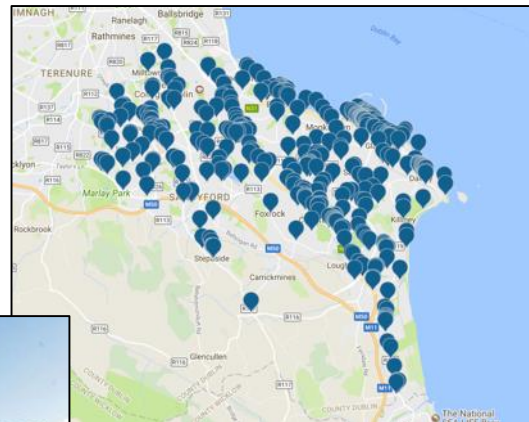


Tom McHugh
Dun Laoghaire
Rathdown County
Council

*Deputy Chief Executive,
Director of Municipal
Services*



Background

- 520 litter bins maintained
- Reduced emptying due to reducing resources
- Capacity issues
- 5 solar compacting litter bins installed in 2010



Project Proposal

- Replace the entire existing stock of 520 litter bins with 401 solar powered compacting litter bins (smart bins)



Project Proposal

- New litter bins installed in similar locations as existing bins
- Reduce the number of bins by removing a litter bin if in close proximity to another litter bin
- Extend the service to include entrances to large and medium sized parks

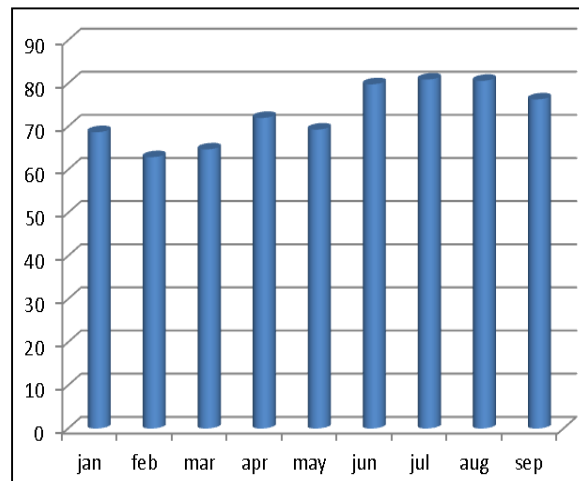
Stakeholder Consultation

- Architects
- Planners
- Parks
- Conservation/Heritage
- IT Department
- Elected representatives
- Community groups

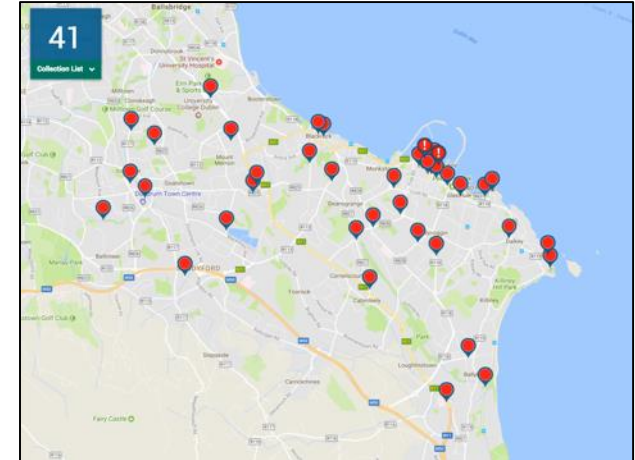
Trial period

- Increased the number of smart bins to 20
- Monitored the emptying over a 9 month period
- Trial resulted in a reduction from over 500 empties to 73 empties per day

Trial Period Collections



- [illegible]



Email System

Email sent when:

- Bin is 90% full
- Bin is 95% full
- Door is left open
- Other problems with bins

Account	DunLaoghaire Rathdown Council
Station ID	2404785
Waste Stream	Trash
Description	Cabinteely Village Access
Status	90% Full
Timestamp	2014-09-22 14:15:29

Account	DunLaoghaire Rathdown Council
Station ID	171197
Waste Stream	Trash
Description	East Pier, Queen's Road
Status	95% Full
Timestamp	2014-09-24 14:27:21

Account	DunLaoghaire Rathdown Council
Station ID	173997
Waste Stream	Trash
Description	Taxi Rank, Dundrum SC
Alert Type	Door Left Open
Timestamp	2014-09-26 11:20:45

Emptying Procedure (Average Weight 17kg)

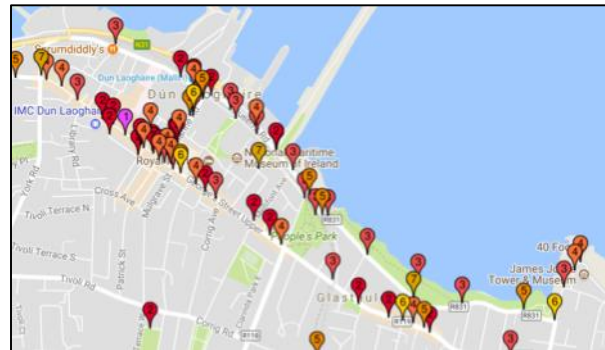
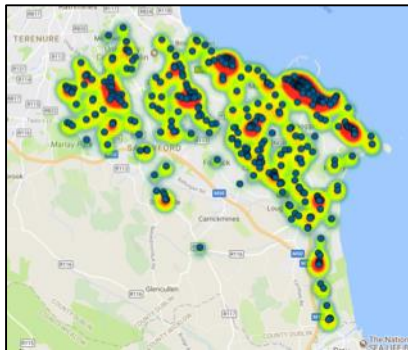
- The liner is placed on a trolley (newer models have wheels and handles on the bin liner similar to suitcases)
- Use tail lift on the side of a vehicle to lift the bag into the rear of the vehicle



Reporting System

- Frequency of bins emptied (with indicative heatmaps)

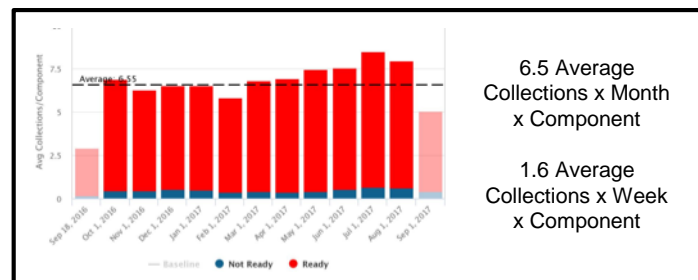
Serial	Description	Stream Type	Capacity	Avg. Days to Full
2503361	IL - 220 - N11 northbound, at bus stop before Cabinteely Village	HC	HC	23.6 days
2503351	JL - 246 - Brighton Road, junction with Claremont Road	HC	HC	20.9 days
2503386	LK - 297 - N11 southbound, at bus stop, after junction with Kili Lane	HC	HC	20.5 days
2503283	EH - 112 - Rock Road, at bus stop, after Blackrock College	HC	HC	20.0 days
2503369	Jr - 243 - N11 northbound, after junction with Cornelscourt village	HC	HC	16.8 days
2503929	IX - 232 - Clonsilla Road, on same side of the road as Dunes Stores	HC	HC	16.5 days
2503362	IP - 224 - Cabinteely Village, beside Taxi Rank opposite the Garden Shop	HC	HC	15.8 days
2503934	IQ - 225 - Cabinteely Village, at Plaza Republic	HC	HC	15.6 days
2503421	FM - 143 - Johnstown Road, at bus stop, opposite house no. 13	HC	HC	15.2 days
2503377	IC - 219 - N11 northbound, at bus stop opposite Esso garage	HC	HC	15.1 days
2503280	AA - 1 - Foxrock Park, opposite 28	HC	HC	15.0 days



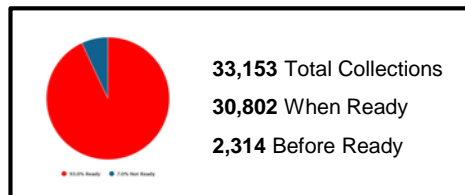
Efficiency Measurement

- No need to empty before bin is full
- Current efficiency rate is 93%

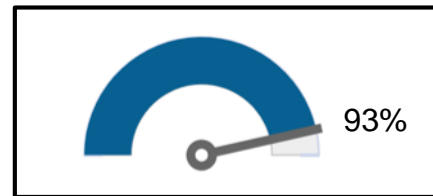
Collection Summary (Last 12 Months)



Collection Activity (Last 12 Months)

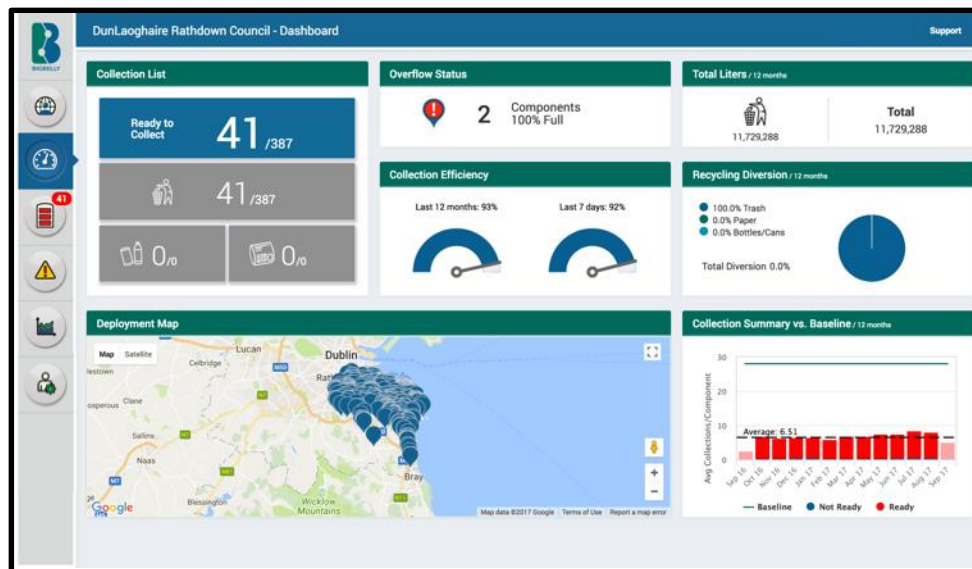


Collection Efficiency (Last 12 Months)



Potential Public Access

- The public could get access to the current status, efficiency and other information



Sensors

- Sensors can be set up temporarily or permanently
- Sensors can be added to record:
 - Pollen counts
 - Footfall counts
 - Traffic counts
 - Noise pollution
 - Air quality

Wi-Fi Capability

- Wi-Fi is available in a limited capacity from each bin
- If connected to a mains supply, there could be unlimited Wi-Fi available from each bin for a radius of approximately 25m

Annual Cost

- Option to lease or purchase
- Minimum life of 7 years
- Annual costs includes repayments to capital, maintenance & software licence
- Total annual cost approximately €300,000 over 7 years

Annual Savings

- Reduction of 3 staff members
- Reduction in fleet of 3 vehicles
- Reduction in bin repair and bag usage
- Total savings = approximately €200,000 per year
- Potential for income from advertising = €100,000 per year



First 12 Months of Service

- Average time between bin empties is 4.4 days
- Average number of bins collected per day is 74
- Reduction of 85% in the number of bins emptied on a daily basis

Learnings

- Consultation
- Pilot Phase
- Locations
- Domestic Refuse Use
- Weights
- Advertising

