



## **Dún Laoghaire Rathdown County Council**

### **Municipal Services**

### **Cleansing Section**



### **Smart Bin Review**

**December 2017**

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## Smart Bins

The Smart Big Belly Bin system has been in operation in Dún Laoghaire–Rathdown for three years. 520 old style litter bins were replaced with 420 large capacity smart bins. The smart bins are connected to the Clean software system which allows staff to remotely access data from the bins, such as when the bins require emptying or if there is a specific fault to report. The implementation of the system has delivered efficiencies in the management of street waste – it has allowed for a reduction in the fleet required to service and empty the bins, and a reduction in the number of staff required to empty the bins, as the increased storage volume in the bins allows for less frequent emptying.

The first comprehensive review of street bins since the completion of the installation of 400 Big Belly bins was carried out in December 2017. This is a report on the issues discussed and the review outcomes.

The cost of providing and maintaining each street bin is approximately €1,350 per annum, and so it is important to ensure that street bins are optimally situated around the county. The location of street bins throughout the county is reviewed twice a year. At street bin reviews, consideration is given to a number of factors. These include:

- Whether some bins are underused and could be more efficiently placed.
- Whether additional bins are required in areas considered to be litter black spots.
- Accessibility and mobility considerations, such as footpath width.
- Safe system of work – whether there is a safe place for council vehicle to pull in to safely empty the bin.
- Locations close to schools, shops and shopping areas are generally prioritised.
- Whether the risk of vandalism is high at certain locations.
- Whether there is a high risk of disposal of household waste in particular locations.

To subsidise the cost of provision of the street bin service, many of the street bins are also used as advertising hubs, so consideration must also be given to this aspect of the litter-bins when considering proposals to move or remove bins.

The Cleansing Section receives requests for new bins regularly. These requests will be considered at each street bin review. For this review, requests received since April 2017 have been considered. It should be noted that less than 5% of new bin requests are granted. It is generally found that most requests for new bins are proposed in locations in housing estates, in areas where there is a high risk of vandalism, or in locations where it is not safe from a traffic management point of view to maintain a bin.

As well as considering the locations of street bins, this review aims to address a number of outstanding issues that have arisen since the introduction of the smart bin system. The priority of this review is to address outstanding issues such as bin weights and collection frequencies, with a focus on relocating under-used bins.

Cleansing Section Smart Bin Review 2017	Revision: Version 2	Date: December 2017
Page 2 of 22		

## Collection Frequency

The following map is a heat map, showing the frequency of collections by colour, with the red areas requiring bin emptying more frequently and the green areas requiring less frequent collection. It can be seen that the town centres provide the highest level of collections.

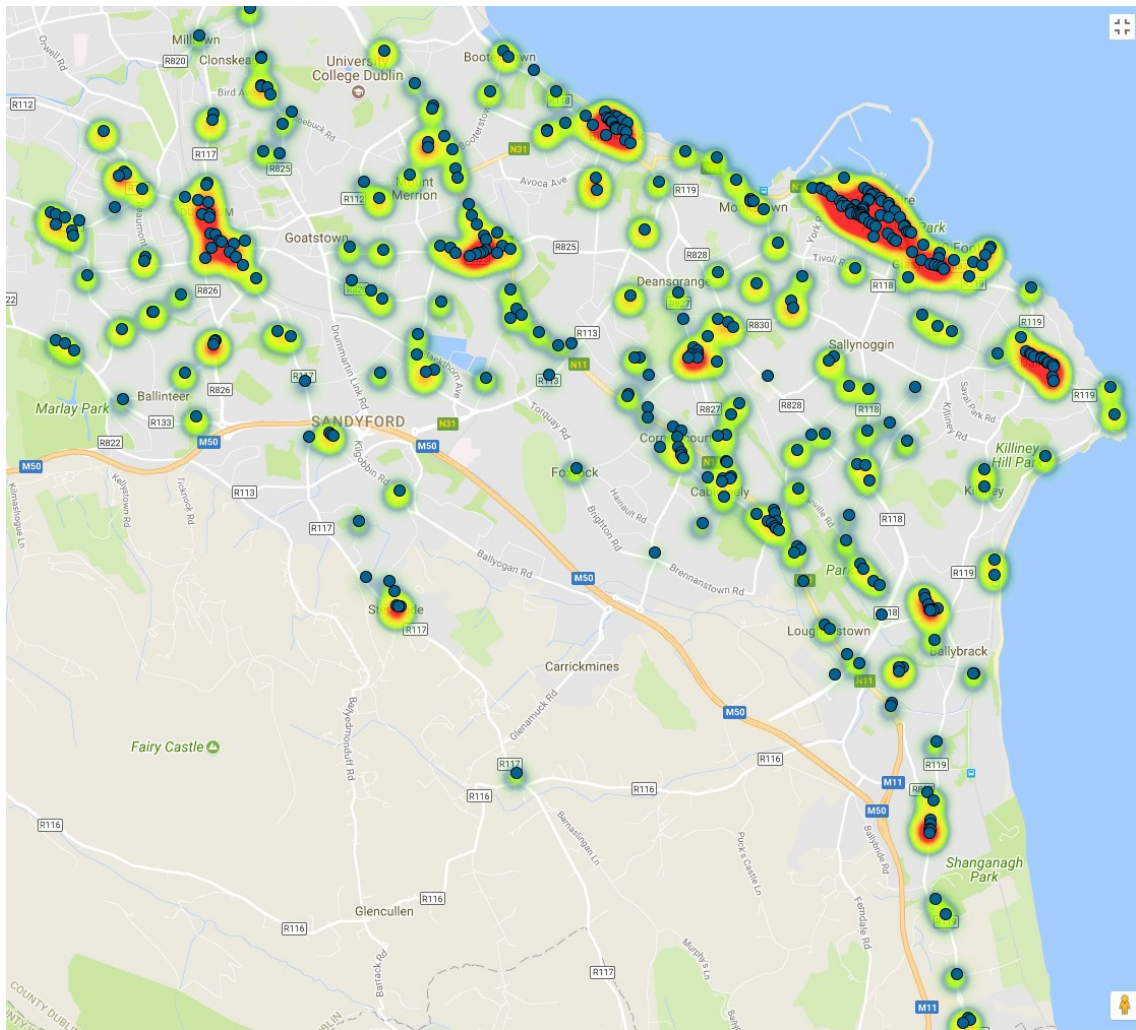


Fig. 1: Bin Collection Heat Map

## Individual Bin Efficiency

The Clean Big Belly Bins online application gives access to information regarding each individual bin. Using this system bins with a low collection frequency can be identified. We will be selecting the lowest frequency bins for relocation as needs arise in other areas. Many of these are based along the N11.

The following images break down the frequency of collections into a daily average.

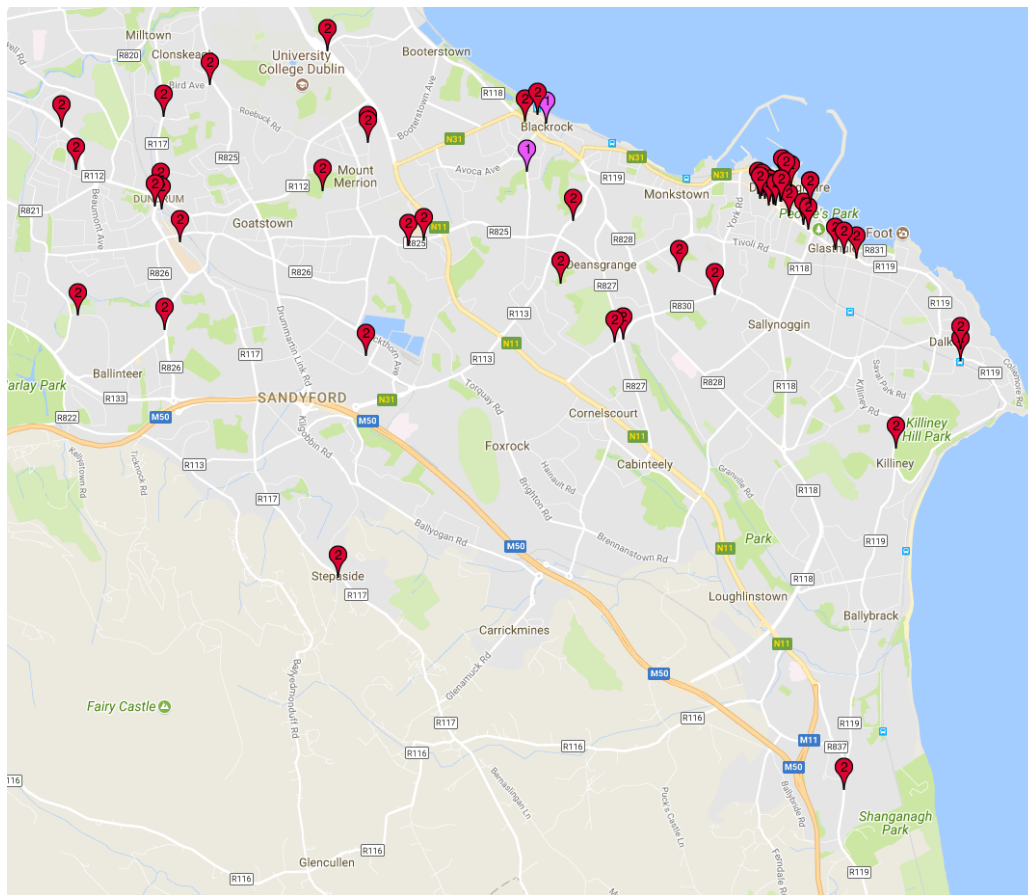


Fig. 2: Bins Requiring Emptying Once a Day or Once Every Two Days.

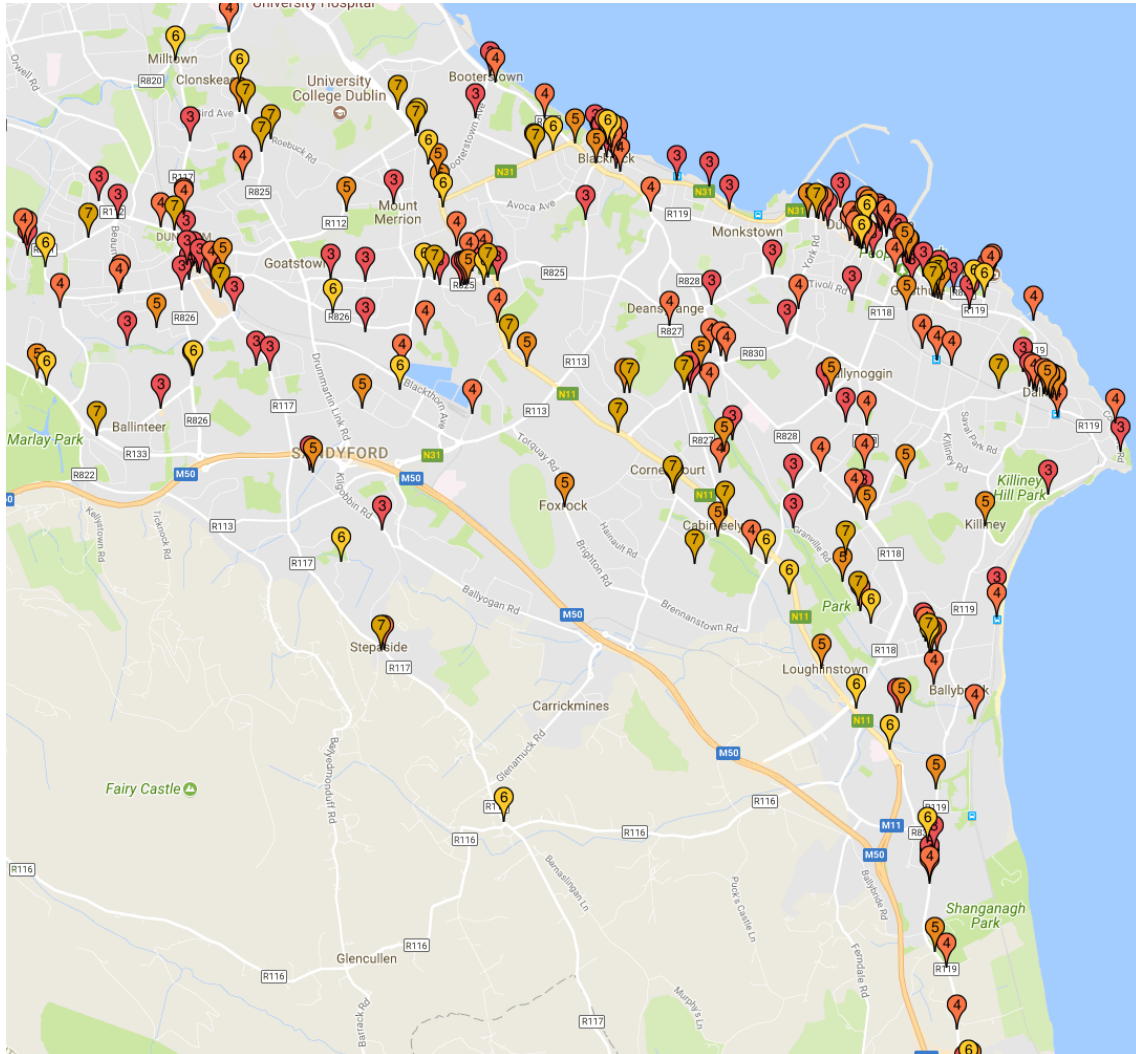


Fig 3: Bins Requiring Collection With a Frequency of Between 3 and 7 Days





Fig 4: Bins Requiring Emptying Every 8 Days or More

## Operational Issues

Cleansing Section staff have been reporting increased bin weights, often up to approximately 40 kg. This is mostly due to the level of household waste being disposed of in street bins across the county. Our investigations indicate that up to 50% of waste disposed of in street bins is household waste. Some measures have been introduced in order to combat this issue. These measures will be explained further in this report.

Staff have also reported that some undesirable material is being dumped in a particular bin and that due to the compacting action of the bin, emptying the bin has become an issue.



Fig. 5: Emptying of Street Bin

Cleansing Section staff have also reported access difficulties at some bin locations, where it is required to park a good distance away from the bin in order to find a safe and legal parking space. This increases health & safety risks as it increases manual handling operation and causes obstruction to pedestrians.

## Requests for New Bins

We receive a number of requests every year from members of the public, Elected Members and residents associations. At the street bin reviews all requests from the previous 6 months will be reviewed. If the proposed location for a new bin meets the requirements as set out above, the installation of a new bin in the most appropriate place near the proposed location will be considered.



## Outcomes of the Review – December 2017

### 1. Bins to be Removed Immediately:

- BIN 163 Ballybrack South Eastern Corner

There are an excessive number of bins in the area, so we have identified this bin for relocation.

- BIN 193 Belleview Stores

This bin was originally installed outside a shop which is now closed. Low footfall coupled with high levels of household waste has led to the decision to remove this bin from the area.



Fig. 6: Bin 193

- BIN 343 Willow Road outside Businesses

This bin is outside of a number of businesses and has been subject to commercial waste and house hold dumping.



Fig. 7: Bin 343

- BIN 348 Brehonfield Road Bus Terminus

This bin was stationed at a bus terminus on the road. Unfortunately there has been a large amount of human waste dumped in the bin which has posed a health and safety risk to our crews. The bin was removed from the area on the 7<sup>th</sup> of December.



Fig. 8: Bin 348



## **2. Bins to be Relocated Due to Low Level of Usage:**

- BIN 143 Johnstown Road at the bus stop opposite house no. 13
- BIN 297 N11 south bound at the bus stop after the Kill Lane junction
- BIN 220 N11 north bound at the bus stop before Cabinteely Village
- BIN 243 N11 north bound after the junction with Cornelscourt
- BIN 112 Rock Road at the bus stop after Blackrock College
- BIN 134 Rochestown Avenue at the hospital entrance
- BIN 246 Brighton Road at the junction with Claremont Road

These bins will be removed as others are required in alternative locations.

## **3. Bins to be Fitted with Restrictors Due to Dumping of Household Waste:**

The following bins have recorded high levels of household waste disposal and in response to this we have begun installing restrictors. This serves to reduce the size of items being disposed of and helps to reduce household waste disposal of small to medium sized rubbish bags.



Fig. 9: Bin Fitted with a Restrictor

- BIN 200 Bayview



Fig. 10: Bin 200 – to be fitted with a restrictor to discourage disposal of household waste



- BIN 266 Stillorgan Heath Outside St. Raphaela's School



Fig. 11: Bin 266 – to be fitted with a restrictor to discourage disposal of household waste

- BIN 271 Lower Kilmacud Road at the Bus Stop, outside the shops at the Dundrum End



Fig. 12: Bin 271- to be fitted with a restrictor to discourage disposal of household waste

- BIN 356 Broadford Road at Bus Stop on Stonemasons Way end



Fig. 13: Bin 356 – to be fitted with a restrictor to discourage disposal of household waste

- BIN 371 Breamor Road at Bus Stop Outside Shops



Fig. 14: Bin 371 – to be fitted with a restrictor to discourage disposal of household waste



- BIN 388 Deer Park Southern Entrance



Fig. 15: Bin 388 – to be fitted with a restrictor to discourage disposal of household waste

#### 4. Bins to be Relocated to Locations for Safer Access by Crews:

- BIN 202 Corbawn Lane – Bin to be relocated to the Bus Stops. Tidy Towns to be informed of the repositioning.



Fig. 16: Current position of Bin 202



Fig. 17: Proposed position of Bin 202 highlighted in red



## **5. Proposed Locations for New Bins**

- 1) Dún Laoghaire – George’s St: A second bin is required here because the existing bin requires emptying more than once a day, and this is leading to inefficiencies in the bin emptying system.
- 2) The Gallops: Further to requests, it was agreed to install a bin at this location due to the proximity to a school and shopping centre. This is a pilot installation, as the location is close to a housing estate, which tends to attract disposal of household waste.
- 3) Sallynoggin Park: Further to requests, it was agreed to install a bin at this location to cater for park users.
- 4) Ballyogan Depot: No smart bins were initially installed at the depot as priority was given to public spaces. However, it is now considered prudent to have a smart bin at the depot for testing etc.
- 5) UCD at ‘Mechanic on Duty’ Shop: A second bin is required here due to very high use of the existing bin – BIN 287.
- 6) Blackrock – Main St.: A second bin is required here because the existing bin, BIN 127, outside the Bank of Ireland requires emptying on average once a day, and this is leading to inefficiencies in the bin emptying system.
- 7) Dundrum : A second bin is required beside this bin – BIN 334, Dundrum Road Bus Stop at Flanagans Funeral Home due to high usage.

It is proposed to install these bins by early January 2018.

## **6. Disposal of Household Waste**

The disposal of household waste has become an increasing problem over the last number of years. There has been an increase in the weight of waste disposed via the street bins of approximately 40% in the last two years, largely due to the increase volumes of household waste.

There is a perception held by the public that it is acceptable to use the street bins for disposal of their waste, regardless of its origin. Disposal of household waste in street bins constitutes a breach of the Litter Pollution Act, 1997 Part II Section 3(3), and offenders are liable to be fined.

Generally it is found that dumping of household waste in street bins occurs close to housing estates. This is why we refrain from placing bins in these locations.

Cleansing Section Smart Bin Review 2017	Revision: Version 2	Date: December 2017
Page 19 of 22		

### **=> Addressing the Problem**

We are taking the following measures to reduce the volume of household waste being disposed of in street bins:

- 1) A further 20 bins are to be fitted with restrictors.
- 2) Notices are being posted on the bins that are most prone to household waste disposal to inform the public of the details of the Litter Pollution Act.

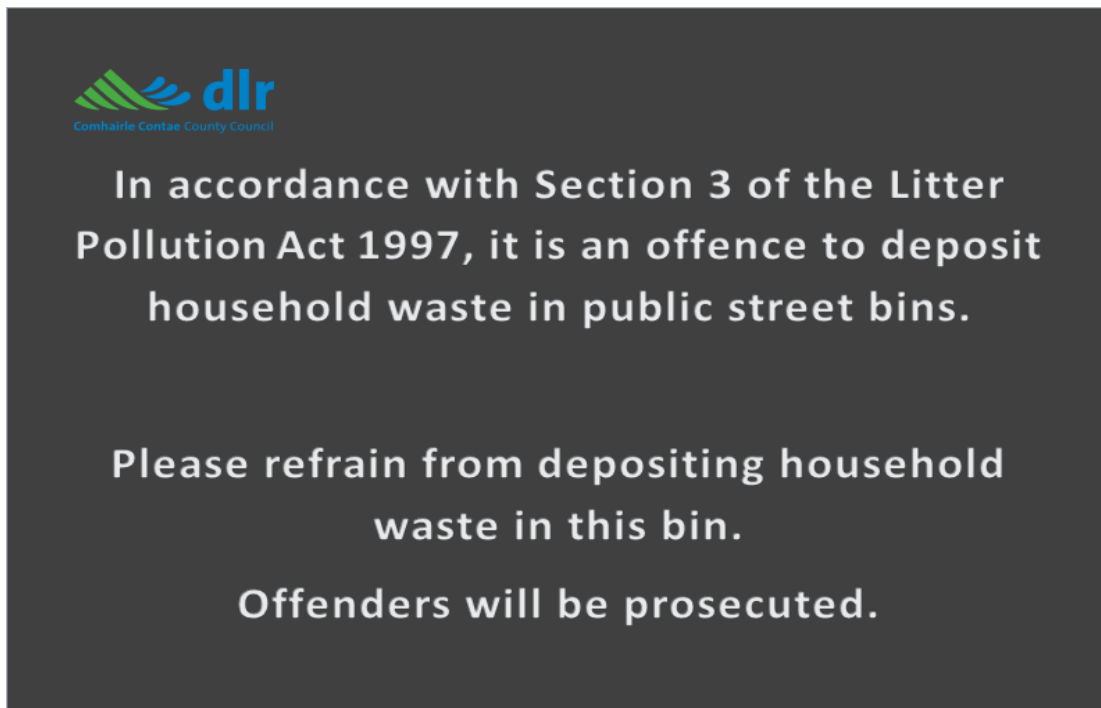


Fig. 18: Notices on Bins Informing the Public of the Household Waste Disposal Offence



Fig 19: Notice placed on a bin

3) There will be increased liaison with litter wardens to tackle offenders.

If the measures above do not result in a reduction in the disposal of household waste in bins, then it is intended to remove the bin from the location.

## 7. Access and Traffic Management

The following bins were requested to be moved by Cleansing Section staff due to access problems. Following review and further consultation with the crews, rather than moving the bins, new strategies for collection were agreed upon:

- BIN 114 Booterstown Dart Station – Crew to park at the bottle bank inside Dart Station Car Park
- BIN 138 BIN O/S the Graduate Bar – Crew can set down inside the car park of the graduate for access
- BIN 355 Hockey Club at Marley Park – No visible issue to parking – access gate to Marley Park at this point.

Cleansing Section Smart Bin Review 2017	Revision: Version 2	Date: December 2017
Page 21 of 22		

## **8. Proposed Date of Next Street Bin Review**

The next Street Bin Review will take place on April 3<sup>rd</sup> 2018. Any requests for new bins or bins to be relocated will be considered at this review.