



Case Study

Evaluation of Enevo Bin Level Sensors in above ground 1100 litre communal recycling bins in the London Borough of Islington Council

Paddy Knowles
Senior Consultant APSE

Trial Round (ER2)

- 1 of 6 dry recycling rounds
- Communal Dry Recycling
- Commercial Collections **(limited number No sensors)**
- Some (Cold Calls) **(No Sensors)**

- 412 bins fitted with sensors

- Made up of 1100 & 1280 Litres Euro Containers
 - Some 240 & 360 Litre Wheeled Bins **(No Sensors)**
 - Some clear sacks (use of estate bags)



Pre & Post Collection Data

Bins recorded below set fill level



	80% fill level	60% fill level	Bins left with materials in following emptying
<u>Pre Operational Data</u> Monday to Friday 2nd to the 27th November 2015	% Bins below 80% full level 47%	% Bins below 60% full level 17%	% Bins left with materials inside following collections 41%
<u>Post Operational Data</u> Monday to Friday 2nd to the 27th May 2016	% Bins below 80% full level 29%	% Bins below 60% full level 9%	% Bins left with materials inside following collections 22%
Reduction / Increase	- 61%	- 52%	- 53%

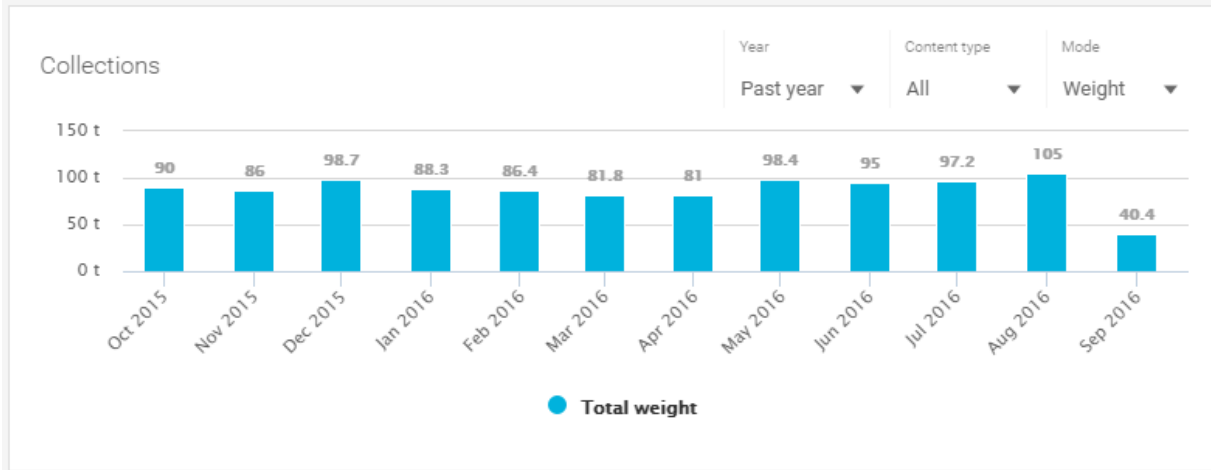


Pre & Post Collection Data

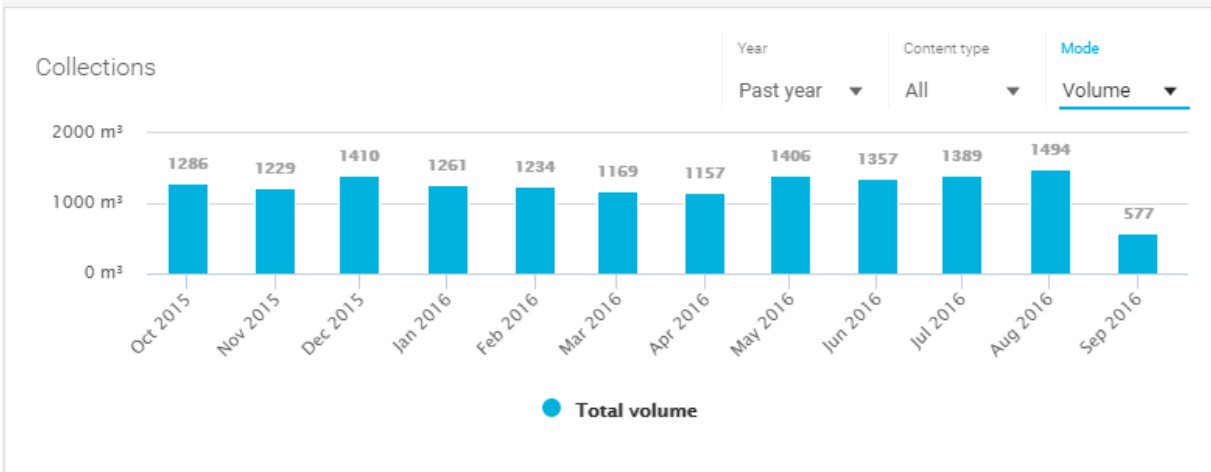
Bins recorded above set fill level

	80% fill level	60% fill level	Bins left with materials in following emptying
<u>Pre Operational Data</u> Monday to Friday 2nd to the 27th November 2015	Bins above 80% 53%	Bins above 60% 83%	% Bins completely emptied 59%
<u>Post Operational Data</u> Monday to Friday 2nd to the 27th May 2016	Bins above 80% 71%	Bins above 60% 91%	% Bins completely emptied 78%
Reduction / Increase	+ 25%	+ 9%	+ 24%

1. Weight



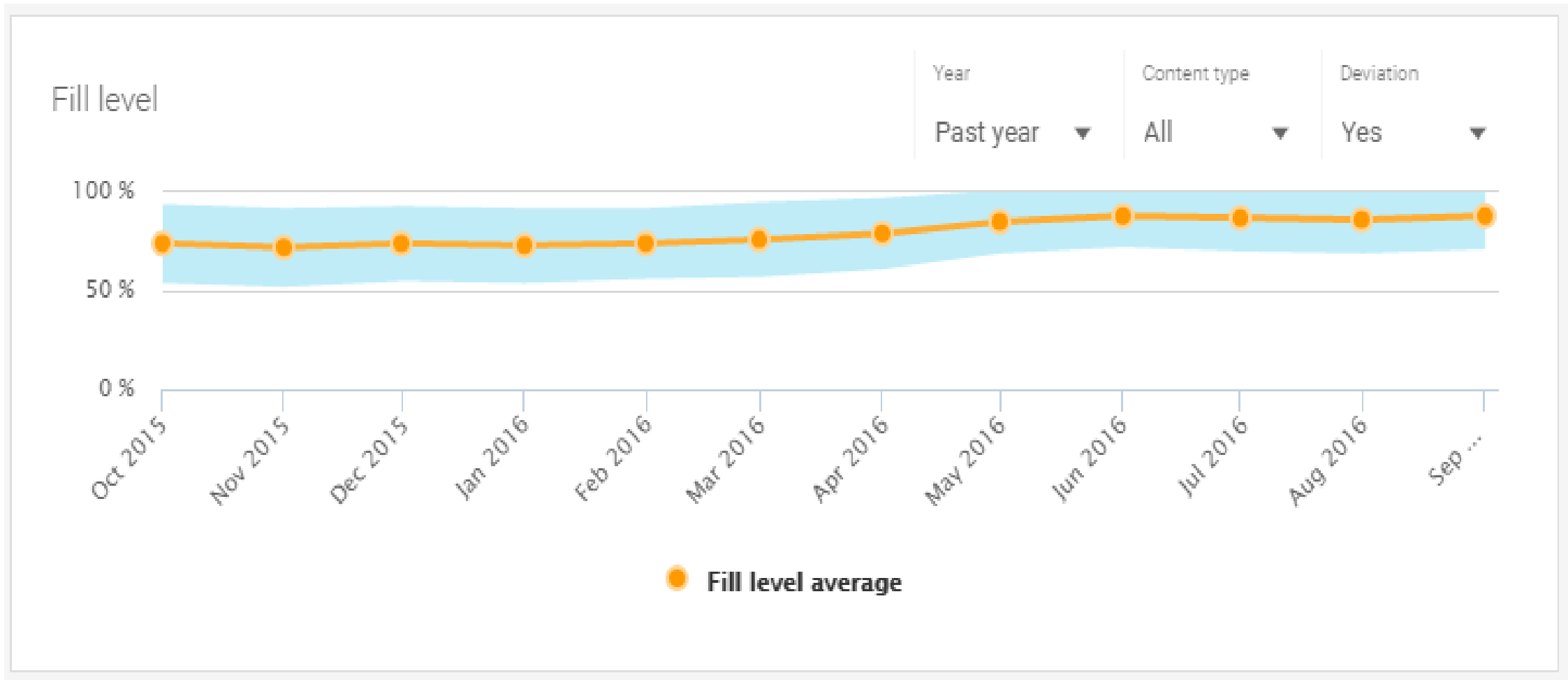
2. Volume



3. Collections



Fill Levels



Effective Operational Hours



Date	Designation	Ave Working Hrs per day	% + or -	Ave working hrs per week	% + or -	% Effective working hours per week	% + or -
November 2015	Loaders	5.25	+ 6.9%	26.25	+ 6.9%	75%	+ 7.41%
May 2016	Loaders	5.64		28.20		81%	
November 2015	Driver	5.56	+ 7.5%	27.80	+ 7.48%	79%	+ 8.13%
May 2016	Driver	6.01		30.05		86%	

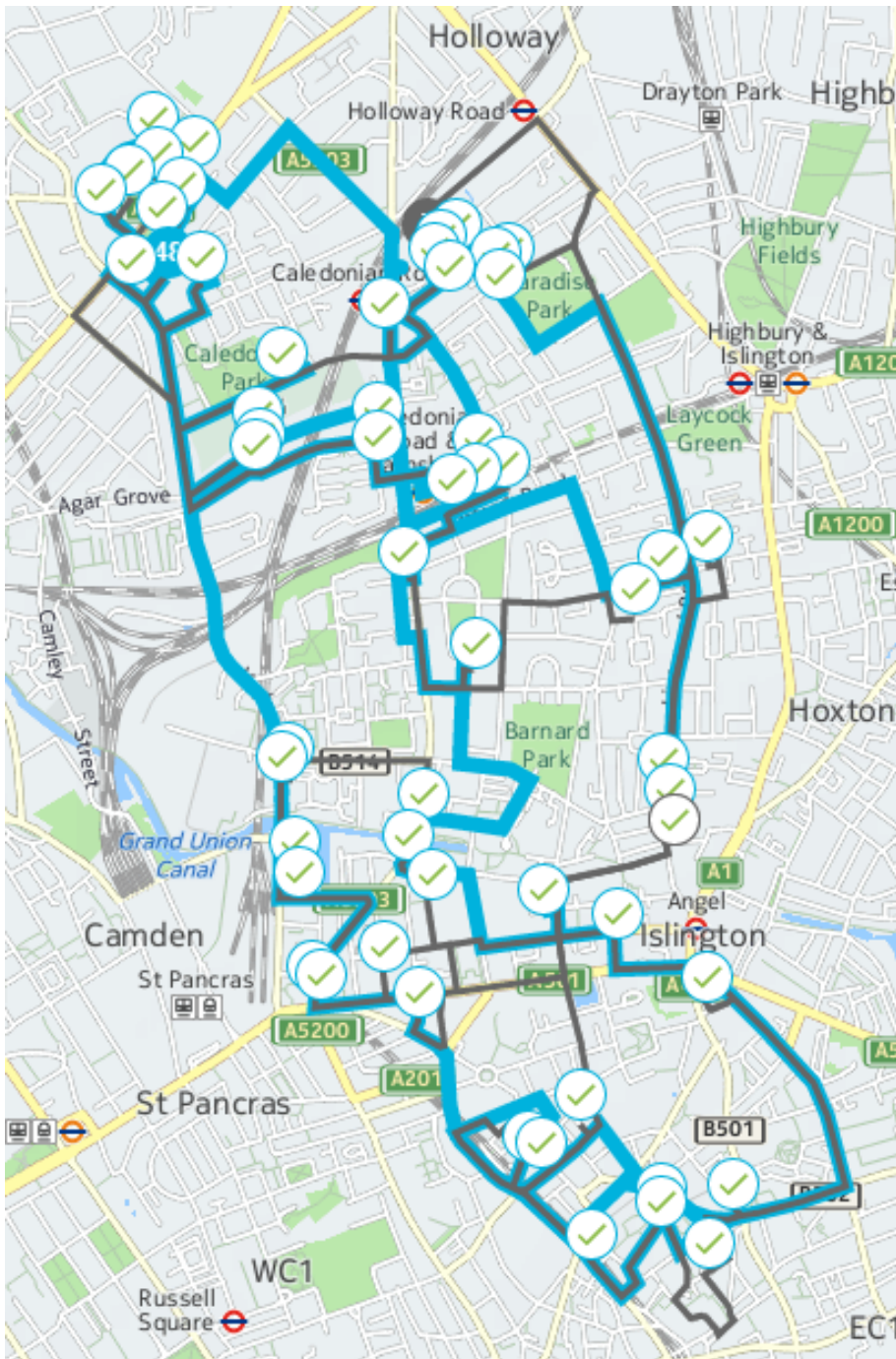
Environmental Benefits



	Distance travelled	Vehicle MPG	Gallons used	Conversion from Gallons to Litres	Litres used	Carbon emissions factor	CO2 Emissions Kgs CO2	Ave per day
Nov-15	391	2.12	184	4.54609	838	2.5813	2162.09	72.07
May-16	387	2.14	181	4.54609	822	2.5813	2122.14	68.46
Average	-1.02	+ 0.99	-1.75		-1.90		-1.85	-5%

Issues





- The system monitors the driven route against the optimised route.
- **Blue is the driven route.**
- **Black is the optimised route.**



What happened since

- **Frame work tender issued in February 2018.**
- **Contract awarded to Enevo in May 2018.**
- **Plans to deploy a further 600 sensors to cover general waste containers.**

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



INVESTOR IN PEOPLE



ISO 14001
REGISTERED FIRM

GB 11409



ISO 9001
REGISTERED FIRM

GB 11132



ISO 27001
REGISTERED FIRM

GB 14074