

WASTE HAULER

HOUSEHOLD 1

WASTE HAULER

Description of Actor: Hired by the City Waste Department on contract to collect recyclables.

Role in system: Following instructions provided by the City Waste Department, the **Hauler picks up recyclables from Households, brings them to the Recycling Sorting Center**, and returns to the City any payments (or bills) received from the Sorting Center.

Motivation: Wants a well-functioning system, wants to run a profitable business and maintain contract with the City.

HOUSEHOLD 1

Description of Actor: Typical Household living in the city

Role in system: Members of the household purchase consumer goods from the Retail Store, use the goods, and dispose of resulting waste in trash bins, recycling bins, or both, **for Haulers to pick up**.

Motivation: Values a clean and healthy environment and wants to send as little waste as possible to the Landfill. When in doubt about whether or not something can be recycled, prefers to recycle it “just to be sure” to keep it out of Landfill.

**CITY WASTE
DEPARTMENT**

HOUSEHOLD 2

CITY WASTE DEPARTMENT

Description of Actor: Local government authority in charge of managing waste collection and recycling policy and services for the City.

Role in system: Establishes rules regarding materials that can be recycled, creates information campaigns (brochures, mailings, etc.) educating households about recycling, **hires waste collection companies** to collect trash and recyclables from households and deliver them to the Landfill and/or the Recycling Sorting Center.

Motivation: Wants a well-functioning system and wants to generate revenue for the City.

HOUSEHOLD 2

Description of Actor: Typical Household living in the city

Role in system: Members of the household **purchase consumer goods** from the Retail Store, use the goods, and dispose of resulting waste in trash bins, recycling bins, or both, for Haulers to pick up.

Motivation: Values convenience, time saving, and simplicity in managing the home. Prefers to put all waste into one bin in the kitchen and when it doubt about whether or not something can be recycled, puts it in the trash.

LANDFILL

**RECYCLING SORTING
CENTER**

LANDFILL

Description of Actor: Private business which operates a landfill.

Role in system: Receives garbage directly from the Waste Haulers and **from the Recycling Sorting Center**. Maintains the landfill, ensures that the landfill has enough space to receive trash, and charges users to deposit trash.

Motivation: Maximizing profitability of the business.

RECYCLING SORTING CENTER

Description of Actor: Private business which cleans and sorts recyclables.

Role in system: The Sorting Center **receives recyclable materials from Haulers**, sorts them into different classes of materials, separates any non-recyclables (and **sends these to Landfill**) and bales sorted recyclables into packages **to sell Processing Plants A and B**, who are looking to buy recyclables.

Motivation: Wants to operate a profitable business and wants to keep a steady volume of recyclables flowing in and out of the center (e.g. at any given time, wants to maintain an inventory of around 50% of available space in the center).

PROCESSING PLANT A

(Recycled metal and glass)

PROCESSING PLANT B

(Recycled plastic and paper)

PROCESSING PLANT A

Description of Actor: A private business that buys and breaks down and transforms recyclables materials into other materials which can serve as inputs for manufacturing processes.

Role in system: Buys glass and metal scrap from the **Recycling Sorting Center** and processes it into recycled sheet materials that it **sells to Manufacturer A.**

Motivation: Wants to buy recyclables that are clean and suitable for transformation into other products. Wants to operate a profitable business.

PROCESSING PLANT B

Description of Actor: A private business that buys and breaks down and transforms recyclables materials into other materials which can serve as inputs for manufacturing processes.

Role in system: This plant buys plastic and paper scrap from the **Recycling Sorting Center** and processes it into plastic pellets and paper pulp that it sells to **Manufacturer A.**

Motivation: Wants to buy recyclables that are clean and suitable for transformation into other products. Wants to operate a profitable business.



MANUFACTURER



RETAIL STORE

MANUFACTURER

Description of Actor: A plant which uses recycled raw materials as inputs to manufacture a variety of consumer goods such as: plastic jugs and water bottles, cardboard boxes, and printing paper.

Role in system: Buys recycled materials from Processing Plants A and B and sells finished consumer goods to the Retail Store.

Motivation: Wants to make a profit and keep inventory low.

RETAIL STORE

Description of Actor: A large, multi-purpose retail store which sells a variety of consumer products made both with recycled and new materials.

Role in system: Buys finished consumer products from Manufacturers and sells them to consumers through their retail store.

Motivation: Wants to sell as much volume of consumer goods as possible. Pays close attention to what consumers prefer and stocks (and purchases) more of those items, compared to items consumers don't buy as much.