Going Underground ?

Paddy Knowles

Senior Consultant APSE

What do we do now?

Bins on streets 24/7

Different frequencies

Residents having place bins out for collections

What do we do now?

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Issues with the current system?

- Cost of and storage of replacement bins & containers
- Cost of different vehicles
- Labour intensive (source segregated Vs Co-mingled)
- Vandalism of bins (crime & arson)
- Easily damaged / lost (vandals or crew)
- Costly to deliver
- Cleanliness (perceived responsibility)
- Assisted Collections

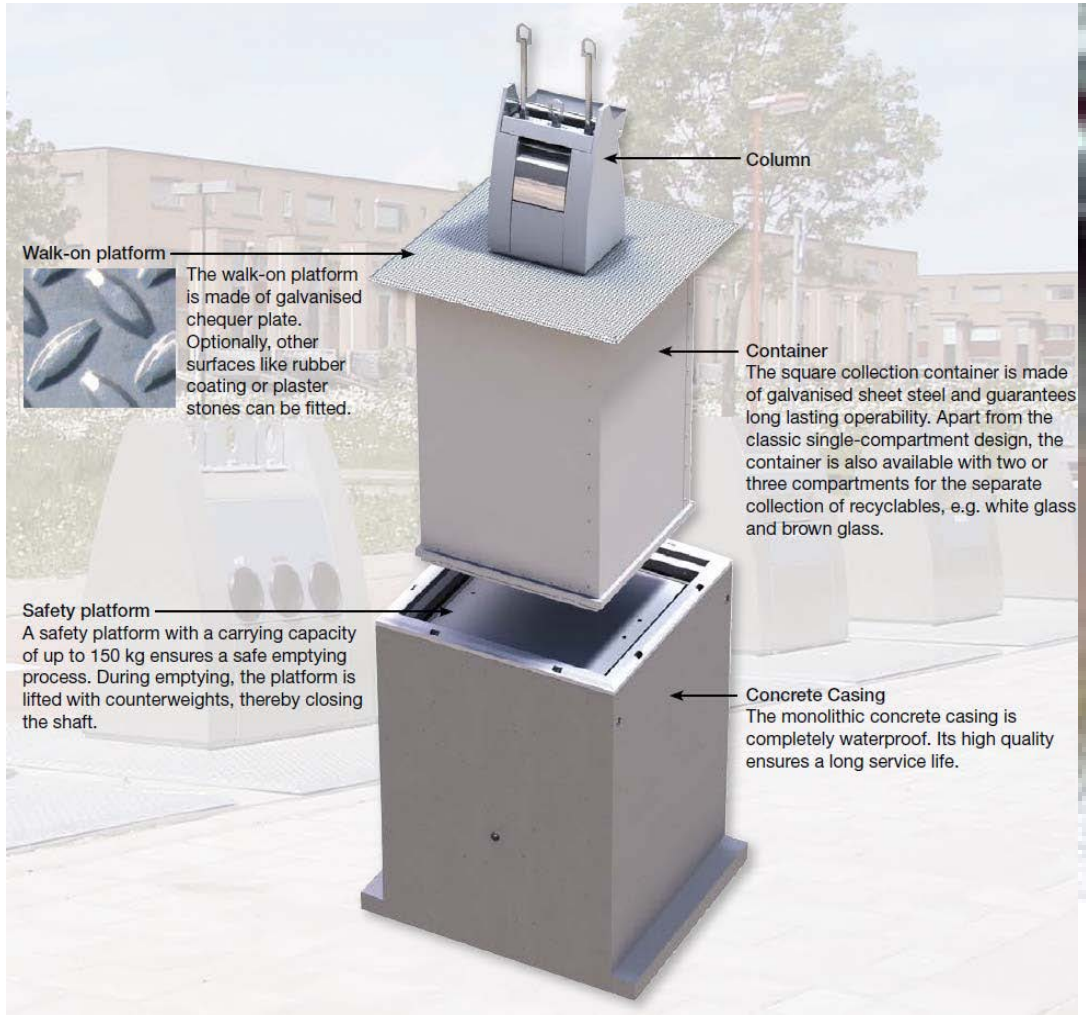
A change of mind-set
Go Continental – Go Underground

Underground Waste Storage Systems

- Mainly used in European countries.
- Access to the system can either be open or restricted access.
    - Use of a swipe card or RIDF fob.
- Volumes of storage containers vary from system to system but normally 3,000, 4,000 and 5,000 litres. (5,000 Litres = 20 wheeled bins)
- Usually made from either Stainless Steel or plastic inside a pre cast concrete unit.
- Needs to be enough void space, completely clear of all and any services to a depth of a minimum of 3 metres. (or possible additional expense for re-routing services)
- Have a minimum overhead clearance of approximately 8.8m - 9.8m and be free from any overhanging obstructions such as trees or cables.

The collection system requires that the collection vehicle needs to be fitted with a crane or Hiab.

Type of Systems Available




STORSKRALD

Type of Systems Available


sotkon
waste systems
00:07

Type of Systems Available


molok®
TAV
LÄHTÖ SUOMALAINEN
TAV

Type of Systems Available

Type of System (Cont)

Advantages of Going Underground

- Removes the adverse visual impact.
- Releases space above ground.
- Greatly minimises potential disturbances to residents, (visual, noise pollution, odours)
- Allow bins to be placed in locations where above ground systems might otherwise be unacceptable to the community.
- Resistance to vandalism, arson attacks and adverse weather conditions. (extreme wind)
- Potentially reducing collection costs through reduced collection times. (collection of a smaller number of large containers opposed to a large number of smaller ones spread over a wide area)
- Reduced operational costs. (potential for single operative operation)
    - H&S must be considered at the design stage of any development and should take into account the use of single operatives
- Resident does not have to worry about missing the collection. (No missed bin complaints)

Disadvantages of Going Underground

- Cost ?????
- Maintenance (Container requires little maintenance)
- Groundworks (On existing developments possible re-routing of services)
- Public acceptability
    - Considerable change from what is perceived as the norm
    - Distance to carry waste (should be within 30 metres)
- Operational issues
    - Staff acceptance
    - Negotiations with unions
    - Political bye-in
    - Assisted collections

Assisted Collections

- **Many elderly and disabled residents see the ability to place their bin out for collection as a sign of their continued independence.**
- **Typically involves the operative entering the property, collecting the bin and returning it to the same place after collection.**
- **In an underground system the need for assisted collections should be reduced.**
- **How do we deal with residents that cant carry bags?**
- **Assisted collections are not provided in flats?**
- **In certain circumstances could be provided through site staff/caretakers.**
- **Given the generally low number of potential assisted collection requirements, it is not believed that the requirement for assisted collection is a barrier to the take up of an underground bin collection system.**

Potential Efficiencies ?

Operational efficiencies up to 70%

- ✓ **In time to collect.** (each underground bin = 20 wheeled bins)
- ✓ **Staffing costs. (potentially single operative system)**
- ✓ **Potential reduction in the number of vehicles.** (Rounds 40% to 50% bigger)
- ✓ **Free staff up to cover for sickness and holidays reducing the reliance on agency staff.**

Capital efficiencies.

- ✓ **Underground bins are potentially cheaper to install than wheeled bins systems?**
  - **primarily through the removal of costs for bin compounds and associated structures and the increase in potential building space.**

Dependencies

- **Number of properties** (full round required)
- **Excellent Communications**
- **Use of fill level sensors**
- **Access restrictions** (reduce contamination, H&S concerns)
- **Location of tipping facilities** (Wagons will fill up faster)
- **Political support**

Sources of information

APSE Article

- http://www.apse.org.uk/apse/index.cfm/news/2016/going-underground-could-underground-waste-

Cambridge Report

- http://www.nwcambridge.co.uk/files/o2_19_sustainable_resource_and_waste_management_strategy_-_addendum.pdf

Articles used in research

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- http://www.peterboroughtoday.co.uk/news/latest-news/recycling-revolution-in-a-dustbin-1-37481
- http://waste-management-world.com/a/underground-bins-for-london-households
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Contact details

Paddy Knowles, Senior Consultant, APSE

Email: PKnowles@apse.org.uk

Interim requirements

Roads & Highways, Building Maintenance, Bereavement Services, Environmental, Parks & Open Spaces, Waste, Facilities & Leisure etc.

Emma Taylor, Client Coordination Officer, APSE

Email: etaylor@apse.org.uk

Association for Public Service Excellence
2nd floor Washbrook House, Lancastrian Office Centre, Talbot Road,
Old Trafford, Manchester M32 0FP.
telephone: 0161 772 1810
fax: 0161 772 1811
web:www.apse.org.uk