



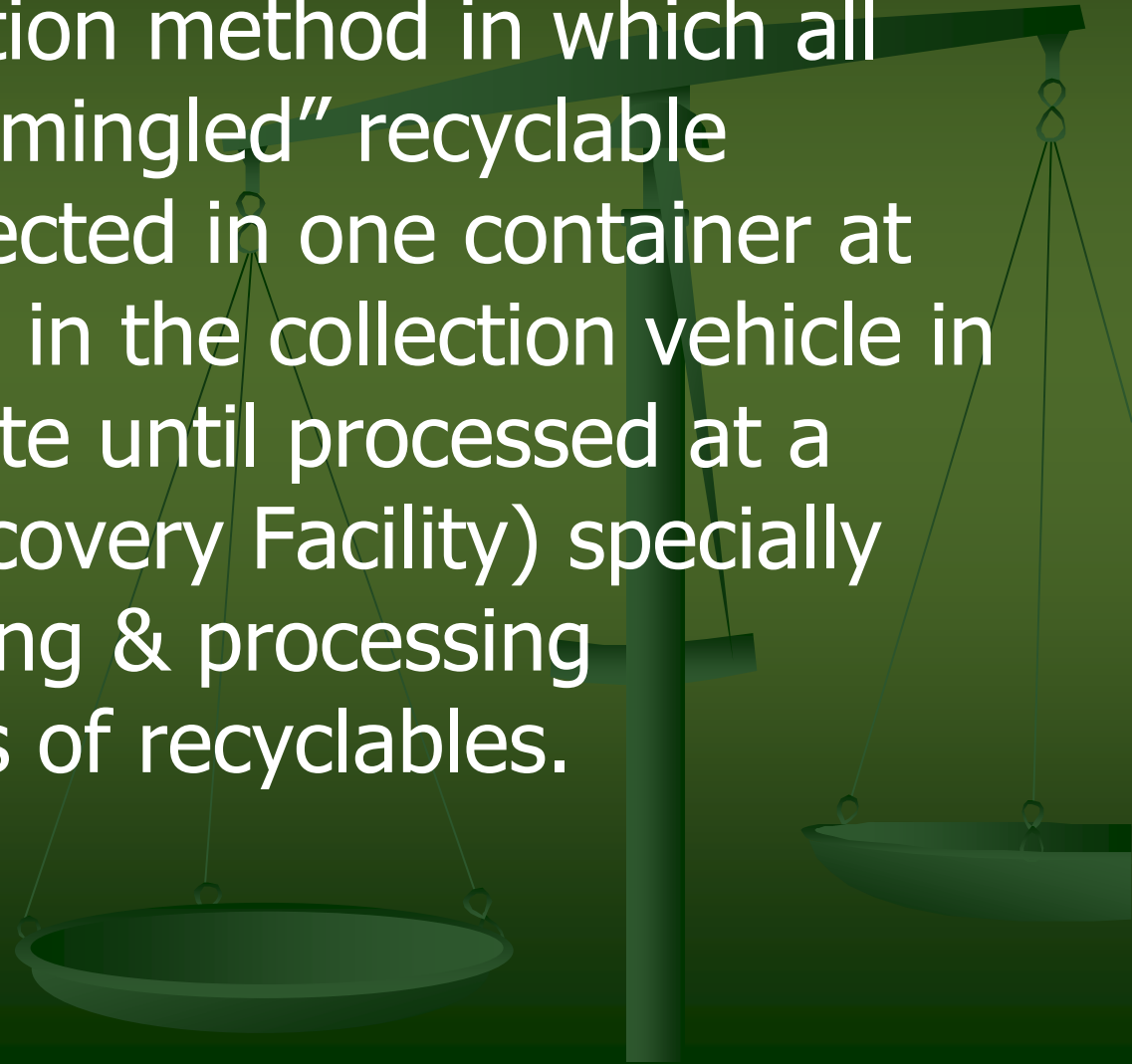
# Single Stream Recycling

What Questions Should You Be Asking?



# Single Stream Recycling (SS)

A recycling collection method in which all unsorted or "Commingled" recyclable materials are collected in one container at the curb & placed in the collection vehicle in a commingled state until processed at a MRF (Material Recovery Facility) specially designed for sorting & processing commingled loads of recyclables.





# Single Sort Recycling Advantages & Disadvantages

## Advantages

- Collection Cost Savings
- Customer Convenience – ease in home and at curb
- Potential Increased Customer Participation
- Potential Gross increase in Materials Collected
- Potentially Higher Diversion Rates
- Reduced Worker Compensation Claims
- Potential for Adding More Material Types
- Shorter Stops and Every-Other Week Collection – Less Wear and Tear and Fuel Savings
- Fuel Savings
- Competitive Advantage for Providers Offering this Service (Marketable Service)
- Less Litter

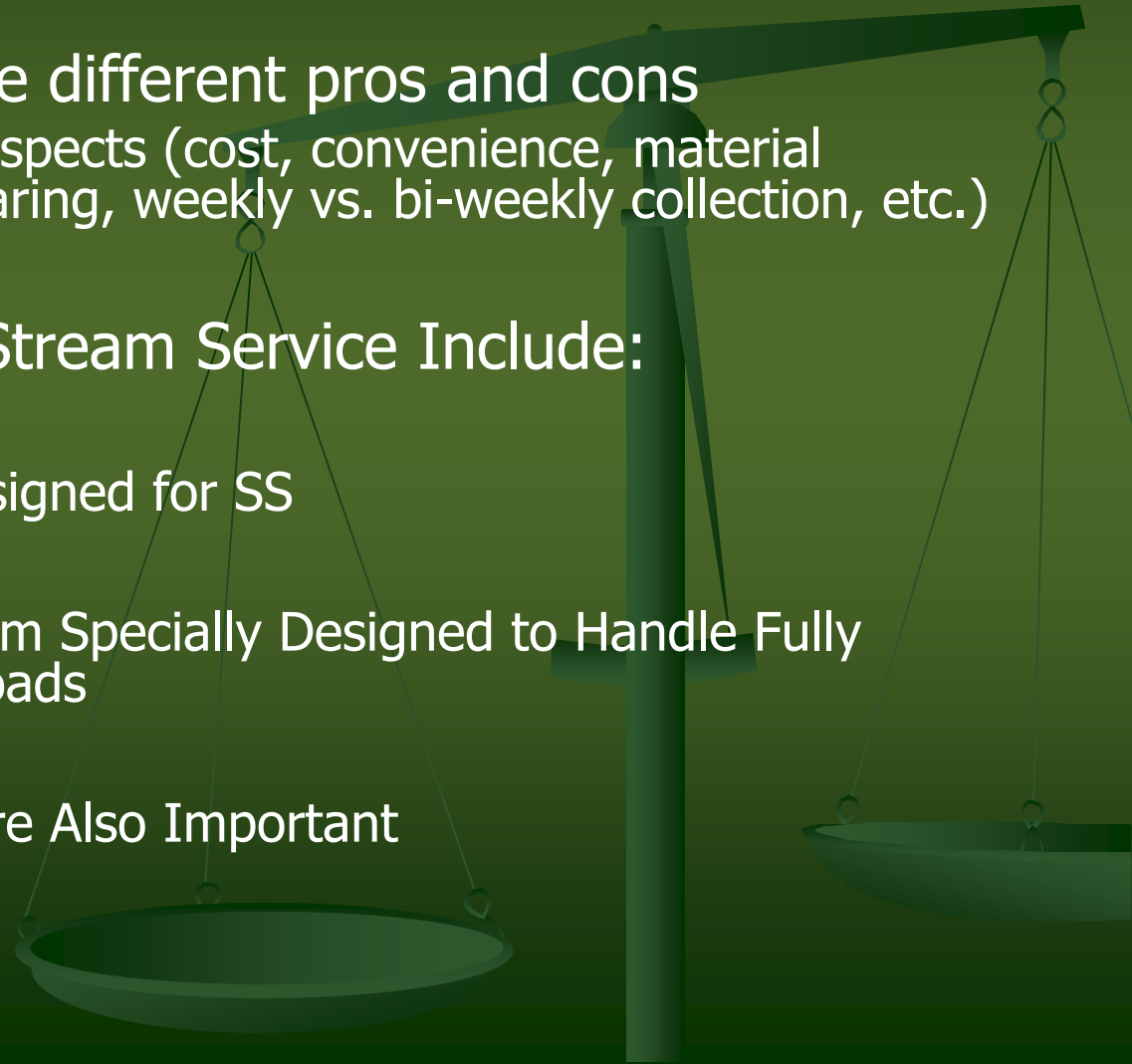
## Disadvantages

- Initial Capital Costs for:
  - New Carts,
  - Different Collection Vehicles,
  - Processing Facility Equipment
  - Education of Residents;
- Processing and Overall Contract Costs may Increase
- Potential Reduced Commodity Prices from Contamination
- Increased “downcycling” of paper
- Increased Residual Rates
- Potential for Less Net Material Recovery
- Can Lead to Public Confusion – Blurring the Lines Between Garbage & Recycling
- Competitive Disadvantage for Small Haulers Unable to Offer Single Sort
- Difficult to Go Back
- Potential Reduced Personal Commitment to Recycling



# Compare Different Approaches

- Different systems have different pros and cons
  - Need to consider all aspects (cost, convenience, material recovery, revenue sharing, weekly vs. bi-weekly collection, etc.)
- Necessities of Single Stream Service Include:
  - Collection System Designed for SS
  - MRF Processing System Specially Designed to Handle Fully Commingled Mixed Loads
  - Economies of Scale are Also Important





# Material Problems?

- Manufacturers report problems created by poor quality materials being shipped to their mills\*
- Residents may place inappropriate and contaminated materials in their recycling carts that are difficult to sort out at the MRF
- Processors attempt to process volumes far beyond their facility's capacity
- Processors may not have sorting lines that are designed to handle the materials they receive, or employ too few workers to produce high quality materials – New vs. Retrofitted Facilities
- Residual Recyclables from any system end up being landfilled in most cases

# MPCA Study on Collection

- Goal to understand impacts to residents, haulers, MRF's and end-markets
  - Focused on MRF and end-market impacts
  - Majority of end-markets have seen impacts on quality in past 5 years (some quantity reductions)
  - Variety of contaminants: glass, plastic, etc.
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# End-Market Questions & Answers

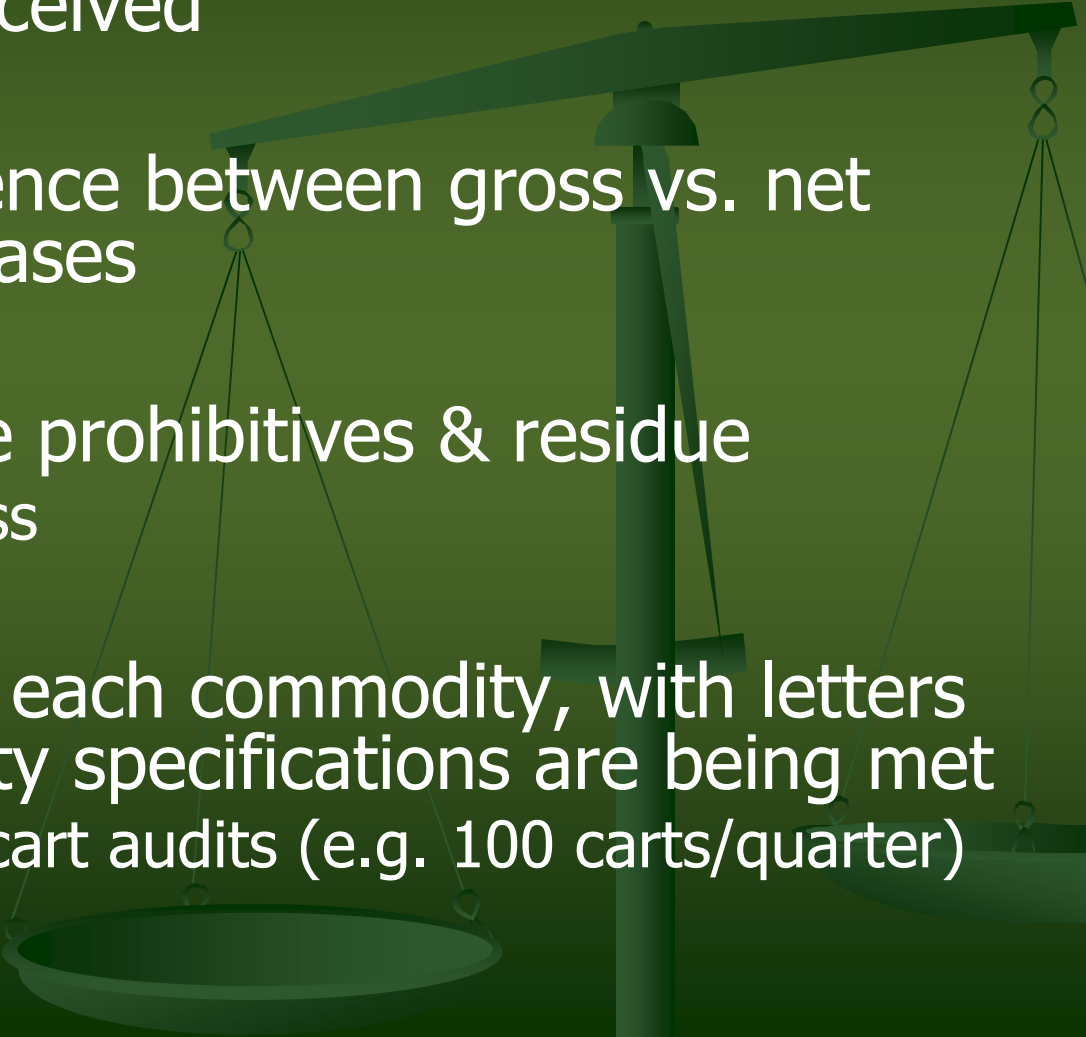
- ❖ End markets are seeing more contamination over the last five years; glass a drop in quantity received
  - ❖ Optical sorting a potential solution
- ❖ Both single and dual stream showing some level of contamination but education important either way
- ❖ What types of contaminants are the most problematic for your operation?
  - ❖ Paper Mills
    - Plastic bags/film, glass, plastic-coated paper, other paper grades
  - ❖ Glass Recycler
    - Ceramics, pottery, Pyrex, mixed glass
  - ❖ Plastics Recyclers
    - Other plastic grades, metal, glass

# How to Avoid Failure...






# Reporting Requirements are Critical

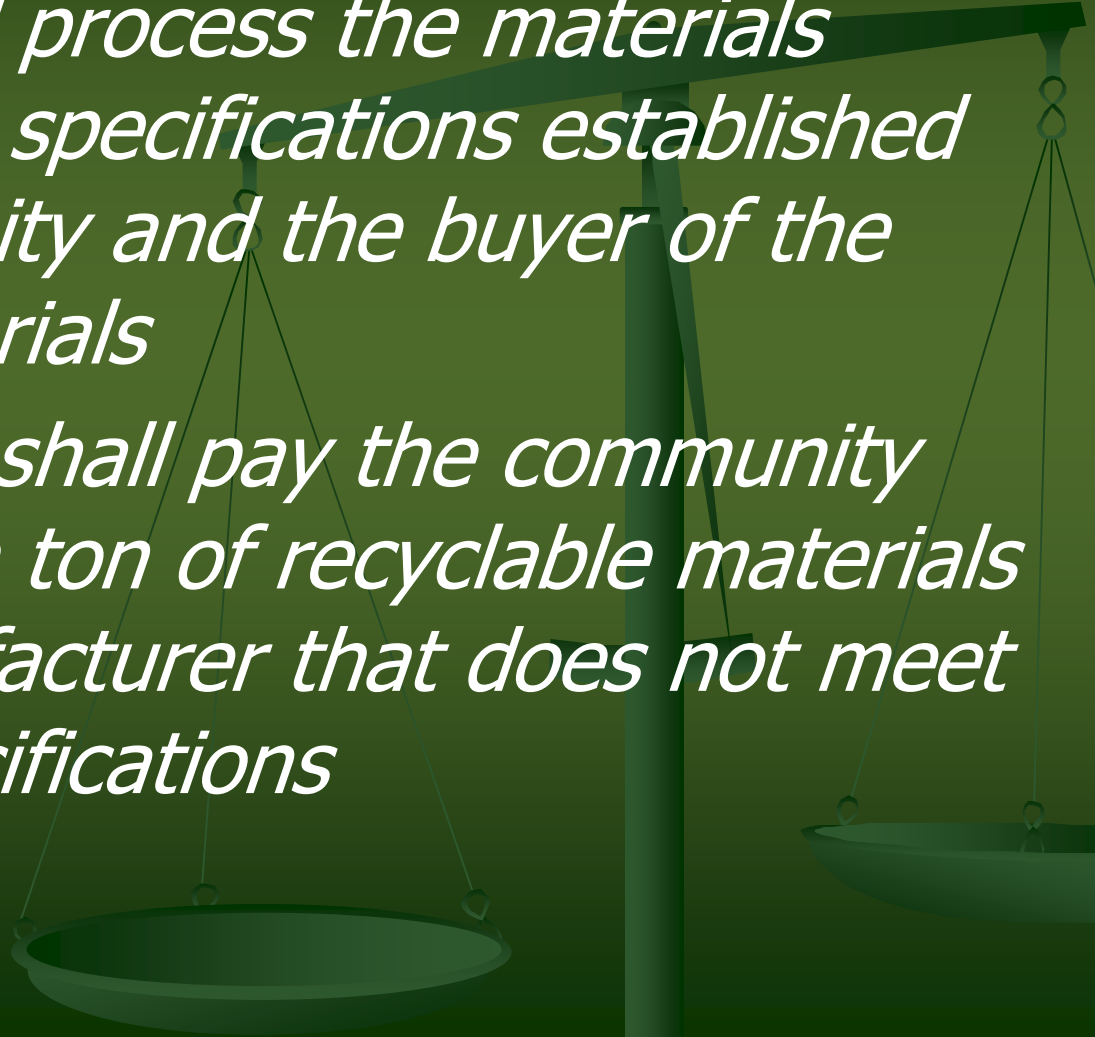
- Number of tons received
  - Understand difference between gross vs. net increases or decreases
  - Composition of the prohibitives & residue
    - Consider Your Glass
  - Market reports for each commodity, with letters stating if the quality specifications are being met
    - Consider periodic cart audits (e.g. 100 carts/quarter)
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# Contracting for Services

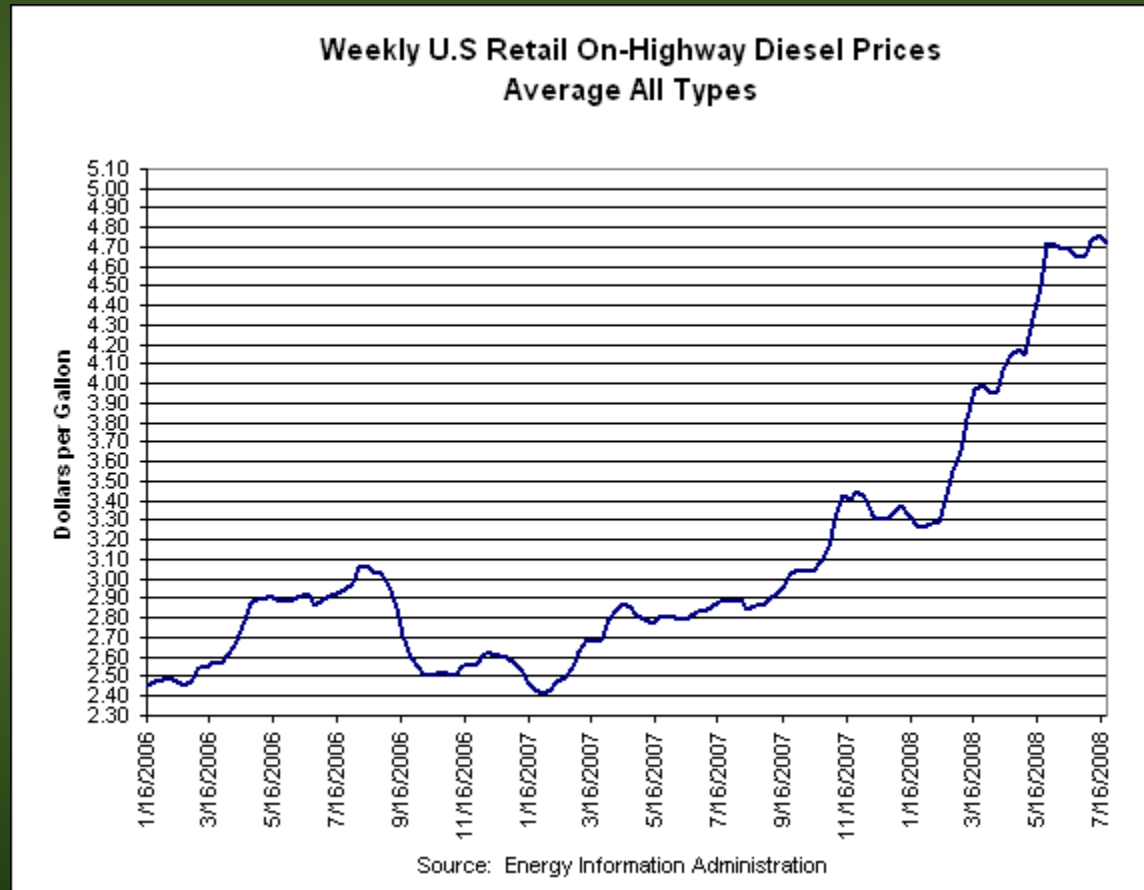
**Processing contract should specify the terms of processing & include:**

- **Specifications on types and quantities of materials to be collected & commodity types to be processed and marketed**
  - **The quality of each of the commodities to be marketed**
  - **Details on how the recovered materials will be marketed**
  - **Allowable residue rates from recyclable materials not marketed**
    - **85/15 Rule**
  - **Resolution for disputes over the quality of the incoming materials**
  - **Requirements for maintaining records of materials from each community**
  - **Penalties for not achieving & Incentives for exceeding the required specifications**
  - **Revenue sharing**
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# Quality Specifications Example

- *Contractor shall process the materials collected to the specifications established by the community and the buyer of the recyclable materials*
  - *The Contractor shall pay the community \$20.00 for each ton of recyclable materials sold to a manufacturer that does not meet the quality specifications*
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# Don't Forget to Address Fuel Costs



# And Contamination Reporting





# And Don't Forget the Education!



Enforce Your Contract, It's only as Strong As YOU  
Make it!



# Remember, Don't Throw it Out RECYCLE!

