

Case Study - Douglas Borough Council

The town of Douglas is the capital of the Isle of Man and is the business, leisure and entertainment centre of the Island. Douglas accounts for a third of the population of the Island and is the seat of the Manx parliament, Tynwald, which, at more than 1,000 years old, is the oldest continuous parliament in the world.

As part of the Borough's continual drive to improve services for residents and visitors, the Council's Waste Services team undertook a survey that identified a number of problems associated with servicing street litter bins across the region and investigated solutions to solve these problems.

Background

In 2012, the Council had a portfolio of 450 street litter bins distributed throughout the Borough which had been purchased over a 20 year period from a number of different bin manufacturers. A typical week would comprise each crew working systematically around all of the bins in their respective zone and removing the bin bags of waste in to 3.5 tonne caged tippers, which in turn would be delivered to the Energy from Waste (EFW) site as soon as the vehicle reached its maximum payload.

Problems identified during the survey included:

- Crews having to travel significant distances throughout the day attending bins that did not need emptying.
- Litter bins had historically been situated in response to outside requests rather than through any logical evaluation process.
- A lack of detailed information regarding bin locations and the number of bins meant that sometimes bins would not be emptied.
- The caged vehicles used had a limited spatial and payload capacity (800kg) meaning that trips to the EFW were frequent and economically inefficient.
- Repeatedly lifting heavy bin bags on to the vehicle could lead to injuries.
- A lack of consistency across bin types required operatives to carry multiple keys and for stores to hold multiple spare parts.

Objective

Having identified the main issues above, the Waste Management Team set a target to reduce the litter bin collection crews from two teams to one and the number of bins by 25%. The released collection crew would be deployed on other high priority activities.

Solution

The Council embarked on a phased plan to use waste technology solutions and fill level monitoring to address the issues identified from the survey.

In 2015, the Council embarked on a trial of the Enevo platform across 30 bins in strategic locations utilising 240L wheelie bins inside a traditional 'Derby' style housings.

Using an Enevo fill level sensor combined with right-sizing the bins to larger 240L wheelie bins, the Council realised they could deliver a significant reduction in collections due to the increased capacity and predictive fill level reporting from the Enevo analytics platform.

Following the successful trial of the Enevo platform, the Council increased the deployment of Enevo enabled 240L bins by a further 100.

In addition, the Council Waste Services also purchased a 7.5 tonne (mini) refuse collection vehicle with a lifter to handle the wheelie bins.

Results

The primary objectives of the project were to reduce the number of servicing crews from two to one and reduce the over proliferation of litter bins in use from 450 by 25% to 337.

To date the Council now has around 350 litter bins in circulation (22% reduction to date without any adverse environmental impact) with 130 fitted with bin sensors which are situated in areas with high footfall and usage.

Enevo optimisation has enabled reduction in collections even further whereby the crew is only committed to litter bin servicing 3½ days per week, freeing resources to carry out other priority tasks.

- 50% reduction in collection trucks / crew
- 22% reduction in bins
- Staff redeployed to street cleansing



In 2017, Douglas Borough Council Waste Services Team were given the Keep Britain Tidy Award for Quality Improvement, based on the results of the Enevo project.

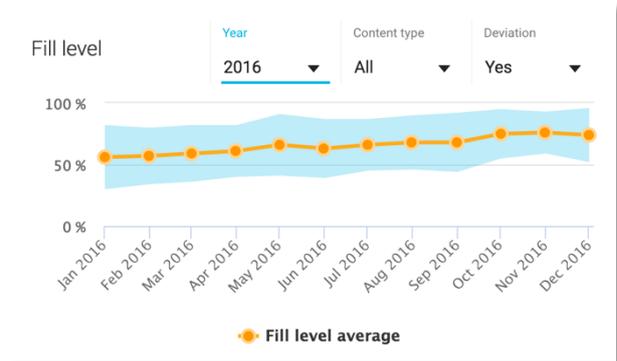
Benefits

Increased Street Cleansing

The resources released from street litter collection has allowed additional service tasks to be undertaken. As part of Douglas Town Centre regeneration, the Council made a commitment with its co-partners to increase the quality of cleansing in the Town Centre. The operating efficiencies achieved in the litter bin schedule have enabled this new work to be absorbed without the need for additional staff, but of equal importance no redundancies arose from the exercise either.

Reduced Overfill

Enevo data informing the Council of when the bin is nearing capacity will help avoid the familiar problem experienced in seaside towns of overflowing bins and subsequent seagull problems.

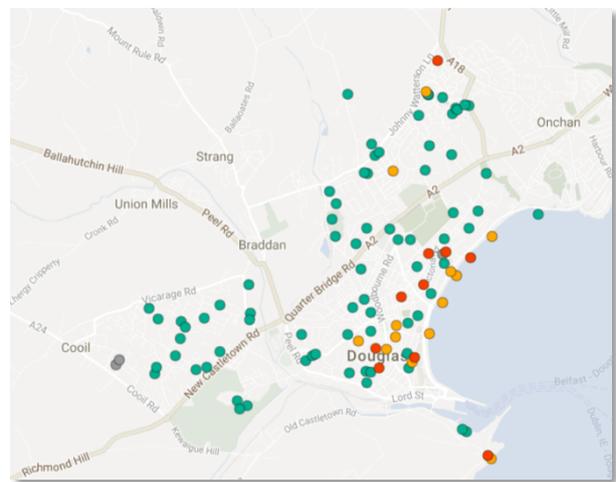


Reduction of Littering

Improved service levels in the Town has helped reduce the immediate rural countryside from being blighted by litter.

Lower Carbon Footprint

Collection route optimisation has minimised the effects from bin over-servicing and reduced the number of trucks used to collect litter bins. This in turn has reduced the amount of miles travelled by the collection teams, thereby reducing the Council's overall carbon footprint.



Manual Handling Risk Reduction

Potential manual handling injuries has been mitigated further through the combined solution of reduced bin servicing and right-sizing to larger bins and mechanical bin lifters rather than lifting heavy bin bags.



“Douglas Borough Council has deployed the Enevo solution in our litter bin stock around the Promenade and surrounding areas of Douglas with excellent results which amply complement the Council’s investment in town centre regeneration. The sensor-equipped litter bins have now been able to contribute towards a 50% reduction in collections. One of the two vehicles that was deployed to empty the litter bins has now been redeployed on to other cleaning duties.” Councillor Ritchie McNicholl, Douglas Borough Council’s environmental services committee chairman.

Future Plans

The Council is planning to expand the Enevo platform in rural locations to reduce the high mileage collection routes currently driven by the collection teams and further release resources in order to provide better services to the local community.