



Interim Report

Waste Characterization Study

Results of First Round of Sampling

Solid Waste Management Advisory Committee
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Purpose of Study

Waste Characterization Study

- To estimate the composition of disposed MSW from Residential and Industrial/Commercial/Institutional (ICI) sources to help guide CTDEP to boost the disposal diversion rate currently estimated at 30% up to a rate of 58%.
- Executed in two seasons with waste sampling activities occurring at five in-state solid waste facilities throughout CT.
- Interim Report presents the results of the first round of sampling and analysis.



Study Design

- **CTDEP selected five facilities for sampling:**
 1. Bristol Resource Recovery Facility
 2. CRRA Mid-CT Project (Hartford)
 3. CRRA Southeast Project (Preston)
 4. Wheelabrator Bridgeport Resource Recovery Facility
 5. New Haven Transfer Station



Definitions of Waste Sectors

- **Residential.** Waste brought to CTDEP facilities in which 80% or more is from single-family and/or multifamily residential sources. Vehicles chosen for sampling in the Residential waste sector included Residential Transfer Trucks as well as Packer Trucks.
- **Institutional/Commercial/Industrial (ICI).** Waste brought to CTDEP facilities in which 80% or more is from institutional, commercial, or industrial sources. Vehicles chosen sampling will include Compacted Dropboxes and Packer Trucks.
- **Unacceptable Loads.** Loads that contain less than 80% or either residential or ICI waste, and loads originating from outside of Connecticut.



Consultants

- **Contractors:**
 - **DSM Environmental Services, Inc.**
 - **Mid-Atlantic Solid Waste Consultants**
 - **Cascadia Consulting Group, Inc.**



Logistics

- The Project Team worked with the facilities to collect the following logistical information to develop the sampling plan:
 1. Facility's contact information
 2. Facility's days/hours of operation
 3. Daily vehicle expected traffic for each sector, and estimated peak time of day
 4. Identify recycling or recovery operations
 5. Unusual conditions that might affect data collection
 6. Procedure used to determine the net weight of vehicles
 7. Facility's ability to provide assistance

Surveying and Sampling Dates

Facility	Dates
Bristol RRF	02/25 – 02/27/2009
Wheelabrator Bridgeport RRF	02/27 – 03/03/2009
New Haven Transfer Station	03/03 – 03/05/2009
CRRA Southeast Project (Preston)	03/05 – 03/09/2009
CRRA Mid-CT Project (Hartford)	03/09 – 03/11/2009



Allocation of Residential and ICI MSW

- Key element of the Study is to define what percent of waste delivered to CT disposal facilities is Residential and Commercial MSW.
- The Residential percentage vs. Commercial will be used to allocate statewide tonnage which in turn will be multiplied by the waste composition to estimate total quantities of each waste type.



Survey Methodology

- DSM conducted hauler surveys during one of the three days that MSW Consultants was carrying out the waste sort.
- The following information was recorded for each truck surveyed: location, date, truck type, time of day, truck number, net weight of waste and commercial or residential.
- The drivers were first asked to identify the load as either commercial or residential. Second, they were asked to determine whether the entire load was either residential/commercial or whether some portion was from a different type of waste.



Results of Hauler Surveys

- A total of 473 solid waste trucks were surveyed over a two week period at five locations. Five different truck types were observed during the surveys.
- Based on surveys conducted during the first round of sampling, DSM recommends a state-wide allocation of 60 percent residential and 40 percent commercial.

Statewide Waste Composition Findings

Facility	Residential		ICI		Actual Totals	Planned Totals
	Residential Transfer	Packer Loads	Compacted Dropboxes	Packer Loads		
Bristol RRF	5	7	3	9	24	24
Wheelabrator Bridgeport	2	10	4	8	24	24
New Haven TS	0	12	7	5	24	24
CRRA Southeast	3	9	6	5	23	24
CRRA Mid-CT	3	3	3	25	34	24
Actual Totals	13	41	23	52	129	120
Planned Totals	13	32	20	55	120	

Overall Statewide Waste Composition, Season One

129 Samples were characterized to calculate the statewide waste composition results for the first season: 54 residential and 75 ICI.

CONNECTICUT STATEWIDE			
Material	Estimated Percent		
	Overall Waste	Residential Waste	ICI Waste
Paper	30.7	30.9	30.5
Plastic	15.1	14.3	16.4
Metal	4.1	4.7	3.2
Glass	2.7	3.4	1.6
Organics	22.5	24.6	19.3
Construction & Demolition	12	9.3	16
Household Hazardous Waste (HHW)	0.8	0.5	1.4
Electronics	2.3	2.1	2.7
Other Waste	9.7	10.4	8.8

Waste Composition By Facility, Season One

BRISTOL RRF			
Material	Estimated Percent		
	Overall Waste	Residential Waste	ICI Waste
Paper	31.4	31.7	30.5
Plastic	14.9	15.1	14.4
Metal	4.9	5.4	3.2
Glass	3.9	5.0	0.5
Organics	21.7	22.9	17.7
Construction & Demolition	11.2	8.5	20.3
Household Hazardous Waste (HHW)	1.0	1.1	0.6
Electronics	1.3	1.2	1.6
Other Waste	9.6	9.2	11.2

Waste Composition

By Facility, Season One (continued)

WHEELABRATOR BRIDGEPORT			
Material	Estimated Percent		
	Overall Waste	Residential Waste	ICI Waste
Paper	30.7	30.9	30.3
Plastic	14.6	14.2	15.4
Metal	5.3	5.4	4.9
Glass	4.0	5.8	0.7
Organics	24.5	26.7	20.4
Construction & Demolition	8.3	4.3	15.6
Household Hazardous Waste (HHW)	0.6	0.5	0.8
Electronics	3.3	2.3	5.3
Other Waste	8.8	10	6.6

Waste Composition

By Facility, Season One (continued)

NEW HAVEN TRANSFER STATION			
Material	Estimated Percent		
	Overall Waste	Residential Waste	ICI Waste
Paper	29.4	27.1	32.4
Plastic	14.5	15.3	13.5
Metal	4.2	3.9	4.6
Glass	2.6	2.7	2.6
Organics	24.1	26.6	20.9
Construction & Demolition	11.1	6.9	16.6
Household Hazardous Waste (HHW)	0.4	0.4	0.5
Electronics	1.8	2.1	1.3
Other Waste	11.8	15.1	7.6

Waste Composition By Facility, Season One (continued)

CRRRA SOUTHEAST PROJECT (PRESTON)			
Material	Estimated Percent		
	Overall Waste	Residential Waste	ICI Waste
Paper	27.7	23.6	32.6
Plastic	15.3	13.0	18.1
Metal	4.8	6.7	2.6
Glass	1.9	2.2	1.6
Organics	25.6	24.9	26.4
Construction & Demolition	10.9	12.8	8.6
Household Hazardous Waste (HHW)	1.0	0.2	1.9
Electronics	1.9	1.9	2.0
Other Waste	10.9	14.7	6.2

Waste Composition By Facility, Season One (continued)

CRRRA MID-CT PROJECT (HARTFORD)			
Material	Estimated Percent		
	Overall Waste	Residential Waste	ICI Waste
Paper	32.6	35.5	29.1
Plastic	15.6	14.4	17
Metal	2.6	2.8	2.3
Glass	1.8	1.5	2.2
Organics	19.2	23.2	14.6
Construction & Demolition	15.5	12.1	19.6
Household Hazardous Waste (HHW)	1.0	0.3	1.8
Electronics	2.3	2.4	2.2
Other Waste	9.3	7.7	11.2



Preparations for Next Round Sampling

- During the Summer 2009, additional surveying of trucks at five facilities will be conducted to finalize the allocation between residential and ICI waste at each facility. The results will be used to refine the allocation of samples at each facility between residential and ICI.
- The second round of sampling will occur late in the fall with the final data presented as percentages, and, statewide, in tonnages.

Website

- State-wide Waste Composition and Characterization Study:
 - Summary Study, Request for Proposal (RFP), Approval Final Study Design

http://www.ct.gov/dep/cwp/view.asp?a=2718&q=439264&depNav_GID=1639

Questions