Waste Management in NYC Streets
Alfresco NYC Presentation

Impact of Waste on NYC Sidewalks

Design Solutions

Planning and Operational Considerations

Clean Curbs
Impact of Waste on NYC Sidewalks

Waste takes up valuable sidewalk space

Bags - Residential
Impact of Waste on NYC Sidewalks

Waste takes up valuable space

Bags - Residential and Commercial
Impact of Waste on NYC Sidewalks

Waste takes up valuable space

Bags - Residential and Commercial

Sidewalk enclosures
Impact of Waste on NYC Sidewalks

Waste takes up valuable space

Bags - Residential and Commercial

Sidewalk Enclosures and Container Set-out
Impact of Waste on NYC Sidewalks

Waste takes up valuable space

- Bags - Residential and Commercial
- Sidewalk Enclosures and Container Set-out

Broken bags

- Rats, Odors, Litter

Manhattan Sidewalk in Inwood (Robert Mecea for New York Daily News)
Impact of Waste on NYC Sidewalks

Waste takes up valuable space

- Bags - Residential and Commercial
- Sidewalk Enclosures and Container Set-out
- Broken bags
- Rats, Odors, Litter

Impact on Open Streets & Dining
Best Practice Strategies for Shared Collection

Surface containers
- Least costly and most flexible
- Storage capacity is limited, increasing collection frequency
- Truck access is required

Submerged containers
- More costly and require coordination with below surface conditions
- Free up space at surface
- Truck access is required

Pneumatic networks
- Most costly
- Requires coordination with below surface conditions along entire tube path as well as construction of a collection station
- Capacity is highest because inlets may be emptied multiple times in a day
- No truck access needed, except at collection station

1. Consider a loading area at the base of a building with shared containers collected by roll off truck. 3.01
2. Consider providing a central facility with containers collected by roll off truck 3.02, 3.03
3. Resident or staff input from chute or central point within property or from public realm 3.05
4. Consider sending material to central facility via pneumatic tube 3.04
5. Design streetscapes that allow curbside access to containers 3.06
6. Use design to incorporate community in collection operations 3.09
7. Consider 1–8 cu yd submerged or surface container in public realm collected by truck (hoist typical) 3.05, 3.06
Best Practice Strategies for Shared Collection

Shared Roll-Off Containers

Building staff walk or drive material to 4 shared compactor containers in Battery Park City
Best Practice Strategies for Shared Collection

Shared Roll-Off Containers

Network of shared collection facilities managed by the Downtown Roanoke BID
Best Practice Strategies for Shared Collection

Shared Roll-Off Containers

Surface Containers
Best Practice Strategies for Shared Collection

Shared Roll-Off Containers

Surface Containers

Tri'lib, Paris

Pilot of 40 stations

Procurement of 1000 stations
Best Practice Strategies for Shared Collection

Shared Roll-Off Containers

Surface Containers

Submerged Containers
Best Practice Strategies for Shared Collection

Shared Roll-Off Containers

Surface Containers

Submerged Containers

Example: The Hague
Planning & Operational Considerations

Truck typologies for waste collection

1. Front load
2. Rear load (cable)
3. Roll-On Roll-Off

NYC Context
Planning & Operational Considerations

Truck typologies for waste collection

Light & electric vehicle options
Planning & Operational Considerations

Truck typologies for waste collection

Light vehicle options

Transportation Alternatives 25x25

Repurpose 25% of space for cars, 2 parking spaces per block for waste

Transforming just two parking spaces per block allows trash bags to move off the sidewalk. This creates a more passable, sanitary, and safe experience for pedestrians while facilitating trash pickup by sanitation vehicles.
Planning & Operational Considerations

Clean Curbs Program Application

The Department of Sanitation is collaborating with the Department of Transportation (DOT) on the Clean Curbs pilot program for commercial waste. Through the pilot program, private entities, such as Business Improvement Districts (BIDs) or commercial property owners, can apply for the opportunity to have sealed, on-street containers for their business trash and recycling storage, which will reduce their need to set out bags of recyclables and garbage for collection on City sidewalks.

The Clean Curbs pilot program was developed after reviewing responses to DSNY’s and DOT’s Request for Expressions of Interest (RFEI) on containerized waste.

Before applying, entities are encouraged to contact DSNY and DOT to express interest and discuss potential siting options. This allows DSNY and DOT to give feedback on the locations of interest while the proposal is in an early stage of development. Please email customerservice@dsny.nyc.gov to express interest.

Once an application has been submitted, DSNY and DOT will review to ensure it meets siting criteria and, if eligible, will schedule a site visit.
Planning & Operational Considerations

Truck typologies for waste collection

Light vehicle options

Transportation Alternatives 25x25

DSNY Clean Curbs Program

- Up to 20 LF, 5' H, 8' W on street
- Up to 10 LF, 5'H, 5"W need 8' clear
- Picked up by private carters
- Maintenance agreement needed
Planning & Operational Considerations

Truck typologies for waste collection

Light vehicle options

Transportation Alternatives 25x25

Clean Curbs

Quantities of Residential Waste

Low density neighborhood

<table>
<thead>
<tr>
<th>Density</th>
<th>DU / Block</th>
<th>Trash</th>
<th>M,G&amp;P</th>
<th>Paper</th>
<th>Cardboard</th>
<th>Organics</th>
<th>Textiles</th>
<th>E-waste</th>
<th>Total</th>
<th>quantities</th>
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<tbody>
<tr>
<td>Low (R1-5)</td>
<td>100</td>
<td>298</td>
<td>189</td>
<td>30</td>
<td>64</td>
<td>118</td>
<td>37</td>
<td>1</td>
<td>738</td>
<td>gallons / day</td>
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<td>4</td>
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<td>1</td>
<td>2</td>
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<td>0</td>
<td>0</td>
<td>11</td>
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<td>0.9</td>
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<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
<td>0.1</td>
<td>0.004</td>
<td></td>
<td>2.1</td>
<td>parking spaces for 2x/week collection of all streams</td>
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</tbody>
</table>

Assumptions
75% Waste Generation
80% Capture Rate of each stream
67 Gallons Storage / LF
18 Length of parking space
Planning & Operational Considerations

Truck typologies for waste collection

Light vehicle options

Transportation Alternatives 25x25

Quantities of Residential Waste

Medium density neighborhood

<table>
<thead>
<tr>
<th>Density</th>
<th>DU / Block</th>
<th>Trash</th>
<th>M,G&amp;P</th>
<th>Paper</th>
<th>Cardboard</th>
<th>Organics</th>
<th>Textiles</th>
<th>E-waste</th>
<th>Total</th>
<th>quantities</th>
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<tbody>
<tr>
<td>Medium (R6-7)</td>
<td>500</td>
<td>1,491</td>
<td>946</td>
<td>148</td>
<td>321</td>
<td>589</td>
<td>186</td>
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<td>3,689</td>
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<td>9</td>
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<td>55</td>
<td>linear feet / day</td>
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<tr>
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<td>1.2</td>
<td>0.8</td>
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<td>0.3</td>
<td>0.5</td>
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<td>0.01</td>
<td></td>
<td>2.3</td>
<td>parking spaces for 2x/week collection of organics, textiles and e-waste</td>
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</table>
Planning & Operational Considerations

Truck typologies for waste collection

Light vehicle options

Transportation Alternatives 25x25

Quantities of Residential Waste

High density neighborhood

<table>
<thead>
<tr>
<th>Density</th>
<th>DU / Block</th>
<th>Trash</th>
<th>M,G&amp;P</th>
<th>Paper</th>
<th>Cardboard</th>
<th>Organics</th>
<th>Textiles</th>
<th>E-waste</th>
<th>Total</th>
<th>quantities</th>
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<td>High (R8-10)</td>
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<td>1,891</td>
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<td>0.0</td>
<td>0</td>
<td></td>
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</tbody>
</table>

Assumptions
- 75% Waste Generation
- 80% Capture Rate of each stream
- 67 Gallons Storage / LF
- 18 Length of parking space
Planning & Operational Considerations

Truck typologies for waste collection

Light vehicle options

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Quantities of Residential Waste

Commercial Waste

Ground Floor Retail

NYC Context
Planning & Operational Considerations

Truck typologies for waste collection

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Quantities of Residential Waste

Commercial Waste

Public Space Waste
### Put Waste to Work: For Vibrant Streetscapes, Green Jobs and Healthy Neighborhoods

<table>
<thead>
<tr>
<th></th>
<th>Circulate</th>
<th>To design streets and neighborhoods for circular material flows</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Contain</td>
<td>To remove bags of waste from city sidewalks</td>
</tr>
<tr>
<td>3</td>
<td>Compost</td>
<td>To regenerate all city soils with compost</td>
</tr>
</tbody>
</table>
Containers brought straight to trucks
Design Solutions for Waste Storage in the Street

Clare Miflin, Center for Zero Waste Design

For more see:

CenterforZeroWasteDesign.org

PutWastetoWork.org

Contact:

Clare@CenterforZeroWasteDesign.org