

This report is in support of King County’s Responsible Recycling Task Force, Task 5A, which explores using city code and city-hauler contract language to favor or require proper sorting, processing, and recycling of collected recyclable materials. Contract and code language should address all steps and parties in the material handling process including haulers, sorters, brokers, processors, and manufacturers who use recycled material.

The report begins with a discussion of how we call out or identify proper recycling, some existing methods of codifying responsible recycling, general approaches for contract language, and some recommended sources for code and contract language.

How Do We Know “Responsible Recycling” When We See It

When we sort materials for recycling, we expect they will be processed in ways that conserve resources and protect human health and safety. However, different materials have different recycling pathways, which can change often. Markets fluctuate and brokers react. This makes it difficult to identify the final processor or end-user of a material, and therefore hard to assess if the process is environmentally and socially responsible.

City codes and city-hauler contracts can be used to define proper recycling or specify environmental and human health practices necessary for proper recycling. Different cities and organizations use various strategies to identify and establish proper recycling outcomes:

- Washington State’s Utilities and Transportation Commission (UTC) requires that “local markets” be used whenever possible.
- Bothell’s Recology contract states that electronics & small appliance processors must be “fully-permitted and properly operated” and “legitimate”.
- Mercer Island’s 2019 contract includes several relevant provisions. It defines “Environmental Law” as various tools to protect “human health and the environment”. The hauler is required to “use facilities” that maximize recovery and recycling of recyclable material and minimize residuals.
- Recycle BC¹ prioritizes processors in Organization for Economic Co-operation and Development² (OECD) countries or those with OECD-level standards, and requires that processors follow a pollution prevention hierarchy. Recycle BC is currently developing “consistent measurement protocols” to accurately gauge program success.

¹ Recycle BC is a not-for-profit organization that delivers residential recycling services for packaging and paper product throughout British Columbia. They operate “the only extended producer responsibility program for packaging in North America in which producers have both operational and financial responsibility.”

² OECD is an international organization working on “establishing international norms and finding evidence-based solutions to a range of social, economic and environmental challenges”. Member countries commit to complying with OECD-developed “global standards” covering numerous topics.

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- The Basel Action Network’s (BAN)³ work includes another approach to identifying proper recycling. They recommend that some materials – certain plastics – are hazardous by nature, cannot be recycled properly, and should be banned from recycling programs. A recycling program or facility that handles such materials should not be considered responsible.

In general, contracts seek assurances of maximum recycling, safe working conditions for workers, and limited impact on surrounding communities and environment. Domestic and OECD processors are encouraged because they are assumed to operate under stricter environmental and worker safety regulations than less-regulated processors.

How We Track Recyclable Materials Now

Having defined some characteristics of “responsible recycling”, we then need a way to follow collected materials to be sorted and processed. Cities and counties generally have limited ability to verify where materials go. There are few tracking systems in the industry to follow the path of recyclables.

The following process path is meant to illustrate the difficulty in tracking materials – through collection, hauling, sorting, shipping, and re-processing. A city’s recyclables are picked up, hauled to a MRF, combined with other jurisdictions’ recyclables, sorted, and baled. Commodity brokers often buy a MRF’s products and sell them to a processing plant. The broker can further obscure which facilities are re-processing the sorted materials. For various reasons some in the industry may not want to share their processing/handling chains. Also, brokers will choose different recycling plants depending on changing costs and industry or shipping conditions. Finally, a city or county may not know how much material going through a MRF is diverted for recycling and how much is a waste product, or “residual”.

One way of tracking recyclable goods is through reports from the hauler that show where materials go. Reports depend on the hauler’s ability to collect the processing chain details. A report might include a table such as the following:

Commodity	Customer - End Market	Location	New Product	Tons/month
Separated OCC	Ace Cardboard	USA	Boxes	9.00
Mixed Paper	Fibermonster	USA	Car parts	11.00
Glass Bottles/Jars	Zap Recycle	Canada	Bottles	2.00
Aluminum Cans	Zap Recycle	USA	Alum cans	1.00
Plastics - PET	Zap Recycle	New Zealand	Carpet	4.00

³ BAN is a non-profit working nationally and internationally to champion global environmental health and justice by ending toxic trade, catalyzing a toxics-free future, and campaigning for everyone’s right to a flourishing environment.

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Below are several examples of how jurisdictions are tracking recyclables' journeys or verifying proper recycling:

King County Solid Waste Division's Transfer Station Recycling Collection: KC SWD contracts with Recology-King County to haul, process and market separated OCC and commingled materials from SWD's recycling and transfer stations. Recology provides monthly reports to the County. Reports include the following information about the materials collected from SWD sites and hauled to the Contractor's facility:

1. Total tons of recyclable materials;
2. Total tons of each source-separated material and each group of materials sold to the end-user contractor(s), calculated based on waste characterizations;
3. A list of end-markets – including type of materials processed or consumed, names, and locations – for all of the recyclable commodities;
4. Total estimated tons of any non-processable or non-recyclable materials (i.e. non-program materials) that exceeded the allowable 10 percent by weight (due to load contamination upon approval by County Project Manager);
5. Total tons of non-processable, non-marketable, non-recyclable materials (i.e. non-program materials), or residual wastes that needed to be landfilled or incinerated (not due to load contamination); and
6. Where and how residual materials were disposed of.

SWD receives a table similar to the one above. The contract is relatively new, executed in 2019. SWD and Recology are still sorting through available data and developing meaningful reporting.

Mercer Island, WA: Mercer Island's 2019 contract with Recology-King County contains several provisions relevant to this effort. None however require tracking or due diligence on the path or end-processors of materials.

- *4.1.11 Requirement to Recycle and Compost and Quality Assurance* requires that recycling facilities maximize recycling and minimize residuals.
- *4.3.4.1 Monthly Reports* requires the following in the contractor's monthly reports:
 - A summary of Recyclables quantities, contamination levels and processing residues disposed as Garbage, and notice of any significant changes in market value, if any.
- *6.1 Performance Fees* and *6.2 Contract Default:* disposing of uncontaminated recyclables can be cause for performance fees and contract termination.

Recycle BC: Recycle BC staff travel to end-market processors and verify that they are legitimate recyclers, then maintain a list of approved end-markets. Recycle BC requires that processors "manage products in accordance with the pollution prevention hierarchy", which is as follows:

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- Reduce: producer fees are designed to reduce or eliminate packaging and other materials;
- Redesign: fees encourage redesign by rewarding easier-to-recycle materials;
- Recycle: encourages designing for recyclability, collection, and processing;
- Recover: supports research & development to collect and recycle more;
 - Residues are converted to “engineered fuel products”;
- Residual Management: disposal of materials with no end-markets.

Recycle BC uses the Canadian Stewardship Services Alliance to help with tracking materials, verifying network partners, and other product stewardship needs. Recycle BC gets an independent audit every year and receives an “Independent Assurance Report”. The report assesses availability of recycling services, adherence to the pollution prevention hierarchy, product use and recycling rates, and other program targets. Recycle BC’s annual report and audit is available at:

<http://recyclebc.ca/wp-content/uploads/2019/06/Recycle-BC-2018-Annual-Report-1.pdf>

Palo Alto: executed a new contract in 2019 which establishes reporting, processing, and marketing requirements. Reports must identify final processors. The contract is available online at: <https://www.cityofpaloalto.org/civicax/filebank/documents/68449>.

Provisions relevant to this effort are as follows:

- *Article 6. Processing of Materials for Recovery and Reuse* requires that the MRF has capacity to process the city’s recyclable materials, will process them, will not dispose of any that have value, and will market no less than 92% (by weight) of marketable material. “Contractor will arrange for accurate, complete and timely reports on Tons of Recyclable Materials delivered to GreenWaste MRF, Tons of Recycled Materials marketed and prices received, and Tons of residue disposed...”.
- *Attachment E, Materials Processing*, details MRF processing requirements, measuring and reporting requirements for recovery and residuals, marketing methods, and requires a “Certificate of End Use” from each material purchaser “establishing that the materials sold the prior fiscal year have been, in fact, recycled.”
- *Attachment K-1, Required Reports*, requires that processing facilities report on:
 - Recyclable Materials processing;
 - Tons received from the City at the GreenWaste MRF per Attachment E: A. 1, d.;
 - Tons marketed from the GreenWaste MRF for each material type;
 - Tons disposed from the GreenWaste MRF; and
 - Tons used as ADC by the facility.
- *Attachment K-3, Environmental and Social Impacts of Processing Recyclable Materials*, describes annual reporting to include specific details on all handlers of materials including primary purchasers, intermediate handlers, and the final processors. The

contractor will gather information to assess environmental and human health practices of handlers, and steps may be taken to prohibit materials going to any with verified environmental or social issues. The City has the right to incentivize domestic processors.

Basel Action Network and e-Stewards: The e-Stewards Initiative is an e-waste program started by BAN. It is an accredited, third-party audited certification program for electronics recyclers and refurbishers which ensures strict clean standards for e-waste recyclers. E-Stewards develops and maintains environmental and labor standards for electronics recyclers and can assist in arranging audits of parties to ensure on-going conformance. All parties in an e-waste shipment must agree that the material will be recycled in accordance to established standards or the shipment will not happen. E-Stewards only covers e-waste but can serve as a model for other recyclable materials such as mixed plastic. BAN is currently developing a program for plastics recycling based on their e-waste procedures.

RRTF members may use contracts to require that collected recyclables are handled through a system similar to e-Stewards, or through firms with mutually agreed upon program standards.

Strategies for Tracking Materials

Recycling responsibly means actual recycling of collected materials throughout a recycling process that values human and environmental health. In general, public agencies are choosing one of two approaches to specify and verify proper recycling through the contracting process:

- (1) Rely on the contractor (i.e hauler or MRF operator) to ensure that brokers and processors have proper recycling standards, or
- (2) Rely on a third-party-managed network of processors and end users who are verified and audited for compliance.

Regardless of whether it's the contractor or a third-party certifier, the following information helps assess and rate the recyclables handling process:

- Who the service providers are at each step, including brokers, shippers, processors, and marketers;
- Amounts of recycled vs residuals at all steps; and
- Where processors are located, for example local, regional, domestic, OECD members.

In addition, public agencies and contractors can use reports from credible sources – media, watchdog groups – for news on processors' environmental and human health records.

Developing a network of verified end markets requires substantial effort. RRTF partners may consider options for adopting an established network or adapting some other indicator that points toward proper recycling. Recycle BC's use of OECD standards, combined with its own criteria and end-market audits, is an example. The Basel Action Network and e-Stewards

provides another model system. More research by RRTF partners is needed regarding developing a similar process or adopting processes and lists for use in the Puget Sound area.

Sample Code and Contract Language

This section of the report offers examples of contract language between a city and a waste hauler. This language provides a city with regular reporting on tons collected and recycled, information on the recycling end-markets, and methods for assessing the environmental and social practices of recycling facilities. *Example language is in italics.*

Transportation: the contract should specify where the hauler will deliver collected materials. The following example is on recyclables. Similar sections should cover construction-related material and compostables.

Transportation of Recyclable Materials. Contractor shall transport and deliver all Recyclable Materials collected pursuant to this Agreement to the designated Facility located at

Processing: the contract should specify how collected materials must be handled by the MRF. The following example is on recyclables. Similar sections should cover construction-related material and compostables.

Capacity and Priority Assurances. Contractor shall secure by the Effective Date a written assurance from the owner/operator of the designated MRF that (1) it has the physical capacity to accept and effectively process all Recyclable Materials delivered to the facility from the City in addition to any Recyclable Material which it is currently contractually committed to accept and process; (2) its solid waste facility permit, and all other permits from governmental agencies necessary for it to operate, authorize it to accept and process the Recyclable Materials expected to be delivered from the City in addition to any Recyclable Material which it is currently contractually committed to accept and process; and (3) it has committed, or will commit, to assign Recyclable Materials collected in the City by Contractor and delivered to the facility higher priority in processing and marketing than all similar materials, other than those which are delivered under contracts which the facility owner/operator entered into before the Effective Date.

Processing. Contractor shall assure that all Recyclable Materials delivered to designated MRF are processed (sorted, cleaned and baled) for recycling and/or reuse in accordance with the processing standards as listed in _____.

No Disposal/Residue Limit. Contractor shall ensure that Recyclable Materials it delivers to the designated MRF are not incinerated or disposed of at a landfill, except as provided in the following sentence. Unmarketable materials and residue may be disposed of at a permitted disposal site. Contractor shall make every effort to market all

Recyclable Material delivered to the designated MRF, however, Contractor will not have a responsibility to recycle non-recyclable material, previously Recyclable Materials that have been degraded by food or liquids, or previously Recyclables Materials that have lost a viable market where materials are no longer able to be recycled or if there is not a buyer or broker for the material. Contractor shall inform City of any Recyclable Materials that have lost a viable market and prior to disposal of any Recyclable Materials.

Marketing. *Contractor shall ensure that no less than ninety two percent (92%) by weight of marketable Recyclable Materials delivered to the designated MRF is marketed for Recycling or reuse, such that those materials will qualify as having been diverted under _____ regulations.*

Weighing. *Contractor shall ensure that the owner/operator of the designated MRF operates scales at the facility that are registered with the _____ (proper authority). The scales shall be regularly maintained to ensure their reliability and accuracy. Inspection reports and maintenance records shall be made available for review by City on request. All Recyclable Materials delivered to the MRF will be weighed upon initial delivery. Gross, tare and net weights will be recorded, along with vehicle number, date and time of delivery.*

Reporting. *Contractor will arrange for accurate, complete and timely reports on Tons of Recyclable Materials delivered to designated MRF, Tons of Recycled Materials marketed and prices received, and Tons of residue disposed to be produced by the owner/operator of the facility and furnished to City as provided in (specified reporting format).*

Inspection. *Contractor shall arrange for City to have free access to inspect the designated MRF during business hours.*

The contract should specify general record keeping, reporting, and inspections of the contractor's records:

Record Keeping; Audit. *Contractor shall maintain accurate records of its operations in sufficient detail to allow for accurate determinations of all matters that require periodic determination under this Agreement. These records shall cover (i) personnel, (ii) equipment, (iii) collection operations, (iv) customer service (name, address, service level and changes, special collection details, etc.), (v) recycling operations, (vi) financial transactions, (vii) billings by Contractor for services provided and other matters, in such detail and format necessary to compile the reports required by this Agreement.*

Reporting. *Contractor shall compile and submit complete and accurate reports required by this Agreement, in the format and at the frequencies specified. Reports*

submitted shall contain a statement, signed by the Contractor's representative, that the report is complete and accurate to the representative's knowledge, after due inquiry.

A public agency may choose to include additional supporting documents in a contract. The City of Palo Alto's contract includes several attachments which are described on page (4) of this report.

Code Language:

Contracts generally contain the language with specific material collection, handling, and marketing requirements. Code language is more general, referencing state or regional waste reduction plans. For this reason, this report does not offer specific code samples, but encourages public agencies to become familiar with regional zero-waste plans and, in code, specify that public practices will support those plans. Then use contracts to ensure the actual practices to get the results.

Other Options:

Region-Wide Reduction and Recycling

RecycleBC acts on behalf of numerous local governments to ensure that collected recyclables are recycled properly. RecycleBC uses a region-wide approach to reduce waste in the first place, track recyclable materials, and build and maintain an approved and regularly audited network of recycling partners. See the following for more on RecycleBC's approach:
<https://recyclebc.ca/>.

Structuring an RFP to Guide Recycling

When seeking a new contract, a city can also use the Request for Proposals (RFP) process to incentivize proposers with robust recycling practices and processing chains. An agency would write evaluation criteria that reward or require demonstrated and verifiable legitimate recycling processes. RFP language should state clear and demonstrable standards for maximum recycling and adherence to human and environmental health protections. A proposer would explain how they will recycle to those standards and would be graded based on the strategy.