



**SOLID WASTE
MANAGEMENT
CONSULTANTS**

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Waste Characterization Studies

Overview

Waste characterization studies performed by GBB provide quality data and analysis regarding the quantity and composition of residential, institutional, and commercial waste streams. Characterization studies have become the foundation for long-term strategic planning and design of effective and efficient integrated materials management systems and are also used to monitor the effectiveness of recycling / solid waste management programs.

With the waste stream affected by -- and changing based on -- a multitude of factors that include demographics, seasonal weather patterns, consumption patterns and the strength the economy, communities gain insightful and actionable information by conducting residential waste sorts to address questions such as:

- *How can we set up a recycling program without knowing how many types of recyclables are in the residential waste stream?*
- *How can we understand how effective our recycling program is without knowing how many recyclables are still in the trash?*
- *How much non-recyclable materials are going into our recycling carts and becoming part of the residue stream at my MRF?*
- *What areas of the community are doing a good job regarding quantity and quality with their recycling set-outs, and should we be spending more educational funds on certain less-participatory sections of the city to improve their recycling rates?*
- *How much food waste and other organics are put into the waste stream?*
- *What is the average moisture content, heating value, and amount of non-burnables in the waste stream?*

With its wide range of capabilities and a focus on solid waste management issues, GBB offers more than simply performing waste sorts and reporting on them. Waste characterization studies are strategically designed, planned, and executed based on each client's budget and objectives. GBB's wide range of value-added services, stemming from our extensive resources and complementary expertise, allow to integrate waste characterization studies into wide-ranging projects.

Methodology

GBB waste composition studies are customized for the client's specific needs with a focus on thoughtful design and practical cost to determine:

- The methodology to use – GBB determines the appropriate methodology to use, ranging from American Society for Testing and Materials (ASTM) standards to other statistically valid methodologies
- The number of sorts to perform - GBB has conducted one-season, two-season, and even four-season sorts
- The materials to sort – The most effective number of categories of material to sort considering budget restrictions and data needs

GBB Project Teams generate meaningful data that shows and provide understanding of, among others:

- How material will act in processing facility?
- If the community is properly educated on source separation practices?
- Where waste material is generated?

- The quantity of waste material that is transported out of the region for processing and disposal?
- How much material may be generated in the future?
- The material's market value?
- The renewable energy content of the materials if processed by an advanced conversion technology?
- Which technology can best process the material?

Ultimately, GBB's value-added analysis, conclusions and recommendations provide clients with the insight needed to reduce waste, implement strategic initiatives and improve materials management systems, to:

- Project future waste generation
- Achieve zero waste or waste diversion goals
- Reduce MRF contamination and residue rates
- Decrease transportation and disposal costs
- Extend landfill life
- Divert food and organic waste from the garbage stream
- Identify communities that do well at recycling and source separating materials
- Quantify recyclable materials in the waste stream
- Calculate the renewable energy content of the waste stream
- Design public education and outreach campaign to increase system-wide operational efficiencies



Past Performance

GBB has performed over 45 waste characterization studies over the years – often as part of long-term strategic planning projects -- for clients ranging from public- to private-sector organizations, to trade associations and councils. Sample clients include:



Thought Leadership

GBB consultants author and present often on this topic. Recent articles and presentations include:

- [Characterization Study Based Diversion: Where Does 50% Diversion Come From? What About 90%?](#), Brad Kelley, presented at WASTECON, Dallas, TX (October 2024).
- [Characterizing Organics](#), Chris Lund and Brad Kelley, published in Waste Today (September 2021).
- [Airports: The Next Waste Diversion Frontier](#), Chris Lund, published in Waste Today Magazine (October 2018).
- [How does a Waste Characterization Study help with Future Planning?](#), Brad Kelley, panel discussion at WASTECON / International Solid Waste Association's World Congress, Baltimore, MD (September 2017).
- [Are You Considering a Waste Composition Study? ... Why and for What?](#), Bob Brickner, published in MSW Management Magazine (May 2016).
- [Does Size Matter? What Your Material Composition May Not Be Telling You](#), Brad Kelley, published in Waste Advantage Magazine (November 2014).