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## Fort Collins Community Recycling Ordinance Research

### Case Study #1: City of Boulder, Colorado

<b>Topic</b>	
<b>Location</b>	<p>City of Boulder, CO</p> <p>Recommended as a Statewide Peer City by Fort Collins Finance Department and just adopted Mandatory Recycling Ordinance.</p>
<b>Program Type, Background &amp; Purpose</b>	<p><b>Universal Recycling and Organics Service:</b> Requires haulers: who collect single-family and multi-family trash to also collect recyclables and organics every-other-week (only recyclables from multi-family homes)</p> <p><b>PAYT</b> – Includes embedded recycling/organics collection costs.</p> <p><b>Flow Control</b> – Haulers required to take recyclables to Boulder County Recycling Center unless customers choose another option.</p> <p>Population: 103,166 (2013, census estimate)</p> <p>Landfill tipping fees: \$15/ton</p> <p>Fee at Western Disposal Transfer Station: \$88/ton (Loose trash at Transfer Station) \$106/ton (construction trash) \$152/ton (heavy construction debris/shingles/compacted loads)</p> <p>Yard and wood waste drop-off: Free to City of Boulder residents sponsored by the city of Boulder and unincorporated Boulder County residents pay 40% less than standard trash disposal rates.</p> <p>Diversion (2013)<sup>1</sup> Community Wide: 32% Businesses: 28% Single Family: 57% Apartments/Condos: 20%</p> <p>Boulder has a subscription service for trash; recycling and compostables collection required to be included in residential trash service; City provided curbside recycling in 1989; in 2001 began requiring haulers to provide service; in 2008, added curbside compostables collection.</p> <p><b>Purpose of New Ordinance:</b> A "loophole" was identified in requiring the trash haulers all provide recycling service in that the property owners were not required to subscribe to adequate levels of service and some Multi Family complexes simply did not have adequate access. The new ordinance builds on the hauler requirements and expands the scope to all properties and all businesses and special events in Boulder. This way, it's everyone's responsibility.</p>

<sup>1</sup> Source: <https://bouldercolorado.gov/lead/zero-waste>

<b>Sectors &amp; Materials Covered</b>	<p>Single Family and Multi-Family (BRC Chapter 6-12)</p> <p>The City works with Western Disposal Services for the collection and/or processing of yard and wood waste, Eco-Cycle's Center for Hard to Recycle Materials (CHaRM) for hard-to-recycle materials, and the County's Hazardous Materials Management Facility (HMMF) for hazardous waste. The City also works with ReSource to provide infrastructure and customer outreach associated with the reuse/resale of used building materials and durable goods.</p>
<b>SFDs &amp; Allowable Costs</b>	<p>Hauler Ordinance requires haulers: who collect single-family and multi-family trash to</p> <ul style="list-style-type: none"> <li>• also collect recyclables and organics every-other-week (only recyclables from multi-family homes)</li> <li>• To utilize variable rate trash pricing with embedded recycling/organics collection costs.</li> <li>• To take recyclables to the Boulder County Recycling Center unless customers choose another option.</li> <li>• To report material quantities annually.</li> </ul>
<b>MFDs &amp; Commercial</b>	<p>Commercial Programs – These include technical assistance, rebates and an organics collection subsidy</p>
<b>Yard Debris &amp; Food Scraps</b>	<p>Hauler Ordinance requires haulers: who collect single-family trash to also collect organics every-other-week.</p>
<b>Funding for City Programs</b>	<p>Hauler Occupational Tax (BRC Chapter 3-10) - The City requires all haulers to pay an occupational tax (known as the Trash Tax) that is essentially a pass-through to homeowner and commercial generators. Trash Tax revenues are the sole source of funding for City programs.</p> <p>Trash Tax Evaluation 2014:  The trash tax is an occupation tax on trash haulers serving customers within the city limits and helps fund waste reduction efforts in Boulder. Most haulers pass the tax on to customers as part of their trash service bills.<sup>2</sup></p> <p>Amount Charged:  \$3.50 per month for households; and  \$0.85 per cubic yard of trash for businesses and multifamily units that use centralized dumpsters and roll-off containers.</p> <p>Allowable Uses  City expenses for waste reduction programs. All proceeds become a part of the City General Fund.</p> <p>History  The trash tax was initiated in 1981. In 1994, voters passed a ballot measure to raise the trash tax rates and gave Council the authority to increase rates up to a set maximum. Council raised the tax to the voter-approved maximum in 2009 to pay for improved and centralized waste reduction facilities at 6400 Arapahoe Avenue.</p> <p>Actual Uses:  a portion of the new Hazardous Materials Management Facility (HMMF); and  the purchase of land and buildings at 6400 Arapahoe Avenue (used to relocate Eco-Cycle offices, the Center for Hard-to-Recycle Materials (CHaRM), and ReSource, the Center for ReSource Conservation (CRC) used building materials donation and sales yard.  4.0 FTE staff</p> <p>Results: Yard and wood waste drop-sites and compost subsidy programs diverted most.<sup>3</sup> 2014 recommended eliminating compost subsidy once make it mandatory</p>

<sup>2</sup> Source: <https://bouldercolorado.gov/lead/trash-tax>

<b>Education, Enforcement &amp; Penalties</b>	<p>A cooperative compliance process will be used to implement and enforce this regulation. Code enforcement personnel will check for adequate collection systems outside of properties as well as any contamination issues. Staff from the city’s environmental team will collect information about bins inside businesses, proper signage and education. This is the common enforcement approach taken by cities with similar ordinances<sup>4</sup>:</p> <ul style="list-style-type: none"> <li>• Seattle has had a business recycling requirement in place for 7 years and has never issued a fine. Instead, it works with businesses where most just need a little assistance to get on the right track.</li> <li>• In Mecklenburg County, NC, over 1000 inspections have been conducted with only a few violation letters, and no eventual fines. Each business corrected the violation with extra technical assistance.</li> <li>• Most communities do not dig into trash to measure compliance; the enforcement efforts are directed toward obvious contamination – focusing on large amounts of cardboard sticking out of a dumpster or no recycling bins around; they do not police every little thing.</li> <li>• Cities take different approaches to initial inspections, sometimes walking in the streets, sometimes asking the haulers to report, sometimes relying on voluntary community reporting. Other communities have found that it’s relatively easy to see who does or does not have bins and who is using them properly.</li> </ul>
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## Case Study #2: Longmont, Colorado

<b>Topic</b>	
<b>Location</b>	The City is a rural urban center. The service required by ordinance. There current diversion is in the 30%. The landfill tip fees for residents are free.
<b>Program Type, Background &amp; Purpose</b>	<p><b>Recycling every other week</b>  <b>Commercial Recycling Subscription</b></p> <p>Population size nearly, 90,000. The City collects for recycling every other week. They are part of Boulder County. The service is offered but not required but the majority of residents use the service. (modified subscription)</p>
<b>Sectors &amp; Materials Covered</b>	The service is offered for SFUs and MFUs. Items collected include Paper and Containers. Separated yard is accepted at the landfill. There is a City wide curbside collection twice a year.
<b>SFUs &amp; Allowable Costs</b>	The rate changes by container size.
<b>MFUs &amp; Commercial</b>	Recycling is offered to multi-family dwellings. Commercial generators are served by subscription by private haulers
<b>Yard Debris &amp; Food Scraps</b>	Yard debris is collected twice year. There is no food composting program.
<b>Funding for Programs</b>	A Waste Management fee is charged to all City properties. The City collection is financed by an enterprise fund.
<b>Education, Enforcement</b>	Outreach programs are funded from the Waste Management fee. Code enforcement handles complaints.

<sup>3</sup> [https://www-static.bouldercolorado.gov/docs/Boulder\\_Zero\\_Waste\\_Evaluation\\_Final\\_Report-1-201504271013.pdf](https://www-static.bouldercolorado.gov/docs/Boulder_Zero_Waste_Evaluation_Final_Report-1-201504271013.pdf), page 15.

<sup>4</sup> Source: <https://documents.bouldercolorado.gov/weblink8/0/doc/129073/Electronic.aspx>, pages 8 + 13.

### Case Study #3: Loveland, Colorado

<b>Topic</b>	
<b>Location</b>	Loveland is a small City. The Sustainability Plan goal is 70% diversion by 2020. Loveland currently diverts around 60%. There is a 50% diversion goal for construction and demolition debris in Sustainability plan. There is a Zero Waste Goal in Sustainability plan for Zero Waste Events.
<b>Program Type, Background &amp; Purpose</b>	<b>City residential collection</b> (Yard, Recycling and Garbage) The population is more than 70,000. Three stream collections are provided by the City. (Yard, Recycling and Garbage) for Single family and MFU if requested, additional cost for yard. This is a subscription program.
<b>Sectors &amp; Materials Covered</b>	There are SFUs, MFUs collections for Paper, Containers and organics. There is a drop off center for recycling and organics. Landfill tipping is free to residents with utility bill
<b>SFUs &amp; Allowable Costs</b>	The rate changes by container size.
<b>MFUs &amp; Commercial</b>	Service is offered by City for multi-family. Commercial generators contract for service from private haulers.
<b>Yard Debris &amp; Food Scraps</b>	Yard debris collection provided for single family and MFU for additional cost.
<b>Funding for Programs</b>	All residents pay monthly fee.
<b>Education, Enforcement</b>	City does outreach. Code enforcement handles complaints

### Case Study #4: Vail, Colorado

<b>Topic</b>							
<b>Location</b>	Vail, CO Similar licensing system as Fort Collins, building on Fort Collins ordinance, and added requirements for generators. <a href="http://www.vailgov.com/recycling">http://www.vailgov.com/recycling</a>						
<b>Program Type, Background &amp; Purpose</b>	<p><b>Mandatory Source Separation</b> – All generators (SF, MF and Biz) cannot throw recyclables into trash.  <b>Mandatory Subscription for Recycling</b> – SF must subscribe for recycling service.  <b>Universal Service</b> - Require haulers provide recyclables services  <b>Pay-as-You-Throw</b> - Include recycling bundled in garbage rates</p> <p>Population: 2013 Census: 5,311; second homes, another 5,000 population; for skiing or summer festivals, 30-40,000.<sup>5</sup></p> <p>Eagle County Landfill Fees<sup>6</sup>:</p> <table> <tr> <td>Mixed waste (common household trash)</td> <td>\$29.00 / ton</td> </tr> <tr> <td>Compacted waste</td> <td>\$39.00 / ton</td> </tr> <tr> <td>Construction (C&amp;D)</td> <td>\$47.45 / ton</td> </tr> </table>	Mixed waste (common household trash)	\$29.00 / ton	Compacted waste	\$39.00 / ton	Construction (C&D)	\$47.45 / ton
Mixed waste (common household trash)	\$29.00 / ton						
Compacted waste	\$39.00 / ton						
Construction (C&D)	\$47.45 / ton						

<sup>5</sup> Source: phone conversation with Kristen Bertuglia, Vail Environmental Sustainability Manager, 6/24/15.

<sup>6</sup> Source: [http://www.eaglecounty.us/RecyclingWaste/Landfill/Fees\\_\\_\\_Accounts/](http://www.eaglecounty.us/RecyclingWaste/Landfill/Fees___Accounts/)

	<p>Recyclable metal \$21.00 / ton</p> <p>Diversion Rate: Countywide is 24%. Vail started at 11% before new Ordinance enacted in July 2014. Now at about 30% waste diversion, although it's hard to get data from haulers.<sup>7</sup></p> <p>They have open subscription system for residential and commercial, just like Fort Collins. No municipal services or contracts. PAYT rates include recycling embedded in them.</p> <p>New Ordinance was adopted in March 2014, and took effect in July 2014. Reviewed Fort Collins Ordinance as a model. Studied issues with public and stakeholders for 4 years. Haulers wanted a requirement for generators to participate in addition to putting a requirement on haulers to provide services. One of biggest challenges is 2<sup>nd</sup> homes, which are mostly handled by property managers. Might include construction waste in the future.<sup>8</sup> Ordinance says it's against the law to put recyclables in the trash. Everyone is responsible – residential (SFU and MFU) and commercial (whoever pays the trash bill). Ordinance doesn't mandate recycling collection system. WM set the standard by offering single stream, even though it only has about 10-12% of the marketplace. Local MRFs are dual stream. Vail Honey Wagon now offers single stream curbside and takes Vail recyclables to the WM MRF in Denver. WM takes their own materials to the Silverthorne MRF (31 miles east of there, not Denver). MRI sorts materials at the curb and finds it is not more expensive to do the curb sort and take their materials to the Eagle County MRF and they get a premium price for their materials.</p> <p>New recycling Ordinance renewed commitment to being smart and sustainable.<sup>9</sup> Ordinance No.6 calls for Community-Wide Recycling Regulations as of July 1, 2014. Generators were required to recycle starting July 1, 2014. Town began enforcement/followup with individual generators on January 1, 2015</p> <ul style="list-style-type: none"> <li>-Restaurants need to recycle in the “back of house” (add a container for recycling where they have trash for their staff to use, and at their dumpster area) and offer recycling containers to patrons IF they offer trash bins for patrons to use. If there are no public trash containers, restaurants need not provide recycling containers.</li> <li>- Hotels need to offer recycling where they have trash (in-rooms and back of house). Every trash container doesn't need to be paired with recycling, but must be equally convenient as trash locations.</li> <li>- Retail Stores need to offer recycling where they have trash for patrons. Haulers provide signage or stickers for bins or trash areas.</li> <li>- Homeowners need to sign up for curbside recycling service and purchase a new container through their waste hauler, Ace Hardware, online, or the provider of their choice. All waste haulers already offer recycling included with your trash bill.</li> <li>- Recycling must be picked up as often as trash service, and residents pay for trash according to the size of their trash container.</li> <li>- HOAs are required to recycle on site (add a dumpster to the area where they have trash, and add bins for condo renters if they are mostly a renter/vacation HOA). Haulers must provide signage or stickers for bins or trash areas.</li> </ul>
<p><b>Sectors &amp; Materials Covered</b></p>	<p>All</p>

<sup>7</sup> Source: phone conversation with Kristen Bertuglia, Vail Environmental Sustainability Manager, 6/24/15.

<sup>8</sup> Source: phone conversation with Kristen Bertuglia, Vail Environmental Sustainability Manager, 6/24/15.

<sup>9</sup> Source: <http://www.vailgov.com/recycling>

<b>SFDs &amp; Allowable Costs</b>	<p>Curbside recycling is available from all waste haulers serving the Eagle Valley and is mandatory within the town of Vail. Haulers must embed recycling rates with trash rates and are not allowed to show a separate line item for recycling in their customer’s bills, though they may charge a higher overall waste service rate for additional pickups, service, etc. In some cases due to an open subscription market and varying market share, some haulers have kept prices largely the same for the medium service, slightly higher for the largest service (96 gal container), and lower for the smallest container consistent with PAYT (or Save as You Recycle). Service providers are:</p> <ul style="list-style-type: none"> <li>• MRI at 970-476-7789.</li> <li>• Vail Honeywagon at 970-476-3511.</li> <li>• Waste Management at 970-524-1800.</li> </ul> <p>Eagle County residents may dispose of up to 1,600 pounds of trash and four tires per year at the landfill for free with proof of residency and a free punch pass.</p> <p>There have been some concerns expressed about current markets, but no requests for Town action. Haulers have requested to address in some fashion but no current movement on this issue.</p>
<b>MFDs &amp; Commercial</b>	<p>Against law to put recyclables in trash. Everyone is responsible – residential (SFU and MFU) and commercial.</p>
<b>Yard Debris &amp; Food Scraps</b>	<p>Haulers may provide separate pricing for special collection of bulky items, yard waste, contaminated recyclables, unscheduled pick -up or extra volumes of solid waste or recyclable material, or more than what was subscribed for with the hauler.</p>
<b>Funding for City Programs</b>	
<b>Education, Enforcement &amp; Penalties</b>	<p>They send interns out to knock on doors and have lots of PR materials– that has been effective.</p> <p>\$100 rebates were offered to everyone in need of a new container from the start of the program for 6 months for residential service. Similar to Fort Collins, businesses were offered up to \$750 rebates for increased costs, signage and education needs, etc.</p> <p>The Town of Vail budgeted \$200,000 for rebates but only about \$75,000 was applied for.</p> <p>Low-Income Assistance for recycling containers - If currently participating in low-income assistance program such as the Salvation Army, Energy Outreach Colorado, or similar, may qualify for a full container rebate. If require a recycling bin smaller than 64 gal (trouble lifting, stairs, etc.), may purchase a smaller container from hauler.</p> <p>Building Permit Waiver - Until October 1st, 2014 the Town of Vail waived building permit fees associated with expansion of sheds/enclosures on Vail properties to accommodate recycling.</p> <p>Exemption - If you find that recycling at your business or HOA is too challenging to comply with the law at this time, and you require more time, there is an exemption process established that you may apply for \$450 and request through the Planning and Environmental Commission. Two properties have applied for the exemption and were granted 1 year and 3 months due to challenging logistical circumstances.</p>

## Case Study #5: Alameda County, California

<b>Topic</b>	Mandatory Recycling and Composting Ordinance Plant Debris Landfill Ban <a href="http://www.recyclingrulesac.org/">http://www.recyclingrulesac.org/</a>
<b>Location</b>	Alameda County, California Countywide agency is: Alameda County Waste Management Authority and Source Reduction and Recycling Board (dba StopWaste) <a href="http://www.stopwaste.org">www.stopwaste.org</a>
<b>Background &amp; Purpose</b>	<p><b>Mandatory Source Separation</b></p> <p>17 jurisdictions with separate franchise agreements, including:</p> <ul style="list-style-type: none"> <li>• PAYT</li> <li>• High diversion (10% of the “good stuff” in the landfill by 2020)</li> <li>• Low landfill tipping fees (\$20-30/ton depending on contract)</li> </ul> <p>1.58 million population</p> <p>Mandatory recycling and composting ordinance (for commercial and multifamily) enacted in 2012</p> <ul style="list-style-type: none"> <li>• 15 jurisdictions opted in to mandatory recycling (Phase 1)</li> <li>• 13 jurisdictions opted in to mandatory recycling and mandatory composting (Phase 1 and 2)</li> </ul> <p>Plant debris landfill ban enacted in 2008</p> <ul style="list-style-type: none"> <li>• Affects all landfills and transfer stations in the county</li> </ul>
<b>Sectors &amp; Materials Covered</b>	<p>Mandatory recycling and composting (two phases):</p> <ul style="list-style-type: none"> <li>• Phase 1 (commercial businesses with 4 cubic yards or more of trash) and multifamily complexes with 5 units or more</li> <li>• Phase 2 all commercial businesses and multifamily complexes with 5 units or more</li> </ul> <p>Materials included are: cardboard, newspaper, white paper, mixed recyclable paper, recyclable glass food and beverage containers, metal (aluminum and steel) food and beverage containers, PET (#1) and HDPE (#2) plastic bottles, food scraps and compostable paper</p> <p>Plant debris ban affects all generators. Materials are grass, leaves, shrubbery, vines, tree branches and trimmings that are normally associated with the care and maintenance of gardens and landscaping.</p>
<b>SFDs &amp; Allowable Costs</b>	Ordinance does not apply to single family dwellings.
<b>MFDs &amp; Commercial</b>	<p>Phase 1 (mandatory recycling) has been successfully implemented in all of the 15 jurisdictions that have “opted-in” to Phase 1 of the ordinance. Some jurisdictions (such as the City of Livermore) have had to modify their rate structures to ensure that their collectors are fairly compensated. For example, commercial recycling in Livermore had previously been included at no cost for all commercial trash customers. With the new requirement that all commercial customers are required to have recycling services, Livermore’s franchised collector now charges for recycling (in excess of 96 gallons per week which is included at no extra charge). Rates for recycling in excess of 96 gallons per week are approximately 38% of the cost of the equivalent amount of trash collection service. <a href="http://www.livermoresanitation.com/">http://www.livermoresanitation.com/</a></p> <p>Phase 2 (mandatory recycling and composting) has been successfully implemented in 7 out of the 13 jurisdictions that have opted in to Phase 2 of the ordinance. The 8 other jurisdictions have modified schedules which phase in the requirements by July 2017. Part of the reason for the delayed implementation is that the rate structures need to be modified in order to fairly compensate the collectors. For example, in the City of Fremont, it will take 5 years of rate structure modifications to adjust compost collection services to reach the cost of</p>



	<p>collection. In the City of Oakland commercial compost collect costs are similar to those provided for trash collection and in some cases, the cost of compost collection exceeds the cost of trash collection. <a href="http://www2.oaklandnet.com/Government/o/PWA/o/FE/s/GAR/index.htm">http://www2.oaklandnet.com/Government/o/PWA/o/FE/s/GAR/index.htm</a></p>
<b>Yard Debris &amp; Food Scraps</b>	<p>Ordinance does not apply to single family dwellings.</p> <p>All 17 jurisdictions have weekly residential collection of yard trimmings co-collected with food scraps. Yard trimmings collected separately since mid-1990s. Co-collection with food scraps beginning for some jurisdictions in 2001. These services are provided through contracts or franchises and not through the countywide ordinance. There are no composting facilities within the county. Compostable materials are transferred to compost facilities 20 miles to 60 miles away. New organics processing facilities are in development at the Altamont Landfill and at the East Bay Municipal District waste water treatment plant (currently co-digested with waste water and with a dedicated digester for food scraps in the future).</p> <p>Plant debris ban in effect since 2008. Commercial businesses and multifamily complexes may not place plant debris in the trash.</p>
<b>Funding for City Programs</b>	<p>Mandatory Recycling Ordinance Implementation includes extensive education, outreach, technical assistance and enforcement. FY 14-15 budget of \$2,048,033 for implementation is funded through import mitigation fees (described below). Alameda County Mandatory Ordinances implementation description: <a href="http://www.recyclingrulesac.org">http://www.recyclingrulesac.org</a> Stopwaste agency budget: <a href="http://www.stopwaste.org/sites/default/files/Documents/StopWaste%20Budget%202014-15.pdf">http://www.stopwaste.org/sites/default/files/Documents/StopWaste%20Budget%202014-15.pdf</a></p> <p>Countywide fees: Measure D (1990): \$8.23 per ton assessed on tons disposed in landfills in Alameda County. 55% is dispersed to jurisdictions within the county for waste prevention and recycling programs and 45% used for countywide waste prevention and recycling programs. <a href="http://www.stopwaste.org/resource/measure-d">http://www.stopwaste.org/resource/measure-d</a> Facility Fee Ordinance: All Solid Waste Enterprises pay the Facility Fee of \$4.34 per ton of Solid Waste originating in Alameda County and deposited in a landfill within the State of California. This fee pays for countywide waste prevention and recycling programs. <a href="http://www.stopwaste.org/recycling/business/recycling-regulations-and-compliance/ordinance-2009-01">http://www.stopwaste.org/recycling/business/recycling-regulations-and-compliance/ordinance-2009-01</a> Import Mitigation Fee: \$4.53 per ton is collected on all wastes landfilled in Alameda County that originate out-of-county, other than those covered by the San Francisco contractual agreement. Benchmark Service: Annual fee of \$1.85 to \$22.15 per year (based on trash service level) to pay for measuring how much recyclable and compostable material is in garbage containers in Alameda County. <a href="http://www.stopwaste.org/recycling/businesses-institutions/benchmark-service">http://www.stopwaste.org/recycling/businesses-institutions/benchmark-service</a> Household Hazardous Waste Fees: Currently \$2.15 per ton and is paid directly to the Alameda County Environmental Health Department for the operation of the countywide system of HHW collections. Since tons disposed at landfills are declining (while costs for programs are increasing), an additional fee of \$9.55 per household per year is assessed for countywide HHW programs. <a href="http://www.stopwaste.org/recycling/residents/household-hazardous-waste/business-hazardous-waste/household-hazardous-waste-program">http://www.stopwaste.org/recycling/residents/household-hazardous-waste/business-hazardous-waste/household-hazardous-waste-program</a></p> <p>Individual jurisdictions also impose fees, including: Franchise Fees (used for general purposes), AB 939 Fees (used for waste prevention and recycling programs), Administration Fees (used for administering contracts), and Road Impact Fees (used for impacts to roads from collection vehicles).</p>
<b>Education, Enforcement &amp;</b>	<p>Mandatory Recycling Ordinance Implementation includes extensive education, outreach, technical assistance and enforcement. FY 14-15 budget of \$2,048,033 for implementation is funded through import mitigation fees (described below).</p>

<b>Penalties</b>	Alameda County Mandatory Ordinances implementation description: <a href="http://www.recyclingrulesac.org">http://www.recyclingrulesac.org</a> Fines can be imposed for non-compliance. Violations can be determined as either misdemeanors or infractions and can range from \$100 to \$1,000 per violation. <a href="http://www.recyclingrulesac.org/docs/ordinance_2012-1_mandatory_recycling-executed.pdf">http://www.recyclingrulesac.org/docs/ordinance_2012-1_mandatory_recycling-executed.pdf</a> See section 11 (d), page 14.
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### Case Study #6: Antioch, California

<b>Topic</b>	
<b>Location</b>	Antioch, California
<b>Program Type, Background &amp; Purpose</b>	<b>Mandatory Subscription for Recycling</b> - Require all households and/or businesses and institutions within the City to sign up for recycling collection service  Mandatory Subscription Ordinance <a href="http://site.republicservices.com/site/pacheco-ca/en/documents/antiochmandatoryrecyclingordinance.pdf">http://site.republicservices.com/site/pacheco-ca/en/documents/antiochmandatoryrecyclingordinance.pdf</a>  Population 107,100 (2013)
<b>Sectors &amp; Materials Covered</b>	Commercial & multifamily customers are required to subscribe to recycling and trash collection
<b>SFDs &amp; Allowable Costs</b>	PAYT includes all three streams (recycling, compost, trash)
<b>MFDs &amp; Commercial</b>	
<b>Yard Debris &amp; Food Scraps</b>	Residents of Antioch are required to subscribe to yard waste recycle service with Republic Services.
<b>Funding for City Programs</b>	Collection rate surcharge
<b>Education, Enforcement &amp; Penalties</b>	Failure to subscribe for the collection of solid waste, rubbish and recyclable materials is unlawful. Violators are subject to civil penalties.

### Case Study #7: San Diego County Unincorporated Area, California

<b>Topic</b>	
<b>Location</b>	Collection community is the less urbanized more rural unincorporated area of the County. Source separation and separate collection service required by ordinance. Current diversion is 60% and landfill tip fees are around \$70.
<b>Program Type, Background &amp; Purpose</b>	<b>Mandatory Source Separation</b> - Population size is more than 500,000. Collection is open market (permits) but separation is required of the generator (modified subscription program). The County Mandatory Recycling Ordinance

	MRO) was enacted in early 1900ies. There was a 3 year phase-in. Current County ordinance was updated recently to meet new State and local diversion mandates
<b>Sectors &amp; Materials Covered</b>	All SFUs, MFUs, Industrial, Commercial, Institutional, Self-haul generators are covered in the ordinance. To date materials include all Paper and Containers and yard trimmings.
<b>SFUs &amp; Allowable Costs</b>	The rate changes by container size. Conversion to the new rules is a slow process as rural haulers lack the sale staff to change accounts. There were no incentives for waste diversion except state and local mandates and a level playing field, Homeowners Associations work with haulers and County.
<b>MFUs &amp; Commercial</b>	The ordinance applies to commercial and multi-family. Cleanliness of enclosures is always an issue and addressed in outreach.
<b>Yard Debris &amp; Food Scraps</b>	Yard debris collection required for single family, available for MFU/com. No food composting program available.
<b>Funding for Programs</b>	Haulers pay a tonnage fee to County for reporting, and outreach.
<b>Education, Enforcement</b>	County outreach includes schools, com, MFU and organics. The process for outreach is door to door and store to store provision of information. Code enforcement works on complaints, no fines yet.

### Case Study #8: San Francisco, California

<b>Topic</b>	
<b>Location</b>	San Francisco, California High diversion community
<b>Program Type, Background &amp; Purpose</b>	<b>Pay as You Throw Universal Service Mandatory Source Separation Licensing with Reporting</b>  Population: 837,442 (2013)  Mandatory Recycling and composting enacted in 2009 <a href="http://www.sfenvironment.org/article/recycling-and-composting/mandatory-recycling-and-composting-ordinance">http://www.sfenvironment.org/article/recycling-and-composting/mandatory-recycling-and-composting-ordinance</a>
<b>Sectors &amp; Materials Covered</b>	Res/Com/MF
<b>SFDs &amp; Allowable Costs</b>	PAYT includes all three stream for Res <a href="http://www.recologysf.com/index.php/for-homes/residential-rates">http://www.recologysf.com/index.php/for-homes/residential-rates</a>
<b>MFUs &amp; Commercial</b>	Recycling and composting required. Rates based on volume. Discount rates up 75% for recycling and composting <a href="http://www.recologysf.com/index.php/for-businesses/commercial-rates">http://www.recologysf.com/index.php/for-businesses/commercial-rates</a>
<b>Yard Debris &amp; Food Scraps</b>	Co-collected with food scraps

<b>Funding for City Programs</b>	Impound account (collection rate surcharge)
<b>Education, Enforcement &amp; Penalties</b>	Director of Department of Public Works may impose administrative fines

### Case Study #9: Kansas City, Kansas

<b>Topic</b>	
<b>Location</b>	Kansas City, KS Glass Recycling innovator
<b>Program Type, Background &amp; Purpose</b>	<p><b>Model Glass Recycling Program</b> <b>Yard Waste Drop-off Program</b></p> <p>Population estimated at 150,000 (2013)</p> <p>Municipal trash, recycling, &amp; yard debris pick up for residents (no PAYT)</p> <p>Subscription contracts for trash, recycling, etc. for businesses</p> <p>Enabling authority is the City of Kansas City Solid Waste Dept.</p> <p>Residential recycling service is unlimited for Kansas City residents. If recycling cart is full, residents may place excess in another container labeled with the word “recycling” or the universal recycling symbol.</p> <p><b>Boulevard Brewing Company started a local glass recycling plant (<a href="#">Ripple Glass</a>) and partnered with other businesses &amp; community groups to establish area drop off locations. Deffenbaugh waste company is the exclusive hauler for Ripple Glass and hauls glass from bars and restaurants in select areas around the city.</b></p> <p>Special Events recycling is encouraged, but city website only mentions recycling of aluminum and rigid plastics at special events.</p>
<b>Sectors &amp; Materials Covered</b>	<p>SFD</p> <p>Paper, paperboard, aluminum and steel cans, corrugated cardboard, cartons, and assorted plastic containers labeled #1 thru #7 (no glass recycling, but residents can drop off glass at local center), yard debris can be comingled in trash or dropped off at landfill</p> <p>HHW drop off (1 location)</p> <p>Items accepted include tires (limit of 10 tires and rims need to be removed), motor oil, batteries, antifreeze, degreasers, paints, varnishes, solvents, lawn &amp; garden insecticides/pesticides, and household cleaning products</p>
<b>SFDs &amp; Allowable Costs</b>	No PAYT

	Unlimited trash and recycling service
<b>MFDs &amp; Commercial</b>	MFD & commercial recycling is encouraged, but not mandatory  Illegal dumping can be reported to code compliance, street dept. does clean up on streets, city is requesting PD report to code
<b>Yard Debris &amp; Food Scraps</b>	There are several ways residents can deal with yard debris: 1. The former Recycling Center was converted into a Yard Waste Drop Off Site in 2014. The site will be open from April through November on Fridays and Saturdays and closed annually from December through March. Accepts only yard waste such as grass clippings, garden trimmings, leaves and branches. Recyclable materials such as paper, plastic, glass, cardboard, and aluminum will not be accepted at the Yard Waste Drop Off Site. 2. Kansas City allows residents to open burn yard debris. Base of pile can be no larger than 10 ft. X 10 ft. 3. Yard Waste Drop Off at Deffenbaugh Landfill: Wyandotte County residents can also take their residential yard waste to the Deffenbaugh landfill for composting free of charge with proof of residency. 4. Yard Waste is Taken with Weekly Trash: Residents in Kansas City, Kansas can also dispose of yard waste in their regular weekly trash pickup.  Diversion rates have increased greatly since recycling center was converted to wood waste center. City has a huge problem with the invasive Emerald Ash bore that is destroying millions of ash trees in the area. They will focus mostly on wood waste diversion & composting because of this issue.
<b>Funding for City Programs</b>	Utility fees \$15/month for trash & recycling pick up, Pays for city staff & HHW collection days
<b>Education, Enforcement &amp; Penalties</b>	City website, occasional release of e-newsletter, neighborhood groups get free paper and electronic info from city, improper recycling is flagged at the curb with card stating reason discards were not taken. No mandates for business or residential recycling, so no fees/fines can be levied for non-compliance.

### Case Study #10: Montgomery County, Maryland

<b>Topic</b>	
<b>Location</b>	Montgomery County, Maryland  Good East Coast example of source separation requirement.
<b>Program Type, Background &amp; Purpose</b>	<b>Mandatory Source Separation:</b> All Transfer Station users must separate recyclables and trash, and deliver them to the appropriate sections of the facility. Recyclables and trash are not accepted mixed together  Population: 1,030,447 (2014 Census estimate)  Landfill Fee: \$56.00/ton (Trash over 500 #) \$66/ton (Open-top roll-offs)

	<p>\$46/ton (Yard waste over 500#)  Free to residents and businesses (trash or yard waste under 500#; scrap metals)  Free to residents (metal appliances and other scrap metal; clothing and textiles; commingled ("blue bin") containers; cans; glass bottles and jars; plastic bottles, containers, tubs, and lids; bulky rigid plastics; fluorescent bulbs and tubes; electronics; hazardous waste from residents; all dry mixed paper and cardboard; yard trim (grass, leaves, brush) up to 6" in diameter; rechargeable batteries - lead acid and other non-alkaline; motor oil; antifreeze; propane cylinders; and tires)</p> <p>Diversion Rate: 60.2% (2013)</p> <p>All Transfer Station users must separate recyclables and trash, and deliver them to the appropriate sections of the facility. Recyclables and trash are not accepted mixed together. No hauler, collector or other person may deliver for disposal to any solid waste acceptance facility any solid waste that is acceptable for recycling. Requirements are detailed in Executive Regulation 18-04.<sup>10</sup></p> <p>Executive Regulation 18-04 (adopted 2-8-05) established clear roles and responsibilities for licensed haulers and the public in using County facilities for disposal of solid waste. This is a companion regulation to Executive Regulation 15-04 that implemented Council Resolution 15-608 (adopted 5-19-04) which banned the disposal of mixed paper and old corrugated cardboard. ER15-04 expanded the list of materials to be recycled, and applied it to all sectors (single family, multifamily, and commercial) and improved recycling plan and reporting requirements. Many of the provisions did not become effective for at least one year from passage to provide time for preparation, education and outreach efforts.</p> <p>Collectors must separately collect waste set out for disposal from materials set out in separate containers for recycling collection. If the same vehicle is used to collect both types of waste (e.g. split body) then the separation must be maintained during collection, transportation and off-loading at respective Disposal and Recycling Facilities. Any Collector who observes, or reasonably should have observed, recyclables in solid waste that have been set out for disposal must, notify the customer responsible by mailing notice of the problem to the customer on the same or following business day and on the same day mail a copy of the customer notice to the Department. Collectors who deliver for disposal recyclables mixed in with a load of material otherwise acceptable for disposal, must identify to the transfer station attendant the name(s) and corresponding service location(s) it will send notices related to the subject load. Collectors must provide an accurate and legible list of all customer locations from which waste was collected for a load in question.</p>
<p><b>Sectors &amp; Materials Covered</b></p>	<p>Commingled materials together in 22 gallon blue recycling bin for curbside recycling pickup:</p> <ul style="list-style-type: none"> <li>• aluminum foil products</li> <li>• cans - aluminum, steel, bi-metal</li> <li>• glass bottles and jars</li> <li>• plastic bottles, containers, tubs and lids</li> </ul> <p>Paper items should be bundled separately, or set out in a separate paper recycling cart.<sup>11</sup></p> <p>MRF - 57,000 square foot on ~9 acres<sup>12</sup></p>

<sup>10</sup> Source: <http://www6.montgomerycountymd.gov/apps/dep/solidwaste/store/documents/ER18-04.pdf>

<sup>11</sup> Sources: <http://www.montgomerycountymd.gov/sws/recycling/blue-bin-items.html> and

	Composting Facility - 118-acres includes a 49-acre asphalt pad, three stormwater management ponds, an 80,000 square foot pavilion for drying and screening of finished compost, and several buildings for offices, maintenance and storage. Owned by Montgomery County and operated by Maryland Environmental Service, with nine employees on site. The site is located adjacent to the Montgomery County Resource Recovery Facility. It has an estimated annual processing capacity of 77,000 tons of material.
<b>SFDs &amp; Allowable Costs</b>	22-gallon bins are for single-family and townhouse residents who receive Montgomery County-provided recycling service. <sup>13</sup> Bins are: 18.5" wide x 21" high x 15.5" deep
<b>MFDs &amp; Commercial</b>	
<b>Yard Debris &amp; Food Scraps</b>	Leaves, grass, brush, and other yard trimmings must be packaged in paper bags, reusable cans, or with twine, as relevant (no plastic bags). <sup>14</sup>
<b>Funding for City Programs</b>	
<b>Education, Enforcement &amp; Penalties</b>	Recycling and trash collection crews place orange tags on materials not accepted for pickup. The tag explains why the material was left at the curb. <sup>15</sup>

### Case Study #11: Saint Paul, Minnesota

<b>Topic</b>	
<b>Location</b>	Saint Paul, Minnesota
<b>Program Type, Background &amp; Purpose</b>	<p><b>Statewide PAYT</b> with unit-based garbage rates  <b>Mandatory subscription</b> for hauling garbage, bulky wastes and yard waste both residential and commercial.  <b>Recycling by Single Nonprofit</b>  <b>Yard waste by subscription.</b>  <b>Residential drop off for food waste</b> and <b>commercial food waste collection by subscription.</b>  <b>Citywide Community Cleanup Events</b></p> <p>Demographics:  285,068 population  120,795 housing units  45.8 % of units are in multi-unit buildings</p> <p>Recycling &amp; Composting Diversion 45%</p>

<sup>12</sup> Source: <http://www.montgomerycountymd.gov/SWS/facilities/rc/how.html#presort>

<sup>13</sup> Source: [http://www6.montgomerycountymd.gov/apps/dep/solidwaste/store/index.asp?var\\_action=itemdetail&itemid=101](http://www6.montgomerycountymd.gov/apps/dep/solidwaste/store/index.asp?var_action=itemdetail&itemid=101)

<sup>14</sup> Source: <http://www.montgomerycountymd.gov/sws/trash/tagged.html>

<sup>15</sup> Source: <http://www.montgomerycountymd.gov/sws/trash/tagged.html>

**PAYT:**

A Minnesota statute requires pricing by weight or volume as a condition for receiving a license for solid waste collection (exemptions are possible); this statute went into effect January 1994.

Currently the Saint Paul ordinance requires unit-based garbage rates: “which limit the total amount of mixed municipal solid waste to be collected and shall be in proportion to the amount or weight of mixed municipal solid waste collected and shall differ significantly and incrementally one from another.” (Sec. 357.05).

**Recycle it Forward Program:**

In the past few years a variety of assessment tools were used to gather input regarding waste management programs and services (including recycling, composting, bulky wastes, litter and garbage issues) from the community including surveys, focus groups, Open Saint Paul (an online comment tool), key stakeholder interviews and community meetings.

After a year-long process listening to the community and working with Wilder Research on the comprehensive recycling assessment, we heard that Saint Paul residents wanted:

- The ability to recycle more plastics
- Recycling to be more convenient
- More opportunities for composting organic materials
- More options for handling bulky waste items

The city also learned that the 93% of the residents felt the recycling service was great or good. .

Based off the Recycle it Forward research, the City made the following changes to the recycling program in 2014:

Single Sort Recycling - Residents can now put all recyclable materials into one bin – separating is no longer required.

In addition to plastic bottles, yogurt, butter and produce containers, transparent deli and “to go” containers can also be recycled with Saint Paul’s residential recycling program. Plastics marked as #1, #2, #4, #5 and #7 are all accepted.

The City is coordinating six “Citywide Community Cleanup Events.” These events give residents an opportunity to dispose of items such as furniture and construction materials and recycle items like mattresses, appliances, electronics and scrap metal. Plus, residents may donate usable household items for reuse.

Resident may use any (or all) of the Citywide Cleanup Events

Organics Drop off Locations Available

Source separated organics are now accepted at local Ramsey County Yard Waste Site locations during regular site hours. In addition, the Macalester Groveland Community Council also hosts a drop off location on Grand Avenue.

2015 and Beyond

It was the City’s goal to roll out wheeled, lidded carts to all Saint Paul households in the spring of 2015 but the city backed out of that plan due to their own budget constraints. City staff is developing a Request for Proposal (RFP) for recycling services, as Eureka Recycling –a nonprofit zero waste organization and the city’s longtime partner for 15 years and the city’s shred contract ends Dec. 31, 2016. Eureka recycling and others are expected to bid. Organics collection will be included in the RFP and is expected to be part of the program beginning January 2017.



Waste Hauler	Number	Small Biweekly or Use your own cart (up to 30 gallons)	Small Weekly (30-gallon range)	Medium Weekly (60-gallon range)	Large Weekly (90-gallon range)	Difference (60-30)	Difference (90-60)	Difference (90-30)	Difference (30 weekly to bi-weekly 30)	Difference (90 to 30 biweekly)
Allied	651-455-8634	NA	\$25.50	\$26.00	\$27.50	\$0.50	\$1.50	\$2.00		
Garbage Man	763-269-8182	NA	\$23.00	\$25.00	\$26.00	\$2.00	\$1.00	\$3.00		
Gene's Disposal Service	651-426-1224									
Highland Sanitation & Recycling Inc.*	651-458-0043	\$16.53	\$17.91	\$22.04	\$26.17	\$4.13	\$4.13	\$8.26	\$1.38	\$9.64
Walter's Recycling And Refuse	763-780-8464	NA	\$20.51	\$22.03	\$23.55	\$1.52	\$1.52	\$3.04		
Waste Management	952-890-1100	NA	\$16.81	\$18.11	\$19.39	\$1.30	\$1.28	\$2.58		
Veolia	651-487-8546	NA	\$20.25	\$23.45	\$26.65	\$3.20	\$3.20	\$6.40		
Kruepenny*	651-315-3635	\$16.53	\$20.66	\$23.42	\$26.17	\$2.76	\$2.75	\$5.51	\$4.13	\$9.64
Coolidge Trucking	651-293-9310	NA	\$17.00	\$20.66	\$24.11	\$3.66	\$3.44	\$7.11		
Berquest & Sons	651-699-2442	NA	\$24.25	\$27.10	\$29.94	\$2.85	\$2.84	\$5.69		
Aspen	612-884-8000	NA	\$20.76	\$23.97	\$27.18	\$3.21	\$3.21	\$6.41		
	<b>AVERAGE (monthly)</b>	<b>\$16.53</b>	<b>\$20.67</b>	<b>\$23.18</b>	<b>\$25.67</b>	<b>\$2.51</b>	<b>\$2.49</b>	<b>\$5.00</b>	<b>\$2.76</b>	<b>\$9.64</b>

\*Highland offers bi-weekly 30 gallon service, Krupenny offers weekly using your own garbage cart up to 30 gallons. Prices on July 10, 2012

AVERAGE SAVINGS POTENTIAL FROM CHANGING SERVICE LEVELS	PER MONTH	PER YEAR
Large to Medium Service	\$2.49	\$29.84
Medium to Small Service	\$2.51	\$30.16
Large to Small Service	\$5.00	\$60.00
Small Weekly to Small Bi-Weekly Service	\$2.76	\$33.06

\$2.49

\$2.51

**TAX**

Ramsey County CEC (residential)	28%
State Solid Waste Management Tax	9.75%
<b>TOTAL TAX</b>	<b>37.75%</b>

**Sectors &**

Saint Paul has open hauling also known as subscription for hauling garbage bulky wastes and yard waste both residential and commercial. In addition to

<b>Materials Covered</b>	<p>inconsistencies in rates between haulers for the same level of service, there are inconsistencies between rates charged to residents by the same hauler for the same level of service.</p> <p>No current collection of food waste residentially but they do have drop off for food waste for residents at the county's yard waste drop off sites. Commercial food waste collection by subscription.</p> <p>Contract residential curbside single family <b>and multi-family collection</b> with Eureka Recycling approximately \$28/yr for weekly single stream recycling.</p> <p>Commercial recycling collection by subscription.</p> <p>Seasonal bulky waste "clean ups" residential only and must be delivered</p>
<b>SFDs &amp; Allowable Costs</b>	<p>This ordinance provides for the basic structure of unit-based pricing, but because it does not specify increments between units of trash service or the fee structure for this service and there is no enforcement.</p> <p>It specifically states: Charges for mixed municipal solid waste services provided after July 1, 1991, must be submitted on a form provided by the inspector and based on the number of mixed municipal solid waste containers serviced by the licensee. Volume-based rates must be offered which limit the total amount of mixed municipal solid waste to be collected and shall be in proportion to the amount or weight of mixed municipal solid waste collected and shall differ significantly and incrementally one from another. At a minimum, volume-based rates must be offered for three (3) levels of single-family through fourplex residential service. The levels of service are for one (1), two (2) and three (3) containers of mixed municipal solid waste. Refuse haulers must provide written notice to their customers at least twice yearly of their volume-based rate structure and must provide information on their volume-based rate structure to new customers, including those acquired from other refuse haulers. Charges shall not be changed except by submitting a revised schedule of charges to the inspector no more than ten (10) days after the effective date of the changes. The inspector shall report the revised charges to the department of public works within thirty (30) days of the effective date of the changes. Any licensee who shall charge or change his charges contrary to the above procedure shall be required to appear before the city council for consideration of revocation of his license.</p>
<b>MFDs &amp; Commercial</b>	<p>The city of Saint Paul applies the ordinance to levels of single-family through fourplex residential service.</p>
<b>Yard Debris &amp; Food Scraps</b>	<p>Yard debris is by subscription now. The city has not made the final determination to exclude or include that material in the RFP for Organics collection that is expected to be issued later this year or early next year. There are issues with Emerald Ash Bore being transported across county lines which is the only composting processing available to the city.</p>
<b>Funding for City Programs</b>	<p>Ramsey County collects a County Environmental Charge of 48% for commercial and 28% for residential. Of that amount a fraction goes to recycling and composting most of it a (approximately 12 – 17 million a year) goes to subsidizing WTE so that it is comparable to landfilling. The County also carries a large balance and has recently agreed to fund half of the cost of the carts for the city of Saint Paul with a portion of their balance.</p>
<b>Education, Enforcement &amp; Penalties</b>	<p>The City of Saint Paul enjoys a long term contract and relationship with their nonprofit recycling service provider Eureka Recycling, as a result they have only one fulltime employee addressing solid waste and recycling issues. Eureka recycling has won numerous awards for their recycling, composting and zero waste education. They have produced manuals for the EPA on both Multifamily recycling and Public Space recycling among other guides. <a href="http://www.eurekarecycling.org">www.eurekarecycling.org</a></p>

## Case Study #12: Lincoln, Nebraska

<b>Topic</b>	
<b>Location</b>	Lincoln, NE National Peer City and similar recycling markets
<b>Program Type, Background &amp; Purpose</b>	<b>Voluntary subscription program</b>  Population 260,000  40 private haulers in city pick up residential/business trash & recycling weekly 28 recycling drop off sites within city  Eco-restore for building materials reuse (private nonprofit) Asphalt & shingle recycler (private business) Homeless shelter operates distribution center to low-income residents (residents can leave clothing & shoes at curbside, hauler bales the material and sells for \$.08/lbs, then splits proceeds with shelter) Appliance drop off & remanufacturing operation (\$5 per item) City is looking at banning cardboard from trash \$40,000 grant issued to buy containers in August 2015 for city policy requiring recycling can be placed by trash cans at some local parks & parking garages
<b>Sectors &amp; Materials Covered</b>	Subscription-based for SFD, MFD, commercial. <b>Most residents use Self-haul</b>
<b>SFDs &amp; Allowable Costs</b>	40 private haulers in Lincoln, 2 offer PAYT, 1 offers a senior's discount Only 25-30% of residents use hauler services, most folks do self-haul to the landfill & recycling drop off locations
<b>MFDs &amp; Commercial</b>	Ordinance is being worked out to mandate that haulers offering trash pick up to offer same capacity of recycling pick up, city might look at MFD recycling, pilot program to distribute bags to collect recyclables at MFDs, direct mail campaign to apartment mgrs. within certain distances of drop off sites (12% increase in recycling since start of apartment outreach)  \$40,000 set aside for grant program to stimulate C & D and commercial sector wastes
<b>Yard Debris &amp; Food Scraps</b>	No residential curbside composting.  Pilot programs for restaurant recycling & 12 area schools for food scrap composting, grocery stores are being encouraged on voluntary bases to divert food waste, Organic food waste is brought to local dairy farm for pilot program testing  City owns a 13-acre yard debris compost facility, diverts 20,000 tons/year yard waste, city sells processed compost for \$10 per cubic yard adding \$60,000 in revenue & sets aside 2,000 tons for free give away to the public & nonprofits
<b>Funding for City Programs</b>	Landfill fees (\$16/ton) covers fees associated with landfill disposal only

<b>Education, Enforcement &amp; Penalties</b>	<p>Occupational fees (\$9/ton) cover staff, composting operations, recycling drop offs, public education, etc.</p> <p>“Garbology” (K-2<sup>nd</sup> grade educational program for schools), “Earth Wellness” (countywide 5<sup>th</sup> grade educational and hands-on program), Lincoln Recycles Day, PSA videos by “Dr. R. E. Cycle”, landfill tours for students, annual recycling guide distributed to all elementary students, monthly community news tabloid on waste reduction, city staff makes itself available for speaking engagements &amp; has contract with county to distribute recycling kits to students, backyard composting workshops &amp; outdoor classrooms</p> <p>No mandates for diversion, so no penalties to be assessed.</p>
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### Case Study #13: Orange County, North Carolina

<b>Topic</b>	
<b>Location</b>	<p>Orange County, North Carolina</p> <p>Good East Coast example of source separation requirement.</p>
<b>Program Type, Background &amp; Purpose</b>	<p><b>Mandatory Source Separation for C&amp;D</b> – Regulated Recyclable Materials Ordinance (RRMO) licenses all C&amp;D waste haulers and must agree to either source separate regulated materials (which now include corrugated, scrap metal and clean unpainted/ untreated wood) or take materials to a County certified mixed recycling facility<sup>16</sup> Certified facilities are required to document an annual average recycling recovery rate of 30%. .</p> <p>Landfill fee: <b>\$40.50/ton</b> (C&amp;D); \$18/ton for Yard Waste (to be ground into mulch). As of July 1, 2013 the Orange County Municipal Solid Waste (MSW) Landfill permanently closed. The County’s Construction and Demolition (C&amp;D) Landfill accepts debris resulting solely from construction, remodeling, repair, or the demolition of pavement, buildings or other structures, and inert debris including brick, block, and uncontaminated soils.</p> <p>Diversion rate: <b>64% waste reduction</b> (compared to 1991-92 baseline year). +Includes C&amp;D and all waste shipped out-of-county for burial in calculation.<sup>17</sup></p> <p>The County’s original ban on landfilling corrugated cardboard in the non-residential sector (that includes multifamily housing) grew from a 1995 waste composition study that identified corrugated as 100% of the commercial (non-residential) waste by weight. In 2010 waste composition study it had dwindled to 3%. That one act properly enforced at both the point of generation and point of disposal, saved an estimated year of air space in the small (26 lined acre) County-owned MSW landfill. It also resulted in recovery of an estimated 60,000 tons of cardboard (projected at 3,000 tons a year diverted for 20 years of the ban at a value of \$75/ton, generating \$4.5 million dollars for the local economy.</p> <p>When the local C&amp;D landfill was filling up, the Regulated Recyclable Materials Ordinance (RRMO) was initially developed as a means to help in siting a new C&amp;D landfill locally by showing how much less material would need to go into it. The RRMO was supported by the Chamber of Commerce and Home Builders Association as part of agreements that helped in siting the new C&amp;D landfill. The RRMO has evolved to</p>

<sup>16</sup> Source: email dated 6/23/15 from Blair Pollock, Orange County Solid Waste Planner

<sup>17</sup> Source: <http://charmeck.org/mecklenburg/county/LUESA/SolidWaste/ManagementPlan/Documents/BestPracticesRecyclingStudy.pdf>, page 11.

become a key mechanism to regulate the flow of C&D waste throughout the County.

The County's RRMO<sup>18</sup> has provisions to license all C&D waste haulers and as a major provision of their license they must agree to either source separate the regulated materials (which now include corrugated, scrap metal and clean unpainted untreated wood) or take materials to a County certified mixed recycling facility<sup>19</sup> The RRMO requires submission of a solid waste plan for each new development or major renovation stating how those materials must be managed as a condition of getting a permit. The plan must say how they will recycle construction materials and requires that the new development allow sufficient outdoor storage space and access for recycling if they choose the option of source-separating regulated materials. This does not apply if the applicant chooses to use a licensed C&D hauler. Recyclers are inspected annually by the County and required to document an annual average recycling recovery rate of 30% to be recertified.. (this threshold can be modified under mitigating circumstances for one year). NOTE: The threshold was set based on a series of several visual waste composition studies of C&D coming to Orange County's C&D landfill in the late 1990s that showed the combination of clean wood, scrap metal and corrugated cardboard to be approximately 30% of the total. Due to high tipping fees, the County-owned C&D facility did not receive much inert debris, thus the high percentage of the recyclables estimated in the three marketable categories. (dry wall, carpet and shingle markets have been sporadic at best so those were not included in threshold).

This RRMO has evolved since its initial passage in 2002 to an omnibus ordinance including many facets of regulation: inspecting and approving private sorting facilities, requiring solid waste plans for new construction and coordination among the governmental agencies to track permits and loads of C&D and licensing of haulers as well as enforcement of the bans at job sites and ensuring proper recycling of the regulated materials. Materials on the list are limited to those with currently viable markets but not restricted to just C&D sector.

The only materials regulated now by ordinance are OCC, clean wood and scrap metal. Other materials may be added as stable, long term markets develop. Other materials are banned from landfilling by the State of North Carolina like aluminum cans, plastic bottles and pallets.

There are no ordinances prohibiting a hauler for charging for a discrete service MSW or recycling and haulers do not have to provide any particular service to offer another. In the municipalities all residential municipal solid waste hauling is public by each of the Towns and all recycling hauling is under one contractor for all three Towns managed by the County and financed by a County fee. In the rural area all **rural MSW is private hauler laissez faire but people can also buy recycling services from them.** The County doesn't distinguish between residential and/or commercial haulers and all are considered to be 'commercial' haulers and enforced just as rigorously as commercial projects.

The County also provides every other week curbside recycling in carts or bins at the customer's preference to 2/3 of the rural residences or about 14,500 homes. Some others buy that recycling service but not many. Most use recycling drop-off centers. Curbside recycling is now planned to be phased in County wide by spring 2018. Weekly set out rates are around 50%.

NC is NOT a home rule state, and municipalities have very little power but MUST provide or cause to be provided residential MSW collection. There are no cities that have laissez faire. It's either public or contract or franchise. They are not obligated to provide recycling but generally there is a separate charge when they do, Waste is more frequently paid for in the tax base. Recycling costs in NC are sometimes included in an annual fee, sometimes on utility bills where cities operate utilities like water or electricity and some programs have hybrid funding. Very little PAYT for residential waste by municipalities at the curb or at rural solid waste convenience centers.

<sup>18</sup> Source: [http://www.orangecountync.gov/departments/solid\\_waste\\_management/construction\\_and\\_demolition.php](http://www.orangecountync.gov/departments/solid_waste_management/construction_and_demolition.php)

<sup>19</sup> Source: email dated 6/23/15 from Blair Pollock, Orange County Solid Waste Planner

	<p>State laws and local ordinances prohibit the burying of the following items in the landfill:</p> <ul style="list-style-type: none"> <li>• Yard waste (including yard waste mixed with household refuse) STATE</li> <li>• Recyclable corrugated cardboard LOCAL</li> <li>• Building materials (clean wood) LOCAL</li> <li>• Appliances (the reimbursement from the state for white goods no longer quite covers costs) STATE</li> <li>• Tires STATE</li> <li>• Motor oil and filters STATE</li> <li>• Liquids STATE</li> <li>• Auto and boat batteries STATE</li> <li>• Household hazardous waste VOLUNTARY</li> <li>• Aluminum cans (including cans mixed with household refuse) STATE</li> <li>• Plastic bottles STATE</li> </ul> <p>Cardboard, scrap metal and clean wood waste were enforced heavily at their generation point by Town inspectors and Orange County Environmental Enforcement Officers and by inspection of incoming loads to the landfill, particularly when the County ran its own landfill. The Towns 'blocked' the dumpster with notifications to property owner or garbage man tagged the carts of residential customers for visible OCC. The Towns 'blocked' the dumpster with notifications to property owner or garbage man tagged the carts of residential customers for visible OCC. Penalties for non-compliance are mostly enforced on haulers.<sup>20</sup></p>
<p><b>Sectors &amp; Materials Covered</b></p>	<p>All are impacted by RRMO</p>
<p><b>SFDs &amp; Allowable Costs</b></p>	<p>Residents of the towns of Carrboro, Chapel Hill, and Hillsborough in Orange County in single family homes or duplexes are provided once weekly curbside collection of recycling using 95 gallon roll carts: one for mixed paper, and the other for bottles, cans and foil. Approximately 18,500 homes from the three towns are served and weekly set outs are around 40% with over 80% participating at least once a month in the program. The service along with all other recycling services are financed by the Solid Waste Programs Fee, an annual fee on property owners' tax bills of \$107 per year for all recycling services such as drop-off, household hazardous waste and education.</p> <p>There are five solid waste convenience centers, which are staffed and generally located in rural areas for residential waste and recycling. The convenience centers accept residential MSW, recycling, yard waste, electronics, used oil, filters, construction and demolition (C&amp;D) materials from the residents' homes (not commercial work done for them), tires, white goods, scrap metal, batteries and antifreeze. These centers also have Salvage Sheds where reusable items in good condition can be taken for pick up by others.</p> <p>All drop-off centers are free for residents, supported 35% by the Solid Waste Programs fee. The other 65% of costs are supported by the County's general fund.. Only County residents are eligible to use the convenience centers, not businesses, not for profits or other non-residential entities.</p>
<p><b>MFDs &amp; Commercial</b></p>	<p><b>Multi-Family</b> - Recycling sites with multiple 95 gallon roll carts are located at over 95% of multifamily complexes (apartments, town homes, and condominiums, trailer parks) in Carrboro, Chapel Hill, Hillsborough and unincorporated Orange County and serviced by Orange County staff. Single stream carts accept all recyclable paper, cans, bottles and #2,4 and 5 non-bottle plastic, There is no capacity for cardboard. .</p>

<sup>20</sup> Source: <http://charmeck.org/mecklenburg/county/LUESA/SolidWaste/ManagementPlan/Documents/BestPracticesRecyclingStudy.pdf>, page 26.

	<p>There are separate corrugated cardboard recycling dumpsters at each complex, which are privately collected. The annual Solid Waste Programs fee for each Multifamily unit is now \$107. Yard waste is collected through private providers, and there is no food waste service available to multi-family residences.<sup>21</sup></p> <p><b>Special Events</b> - Orange County SWMD routinely provides bins and carts service, including pick up, to large public events like street festivals as well as to small quasi-public events on request. They also lend recycling tools such as bins to private and larger events. Achieve 88-95% diversion rate (can and bottles and occasional garbage picks).<sup>22</sup></p>
<b>Yard Debris &amp; Food Scraps</b>	<p>Orange County pays a private contractor \$80 per ton to take organics from commercial generators and carts at one convenience center for residents to their facility 35 miles away, where it is composted and sold.<sup>23</sup> Contractor provides carts or dumpsters, rinses after each collection, collects, hauls and composts for \$80/ton inclusive price. The good value is due to a single contract and cooperative education of customers with the County.</p>
<b>Funding for City Programs</b>	<p>North Carolina State Law NCGS § 153A-102 -enables Counties to charge fees for services permitted or required by law. A Waste Reduction, Reuse and Recycling Fee (now known as the 3-R Fee) was enacted in Orange County to finance reuse, recycling and waste reduction activities conducted by the County. This fee is applied to all properties whether those properties use County facilities for disposal or not. The 3-R Fee (waste reduction, reuse and recycling fee) provides the vast majority of the funds used by Orange County to pay for its recycling costs, with remaining funds coming from revenue from the sales of recyclable materials plus a subsidy from the Solid Waste enterprise fund (from landfill tipping fee revenues).</p> <p>There were no dedicated budget or staff for commercial recycling education or enforcement from 2006-2011. Next year permits &amp; licenses are projected to bring in \$110,000 overall, making the 2 person enforcement subdivision semi self-supporting.</p> <p>Fees include a percent of building permit fees for solid waste plans. Haulers are licensed for each hauling vehicle or trailer each company uses. There's also an annual inspection fee at certified sorting facilities (which is a very minor part of the revenues). Penalties and violations of separation ordinance are also a minor part of revenue.</p>
<b>Education, Enforcement &amp; Penalties</b>	<p>Corrugated Cardboard, Clean Wood Waste, Scrap Metal or Vegetative Yard Waste are regulated materials. Loads of C&amp;D waste containing more than 1/3 cubic yard of concentrated amounts of these materials are subject to double tip fees. Loads containing 50% or more of these banned materials may pay an additional fee of \$400. The Orange County Solid Waste Management Department offers reduced tip fees for materials kept separate for recycling prior to delivery at the Orange County Landfill.<sup>24</sup></p> <p>The County can penalize users for mixing loads that are not destined for an approved sorting facility (mostly C&amp;D – so it's tied to that sector but via the types of materials, not the sector per se). The County pinch point' with C&amp;D is that a rolloff box and a building permit can readily be tracked and the County can locate what they're doing.</p> <p>Historically have penalized financially a couple of large haulers for violations of the ordinance and when they had their own landfill it was</p>

<sup>21</sup> Source: <http://charmeck.org/mecklenburg/county/LUESA/SolidWaste/ManagementPlan/Documents/BestPracticesRecyclingStudy.pdf>, page 37.

<sup>22</sup> Source: <http://charmeck.org/mecklenburg/county/LUESA/SolidWaste/ManagementPlan/Documents/BestPracticesRecyclingStudy.pdf>, page 27.

<sup>23</sup> Source: <http://charmeck.org/mecklenburg/county/LUESA/SolidWaste/ManagementPlan/Documents/BestPracticesRecyclingStudy.pdf>, page 46.

<sup>24</sup> Source: [http://www.orangecountync.gov/departments/solid\\_waste\\_management/landfill.php](http://www.orangecountync.gov/departments/solid_waste_management/landfill.php)

	simpler to enforce against any violating hauler, but did lose a lot of C&D volume to sorting facilities rather than the generator being willing to source separate.
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### Case Study #14: Eugene, Oregon

<b>Topic</b>	
<b>Location</b>	<p><b>Eugene, OR</b>  <a href="http://www.eugene-or.gov/">http://www.eugene-or.gov/</a>; <a href="http://www.eugene-or.gov/index.aspx?NID=436">http://www.eugene-or.gov/index.aspx?NID=436</a>          Ordinance regulates solid waste, recycling and yard debris haulers for single family residential, and Recommended as a National Peer City by Fort Collins Finance Department.</p>
<b>Program Type, Background &amp; Purpose</b>	<p><b>Universal Services</b> – Requires haulers to provide recycling service for all single family and multi family households within City.  <b>PAYT</b> – with recycling costs embedded in garbage rates</p> <p>Population: <b>160,561</b> in 2014.<sup>25</sup> Eugene is the second largest city in the State of Oregon, about 100 miles south of Portland and is the county seat of Lane County. Lane County (co-located with the Eugene-Springfield Metropolitan Statistical Area) had a population of 351,715 as of the 2010 census.</p> <p>Lane County Landfill fees = \$75.55 per ton</p> <p>Diversion Rate: About 53% of the waste produced in the area is diverted from the landfill and more than 95% of its households participate in recycling services.<sup>26</sup></p> <p>The City of Eugene regulates solid waste, recycling and yard debris collection within the city limits. This includes licensing single-family and multi-family haulers, developing standards and setting rates for collection service. Customers may contract with the company of their choice. Standards for collection are contained in the Eugene City Code and the Administrative Rule.<sup>27</sup> Collection services are provided by up to 8 licensed haulers. Haulers may collect from any area in Eugene. The City sets minimum rates and each licensed hauler may charge up to ten percent above that rate. They are currently working through a rate revision. Some of the issues Fort Collins is dealing with are “front and center” for them, especially with the recent Longshoreman’s strike and the after effects of getting recyclables to market.<sup>28</sup></p> <p>The 1991 Oregon Recycling Act led Eugene to focus more attention on waste reduction. The Act set waste recovery goals for Oregon and individual counties, including a statewide goal of 50 percent recovery for 2000, and mandated waste recovery programs for cities.<sup>29</sup></p>

<sup>25</sup> Source: [https://en.wikipedia.org/wiki/Eugene,\\_Oregon](https://en.wikipedia.org/wiki/Eugene,_Oregon)

<sup>26</sup> Source: <http://westcoastclimateforum.com/toolkit/caps/eugene>

<sup>27</sup> Source: <http://www.eugene-or.gov/index.aspx?NID=436>

<sup>28</sup> Source: email from Michael Wisth, Solid Waste & Green Building Analyst, June 25, 2015

<sup>29</sup> Source: Fund 155 Background memo provided by Michael Wisth, Solid Waste & Green Building Analyst, City of Eugene, OR, 7/6/15



<b>Sectors &amp; Materials Covered</b>	<p>Single-family and multi-family residential. Commercial is not licensed.</p> <p>Curbside recycling service is included in the cost of garbage collection. Most materials are commingled, with <b>glass collected in a separate container</b>. Below is a list of what can be recycled curbside. All items must be clean. OK to place in Commingled Container:  Cardboard- Flatten cardboard and make sure it is clean. No waxed cardboard allowed.  Paper- Mix all paper together in your commingled recycling cart. Shredded paper must be placed in a paper bag with the top securely closed.  Plastics- Jugs, tubs and bottles only. No lids, plastic bags, packaging materials, plastic wrap or Styrofoam-like material.  Tin and aluminum- Aluminum food trays, food and beverage cans only. Clean aluminum may be crumpled into a ball. NO aerosol cans, paint cans or chemical cans.</p> <p><b>Separate From the Rest of Recycling</b>  Glass- Bottles and jars only, must be separated from the rest of material.  Used Motor Oil- Store in an unbreakable container with a screw top.</p>
<b>SFDs &amp; Allowable Costs</b>	<p>They have a residential PAYT system (using smaller waste containers will save residents money). Current rate structure is subsidizing hauler's loss on recyclables. Their margins will allow them to maintain the same rates for 2015, but will undoubtedly see a rate increase in 2016.</p> <p>ADMINISTRATIVE ORDER NO. 53-15-05-F: "Licensees providing commingled collection services on an automated basis with a roll cart may provide recycling collection service every other week."</p>
<b>MFDs &amp; Commercial</b>	<p><b>Rates for commercial food waste collection are set at 20% below commercial garbage rates.</b> By subscribing to commercial food waste collection service, businesses should be able to downsize their regular garbage container size and decrease the number of garbage pick-ups each week.<sup>30</sup> The City of Eugene provides free materials and resources to participating businesses. These resources are funded through solid waste license fees and a Waste Prevention Fund grant from Lane County Waste Management.</p>
<b>Yard Debris &amp; Food Scraps</b>	<p><b>Composting Overview</b>  Eugene supports educational programs for backyard composters, compost programs in area K-12 schools, and a commercial food compost program.<sup>31</sup> Commercial customers are able to separate meat, bones, fish, dairy, baked goods, fruits and vegetables, certain types of food-soiled paper, yard debris, and plant trimmings from garbage service. Eugene haulers pick up the food scraps and take them to a local organics processor for conversion into compost. Businesses can contact their garbage hauler to sign up for commercial food composting service. The garbage hauler provides businesses with free internal food waste bins and a food waste collection container and arrange a collection frequency that fits the needs of the business.<sup>32</sup></p> <p>Starting May 15, 2015, the following materials will no longer be accepted in the Love Food Not Waste commercial compost program:</p>

<sup>30</sup> Source: <http://www.eugene-or.gov/FAQ.aspx?TID=47>

<sup>31</sup> Source: <http://www.eugene-or.gov/index.aspx?NID=434>

<sup>32</sup> Source: <http://www.eugene-or.gov/FAQ.aspx?TID=47>

	<ul style="list-style-type: none"> <li>• Waxed cardboard</li> <li>• Gable-top cartons/aseptic containers</li> <li>• Paper towels from bathrooms</li> </ul> <p>These items have the potential to contaminate the final loads of compost which is why <a href="#">Rexius Forest By Products</a> can no longer accept them.</p> <p>There are many food waste collection programs in the Northwest (Washington, Idaho, &amp; Oregon). Eugene’s local food waste processor is Rexius. This company accepts all commercial food waste in addition to specified compostable containers. Rexius has been certified by the Oregon Department of Environmental Quality to process commercial food waste into compost.</p> <p>An anaerobic digester with the capacity to process all of Eugene’s commercial organic waste was scheduled to be up and running in April 2013... The City of Eugene internal zero waste program kicked off in spring 2012. The program’s goal is to keep 90 percent of the waste created by City operations out of the landfill by 2020.<sup>33</sup></p> <p>For more info, see: <a href="#">Oregon Daily Emerald article</a>, including this quote: “Food waste composting isn’t just a trend in Eugene. On Monday, Portland implemented a mandatory curbside program for household waste, joining the ranks of Corvallis, Salem and Keizer.” Section 3.270 “Licensees shall provide curbside recycling and yard debris collection services to their customers.”,</p> <p>There are three primary haulers (of the 8 licensed) that work with the City and the commercial composters: • LaneApex, • Royal Refuse, and • Sanipac</p> <p>There are 2 composters in the area: Rexius Forest By Products (which appears to be the main one working with the City and local haulers on the commercial food waste program) and Lane Forest Products.</p>
<b>Funding for City Programs</b>	<p>“The city manager may adopt a solid waste systems benefit fee under section 2.020 of this code, or may enter into an intergovernmental agreement with Lane County to authorize Lane County to impose and collect within the city a solid waste systems benefit fee in the same amount that applies outside the city, to fund the cost of waste management programs and community services, including but not limited to recycling education, recycling drop-off facilities, special waste programs and facilities, solid waste transfer sites and technical assistance services for businesses.”<sup>34</sup></p>
<b>Education, Enforcement &amp; Penalties</b>	<p>In cases of charging outside the rate structure authorized by the Solid Waste Collection Rate Schedule, each container for which there is an under-charge or over-charge constitutes a separate violation and each time a service is provided with an over-charge or undercharge constitutes a separate violation.<sup>35</sup></p>

<sup>33</sup> Source: <http://westcoastclimateforum.com/toolkit/caps/eugene>

<sup>34</sup> Source: Section 3.250 of the Municipal Code, City of Eugene, OR:

<sup>35</sup> Source: Section R-3.250-V. of the Municipal Code, Enforcement Regulations, City of Eugene, OR

Accepted Compostable Materials:



**Yes!**



Paper Towels and Napkins

Products Marked with BPI and/or Cedar Grove Logos



Wax Lined, Cold Drink Cups  
(not plastic lined)

Non-Shiny  
Paper Plates and Bowls



Food Boats



Compostable Straws  
(must be brown or green)



Clear Cups (must have  
visible demarcation,  
brown or green and  
marked 'Compostable')



Wood Stir-Sticks

Compostable Tableware  
(must be brown or green)



Chopsticks

Compostable Bags



Paper Containers

## Case Study #15: Austin, Texas

<b>Topic</b>	Universal Recycling Ordinance <a href="http://austintexas.gov/uro">http://austintexas.gov/uro</a>
<b>Location</b>	Austin, Texas
<b>Background &amp; Purpose</b>	<p><b>Mandatory Source Separation</b></p> <p>Population 885,400 (2013) Municipal collection service for:</p> <ul style="list-style-type: none"> <li>• Single-family households and some small scale multifamily customers <a href="http://austintexas.gov/department/residential-services-overview">http://austintexas.gov/department/residential-services-overview</a></li> </ul> <p>City contracts with private sector service providers for:</p> <ul style="list-style-type: none"> <li>• Downtown recycling and trash collection district <a href="http://austintexas.gov/sites/default/files/files/Trash_and_Recycling/CBD_Ordinance_20051020-063.pdf">http://austintexas.gov/sites/default/files/files/Trash_and_Recycling/CBD_Ordinance_20051020-063.pdf</a></li> </ul> <p>Low tipping fees (\$35 per ton) <a href="http://www.texasdisposal.com/documents/Landfill%20Rates.pdf">http://www.texasdisposal.com/documents/Landfill%20Rates.pdf</a></p> <p>The City Council adopted Phase 1 of the Universal Recycling Ordinance (URO) on Nov. 4, 2010, which requires all multifamily buildings, office buildings, and institutional properties in the City to recycle. Phase 1 of the URO will be phased in over four years, beginning in October 2012. The Department conducted an outreach process in 2011 to engage stakeholders on the planning and implementation of the new rules that will guide implementation of the program. The Department also conducted stake-holder meetings to discuss the implementation of Phase 2 of the ordinance to address food service establishments, retail, hospitality, manufacturing and industrial generators.</p> <p>In Phase 2 of the URO adopted on June 23, 2014, adds compostable organics among the materials targeted for diversion from landfills. Phase 2 of the URO will be fully implemented by 2018.</p> <p>URO will aid Austin’s Zero Waste goal of achieving 75% diversion from landfills by 2020 and 90% diversion by 2040 as defined in the October 2011 City Council adopted Austin Resource Recovery Master Plan. <a href="https://www.austintexas.gov/department/master-plan">https://www.austintexas.gov/department/master-plan</a></p>
<b>Sectors &amp; Materials Covered</b>	<p>Multifamily properties Non-residential commercial properties, including:</p> <ul style="list-style-type: none"> <li>• Retail</li> <li>• Medical facilities</li> <li>• Hotels and Motels</li> <li>• Religious buildings</li> <li>• Commercial office buildings</li> <li>• Private educational facilities</li> </ul> <p>Industrial and Manufacturing Facilities Food service enterprises include:</p> <ul style="list-style-type: none"> <li>• Grocers</li> <li>• Farmers’ Markets</li> </ul>

	<p>Food and Beverage Industry (restaurants, bars, catering)</p> <p>RECYCLABLE MATERIALS - Plastics #1 &amp; #2, paper, cardboard, glass, and aluminum  COMPOSTABLE MATERIAL - organic material recovered, collected, or otherwise diverted from the non-hazardous solid waste stream, a substantial portion of which will decompose in a managed compost operation</p>
<b>SFDs &amp; Allowable Costs</b>	Single-family dwellings are not addressed in the URO.
<b>MFDs &amp; Commercial</b>	Requirements to divert recyclable materials are being phased in October 2013-October 2017 based on the size of the property and number of dwelling units.
<b>Yard Debris &amp; Food Scraps</b>	Requirements to divert compostable organics will be phased in October 2016-October 2018 (depending on the size of the food-permitted property).
<b>Funding for City Programs</b>	<p>Clean Community Fee</p> <p>All residents and business in Austin pay a Clean Community Fee through the consolidated utility bill. Single-family homes and apartment and condo dwellers pay \$7.40 monthly and businesses pay \$17.95 monthly.</p> <p>The Clean Community Fee funds the following:</p> <ul style="list-style-type: none"> <li>• Street Sweeping</li> <li>• Litter Abatement</li> <li>• Recycling Center</li> <li>• Household Hazard Waste Facility</li> <li>• Business Outreach</li> <li>• Resource Recovery Center</li> <li>• Austin Reuse Centers</li> <li>• Zero Waste Program Development</li> <li>• Clean Austin</li> <li>• Dead Animal Collection</li> <li>• Boulevard Sweeping</li> </ul>
<b>Education, Enforcement &amp; Penalties</b>	<p>Austin has a significant Zero Waste Business Services <a href="http://www.austintexas.gov/department/business-outreach-and-services">http://www.austintexas.gov/department/business-outreach-and-services</a></p> <p>Programs include:</p> <ul style="list-style-type: none"> <li>• Zero Waste Consulting and Guidance</li> <li>• Recycling Education and Training for Businesses</li> <li>• Compliance Assistance for Property Owners and Managers</li> <li>• Onsite Waste Assessments</li> <li>• Recycling Market Development Program</li> <li>• Green Business Leaders Program</li> <li>• Commercial Recycling Rebate</li> <li>• Commercial Composting Rebate</li> <li>• Zero Waste Business Rebate</li> </ul>

## Case Study #16: Denton, Texas

<b>Topic</b>	
<b>Location</b>	<b>Denton, TX –</b> Zero Waste Community
<b>Program Type, Background &amp; Purpose</b>	<p><b>Pay as You Throw</b> <b>City residential collection</b></p> <p>Pop. 123,000 Zero Waste goal adopted by city SWS Dept. and Denton City Council are in discussions about how to attain a citywide goal of 40% diversion Citywide PAYT trash program started in 2002, city diverts 29,000 tons annually, municipal services for trash hauling solely provided by city, recycling &amp; special wastes collection open to permitted private haulers</p> <p>ECO-W.E.R.C.S. Landfill-- \$44/ton 39.9% diversion rate for residential 12.5% diversion rate for commercial 65,407 tons diverted annually</p> <p>Innovative programs: Free community ReUse Store accepts drop off of items that are typically available in stores, in good condition (appliances, etc.), and at least half-full (chemicals/cleaners). Website notifies residents of the harms of disposing of CFL bulbs in the trash and gives information on scheduling a city collection and also take back programs at local home improvement stores. Denton has a PAYT program and services weekly collection of trash and offers weekly collection of recycling and yard waste. Yard waste is composted into Dyno Dirt for purchase. All events held on city property must provide recycling. Recycling carts only come in 65-gallon size, but residents can request an additional cart free of charge. Apartment recycling is encouraged and waste audits &amp; employee training are provided by the city for free. City provides free pick up of used cooking oil for residents and requires inspections &amp; business maintenance of grease/grit traps. Denton offers free residential drug/medicine take back at the local police department, which has garnered the city 5 regional, state and national awards. The city encourages school participation in the Sustainable Schools program focusing on air, water, materials mgt., soil, etc.</p>
<b>Sectors &amp; Materials Covered</b>	<p>Trash pick up for SFDs, MFDs, Industrial, Commercial, &amp; Institutional provided by city.</p> <p>Pick up for trash, recycling (not mandatory), and yard wastes (not mandatory) occurs weekly Cardboard, office paper, newsprint, metal cans, plastics, glass, electronics (residential curbside collection of TVs &amp; Computers only for fee, drop off center accepts many more types of e-waste for a fee), at-home residential HHW collection, bulk pick up, C &amp; D waste collection</p>
<b>SFDs &amp; Allowable Costs</b>	Weekly trash pick up service by city with offered services for recycling & yard waste pick up, covered receptacles only, no waste outside of receptacle will be picked up unless arrangements are made with city, zero waste goal adopted but no recycling or composting ordinances established, all recyclables processed locally at Pratt Industries MRF (contracted with city),
<b>MFDs &amp; Commercial</b>	PAYT weekly pick up service for businesses provided by city, business recycling is encouraged with free waste audits & employee training programs provided by city, illegal dumping can be reported to code compliance & police, but clean up is responsibility of property owner

	Denton is a college town that sees most illegal dumping during move in & move out days each semester.
<b>Yard Debris &amp; Food Scraps</b>	Free weekly yard debris collection offered, but not mandatory & fee assessed if discards exceed 4 cubic yards. Yard debris composted (mixed with biosolids from water reclamation plant) into <a href="#">Dyno Dirt</a> for resale to community through Beneficial Reuse Division, residents and non-residents can deliver clean yard waste to ECO-W.E.R.C.S. landfill for small fee, no diversion requirements for food-permitted businesses, but a private business is providing a membership-based curbside composting collection service for single-family homes & restaurants, also, FeedDenton is a compost exchange program utilizing higher and better use where neighbors post what they can accept and registrants can negotiate drop offs
<b>Funding for City Programs</b>	<input type="checkbox"/> Standard refuse & recycling cart rate-\$26.75 <input type="checkbox"/> Large refuse & recycling cart rate-\$32 <input type="checkbox"/> Small refuse & recycling cart rate-\$26 <input type="checkbox"/> Appliance & electronics collection rate-\$20 per item <input type="checkbox"/> Residential remodeling rate--\$20.00 per cubic yard <input type="checkbox"/> Multifamily rate was discontinued <input type="checkbox"/> Commercial front load and side load rate-\$32.50 <input type="checkbox"/> Open Top container rental rates \$160.00 per month <input type="checkbox"/> Self-contained compactor rate--\$430 per month <input type="checkbox"/> Stationary compactor rate- \$620 per month <input type="checkbox"/> Roll-off collection rate--\$270 per haul <input type="checkbox"/> The landfill gate rate- \$44.00 / ton
<b>Education, Enforcement &amp; Penalties</b>	<p>City provides free posters/visuals for printing for educating residents &amp; business employees on SF and MF recycling, commercial recycling, drug take back recycling, C &amp; D diversion</p> <p>City provides free business waste audits &amp; recycling training for employees, but no enforcement fees</p> <p>FOG diversion penalties/fees for covered businesses (Misdemeanor punishment of max. \$2,000 per offense per day &amp; civil penalties for point source pollution at a max. of \$5,000 per offense per day)</p>

### Case Study #17: San Antonio, Texas

<b>Topic</b>	
<b>Location</b>	San Antonio, TX Zero Waste Community
<b>Program Type, Background &amp; Purpose</b>	<p><b>MFUs Mandatory Recycling Subscription</b>  <b>Switched from commingled brush &amp; bulky collection to separate collections</b></p> <p>Population: 1.3 million  Adopted goal of Zero Waste  Diversion rate at 31% with a 60% goal by 2040  Residential 96-gallon trash cart  PAYT scheduled to roll out in 2016 which is projected to increase recycling by 91,000 tons (15%)</p>

	<p>Municipal curbside recycling available  Subscription-based organics collection in place  Business recycling scheduled to start 2016</p> <p>TIMELINES:  SFD recycling—enacted  MFD recycling—enacted  Brush recycling—enacted  HHW—2 drop off centers already constructed &amp; mobile collections occur periodically  Subscription-based organics implementation—2013-2015  Commercial Recycling implementation-- 2016-2018  Variable cart pricing—2017-2018</p> <p>Council approved construction of 4 new HHW drop off sites , Nearby sports fields for free community usage for baseball, football, soccer, etc. all funded by Waste Mgmt., “Scoop the Poop” pet waste clean up campaign</p>
<b>Sectors &amp; Materials Covered</b>	<p>SFDs, MFDs, Self-haul  Plastics, paper, cardboard, glass, metals</p>
<b>SFDs &amp; Allowable Costs</b>	<p>Single-stream recycling available  Trash pick up services on 96-gallon carts, but PAYT is scheduled for 2016  Recycling diversion averages 71,000 tons (13%) due to increased social media outreach, a revamped user-friendly website with free educational tools, and expanded regular inspections to reduce contamination</p>
<b>MFDs &amp; Commercial</b>	<p>No mandates for business recycling, but city has provided “best practices” guidelines on website for commercial, industrial, and construction businesses  MFDs with more than 8 units are required to provide subscription-based recycling with private haulers with focus on appropriate capacities, equal access, residential convenience, and residential education</p> <p>San Antonio reports 97% compliance at MFDs</p>
<b>Yard Debris &amp; Food Scraps</b>	<p>Yard debris collection increased 150% between 2010-2013 and totaled 88,000 tons (17%) in 2013 due to increased pick ups annually, a 2<sup>nd</sup> drop off site constructed, and switching from comingled brush &amp; bulky collection to routing separate collections for the 2 categories  Subscription-based organics recycling for \$3/month diverting a total of 3,000 tons (1%) in 2013  No restaurant recycling as of yet</p>
<b>Funding for City Programs</b>	<p>Every resident pays an environmental fee on utility bill—used for dead animal collection &amp; operation of HHW facility  Fees assessed on brush &amp; bulky items</p>
<b>Education, Enforcement &amp; Penalties</b>	<p>Citywide “I Recycle” campaign to help develop residential ownership over zero waste (\$700,000)  Free educational speakers from city staff for businesses and community groups  Free educational tools on city website for business employee and MFD residential education  MFD violation fines cannot exceed \$2,000 per offense per day, hauler offenses cannot exceed \$500 per offense per day unless a court fines more than \$500 per offense per day, then the city must bear burden of proof that company violated the ordinance knowingly and intentionally.</p>



### Case Study #18: Central Vermont Solid Waste Management District

<b>Topic</b>	
<b>Location</b>	<p>Central Vermont Solid Waste Management District</p> <p>High diversion community</p>
<b>Program Type, Background &amp; Purpose</b>	<p><b>Statewide Pay as You Throw Universal Service Mandatory Source Separation Licensing with Reporting</b></p> <p>All Vermont communities must either develop and implement their own Solid Waste Implementation Plan to meet State of Vermont requirements or join with other communities to meet these requirements as a group.</p> <p>18 member towns in Central Vermont have formed the CVSWMD.</p> <p>CVSWMD licenses private haulers and works with them to assure district ordinances are enforced.</p> <p>Mandatory recycling ordinance enacted in 1994  <a href="http://www.cvswwmd.org/uploads/6/1/2/6/6126179/mandatory_recycling.pdf">http://www.cvswwmd.org/uploads/6/1/2/6/6126179/mandatory_recycling.pdf</a></p> <p>Residential and commercial generators must not place recyclables in the trash.  Haulers are required to provide recycling collection.</p> <p>Flow Control Ordinance enacted in 1992  <a href="http://www.cvswwmd.org/uploads/6/1/2/6/6126179/flow_control.pdf">http://www.cvswwmd.org/uploads/6/1/2/6/6126179/flow_control.pdf</a></p> <p>Requires haulers to obtain a license  Requires licensed haulers to deliver materials to district facilities</p> <p>Variable Rate Pricing Ordinance enacted in 2015  <a href="http://www.cvswwmd.org/uploads/6/1/2/6/6126179/variable_rate_pricing_ordinance_may_2015.pdf">http://www.cvswwmd.org/uploads/6/1/2/6/6126179/variable_rate_pricing_ordinance_may_2015.pdf</a></p> <p>Requires licensed haulers to provide unit-based pricing for solid waste  Allows for a flat fee (base fee) in addition to unit-based pricing  Allows for additional fees food and yard residuals  Does not allow haulers to charge for recycling (costs must be included in solid waste fee)  Requires tiered rates</p> <p>Solid Waste Fee Ordinance enacted in 1990 (amended in 1992, 2003 and 2013)  <a href="http://www.cvswwmd.org/uploads/6/1/2/6/6126179/surch_ord_94-01_fy14_amendment_as_approved_2013.12.pdf">http://www.cvswwmd.org/uploads/6/1/2/6/6126179/surch_ord_94-01_fy14_amendment_as_approved_2013.12.pdf</a></p>

	Solid waste fee of \$30 per ton imposed on all solid waste generated in the district Haulers must charge fees to customers and remit to district
<b>Sectors &amp; Materials Covered</b>	Res/Com
<b>SFDs &amp; Allowable Costs</b>	Variable Rate Pricing Ordinance enacted in 2015 <a href="http://www.cvsmd.org/uploads/6/1/2/6/6126179/variable_rate_pricing_ordinance_may_2015.pdf">http://www.cvsmd.org/uploads/6/1/2/6/6126179/variable_rate_pricing_ordinance_may_2015.pdf</a>  Requires licensed haulers to provide unit-based pricing for solid waste Allows for a flat fee (base fee) in addition to unit-based pricing Allows for additional fees food and yard residuals Does not allow haulers to charge for recycling (costs must be included in solid waste fee) Requires tiered rates
<b>MFDs &amp; Commercial</b>	Same as residential
<b>Yard Debris &amp; Food Scraps</b>	Collected seasonally by the municipalities
<b>Funding for City Programs</b>	Annual \$1.00 per resident fee covers a small portion of costs. Additional funding is received from a surcharge tax on garbage, state and federal grants, and program fees from participants.  Solid waste fee of \$30 per ton imposed on all solid waste generated in the district <a href="http://www.cvsmd.org/uploads/6/1/2/6/6126179/surch_ord_94-01_fy14_amendment_as_approved_2013.12.pdf">http://www.cvsmd.org/uploads/6/1/2/6/6126179/surch_ord_94-01_fy14_amendment_as_approved_2013.12.pdf</a>
<b>Education, Enforcement &amp; Penalties</b>	Violators are subject to penalties (\$25-\$500 depending on infraction).

### Case Study #19: Washington, D.C.

<b>Topic</b>	
<b>Location</b>	Washington, D.C.
<b>Program Type, Background &amp; Purpose</b>	<b>Pay as You Throw</b> <b>Universal Service</b> <b>Mandatory Source Separation</b> <b>Licensing with Reporting</b>  Population: 658,893 (2014)  Mandatory source separation requirements (1989) <a href="http://law.justia.com/codes/district-of-columbia/2014/division-i/title-8/chapter-10/subchapter-i/section-8-1007">http://law.justia.com/codes/district-of-columbia/2014/division-i/title-8/chapter-10/subchapter-i/section-8-1007</a>
<b>Sectors &amp; Materials Covered</b>	Res/Com

<b>SFDs &amp; Allowable Costs</b>	The Department of Public Works collects trash from single-family homes and apartment buildings with three or fewer living units. Residential properties must separate yard waste, newspaper, glass and metal for recycling.
<b>MFDs &amp; Commercial</b>	Commercial properties must separate all paper, glass and metal for recycling. Commercial businesses must: <ul style="list-style-type: none"> <li>• <b>Separate</b> mandated materials from solid waste. <i>(2 streams, minimum)</i></li> <li>• <b>Enclose</b> all waste/recyclables in rigid containers at point-of-pickup e.g. loading dock / parking lot.</li> <li>• <b>Contract</b> a registered recycling hauler, visiting at least 2x / month.</li> <li>• <b>Inform</b> Staff and Guest via ongoing basis</li> <li>• <b>Submit</b> a Commercial Recycling Plan application (available online), every two years.</li> <li>• <b>Pass</b> Site Inspection</li> </ul>
<b>Yard Debris &amp; Food Scraps</b>	Required for residential properties  DPW collects up to five bags (per week) of yard waste from residences that receive DPW trash and recycling collection services.
<b>Funding for City Programs</b>	
<b>Education, Enforcement &amp; Penalties</b>	A range of fines are provided for non-compliance. Refusing to provide access to an authorized DPW inspector results in a fine of \$500. Other fines imposed range from \$25-\$1000, based on square footage of the property. The violations range from failure to have a recycling plan, to failure to separate the recyclables from other solid waste, to failure to have a sufficient number of containers for separated recyclables.

### Case Study #20: King County, Washington

<b>Topic</b>	
<b>Location</b>	High diversion community King County's goal to achieve zero waste of resources by 2030 through maximum feasible and cost-effective prevention, reuse and reduction of solid wastes going into its landfills and other processing facilities.
<b>Program Type, Background &amp; Purpose</b>	<p><b>Bans of organics</b> from collection, transfer stations, landfills and/or incinerators</p> <p><b>Universal Service</b> - Require access to reusables, recyclables and/or compostables collection service for all households and/or businesses and institutions within community</p> <p><b>Licensing with Reporting</b> - License all haulers, require recycling and composting and reporting of tonnage collected by categories of garbage, recycling and compost</p> <p><b>King County: 2.044 million (2013)</b> <b>Seattle: 652,405 (2013)</b></p> <p><b>King County</b> City and county ordinances prohibit yard waste from curbside garbage collection. Yard waste collection at the curb is available to most customers as part of their garbage collection service. An additional fee is charged for this hauler service which is provided by the private <a href="#">solid waste management companies</a>. Leaves, grass, brush, prunings, yard clippings, twigs and branches are accepted at the curbside. By ordinance, requires certified private haulers to:</p>

	<ul style="list-style-type: none"> <li>• Provide minimum levels of residential recyclables and organics collection</li> <li>• Provide rate structures that promote county program objectives</li> <li>• Diversion tonnage reporting</li> </ul> <p><a href="http://www.kingcounty.gov/council/legislation/kc_code/13_Title_10.aspx">http://www.kingcounty.gov/council/legislation/kc_code/13_Title_10.aspx</a></p> <p><b>City of Seattle</b>  <a href="#">City ordinance</a> requires recyclable materials, compostable materials, and yard debris be kept out of garbage. Garbage containers filled with more than 10 percent of recyclables and compostables will be tagged. After <a href="#">two warnings</a> (pdf), businesses will be charged \$50 for each violation.</p> <p>City of Seattle Ordinance #121372 effective January 1, 2005 and Ordinance #124313 effective July 1, 2014 prohibit the disposal of certain recyclables from residential, commercial and self-haul garbage. Ordinance #124582 effective January 1, 2015 prohibit the disposal of food waste and compostable paper from residential, commercial and self-haul garbage.</p> <ul style="list-style-type: none"> <li>• All single-family households have a free, curbside recycling service.</li> <li>• Apartments are also eligible for the City’s free recycling service.</li> <li>• The City’s Transfer Stations accept recyclables for free and yard debris for a fee that is less than garbage.</li> </ul> <p>Businesses can contact Seattle Public Utilities to obtain information on other private commercial recycling services where the pickup service is more frequent and revenue might be received for large quantities of recyclables, such as office paper.</p> <p>Mandatory recycling and composting ordinance  <a href="http://www.seattle.gov/util/ForBusinesses/SolidWaste/RecyclingBusinesses/CommercialRecycling/BanOrdinance/index.htm">http://www.seattle.gov/util/ForBusinesses/SolidWaste/RecyclingBusinesses/CommercialRecycling/BanOrdinance/index.htm</a></p>
<b>Sectors &amp; Materials Covered</b>	Res/Com/MF/Self-haul
<b>SFDs &amp; Allowable Costs</b>	<p><b>King County</b>  Ordinance requires:</p> <ol style="list-style-type: none"> <li>1. A mini can (10-20 gallon) rate for solid waste service</li> <li>2. A recycling-only rate for program participants who decline solid waste collection service. Haulers may include a fee to administer billing for this service.</li> <li>3. A yard waste-only rate for program participants who decline solid waste collection service, but participate in a yard waste collection program. Haulers may include a fee to administer billing for this service.</li> <li>4. Billing that includes the cost of solid waste and recycling collection services on the same statement</li> <li>5. A rate structure designed to provide customers with adequate options and incentives to reduce their level of solid waste collection service as a result of their participation in waste reduction and recycling program;</li> <li>6. A rate structure that distributes the cost of the single-family and multifamily recyclable materials collection programs among all rate payers in the franchise area where recycling and yard waste services are available;</li> <li>7. A rate structure for single-family yard waste collection services that charges only those customers subscribing to the service. To encourage recycling, the cost of yard waste collection shall be less than the cost of collection for a comparable unit of solid waste;</li> <li>8. The cost to produce and distribute program promotion and educational materials to customers</li> <li>9. A monthly administrative fee to compensate the division for the costs of program management and promotional and educational programs.</li> <li>10. Reduced solid waste and recyclable materials collection rates for eligible elderly and low-income program participants</li> </ol> <p><b>Organics</b></p> <ol style="list-style-type: none"> <li>1. A base rate for single family organics collection that applies to all single-family solid waste collection customers in the franchise area</li> <li>2. Additional rates based on additional volume of organics to be collected;</li> </ol>

	<p>3. A rate structure designed to provide customers with adequate options and incentives to reduce the customers' collection rate for solid waste collection as their volume of organics collection increases;</p> <p>4. The cost to produce and distribute program promotion and educational materials to customers</p> <p>5. Reduced solid waste and recyclable materials collection rates for eligible elderly and low-income program participants</p>
<b>MFDs &amp; Commercial</b>	
<b>Yard Debris &amp; Food Scraps</b>	Included in mandatory requirements.
<b>Funding for City Programs</b>	<p><b>King County</b> A monthly administrative fee of twenty-two (22) cents per customer, or its equivalent, is collected by the certificated haulers to compensate the county for the costs of program management and promotional and educational programs.</p>
<b>Education, Enforcement &amp; Penalties</b>	<p><b>Seattle</b> Seattle Public Utility staff monitor compliance. \$50 fee per collection that may be imposed on commercial customers after two warning notices are mailed to the garbage account customer</p> <p><a href="http://www.seattle.gov/util/cs/groups/public/@spuweb/@policy/documents/webcontent/01_029883.pdf">http://www.seattle.gov/util/cs/groups/public/@spuweb/@policy/documents/webcontent/01_029883.pdf</a></p>

### Case Study #21: Renton, Washington

<b>Topic</b>	
<b>Location</b>	Renton, Washington
<b>Program Type, Background &amp; Purpose</b>	<p><b>Every-other-week (EOW) trash service</b> - Modify trash collection schedule to every-other-week pickup and, at the same time, add or expand weekly organics collection.</p> <p>Population: 97,003 (2013)</p> <p>Every Other Week Recycling &amp; Trash, Every Week Collection of Organics  <a href="http://www.rentonwa.gov/uploadedFiles/Living/PW/UTILITIES/Solid_Waste/Solid_Waste_FAQs_FINAL_web.pdf">http://www.rentonwa.gov/uploadedFiles/Living/PW/UTILITIES/Solid_Waste/Solid_Waste_FAQs_FINAL_web.pdf</a></p> <p>In 2008, the City of Renton, Washington had not adjusted rates since 2000 and was facing a potentially large rate increase. Residents had manual collection of garbage from customer-provided containers and source-separated crate-based recycling. Residents wanted expanded recycling, the addition of food scraps to curbside organics collection and uniform, cart-based collection. The City and Waste Management identified solutions to reduce overall system costs by transitioning to every other week collection for recycling and garbage and weekly collection of compostables.</p> <p>The City and Waste Management negotiated a new contract that provided more recycling and composting collection services.  Single-family residential collection:</p> <ul style="list-style-type: none"> <li>▪ Garbage and recycling collected every-other-week</li> <li>▪ Yard trimmings and food scraps collected weekly</li> <li>▪ New wheeled carts 20, 35-, 64-, &amp; 96- gallon sizes for garbage and 35-, 64-, &amp; 96- gallon sizes for recycling and organics</li> </ul>

	<p>Multifamily collection:</p> <ul style="list-style-type: none"> <li>▪ Garbage and cart-based recycling collected weekly</li> <li>▪ Yard trimmings and food scraps fee-based service</li> </ul> <p>Commercial Collection:</p> <ul style="list-style-type: none"> <li>▪ Garbage and cart-based recycling collected weekly</li> <li>▪ Yard waste and food scraps fee-based service</li> </ul> <p>Other Services:</p> <ul style="list-style-type: none"> <li>▪ Conversion of collection vehicles to Compressed Natural Gas and biodiesel.</li> <li>▪ Addition of two Recycle Events and one Reuse Event per year</li> <li>▪ Public litter can collection</li> </ul> <p>From 2008 to 2010, residential recycling tons increased 27 percent, organics tons increased 44 percent, and garbage tons decreased 18 percent.</p> <p>The residential monthly rate increased from \$6.40 to \$11.20 per month for a 20-gallon mini can and increased from \$13.44 to \$18.41 per month for a 32 gallon cart.</p>
<b>Sectors &amp; Materials Covered</b>	SFDs
<b>SFDs &amp; Allowable Costs</b>	<p>PAYT Includes all three streams <a href="http://rentonwa.gov/uploadedFiles/Living/PBPW/UTILITIES/2015%20Rate%20Brochure%20FINAL.pdf">http://rentonwa.gov/uploadedFiles/Living/PBPW/UTILITIES/2015%20Rate%20Brochure%20FINAL.pdf</a></p> <ul style="list-style-type: none"> <li>▪ City sets rates and does billing</li> <li>▪ Compensation to contractor based on initial cost of service proposal plus an annual compensation adjustment</li> <li>▪ Compensation adjustments are indexed for inflation: "Inflation Adjustment Factor" based on three indices: labor, fuel and Consumer Price Index.</li> <li>▪ Performance fees deducted from compensation for service delivery omissions.</li> </ul>
<b>MFDs &amp; Commercial</b>	NA
<b>Yard Debris &amp; Food Scraps</b>	Co-collected with food scraps, picked up weekly
<b>Funding for City Programs</b>	Utility rate surcharges
<b>Education, Enforcement &amp; Penalties</b>	NA

**Case Study #22: Madison, Wisconsin**

<b>Topic</b>	
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<b>Location</b>	Madison is an Urban area where collection service is required by City ordinance. The current diversion is 57%, and the landfill tip fees are around \$50.
<b>Program Type, Background &amp; Purpose</b>	<b>Mandatory Source Separation</b> -The City collects discards. The City requires sourced separation. The City rules were made to meet State and County mandates
<b>Sectors &amp; Materials Covered</b>	The City collects SFUs, MFUs, and Commercial. Materials include Paper and Containers. Yard trimmings are banned from landfills in the State and collected Citywide twice a year.
<b>SFUs &amp; Allowable Costs</b>	The rate changes by container size and frequency
<b>MFUs &amp; Commercial</b>	The City rules apply to all generators including commercial and multi-family. Proper disposal is addressed in outreach.
<b>Yard Debris &amp; Food Scraps</b>	Yard debris collection provided for single family residents twice a year, No food composting program available.
<b>Funding for Programs</b>	The City funds this program.
<b>Education, Enforcement</b>	Outreach is part of the program activities. Code enforcement handles complaints,

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