metroSTOR®
Intelligent Urban Infrastructure

Designing and managing public-space waste systems

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Public-space waste is often treated as a cleaning issue. In practice, performance depends on how waste moves through the environment: where it is deposited, whether it can be accessed after deposit, how often it is handled again, and how the system is serviced. If either infrastructure or operations is weak, conditions become unstable. Waste is re-scattered, servicing becomes reactive, and costs rise without lasting improvement.

Better performance comes from designing infrastructure and operations together.

Start with the outcome you actually want

Before specifying infrastructure or changing servicing, be clear about the primary objective. Most public-space systems are trying to improve one or more of the following: reduce litter and re-scattering, improve cleanliness and public perception, reduce servicing effort and cost, or introduce recycling where it can realistically perform.

Without a clear objective, systems often default to adding bins or increasing servicing without addressing the underlying pattern.

Three things usually matter most: containment, signal, and operational simplicity

Where these conditions are weak, systems become reactive and difficult to stabilize. Consistent performance in busy public spaces usually depends on three things working together.

- **Containment**
  Waste cannot be easily accessed or removed after deposit.
- **Signal**
  Infrastructure appears clean, durable, and clearly part of a managed environment.
- **Operational simplicity**
  The system is straightforward to service, repeat, and scale.

Understand how waste actually behaves in public space

In high-use urban environments, waste often gets handled more than once. A common pattern looks like this: waste is deposited, it is accessed or pulled out, it is spread into the surrounding area, and it is collected again by crews. What appears to be a capacity problem is often a containment problem.

Understanding that distinction changes the response. The issue is not always how much waste exists, but whether the system is keeping it contained.

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Specify infrastructure that can hold up in public use

When specifying public-space infrastructure, look at more than capacity.

- **Containment and access control**
  Look for enclosed designs that prevent access to stored waste, apertures sized to limit dumping and misuse, anti-scavenging features, and secure access points where needed.
- **Durability and materials**
  Specify robust materials suited to repeated use, vandalism, and weather exposure. Avoid lightweight units in high-pressure locations.
- **Capacity and footprint**
  Balance enough internal capacity to reduce servicing pressure with a footprint appropriate to the site. More capacity helps only if the system remains controllable and practical to service.
- **Servicing design**
  Infrastructure should support efficient crew access, compatibility with existing methods, and straightforward emptying routines without adding avoidable handling time.
- **Cleanability and maintenance**
  Specify surfaces, finishes, and details that are easy to clean and hold up under sustained use.
- **Visual consistency**
  Use forms that look intentional and clearly managed. In public space, appearance affects behavior as well as perception.

Don’t judge suppliers on upfront price alone

Long-term performance depends on supplier capability as much as product selection. Assess the availability of replacement parts, repair lead times, and whether repairs can be carried out on site. Look at expected lifespan, maintenance requirements, replacement frequency, and likely cost over time. Also consider whether the system can support pilot-to-rollout deployment with consistent product availability.

Lower upfront cost does not necessarily mean lower operating cost.

A five-minute check can tell you where the real problem sits

Start with one question: Where is this system allowing waste to be accessed after deposit? Then check five areas:

1. **Containment**
   Can waste be pulled out, scattered, or disturbed after deposit?
2. **Pressure points**
   Are the most problematic locations obvious and understood?
3. **Servicing fit**
   Is the infrastructure practical for crews to empty and maintain efficiently?
4. **Visual signal**
   Does the infrastructure look durable, clean, and intentionally managed?
5. **Operational alignment**
   Is effort being directed where it has the greatest effect?

This usually reveals whether the real issue is capacity, containment, siting, or servicing logic.

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Service to real demand, not the neat version of it

Public-space systems often become inefficient when routes and schedules do not reflect actual conditions. Common patterns include unnecessary servicing in lower-pressure locations, delayed response in higher-pressure areas, and repeated rework where the system itself is unstable.

Better systems make it easier to target effort where it matters most and reduce the cycle of repeat cleaning.

Move from reactive cleaning to controlled systems

Public-space waste systems rarely improve through frequency alone. They improve when containment, durability, servicing practicality, and deployment logic work together to reduce re-scattering, stabilize conditions, and make operational effort more effective.

The key question is not only how often bins are emptied. It is how well the system controls what happens after deposit.

Looking to improve performance across your public-space network?

We work with cities and operators to design infrastructure and systems that reduce re-scattering, improve cleanliness, and support more efficient operations.

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