

Planning Waste & Recycling Areas

When creating waste and recycling areas it is important to think about how much space containers and collection trucks will need, and how much waste might be made by different types of users.

In this tool, you will find:

- Tables to estimate waste volumes produced by different user types
- Information to help choose the right collection containers



1. Estimating Waste & Recycling Volumes By User Type

Below are tables to help estimate waste volumes by user type (multi-family unit, retail, restaurant, hospitality and office spaces). The tables are based on audit data but should be viewed as general estimates. Developers and designers can ask waste haulers for assistance with estimating spatial requirements for waste sorting areas, based on estimated waste volumes and container types.

All tables are based on the following assumptions:

- Collection pick-up will be once per week
- Residents are educated to flatten cardboard boxes and some plastic containers before disposal
- On-site compactors are not being used



Buildings with active recycling programs will require more recycling containers and fewer garbage containers.

Multi-Family Units

Waste Categories	Estimated Volume Generated (litres/unit/week)
Garbage	53.00
Glass	2.10
Mixed Containers	18.50
Paper and Cardboard	42.90
Paper (excluding cardboard)	15.00
Cardboard	27.50
Organics	14.00

Note: In multi-family buildings, unit floor areas can vary a lot so waste is estimated for each unit. Estimates are based on two residents per unit. (L/unit/week) Other tables in this tool estimate waste based on floor area.

Restaurant

	Mixed Containers	Paper	Organics	Glass	Cardboard	Garbage	Grease/Tallow
Floor Area (m ²)	360 Litre Carts (#)		240 Litre Carts (#)		Front End Bins (# x size)		18.6 Litre jug-in-a-box
1-100	1	1	1	1	1x3 yd*	1x3 yd	1
101-200	1	1	2	1	1x3 yd*	1x3 yd	1
201-300	2	2	3	1	1x3 yd*	1x3 yd	1
301-400	2	3	4	1	1x3 yd*	1x3 yd	1
401-500	3	3	4	1	1x3 yd*	1x3 yd	1
501-600	4	4	4	1	1x3 yd*	1x3 yd*	1
601-700	5	5	6*	1	1x3 yd*	1x3 yd	2
701-800	5	5	7*	1	1x4 yd*	1x3 yd	2
801-900	5	5	8*	1	1x4 yd*	1x3 yd	2
901-1000	6*	6*	9*	1	1x4 yd*	1x3 yd	2
1001-2000	11*	12*	17*	2	3x4 yd*	1x4 yd	4
2001-3000	17*	17*	17*	2	3x4 yd*	2x4 yd	6
3001-4000	22*	23*	34*	2	4x5 yd*	2x4 yd*	8



Retail

	Mixed Containers	Paper	Cardboard	Garbage
Floor Area (m ²)	360 Litre Carts (#)		Front End Bins (# x size)	
1-200	1	1	1x3 yd	1x3 yd
201-500	1	2	1x3 yd	1x3 yd
501-600	1	3	1x3 yd	1x3 yd
601-700	1	3	1x3 yd*	1x3 yd*
701-1000	1	4	1x3 yd	1x3 yd
1001-2000	4	9*	1x3 yd	1x3 yd
2001-3000	6*	13*	1x3 yd	1x4 yd
3001-4000	7*	17*	1x3 yd	2x3 yd
4001-5000	9*	21*	1x4 yd	2x3 yd

Office

	Mixed Containers	Paper	Organics	Cardboard	Garbage
Floor Area (m ²)	360 Litre Carts (#)		240 Litre Carts (#)	Cubic Yard Bins (# x size)	
1-500	1	1	1	1x3 yd*	1x3 yd
501-600	1	1	2	1x3 yd*	1x3 yd
601-900	1	2	2	1x3 yd*	1x3 yd
901-1000	1	2	3	1x3 yd	1x3 yd
1001-2000	2	4	5*	1x3 yd*	1x3 yd
2001-3000	3	6*	7*	1x3 yd	1x4 yd
3001-4000	4	7*	10*	1x3 yd*	2x3 yd
4001-5000	5*	9*	12*	1x4 yd*	2x3 yd*

Hospitality (Hotels/Motels/Short-term Stays)

	Mixed Containers	Paper	Organics	Cardboard	Garbage	Grease/Tallow
Floor Area (m ²)	360 Litre Carts (#)		240 Litre Carts (#)	Front End Bins (# x size)		18.6 Litre jug-in-a-box
5-10	1	1	1	0	1x2 yd	1
11-20	1	1	2	0	1x3 yd	1
21-30	1	1	3	1x3 yd	1x4 yd	1
31-40	1	1	4	1x3 yd	1x6 yd	1
41-50	1	1	4	1x3 yd	1x8 yd*	1
51-60	1	2	5*	1x3 yd*	1x8 yd*	1
61-70	1	2	6*	1x3 yd	2x6 yd	1
71-80	1	2	7*	1x3 yd	2x6 yd	1
81-90	1	2	8*	1x3 yd*	2x8 yd	1
91-100	1	3	9*	1x3 yd*	2x8 yd	2



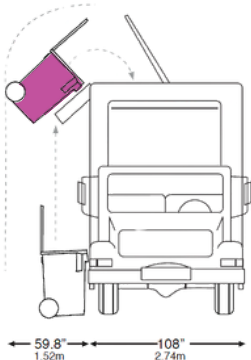
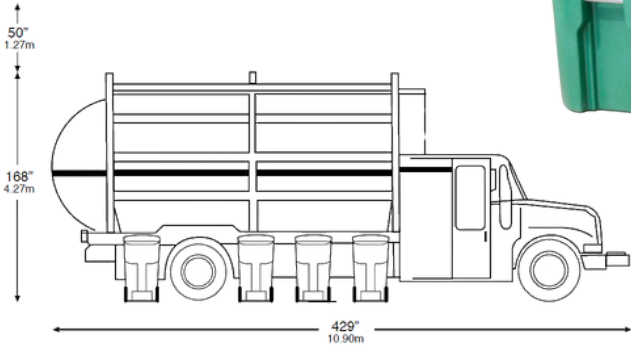
Source City of Vancouver

* A different container type may allow for more space efficiency. Consult your waste hauler to discuss what options best suite your space.

2. Choosing the Right Container Type

There are three types of containers commonly used for waste: carts, front-end bins, and compactors. Make sure your waste storage areas accommodate all required containers.*

1. Carts

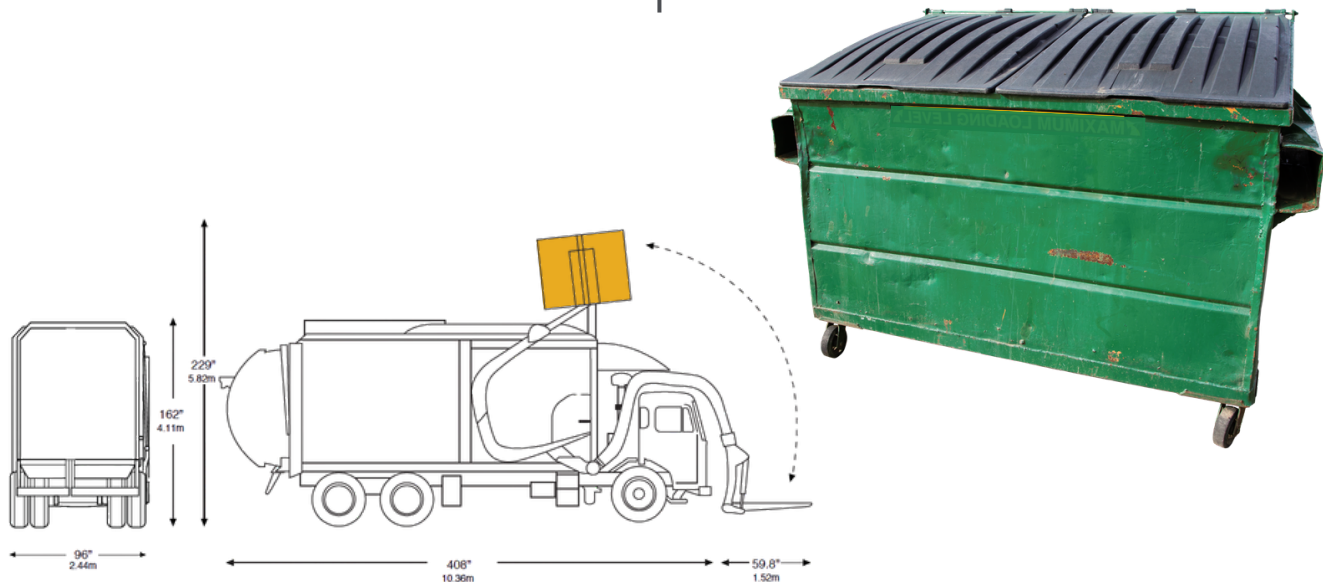
Potential Benefits	Potential Challenges		
• Smallest footprint compared to a front-end bin or a compactor • Less expensive than a front-end bin or a compactor • Sealed container such that drainage is less of a concern • No electricity required • Easier to move than large containers	• Smaller volume so may require high service frequency compared to larger bins • Odour may be a concern if not routinely serviced • Can easily be vandalized or stolen		
			
			
Minimum Concrete Pad Area	Minimum Ceiling Height Clearance	Minimum Clearance in Front	Minimum Clearance Overhead
0.88 m x 0.64 m	2.5 m	n/a	5.29 m high

Source: City of Richmond

*Please consult with a private contractor to discuss which containers are suitable for different applications. All dimensions are approximate with variation between manufacturers.

2. Front-End Bins

Potential Benefits	Potential Challenges
• Applicable for most waste streams including cardboard and organics • Upfront costs are less than a compactor • Ideal for fewer than 100 units • No electricity required • Easily accessible for most users	• Require more frequent collections compared to compactors • Odour concern if not serviced frequently • Surface damage to concrete pad due to frequent collection • May cost more than compactor when extra service costs are included

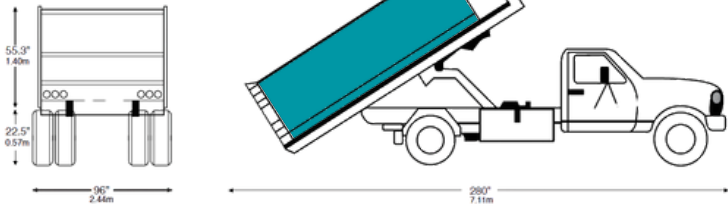


Minimum Concrete Pad Area	Minimum Ceiling Height Clearance	Minimum Clearance in Front	Minimum Clearance Overhead
1.07 m x 2.03 m	2.5 m	n/a	6.9 m high



If space is highly restricted, split bins might be an option. Split bins can store more than one material stream at a time in a single front-end bin. Consult with your private hauler on availability.

3. Compactors

Potential Benefits		Potential Challenges		
- Less frequent collection required compared to other container use - Can store more volume - Less messy; less overflow - Ideal for large volume generators - Long life span (15-20 years) if properly maintained		- Requires electricity, drainage (extra cost) - Noise/vibration concerns - Upfront cost may be higher than other types of containers - Underground storage may have limited space for truck manoeuvre - Removed to dispose waste making it unavailable for users - Cardboard can jam if not placed correctly - Odour concern if not serviced frequently - Not suitable for food scraps collection - Training required to operate		
				
Type	Ideal User	Minimum Height Clearance	Minimum Clearance in Front	Minimum Clearance Overhead
Low-profile compactor	Multi-family Buildings	2.1 m	12.2 m long	
Ground-level compactor	Multi-family, commercial and institutional buildings	2.5 m	15.2 m long	7 m high
Commercial compactor	Commercial and institutional buildings	6.1 m	15.2 m long	