

SINGLE STREAM COLLECTION

Discussion Paper and Questions for Best Practices Manual Conference Calls July 14, 2005

Collection System Design

This Section includes a discussion of the impacts of the collection system design on the quality of materials recovered. To make the collection system work, all of the participants (cities, collection companies and drivers) need to agree as to what is expected of them.

Discussions of optimizing the collection of recyclables should not occur without including the impacts on the garbage collection system and on other collection system elements (such as collection of plant trimmings). too. Further, the design of the collection system should be discussed in relation to its impacts on processing the recovered materials.

Collection Alternatives

Collecting recyclables and garbage in the same trucks, or using dedicated trucks for each material

Collecting all recyclables in a single compartment, or in multiple compartments (from multiple containers)

Automation

How important is automation?
What are the impacts on worker injury rates?

Collection Containers Alternatives

How many should be provided?
What size containers should be used?

Feedback to Residents

The collector needs to provide feedback to the generators, in a timely fashion. This means that when a recycling setout is not properly prepared, it must be the route driver's responsibility to leave printed information for the resident that explains how to properly prepare the materials. (S)He should not simply leave the materials in the setout container.

Driver Responsibilities

Drivers should be responsible for keeping the load clean. The driver must be responsible for what is loaded into the truck.

How do collection companies get the best results from drivers?
What types of worker training programs are effective?
What is the effect on collectors of working to complete a route v. a shift?

Impacts of automation

In a manual or semi-automated system, the driver can look at the materials before they are loaded into the truck and it can be his/her job to not load contaminants into the truck. The driver should be required to leave a 'non-collection' notice with the materials that are not collected.

In a fully automated system, the driver cannot see what is in the load until it is dumped, but if there are mirrors or a camera mounted above the hopper, the driver should be responsible for leaving a notice attached to the cart when a contaminated load is spotted.

The 'non-collection' notices need to be logged by route, to identify repeat offenders. The next step in the process is for route supervisors to review these logs and check the bins at the locations that have been tagged more than once in the last 3 months.

Processor Feedback

The Processor should provide feedback to the collector about the quality of the materials received. When the recycling trucks are unloaded at the processing facility, the load should be inspected. In some situations, it may even be appropriate to take samples, then sort and weigh the component parts to determine the actual contamination.

If there are on-going problems with loads being contaminated, then the collection company should station a route supervisor at the MRF to examine the loads with the drivers and discuss the reasons for that problem. Drivers should be required to match 'non-collection' notices with contamination rates. The messier the load, the more 'non-collection' notices the driver should have issued.

Contaminants

Contamination can be in two forms: 1) materials that can be recycled, but are not part of the collection program, 2) materials that cannot be recycled and are not part of the collection system. These two types should always be distinguished in any discussion of contamination rates.

Elements for Discussion

1. What are the staffing and equipment requirements for different collection design options?
 - ✓ Should garbage and recyclables be collected in separate compartments on the same truck?

- ✓ Should garbage and recyclables be collected in different loads on the same truck making two passes down the same street on the same day?
 - ✓ Should garbage and recyclables be collected in two different trucks, each making one pass down the same street on the same day?
 - ✓ Should plant trimmings be collected in a separate compartment on one of these two trucks, or in a third truck?
2. Which equipment features are important in maximizing collection efficiencies?
3. Which equipment features are important in minimizing load contamination (e.g. automation, load height, cameras)?
4. Which design features work best in which individual situations?
- ✓ Rural (low housing density) v. urban
 - ✓ Flat v. hilly terrain
 - ✓ Wet v. dry climate
 - ✓ Snow v. desert heat climate
 - ✓ Other?
5. What are the impacts of different design options on collection costs?
6. Should contracts specify Performance Standards
- ✓ for collection companies
 - ✓ for drivers
7. Other recommendations on design of the collection system?