been enacted by the county to expand that boundary. If a service level ordinance is passed by the county, the collection company can incorporate the expanded boundary or mandatory collection of recyclables into their tariff with the WUTC, pursuant to the local ordinance. Snohomish, King, Pierce, and Kitsap Counties are good examples of such ordinances. A few cities such as Everett, Edmonds and Lynnwood are WUTC regulated.

Since the rates established under this system reflect actual cost of service, plus a set profit margin, the cost of recycling can only be incentivized to a limited extent. In some cases, downsizing a garbage container and adding recycling service can be cost neutral, or even cost the rate-payer more. The cost of recycling cannot be “embedded” into the cost of garbage or appear as “free” on the rate-payer’s bill, nor can the cost for garbage collection be inflated to offset the cost of recycling.

By implementing a service level ordinance, county governments can influence the access rate-payers have to recycling collection services. If access areas are expanded, and service is optional, low subscribership could result in rate increases due to efficiency losses on collection routes. These problems can be somewhat mitigated by including mandatory recycling service in the ordinance.

To learn more about the regulated solid waste system in Washington, visit the Washington Utilities and Transportation Website at www.utc.wa.gov

Barriers and Their Potential Policy Solutions

A number of policy solutions exist to address issues such as contamination and illegal dumping which agency and property managers stated were high priorities.

Several challenges were consistently cited by property manages as barriers to implementing successful recycling and food waste composting programs.

CONTAMINATION: Contaminated recycling is frequently cited by recycling professionals as a significant problem. Interestingly, just one in four Washington multifamily property managers indicated ever being charged a contamination fee by their collection company.[19] The overwhelming majority of these managers reported receiving fees "a few times," and just 3% of all managers said they were charged for contamination "often."

While not well quantified in most jurisdictions, the hands-on and anecdotal experience of collectors, agency staff, consultants and other recycling professionals indicates that multifamily contamination is a significant issue in Washington.

Cities contracting with waste collection companies, or self-hauling, might add and enforce contract language to reduce contamination, including establishing maximum allowable contamination percentages, providing effective education, prescribing material composition studies, assessing fines for accounts that repeatedly fail to meet contamination standards, requiring collection companies to identify contaminated bins, and ensuring agency enforcement of established contamination thresholds, among others.

ILLEGAL DUMPING: Illegal dumping was rated by Washington property managers as the second most significant challenge to improving recycling at multifamily properties (only "culture and habits of residents" ranked higher). Forty-one percent of managers stated that it was either a "very significant" or "significant" challenge.[20] Similarly, when property managers were asked what strategies would help them improve recycling at their properties, they ranked "help with stopping illegal dumping" at number 3, with 33% of managers selecting that option. No single solution exists to curb illegal dumping, but many strategies are commonly recommended for multifamily properties. Many cities and counties in Washington have established illegal dumping policies, coupled with enforcement through Health Districts and law enforcement agencies.

Data from the solid waste agency survey revealed that just 51% of jurisdictions mandate on-site garbage service. In the executive interview portion of the property manager

Tips from the field…

The Oregon Department of Environmental Quality provides these suggestions to property managers:

"Illegal dumping at businesses, apartment buildings and other private property is a serious problem. Some dumpers are individuals or businesses that dump in your dumpster to avoid paying for garbage service. Others haul junk for a small fee and then dump the loads illegally.

Illegal dumpers often use the same sites over and over. If you've been a victim of illegal dumping, take the following measures:

- **Clean up.** Any site with an old tire or a bag of trash tends to act as a magnet for additional trash. Keep sites such as parking lots and areas around dumpsters neat and clean.
- **Post signs.** Install signs to let potential dumpers know that unauthorized dumping is a violation of local and state ordinances and that they risk being identified and prosecuted.
- **Install lights**. Most dumping occurs at night when dumpers are least likely to be seen. Installing motion sensor lighting around waste containers and in parking lots will eliminate the factor dumpers depend on the most to avoid detection-darkness.
- **Use vehicle barriers**. In some cases, it may be feasible to place waste containers behind a barrier (such as a steel post) that prevents vehicles from driving up to the containers. The barrier is removed only for scheduled pickup by your waste hauler.
- **Lock up**. Lock your dumpster lid or secure it behind an enclosure to deter small-scale dumpers looking for an accessible container.

[19] Survey of Property Managers p. 14
[20] Survey of Property Managers p. 19

survey, a property manager observed that mandating residential and commercial garbage collection could curb illegal dumping in multifamily complexes. Minimizing self-haul garbage customers could potentially reduce the need for some to illegally dump in the large, open containers often found in apartment complexes.

By making legal disposal of materials convenient and illegal disposal inconvenient, the local costs of preventing illegal disposal can be reduced. Solid waste codes, ordinances, and permits are all effective tools in preventing illegal dumping. They can require permits for waste management activities, establish mandatory refuse collection programs, set fines for illegal disposal offenses, require fencing of vacant properties, and provide administrative abatement, settlement, and citation authority to local government.

Tracking Multifamily recycling success/Measurement

As the WAMRS team conducted its survey of local governments across Washington, it became very clear that one of the major underlying problems facing multifamily recycling is that many governments have little or no data to describe recycling in the multifamily sector. All but a handful of jurisdictions replied to the survey with little to no data on their multifamily tonnages, and some that replied had concerns about the quality of their data. Multifamily accounts often get rolled into a commercial or residential route, depending on the collection mechanism, resulting in an inability to segregate accurate multifamily recycling data. The lack of collected data and uncertainty of reported data make it nearly impossible to determine a state wide recycling rate for the multifamily sector.

This might be the most complex and fundamental problem to overcome. In order for local governments and the state to establish goals, there needs to be a baseline to work from. Additionally, gauging the success of programs is extremely difficult when there is no way to measure effectiveness. To make a statewide change, a statute revision would likely be necessary to ensure that sector-specific data is collected universally. This process is often challenging, at best. Local governments can assert more influence through implementing data collection parameters in city contracts, revenue sharing agreements, and service level ordinances. These requirements can go a long way in influencing collection companies to segregate the multifamily sector and provide good multifamily data.

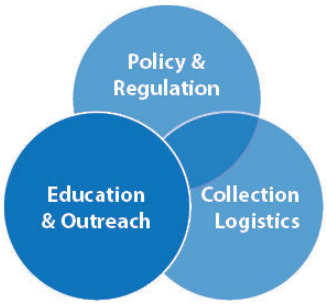
Tips from the field…

The City of Olympia goes to great lengths to understand its multifamily recycling rate. The city calculates the entire volume of commercial garbage, carefully subtracting out multifamily garbage tonnage using a conversion factor determined from a city study of its tonnage. The city also collects multifamily recycling via a separate truck which allows for determination of actual recycling tonnage. This approach allows the city to confidently determine a recycling rate for its multifamily sector.

Conclusion

Multifamily policy and regulation through state, county or city laws, ordinances and contracts can significantly increase recycling participation and material tonnage diversion from the landfill, and curb illegal dumping and contamination occurrences – particularly when coupled with thoughtful collection logistics and education and outreach programs.

Education and Outreach



Education, in partnership with appropriate service levels and effective site logistics, will improve recycling and reduce contamination.

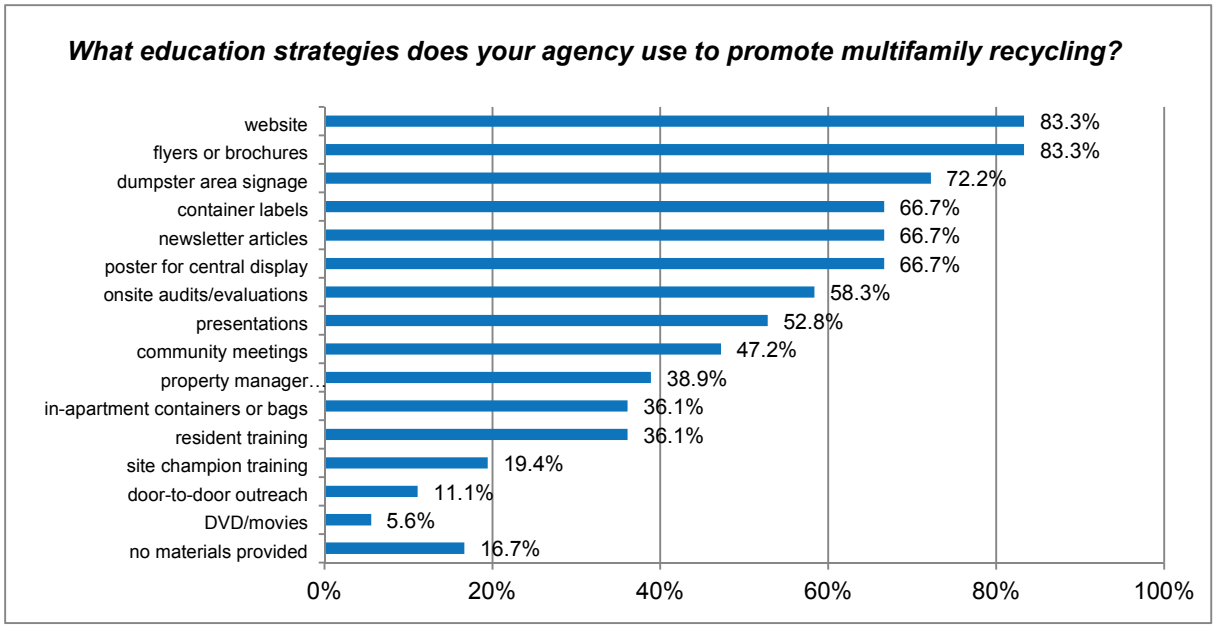
Unfortunately, despite common distribution of recycling information by agencies *and* property managers, and a belief by managers that these materials work, contamination and low participation rates remain prevalent at multifamily properties. While providing recycling information is necessary and useful, community-based social marketing findings demonstrate that more is required to effectively improve recycling behavior.

Providing tools like prompts, pledges, person to person contact, feedback, and starting with small actions actually motivate behavior change.[21]

Current Educational Strategies

A wide variety of strategies are used for both educating multifamily residents about recycling and composting, and for effecting behavior change.

Washington agencies and property managers more frequently report the use of passive outreach tools such as websites and distribution of recycling information to residents than strategies proven to affect behavior change.[22] Only 35% of reporting agencies in Washington provide recycling education to the multifamily sector, with strategies typically focused on traditional, passive methods such as websites, flyers, labels and signage.[23] Many respondents commented that the same materials are used for all recycling customers, and are not specific to or customized for multifamily communities.



[21] Community-Based Social Marketing, www.cbsm.com
[22] "Agency Survey Report" p. 1
[23] "Agency Survey Report" p. 1

While programs vary across the state, similar educational strategies are often used to capture both recyclables and food waste. Significant opportunities exist to improve both education and diversion at multifamily properties.

Some agencies and managers also use person-to-person methods and door-to-door outreach to educate about recycling and composting, but at a significantly lower rate than passive methods.

Tips from the field…

"A vital part of the evolving outreach strategies has been the increasing coordination and use of color so the public associates certain colors with certain collection options. Over the years, blue has become increasingly recognized by the public as the color for a recycling bin. Using these colors across your outreach methods – from the carts on the curb to the colors on your website and brochures – will serve as visual reminders to your residents, and be one more way to reduce confusion and the resulting contamination of recyclables (and organics)."

- Public Outreach for Your Residential Commingled Recycling Collection Program: A best management practices guide for governments – *Washington State Department of Ecology, SW Commingled Report*

Education Practices Seen As Most Successful

There are significant differences of opinion between managers and agency representatives regarding the major challenges and best strategies to address them. While agency respondents perceive resident turnover as a primary challenge, property managers are far more concerned by illegal dumping. Managers of large and small properties rank the usefulness of recycling education strategies differently:

- Thirty-eight percent of managers of smaller properties (<100 units) ranked education and outreach among the top three strategies that make a difference between sites that recycle well and those that recycle poorly.
- In contrast, just 26% of managers of sites with over 100 units ranked education and outreach in the top three.

However, both agree that flyers, labels and posters for residents are fundamentally needed, to clarify the "rules" for sorting materials. Recycling information handouts were overall rated as the number one way to *improve recycling* in general (39%) [24]

According to property managers, displaying posters or signs in collection areas is the second most successful strategy for multifamily collection, with container positioning ranked first.[25] According to the surveys, both agencies and property managers use recycling handouts as a primary method for educating residents. And, they each believe that these materials help:

- Thirty-nine percent of responding managers said that handouts from agencies would *improve* recycling.
- Twenty-four percent believe that signs/flyers in multiple languages would improve recycling at their sites[26].

Tips from the field…

Translating materials into languages other than English is important in many communities.

According to the 2010 Census, 17.8% of representatives of Washington state households report that a language besides English is spoken at home, and 12.8 % report being born in a different country.

[24] Survey of Property Managers p. 20
[25] Survey of Property Managers p. 17
[26] Survey of Property Managers p. 20

Property managers ranked the following as the most successful educational *practices* at multifamily properties for both compost and recycling.[27]

- Post signs at collection site
- Provide recycling information to all residents

Further, the following educational features were ranked in the same order and used with the same frequency for both recycling and food waste collection by property managers.[28]

- Signs or labels on the containers
- Active promotion by property manager

Using Prompts: Signs, Flyers and Labels

Recycling professionals across the United States emphasized the use of photos over text; translating all written materials; and using a variety of promotional tools, such as door hangers, magnets, and campaign signs. Respondents also said that these materials should be distributed frequently, and displayed in multiple locations within a multifamily property. In addition, coordinating colors on educational materials with sorting containers provides quick selection as well as equitable access to people who can't read the text.

Tips from the field…

"A prompt is a visual or auditory aid which reminds us to carry out an activity that we might otherwise forget. The purpose of a prompt is not to change attitudes or increase motivation, but simply to remind us to engage in an action that we are already predisposed to do…"

-- Fostering Sustainable Behavior*" by Doug McKenzie-Mohr and William Smith*

From these responses, flyers seem to be an important tool for managers and agencies to provide the basic rules for what is accepted in the containers. However, logistics are also key and person-to-person communications are significant. While useful, a flyer is not enough to make a program successful. It is only part of a toolkit to address a variety of influential factors, from infrastructure to the population of the property. This is particularly important in light of Washington's growing population of immigrants for whom English is not a first language.

In several executive interviews, property managers expressed the desire for hand-outs in multiple languages. In one executive interview, a property manager's request for assistance from a local organization or government included: "Web site availability to download flyers in different languages." More research is needed to understand how or whether this resource could more effectively serve property managers or residents. Efforts to connect with immigrant community organizations as well as provide translation and interpretation may help improve programs at these properties. Currently, local governments reported:

- 62.5% of agencies provide printed materials in other languages.
- 35% of agencies report supplying printed materials only in English[29]

[27] Survey of Property Managers p. 17
[28] Survey of Property Managers p. 15
[29] "Agency Survey Report" p. 14

Twenty-eight percent of managers also said that posters were key to improving recycling.[30] This shows again the basic need for the "rules" to be available for residents to use, but cannot be the only strategy for success.

While agency recycling professionals were not asked to rank education strategies based on success rates, they reported the *frequency* with which different signage methods are utilized[31]

Labels & Signage as Outreach Methods – Washington Agencies		
Method	Organics	Recycle
Flyers or brochures	85%	83%
Poster for central display	77%	67%
Signage for collection areas	61%	72%
Container labels	85%	67%

"Person-to-Person" Communication

During phone interviews, recycling professionals across the United States repeated three educational themes: direct relationships with managers, direct relationships with residents, and the need for continuous outreach. Practices included assigning agency staff to communicate with and assist property managers and residents, and using resident volunteers to educate their neighbors.[32]

City and county agencies in Washington with multifamily recycling programs appear to provide only a moderate level of in-person communication methods such as on-site audits, presentations, community meetings, and resident trainings, while "Site Champion Trainings" are even less frequently employed.

Tips from the field…

A senior facility of 268 units reported that technical assistance and the City of Seattle mandate helped them improve recycling and start food waste collection, saving $1,250/month. The facility manager stated:

"If you have any sense of what is happening to the planet, you will want to do it."

During executive interviews with property managers, several mentioned that move-in orientations with new residents are valuable. According to both the property manager survey and agency survey, direct outreach methods are much less widely implemented than passive measures like flyers and brochures. It is important to consider that hands-on strategies may rank lower than standard strategies for improving recycling because fewer managers have had exposure to them. While 70% of property managers rate recycling information handouts as the top way to improve recycling, only 21% rate training or educational presentations for residents as useful.[33]

[30] Survey of Property Managers p. 20
[31] "Agency Survey Report" p. 13
[32] "Review of Multifamily Recycling…"
[33] Survey of Property Managers p. 20

In the executive interviews with property managers, specific comments included: “The Assistant Manager is a recycling champion who is constantly promoting it. If you don’t have staff promoting it, it won’t work.” And “Once-a-year trainings, door to door visits” was recommended as a strategy for agencies to help improve the program.

Most education strategies addressed in this study are used at a higher frequency for food waste collection programs than for recycling programs.[34] Person-to-person outreach is an example of this variance:

Person-to Person Outreach Methods		
Outreach method	Organics	Recycle
On-site audits	77%	58%
Presentations	77%	53%
Community Meetings	61%	47%
Resident Training	61%	36%

Conclusion

Recycling professionals in Washington continue to report that multifamily recycling rates remain low, and contamination high. Recycling and food waste collection may be enhanced by more active education strategies such as new resident orientation, door-to-door outreach, and property manager training.

Education provides a much-needed baseline for program clarity and motivation for resident participation and is most effective when coordinated with a convenient well-sited infrastructure. Expansion beyond flyers and posters is crucial, and customizing outreach according to property features such as size, population, and geographic location is also highly recommended.

In addition, the cultural demographics of the state are changing. For instance, in Seattle, 20% of the population is immigrants. It will support the success of recycling and composting in Washington to be proactive in engaging residents of other languages through culturally-literate strategies, translations, and interpreters rather than relying on conventional English-only mechanisms.

While multifamily recycling and organics collection remain a challenge, improving education is an opportunity to serve residents more effectively and equitably, and to capture valuable resources otherwise headed for the landfill.

[34] “Agency Survey Report” p. 13

ORDINANCE O-4537

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO SOLID WASTE COLLECTION RATES AND AMENDING SECTION 16.12.030 OF THE KIRKLAND MUNICIPAL CODE.

The City Council of the City of Kirkland do ordain as follows:

Section 1. Section 16.12.030 of the Kirkland Municipal Code is hereby amended to read as follows:

16.12.030 Collection rates.

The rates to be charged for solid waste collection service in the city shall be as follows:

(1) Residential.

A. **Single-Family**		**Per Month Rate**	
Monthly Service	**Rate**	**2017**	**2018**
35-gallon cart	~~6.16~~	6.44	6.63
Weekly Service			
10-gallon mini cart	~~7.63~~	7.98	8.22
20-gallon mini cart	~~15.25~~	15.96	16.42
35-gallon cart	~~23.73~~	24.83	25.56
64-gallon cart	~~43.38~~	45.39	46.72
96-gallon cart	~~65.07~~	68.08	70.08
32-gallon Equivalent "extra"	~~6.00~~	6.12	6.26
		Per Occurrence	
Extra Yard Debris Service			
96-gallon cart	~~13.79~~	14.43	14.85
		Per Month	

32-gallon container	~~5.35~~	5.40	5.53
		Per Occurrence	

As stated in Section 16.12.025, the solid waste rate to be charged to a qualified low-income senior citizen single-family residential customer shall be sixty percent of the rate set forth in Section 16.12.030 (1)(A).

One gray yard waste cart and one blue recycling cart is provided to each customer at no extra charge. The contractor will charge a fee for additional yard waste receptacles above the first set provided. The contractor will provide a 35 or 96 gallon recycling cart on request to new residents and those residents needing less or additional capacity than provided by the default 64 gallon recycling cart.

B. **Miscellaneous Service Fees**	**Rate**	**2017**	**2018**
Return Trip	~~17.95~~	18.78	19.33
		Per Occurrence	
Drive-in Charge	~~8.15~~	8.53	8.78
		Per Month	
Redelivery Fee (carts)	~~24.49~~	25.62	26.38
		Per Occurrence	
Carry-out Surcharge	~~4.88~~	5.11	5.26
		Per Month	

C. **On-Call Bulky Waste Collection Fees (Per Occurrence – Per Item)**

	Rate	**2017**	**2018**
Appliances	~~122.48~~	128.15	131.91
Refrigerator/Freezer	~~122.48~~	128.15	131.91
Sofa	~~122.48~~	128.15	131.91

Chair	~~122.48~~	128.15	131.91
Mattress or box springs	~~122.48~~	128.15	131.91
Tire: Auto/light truck	~~32.65~~	34.16	35.16
Tire: Bus/heavy truck	~~40.82~~	42.71	43.96
Tire: Additional for rims or wheels	~~24.49~~	25.62	26.38
Miscellaneous, per cubic yard	~~89.82~~	93.97	96.73

D. **Temporary Container Service**	**Rate**	**2017**	**2018**
Temp. 2-yard container	~~70.63~~	73.90	76.07
Daily rent	~~1.64~~	1.72	1.77
Delivery fee	~~62.05~~	64.92	66.83
Temp. 4-yard container	~~89.55~~	93.69	96.44
Daily rent	~~2.05~~	2.14	2.21
Delivery fee	~~62.05~~	64.92	66.83
Temp. 6-yard container	~~107.81~~	112.80	116.11
Daily rent	~~2.44~~	2.55	2.63
Delivery fee	~~62.05~~	64.92	66.83
Temp. 100-yard container	~~3,518.74~~	3,681.51	3,789.61

(2) Multifamily and Commercial

A. **Carts**

Weekly Service	**Rate**	**2017**	**2018**
20-gallon mini cart	~~15.25~~	15.96	16.42
35-gallon cart	~~23.73~~	24.83	25.56
64 gallon cart	~~43.38~~	45.39	46.72

96-gallon cart	~~65.07~~	68.08	70.08
32-gallon equivalent "extra"	~~6.00~~	6.12	6.26

B. **Miscellaneous Services (Per Event)**	**Rate**	**2017**	**2018**
Return Trip	~~41.38~~	41.17	41.02
Carry-out service (per container	~~4.61~~	4.59	4.57
Redelivery	~~58.24~~	57.94	57.74
Roll-out container	~~7.68~~	7.64	7.61
Unlock container	~~2.60~~	2.59	2.58
Gate opening	~~4.61~~	4.59	4.57
Pressure washing (per yard)	~~27.57~~	27.43	27.33

C. **Comm.MF Uncompacted Containers**	**Rate**	**2017**	**2018**
1 Cubic Yard Uncompacted			
1 pickup/week/container	~~94.96~~	94.48	94.14
2 pickups/week/container	~~183.24~~	182.31	181.66
3 pickups/week/container	~~271.56~~	270.18	269.21
4 pickups/week/container	~~359.86~~	358.03	356.75
5 pickups/week/container	~~448.15~~	445.87	444.27
6 pickups/week/container	~~536.46~~	533.74	531.82
1.5 Cubic Yard Uncompacted			
1 pickup/week/container	~~120.46~~	119.85	119.42
2 pickups/week/container	~~233.10~~	231.92	231.08

3 pickups/week/container	~~345.72~~	343.96	342.73
4 pickups/week/container	~~458.37~~	456.04	454.41
5 pickups/week/container	~~570.98~~	568.08	566.04
6 pickups/week/container	~~683.69~~	680.22	677.78
2 Cubic Yard Uncompacted			
1 pickup/week/container	~~145.45~~	144.71	144.19
2 pickups/week/container	~~281.18~~	279.75	278.75
3 pickups/week/container	~~416.95~~	414.83	413.34
4 pickups/week/container	~~552.67~~	549.86	547.89
5 pickups/week/container	~~688.43~~	684.94	682.48
6 pickups/week/container	~~825.41~~	821.22	818.27
3 Cubic Yard Uncompacted			
1 pickup/week/container	~~193.08~~	192.10	191.41
2 pickups/week/container	~~375.06~~	373.16	371.82
3 pickups/week/container	~~557.02~~	554.19	552.20
4 pickups/week/container	~~738.99~~	735.24	732.60
5 pickups/week/container	~~920.96~~	916.28	913.00
6 pickups/week/container	~~1,102.96~~	1,097.36	1,093.42
4 Cubic Yard Uncompacted			
1 pickup/week/container	~~241.17~~	239.95	239.08
2 pickups/week/container	~~469.36~~	466.98	465.30
3 pickups/week/container	~~697.57~~	694.03	691.54
4 pickups/week/container	~~925.77~~	921.07	917.76

5 pickups/week/container	~~1,153.96~~	1,148.10	1,143.98
6 pickups/week/container	~~1,382.17~~	1,375.15	1,370.22
6 Cubic Yard Uncompacted			
1 pickup/week/container	~~336.02~~	334.31	333.11
2 pickups/week/container	~~656.57~~	653.24	650.89
3 pickups/week/container	~~977.30~~	972.34	968.85
4 pickups/week/container	~~1,297.96~~	1,291.37	1,286.74
5 pickups/week/container	~~1,618.61~~	1,610.39	1,604.61
6 pickups/week/container	~~1,939.28~~	1,929.44	1,922.51
8 Cubic Yard Uncompacted			
1 pickup/week/container	~~430.26~~	428.08	426.54
2 pickups/week/container	~~843.34~~	839.06	836.05
3 pickups/week/container	~~1,256.44~~	1,250.06	1,245.57
4 pickups/week/container	~~1,669.55~~	1,661.07	1,655.11
5 pickups/week/container	~~2,082.64~~	2,072.07	2,064.63
6 pickups/week/container	~~2,495.75~~	2,483.08	2,474.17
"Extra" Uncompacted Cubic Yard	~~25.75~~	25.62	25.53

D. **Comm./MF Compacted Containers (Weekly Pulls)**	**Rate**	**2017**	**2018**
1 cubic yard container	~~240.33~~	239.11	238.25
1.5 cubic yard container	~~334.08~~	332.38	331.19
2 cubic yard container	~~427.17~~	425.00	423.48
3 cubic yard container	~~610.48~~	607.38	605.20

4 cubic yard container	~~794.35~~	790.32	787.48
6 cubic yard container	~~1,700.39~~	1,691.76	1,685.69

E. **Comm./MF Yard Debris (Per Month)**	**Rate**	**2017**	**2018**
96-gallon cart (weekly collection	~~13.91~~	13.84	13.79
2 cubic yard container (weekly)	~~106.79~~	106.25	105.87
Extra cubic yard	~~33.23~~	33.06	32.94
Extra yard debris 32-gallon can	~~4.92~~	4.90	4.88

F. **Roll-off Container Rental Permanent Noncompacted Service**	**Rate**	**2017**	**2018**
10 cubic yard container	~~48.40~~	49.37	50.53
15 cubic yard container	~~56.45~~	57.59	58.94
20 cubic yard container	~~72.59~~	74.05	75.79
25 cubic yard container	~~80.67~~	82.29	84.22
30 cubic yard container	~~88.74~~	90.53	92.65
40 cubic yard container	~~96.79~~	98.74	101.05

G.. **Roll-off Container Rental Temporary Noncompacted Service**	**Rate**	**2017**	**2018**
10 cubic yard container	~~56.70~~	57.90	59.10
15 cubic yard container	~~64.50~~	65.70	67.20
20 cubic yard container	~~74.10~~	75.60	77.40
25 cubic yard container	~~84.00~~	85.80	87.60

30 cubic yard container	~~92.10~~	93.90	96.30
40 cubic yard container	~~108.00~~	110.10	112.80

(3) Comm./MF Drop-Box Collection (Per Haul)

A. **Noncompacted Service**	**Rate**	**2017**	**2018**
10 cubic yard container	~~158.16~~	161.35	165.13
15 cubic yard container	~~158.16~~	161.35	165.13
20 cubic yard container	~~158.16~~	161.35	165.13
25 cubic yard container	~~158.16~~	161.35	165.13
30 cubic yard container	~~158.16~~	161.35	165.13
40 cubic yard container	~~158.16~~	161.35	165.13

B. **Compacted Service**	**Rate**	**2017**	**2018**
10 cubic yard container	~~173.50~~	176.99	181.14
15 cubic yard container	~~173.50~~	176.99	181.14
20 cubic yard container	~~173.50~~	176.99	181.14
25 cubic yard container	~~173.50~~	176.99	181.14
30 cubic yard container	~~173.50~~	176.99	181.14
40 cubic yard container	~~173.50~~	176.99	181.14

C. **Temporary**	**Rate**	**2017**	**2018**
10 cubic yard container	~~159.70~~	162.92	166.73
15 cubic yard container	~~159.70~~	162.92	166.73
20 cubic yard container	~~159.70~~	162.92	166.73
25 cubic yard container	~~159.70~~	162.92	166.73
30 cubic yard container	~~159.70~~	162.92	166.73
40 cubic yard container	~~159.70~~	162.92	166.73

Delivery Fee – all Temp Customers	~~120.99~~	123.43	126.32

D. **Additional Services**	**Rate**	**2017**	**2018**
Additional mileage charge for hauls to other sites			
Charge per mile	~~6.46~~	6.59	6.74
Return Trip	~~56.45~~	57.59	58.94
Solid drop-box lid charge per month	~~56.45~~	57.59	58.94
Pressure washing (per yard)	~~12.92~~	13.18	13.49
Stand-by time (per minute)	~~3.24~~	3.31	3.38
Hourly Rates			
Rear/side load packer and driver	~~169.37~~	172.78	176.83
Front load packer and driver	~~169.37~~	172.78	176.83
Drop-box truck and driver	~~169.37~~	172.78	176.83
Additional labor (per person)	~~80.67~~	82.29	84.22

(4) Wherever detachable containers are used having a capacity for which a rate has not been established, the director of public works is authorized to establish a rate for such container, which shall be consistent with the ratio of the container capacity to rate charged for the rate herein established.

(5) In addition to the collection rates established in subsections (1), (2) and (3) of this section, there shall be included a hazardous waste charge adopted by King County Board of Health.

Section 2. Effective date for new rates: For 2017, the monthly rates established in this Ordinance go into effect and become the rates to be charged as of January 1, 2017. For 2018, the monthly rates established in this Ordinance go into effect and become the rates to be charged as of January 1, 2018.

Section 3. The garbage rates set forth in KMC 16.12.030, which is amended by this ordinance, shall remain in force and effect until the rates set forth in this ordinance go into effect.

Section 4. If any provision of this ordinance or its application to any person or circumstance is held invalid, the remainder of the ordinance, or the application of the provision to other persons or circumstances is not affected.

Section 5. This ordinance shall be in force and effect five days from and after its passage by the Kirkland City Council and publication pursuant to Section 1.08.017, Kirkland Municipal Code in the summary form attached to the original of this ordinance and by this reference approved by the City Council.

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

Signed in authentication thereof this _____ day of _____, 2016.

_____
MAYOR

Attest:

_____
City Clerk

Approved as to Form:

_____
City Attorney

PUBLICATION SUMMARY
OF ORDINANCE O-4537

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO SOLID WASTE COLLECTION RATES AND AMENDING SECTION 16.12.030 OF THE KIRKLAND MUNICIPAL CODE.

SECTION 1. Amends Section 16.12.030 of the Kirkland Municipal Code by amending solid waste collection rates.

SECTIONS 2 - 3. Provide an effective date for the rates.

SECTION 4. Provides a severability clause for the ordinance.

SECTION 5. 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