metroSTOR®
Intelligent Urban Infrastructure

Designing multifamily waste systems for consistent performance

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In multifamily housing, poor waste and recycling outcomes are often treated as a communication problem. In practice, they usually start with the system itself. When trash is the easiest option, it becomes the default. When recycling or organics are less convenient, less visible, or harder to use correctly, participation drops and contamination rises. But convenience alone is not enough. In shared residential environments, systems also need to protect material quality and reduce misuse at the point of deposit. High-performing systems do both. They make the right actions easier while introducing the right level of structure, friction, and control to support cleaner, more consistent outcomes.

Start by making the right choice easier

Recycling and organics need to be at least as easy to use as trash. If they are further away, harder to access, less intuitive, or missing altogether, poor outcomes are predictable. But equal choice is only part of the answer. In shared residential environments, the system also needs to protect material quality at the point of deposit. That means introducing the right level of structure, aperture control, and access control to make correct use easier and incorrect use harder. This is one of the simplest ways to assess whether a multifamily system is set up to perform consistently.

What high-performing multifamily systems have in common

Better multifamily systems usually combine five qualities.

- **Parity of effort**
  Recycling and organics are as close, as easy, and as intuitive to use as general waste.
- **Completeness**
  All core streams are provided and usable, including trash, recycling, and organics where required.
- **Structured deposit points**
  Open and ambiguous disposal areas are replaced with clear, intentional infrastructure.
- **Protection of material quality**
  Openings, lids, layout, separation, and containment all help reduce contamination and misuse.
- **Controlled access where needed**
  In higher-risk or repeatedly misused environments, controlled access helps reduce anonymous dumping, improve accountability, and support cleaner material streams over time.

Participation improves when systems are easy to use. Material quality improves when the system introduces the right level of control.

Not all friction is a problem

In multifamily housing, friction is mostly treated as something to remove. In practice, some friction is useful. The goal is not to make recycling or organics difficult. It is to make correct use straightforward while making contamination, bulk dumping, and misuse harder. That can include shaped or slotted deposit openings, lids that guide the right material into the right stream, clearer physical separation between streams, locked lids or controlled access where misuse is persistent, and user-linked access where accountability is needed. This is where system design becomes more effective than signage alone. The right infrastructure reduces the need for repeated education by doing more of the work at the point of deposit.

Test whether trash is still the easiest option

A quick test for any building: would a reasonable resident carrying everyday waste find recycling and organics as easy or easier to use than trash? If the answer is yes, the system is better positioned to support consistent performance. If the answer is no, poor outcomes are likely. The question is simple, but it usually reveals where participation is being lost.

Fit the system to the building, not the other way around

There is no single model for multifamily waste systems. Performance depends on how well the setup fits the building.

- **Single-chute buildings**
  Introduce diversion points that are at least as usable as the chute system.
- **Twin-chute buildings**
  Can support waste and recycling, but often leave organics behind. Add organics with equal convenience and clear separation.
- **Internal waste rooms**
  Can work well, but often favor trash and become hard to manage. Improve layout, containment, and clarity at the deposit point.
- **External enclosures**
  Often perform strongly when all streams are co-located and well managed. Use durable, accessible, clearly structured infrastructure.

The best system is the one that fits the building without making correct use harder than disposal.

Run a five-minute diagnostic

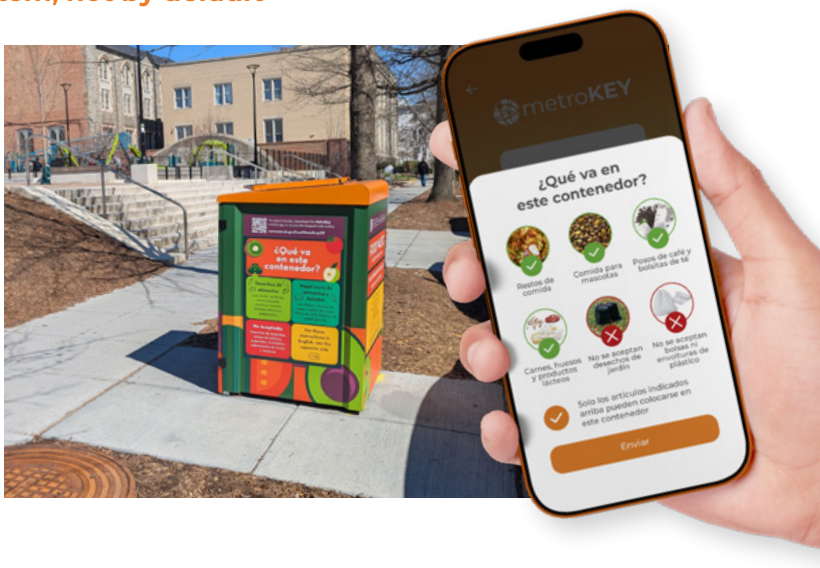
Start with one question: where does this system make trash easier than everything else — and where does it do too little to protect recycling and organics?

Then check five areas:

1. **Access and convenience**
   Are all streams equally easy to reach?
2. **Completeness**
   Are all key streams present and usable?
3. **Deposit point clarity**
   Is it obvious where materials go?
4. **Contamination control**
   Are aperture design, lids, layout, and containment helping prevent incorrect use?
5. **Accountability**
   Where misuse is persistent, is there any way to identify, manage, or restrict inappropriate use? This kind of diagnosis helps teams focus on system causes rather than only surface symptoms.

Use controlled access where it protects the system, not by default

Not every multifamily system needs locked or ID-enabled access. But in some environments, it becomes a practical part of performance. Controlled access is often most useful where contamination remains high despite clear infrastructure, dumping or cross-use is persistent, multiple buildings or user groups share the same waste area, operators need stronger accountability, or education and enforcement need to be targeted rather than generic. In these settings, controlled access can reduce misuse, improve material quality, and give operators a better basis for communication, education, and follow-up.



Reduce repeat work by improving use at source

In poorly structured multifamily systems, site teams often spend time clearing contamination, responding to overflow, dealing with dumping, managing resident complaints, and re-explaining the system without changing it. That creates repeat work without addressing the root cause. Better-designed systems reduce intervention by improving use at source. The result is a system that is easier to manage and more stable over time.

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Service the system people are actually using

Many systems are serviced on fixed schedules regardless of how they are actually used. That can create avoidable inefficiency. More effective systems align servicing with real usage patterns, system design, and known pressure points. That improves both reliability and efficiency, while helping site teams focus effort where it has the greatest effect. Where visibility is available, operators can also identify persistent problem locations, compare performance across sites, and refine layouts, access, or communication based on actual conditions.

Move from resident instruction to system design

Waste diversion in multifamily housing rarely improves through education alone. It improves when systems are designed so that correct use is easy, contamination is harder, and recurring operational problems are easier to control. That means reducing unnecessary friction around participation while adding intentional friction where it protects material quality and accountability. The key question is not only why residents are not participating. It is what the system is making easy — and what it is allowing too easily.

Looking to improve performance across your housing portfolio?

We work with housing providers and cities to design systems that improve participation, reduce contamination, and deliver more consistent long-term outcomes

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