



CIWMB Commercial Recycling Cost Study Stakeholder Interview Questionnaire

The purpose of this interview questionnaire is to better understand the local and statewide activities, material flows, and other dynamics surrounding commercial recycling activity.

Collection Issues

1. Approximately what percentage of all of your customers and the tons that you collect are serviced through roll-off, compactor, or flat-bed trucks (dedicated equipment) compared to rear-, side- or front end loader vehicles?

	Roll-off, Compactor, Flatbed	Rear-, Side-, or Front- Loader	% of Total
Customers	%	%	100%
Tons	%	%	100%

2. The CIWMB is trying to determine what thresholds would be most effective for requiring businesses to recycle. What solid waste service level threshold (e.g., six cubic yards per week) would capture the majority of customers? Would you be willing to share with us a listing of the number or percentage of your accounts at each level of service?
3. What percentage of the commercial recyclable material (including roll-off, bins, etc.) that you collect is source separated (e.g. OCC, mixed fibers, wood, etc.) versus commingled (e.g. single-stream, mixed C&D)?
4. Is the commingling of recyclable materials by generators more a function of: (check one of the following)
 - Customer convenience,
 - Customer space constraints (no room for extra bins),
 - Collection efficiency (density of customers); or,
 - The volume of source separable materials that are generated?
5. What percentage of your customers are institution-sized generators (i.e. large enough that they bale their own material for market delivery)?
6. How are your operational/financial arrangements different with institution-sized customers? For example, do you: Provide in-building collection service? Make net payments to them for recyclables? Provide/lease a baler to them? Consult with them on maximizing recycling opportunities?



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Processing Issues (PROCESSORS ONLY)

- 7. How much pre-sorting must the generator do (e.g. white ledger, mixed office pack, mixed fibers) to enable you to bypass the sorting/pre-processing stage and deliver the material to your point of sale? Specifically, what materials can you send to market without sorting:

<input type="checkbox"/> White Ledger	<input type="checkbox"/> Mixed Office Paper	<input type="checkbox"/> Mixed Fibers	<input type="checkbox"/> OCC
<input type="checkbox"/> Mixed Glass	<input type="checkbox"/> Color Sorted Glass	<input type="checkbox"/> Mixed Metals	<input type="checkbox"/> Ferrous Mix
<input type="checkbox"/> Non-Ferrous Mix	<input type="checkbox"/> Aluminum	<input type="checkbox"/> Tin	<input type="checkbox"/> Copper
<input type="checkbox"/> Mixed Plastics	<input type="checkbox"/> Resin Separated	<input type="checkbox"/> Mixed #3-7	<input type="checkbox"/> Other?

- 8. What percentage of the recyclables tons that you process are run through sorting/pre-processing before being brought to your point of sale?

- 9. Without adding capital costs but using operational changes only (e.g., adding shifts, running on weekends, etc.) how much could you increase your annual processed tons (e.g., 25%, 50%, 75%, 100%, etc.)?

- 10. How much does your cost per ton processed decrease as the composition of material from a generator is more separated (e.g. single stream, to mixed fibers, to mixed office paper)? (check one of the following):

<input type="checkbox"/> Substantial Savings	<input type="checkbox"/> Some Savings, Not Significant	<input type="checkbox"/> No Real Savings
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Marketing/Brokering Issues

- 11. Do you broker your own materials or use a third party?

- 12. Do you maintain separate brokering relationships for different material types or one broker for all?

- 13. If you use third party broker(s), how are they compensated (e.g. commissions, flat fees, etc.) for the transaction?

- 14. Which materials do you consistently sell to domestic markets? Generally, who are the domestic buyers?

- 15. Which materials do you consistently sell to export markets?



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16. Which materials frequently shift between domestic and export buyers? Is the shift a function of price, demand or both?

17. What portion of the transportation cost of your materials (to the U.S. port, to the foreign port, to the foreign refiner) do you pay and what portion does the broker pay?

18. We have a number of questions regarding supply and demand for these materials. Would you be willing to put us in contact with your broker?

County: _____

Note: The information on this form will be kept confidential

Please use 2008 information when inputting survey data

Material Type/ Vehicle Type	Solid Waste/ FEL	Recyclables/ FEL	Solid Waste/ Debris Box	Solid Waste/ Roll-Off Compactor	Any Material/ Flat Bed	Overall % of Total Cost
Annual Cost Per Route						
Labor-Related Costs						
Fuel Costs						
Repairs & Maintenance						
Direct Depreciation						
Overhead Costs						
Other Costs (please list)						
Total Annual Cost Per Route						
Statistics						
Avg. Payroll Hours per Week per Route						
Avg. Lifts/Pulls per Week per Route						
Avg. Tons per Load direct hauled to Disposal/Processing Site						
Avg. Loads per Week per Route						
Solid Waste Disposal Rate (per ton)						
Avg. Annual Tons per Route						

Collection Cost per Ton

Material Type	Mixed C&D	Single/Dual Stream	Dirty MRF	Mixed Fibers	Compost	Source Separated	Overall % of Total Cost
Processing Cost Per Ton							
Labor-Related Costs							
Energy Costs							
Repairs & Maintenance							
Direct Depreciation							
Overhead Costs							
Other Costs (please list)							
Total Processing Cost per Ton							
Statistics							
Avg. Number of Active Shifts per Day @ MRF							
Number of Sort Personnel (on the sort line at a time)							
Avg. Maintenance Hours per Day							
Avg. Tons per Hour							
Residue Levels (% of Tons Processed)							
Material Composition							

See 'Percentage of Material Composition' table

Percentage of Material Composition	Mixed C&D	Single Stream	Dirty MRF	Mixed Fibers
Paper				
Cardboard				
Metals				
Lumber / Wood Waste				
Yardwaste				
Foodwaste				
Mixed Plastics				
Industrial Plastics				
Glass				
Inerts				
Residue				
Total Composition				

Material Type	Mixed C&D	Single/Dual Stream	Dirty MRF	Mixed Plastics	Lumber / Wood Waste	Yardwaste	Foodwaste	Glass	Industrial Plastics	Cardboard	Inerts	Metals	Paper	Overall % of Total Cost
Transportation Cost Per Load to Market														
Labor-Related Costs														
Fuel Costs														
Repairs & Maintenance														
Direct Depreciation														
Overhead Costs														
Avg. Third Party Freight Costs per Load														
Other Costs (please list)														
Total Transportation Cost Per Load														
Statistics - By Material Type														
Avg. Miles per Vehicle per Year														
Avg. Miles to Market														
Avg. Tons per Load														
Transport Method (Sea Container, Flat bed, End Dump, etc.)														
Transportation Cost per Ton														



GLOSSARY OF TERMS

COST INFORMATION

Labor Related Costs – Identify the average annual labor cost per route, ton or load (i.e. annual labor cost divided by number of routes, tons, or loads), including the following categories: regular, overtime, holiday, vacation, and sick leave wages, workers compensation premiums and claims, health & welfare benefits, and pension/retirement benefits. (Note: this list is not comprehensive; please include any other labor related costs that apply.)

Fuel Costs – Identify the average annual fuel cost per route, ton or load (i.e. annual fuel cost to operate vehicles divided by number of routes, tons or loads).

Repairs & Maintenance – Identify the average annual cost per route, ton or load for repairs and maintenance of containers and route vehicles (i.e. annual vehicle and container shop costs divided by number of routes, tons, or loads). (Note: this list is not comprehensive; please include any other repairs & maintenance costs that apply).

Direct Depreciation – Identify the average annual cost per route, ton or load of depreciating containers and route vehicle (i.e. annual depreciation of containers and route vehicles divided by routes, tons, or loads). (Note: this list is not comprehensive; please include any other depreciation costs that apply).

Overhead Costs – Identify the average annual cost per route, ton or load for profit, general & administrative, vehicle maintenance & operation management, and container maintenance & delivery that are not route, ton or load specific (i.e. allocated overhead divided by routes, tons or loads).

Other Costs – Identify other annual costs per route, ton or load not accounted for in labor related costs, fuel costs, repairs & maintenance, direct depreciation, or overhead costs.

COLLECTION INFORMATION

FEL – Front End Loader Truck

Average Payroll Hours per Week per Route – Identify the average number of hours per week each route will take to complete (i.e. total route personnel labor hours divided by total weekly routes), including collection time and hauling time to transfer station, landfill or processing site.

Average Lifts/Pulls per Week per Route – Identify the average number of lifts for Front End Loader trucks, and pulls for Debris Box, Compactor and Flat Bed trucks, per week, per route.

Average Tons per Load– Identify the number of tons each collection vehicle in each category can accommodate.

Average Loads per Week per Route – Identify the average loads per week per route for collection routes only (do not include container delivery routes, cleanup routes, missed pickup routes, etc.).

Solid Waste Disposal Rate – Please provide as \$ / ton for solid waste disposal. If this is an intercompany transfer fee, please provide an estimated market rate for solid waste disposal.



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Average Annual Tons per Route – Identify the average tons per week per route for collection routes only (do not include container delivery routes, cleanup routes, missed pickup routes etc.)

Collection Cost per Ton – Should equal Total Annual Cost per Route divided by Average Annual Tons per Route. (Note: both components are calculated from the information provided above.)

PROCESSING INFORMATION

Average Number of Active Shifts per Day - Identify the average number of daily shifts for the processing facility.

Number of Sort Personnel-- Identify the number of people manually sorting materials at the processing facility.

Average Maintenance Hours per Day – Identify the average number of hours per day the processing line is shut down for maintenance purposes.

Average Tons per Hour – Identify the average number of tons processed per hour for sorted materials.

Residue Levels – Identify the percentage of solid waste residue comingled within each of the material types.

Material Composition – Using the ‘Percentage of Material Composition’ table, Identify the percentage of each of the 11 material types that is found in the following waste stream types: single stream, mixed c&d, dirty material recovery facility and mixed fibers. (Please refer to the categories of material types and processing types below for further explanation.)

Mixed C&D – A combination of the following materials source separated from construction and demolition projects: wood, drywall, scrap metals, brick, metal, concrete and/or concrete combinations, asphalt paving, asphalt roofing, gypsum board, rock, soil, fines, and other salvageable items.

Single Stream – One collection container is utilized for all paper, glass, metal and plastic recyclables and sorted at the MRF.

Dirty MRF – Processing facilities with solid waste and recyclables in the same processing stream.

Mixed Fibers – Refers to a combination of various paper grades, that includes, but is not limited to, cardboard, newspaper, magazines, mixed paper, office paper, textbooks and textiles.

Aluminum – Refers to small/large CRV aluminum cans, and non-CRV aluminum cans.

Paper -- Refers to Uncoated Corrugated Cardboard (which includes shipping/moving boxes, computer packaging cartons and scrap), paper bags, newspaper, office paper (which includes white ledger, colored ledger, computer paper, envelopes, notebook paper, carbonless paper, and junk mail), magazines/third-class mail, remainder/composite paper (which includes wax, plastic, glues, foil, food and moisture combined with paper), and phone books.



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Cardboard – Refers to shipping/moving boxes, computer packaging cartons, and sheets and pieces of boxes or cartons.

Metals – Refers to tin cans, steel cans, and small/large CRV Bimetal cans.

Lumber / Wood Waste – Refers to assorted branches and tree limbs, wood scrap from construction and demolition sources, wood packaging and crates, or wood that has been pressure treated with preservatives.

Yardwaste – Refers to leaves, grass, prunings, plant trimmings, branches, tree stumps and agricultural crop residues.

Foodwaste – Refers to waste composed of raw or cooked food materials. It includes both food materials discarded during before or during food preparation, such as vegetable peelings, meat trimmings, and spoiled or excess ingredients, and those discarded after food preparation, including excess or spoiled food.

Mixed Plastics – Refers to the following categories: rigid plastic packaging containers, miscellaneous plastic containers, plastic trash bags, plastic grocery & other merchandise bags, non-bag commercial & industrial packaging film, film products, other film and durable plastic items.

Industrial Plastics – Refers to paint buckets, commercial buckets used to contain food for commercial use, non-bag commercial & industrial packaging film (which includes shrink-wrap, mattress bags, furniture wrap, and film bubble wrap), film products, other film and durable plastic items.

Glass – Small/large CRV bottles and containers (clear, brown, green, and other colored glass), small/large non-CRV bottles and containers (clear, brown, green, and other colored glass)

Inerts – Refers to an aggregation of concrete, asphalt, rock, soil, stones, sand, clay, and other fines.

Residue – Refers to non-recyclable material residue that cannot be further sorted from a material recovery facility and cannot be put in any of the previous material types.

TRANSPORTATION INFORMATION

Average Miles per Vehicle per year – Identify the average miles driven per transport vehicle per year by each of the 12 commodity categories.



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Average Miles to Market – Identify the averages miles (one-way) to port or domestic market for sale of each of the 12 commodity categories.

Average Tons per Load – Identify the average tons per load transferred to market for sale for each of the 12 commodity categories.

Average Third Party Freight Costs per Load – Identify the average annual third party freight costs to transport materials to market

Transport method – Identify the mode of transportation as Flatbed, Transfer Trailer, Shipping Container, or other transport method not listed here.

Transportation Cost per Ton – Should equal Total Transportation Cost per Load divided by Average Tons per Load. (Note: both components are calculated from the information provided above.)