

REEN

APSE Street Cleansing Seminar

9th Feb 2023

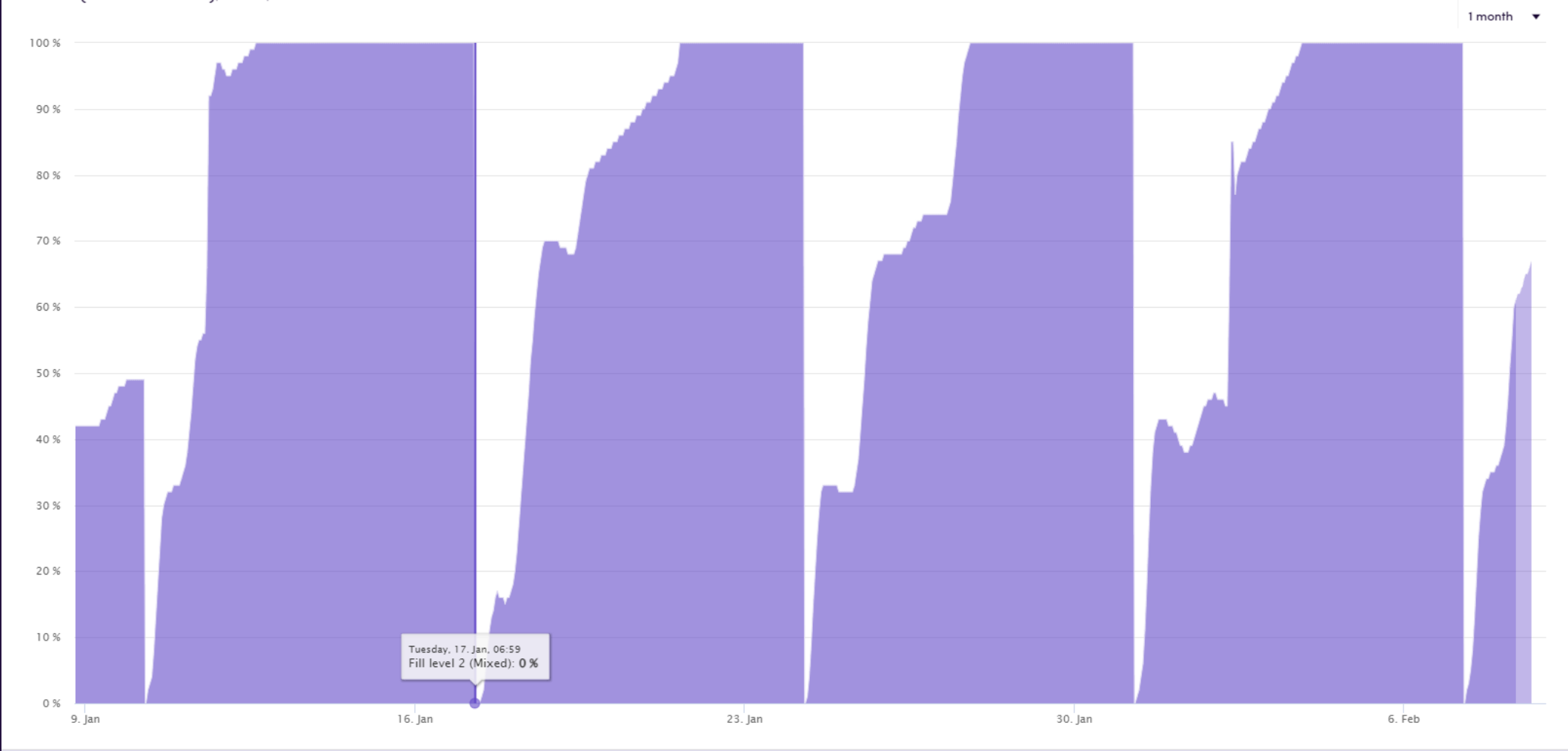
Eleanor Tang-Smith CCO



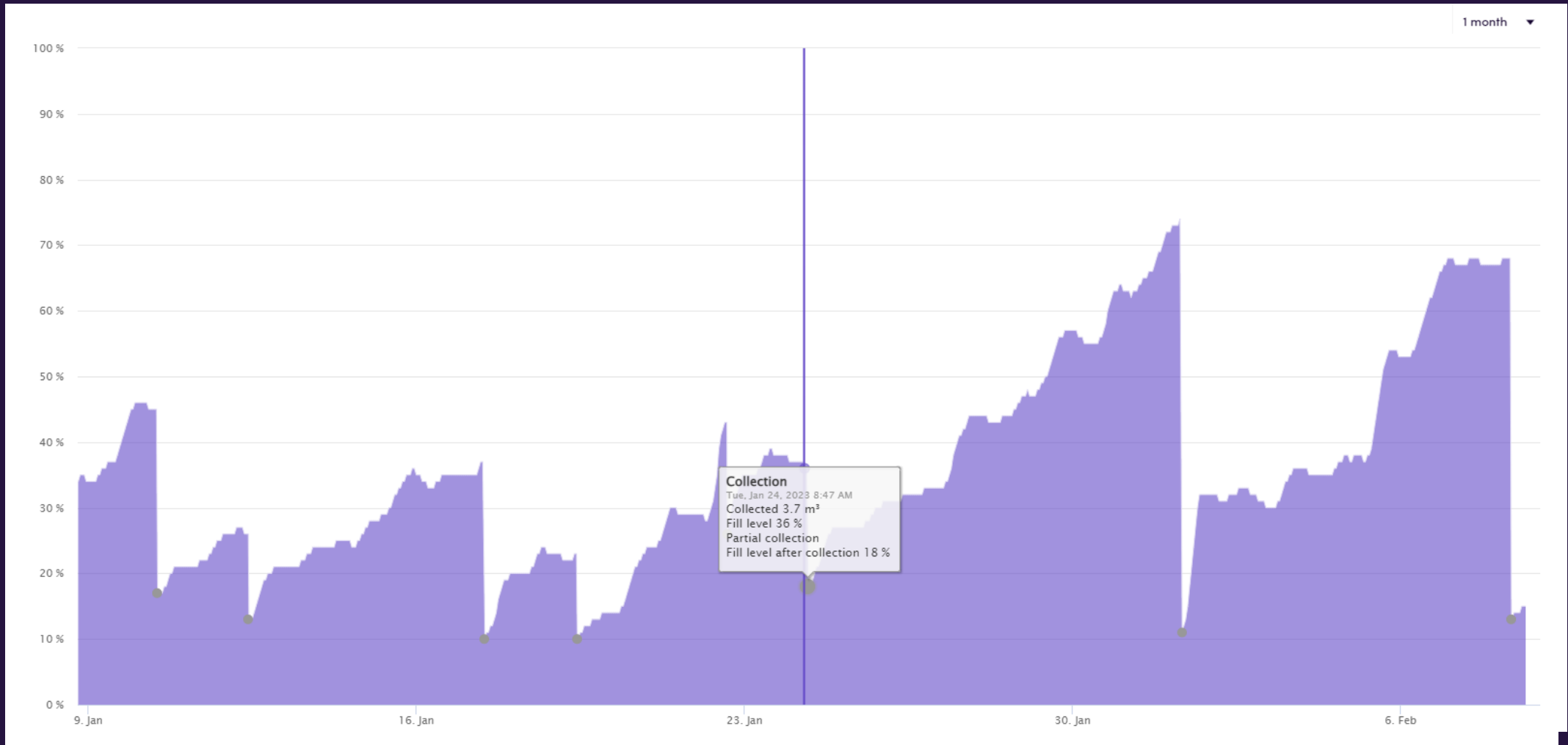
Bin sensors – telling you what you already know?



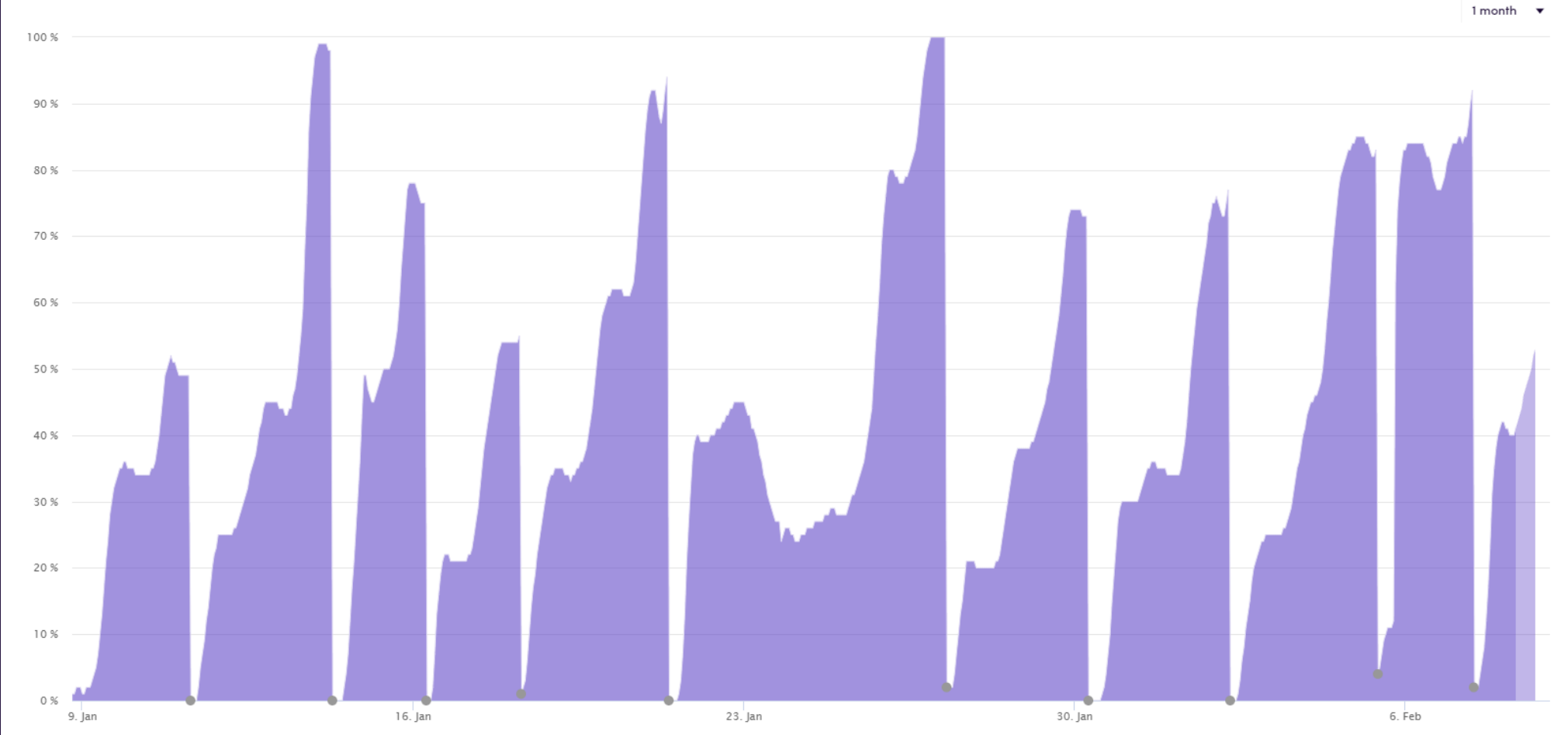
One Bin



Bank of Bins



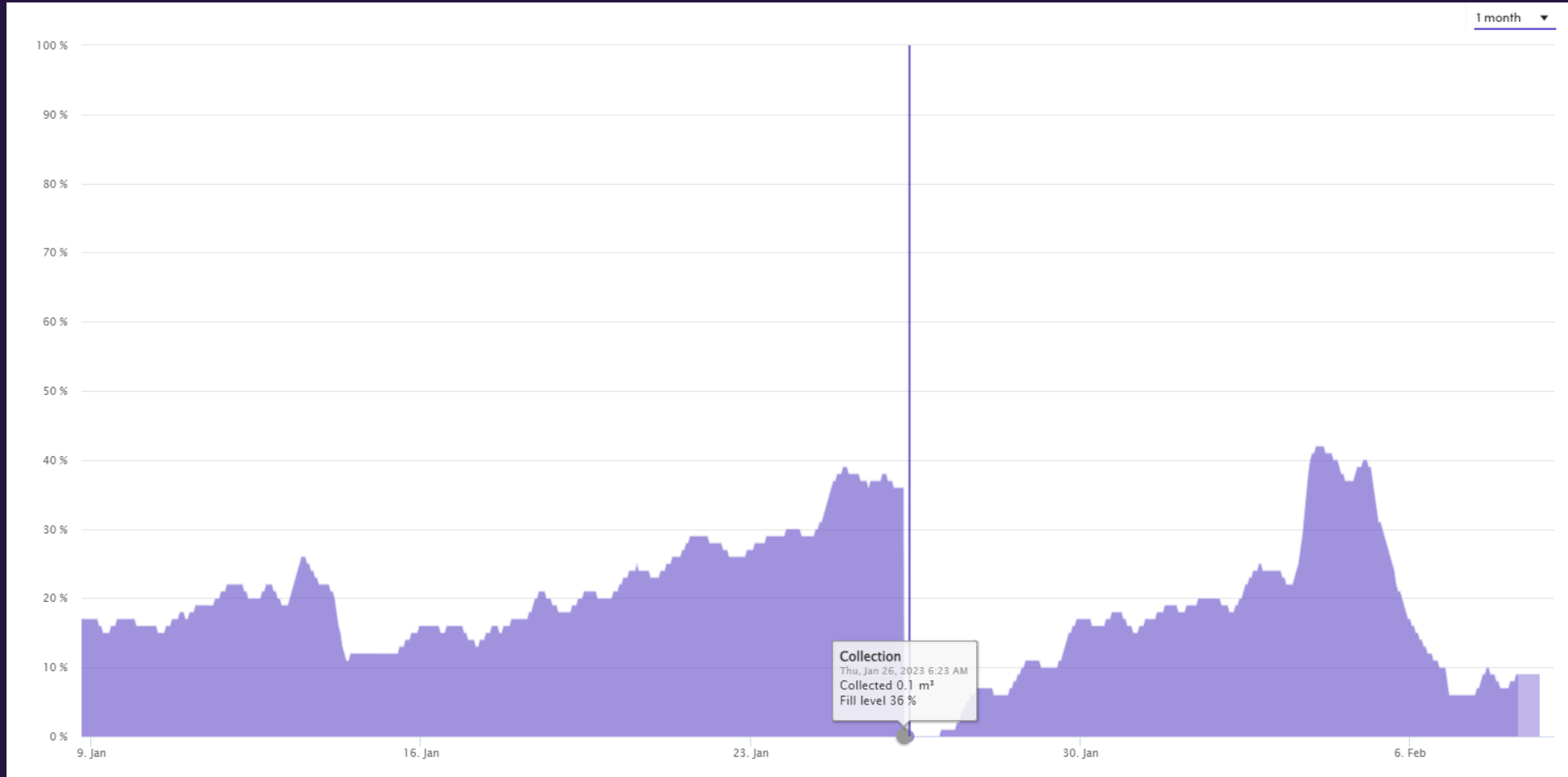
Location #1



Location #1



Location #2

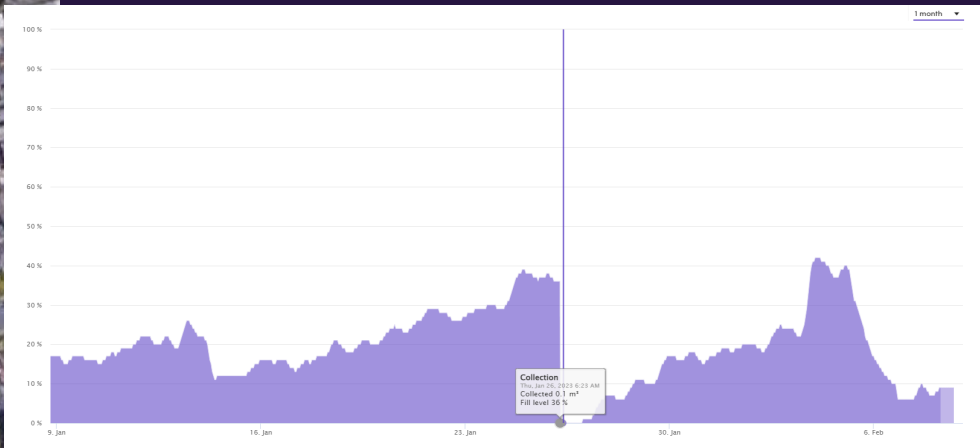
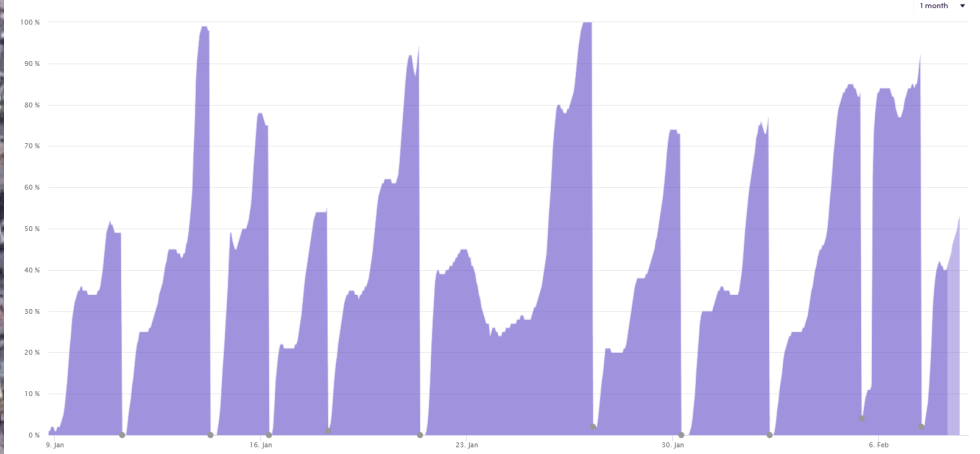


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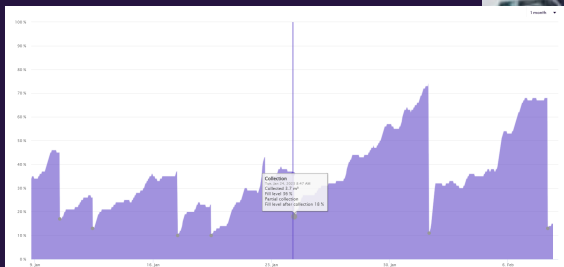
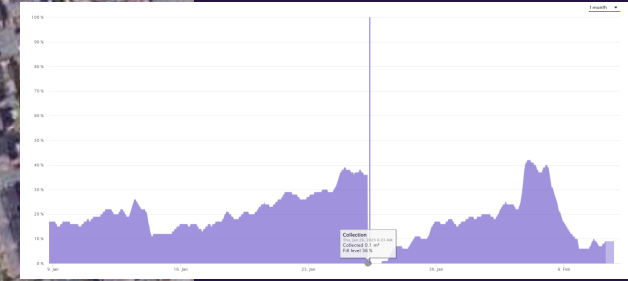
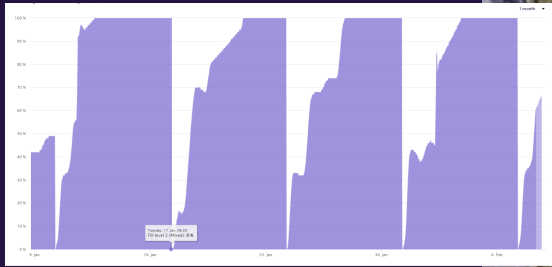
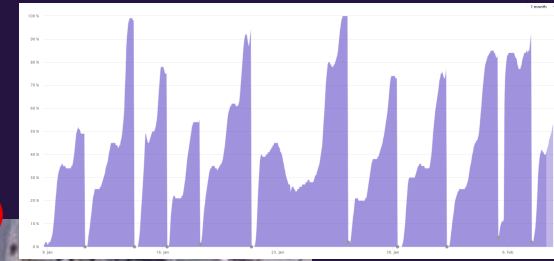
Location #2



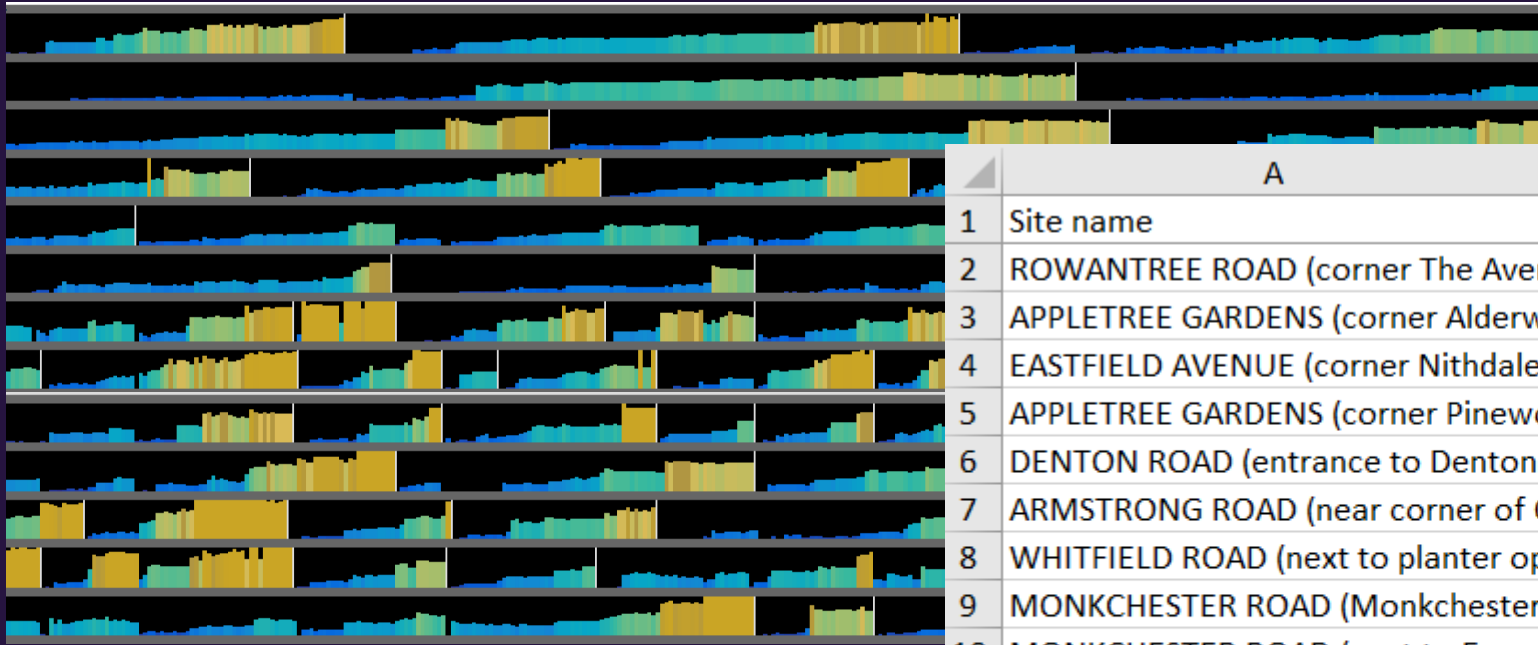
Behaviour - comparison



Area - comparison

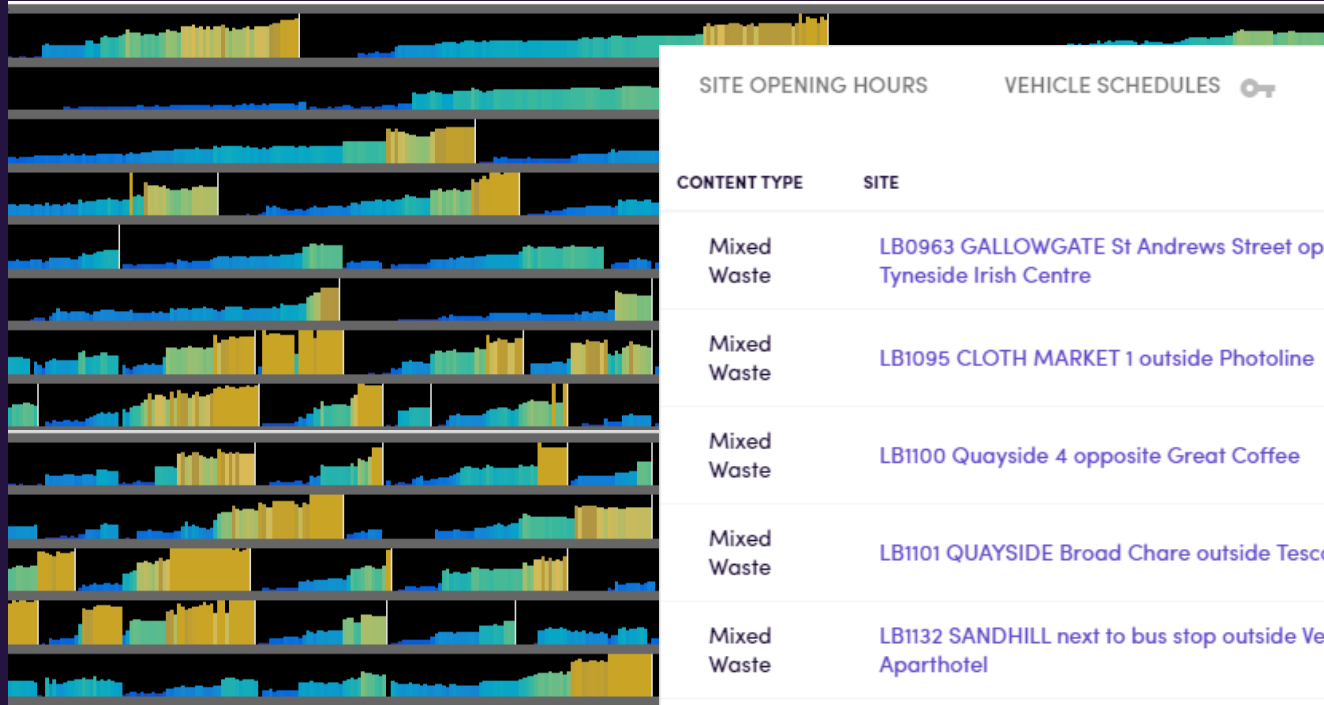


Bigger Picture...



	A	B	D
1	Site name	Address	Days to fill up
2	ROWANTREE ROAD (corner The Aver	Rowantree Road	3
3	APPLETREE GARDENS (corner Alderw	Appletree Gardens	16
4	EASTFIELD AVENUE (corner Nithdale	Eastfield Avenue	4
5	APPLETREE GARDENS (corner Pinewo	Appletree Gardens	10
6	DENTON ROAD (entrance to Denton	Denton Road	11
7	ARMSTRONG ROAD (near corner of C	Armstrong Road	7
8	WHITFIELD ROAD (next to planter op	Whitfield Road	8
9	MONKCHESTER ROAD (Monkchester	Monkchester Road	10
10	MONKCHESTER ROAD (next to Expre	Monkchester Road	5
11	RHODES STREET (bus terminus)	Rhodes Street	7
12	WELBECK ROAD (corner Cowen Stree	Welbeck Road	10
13	STAMFORDHAM ROAD (bus stop nex	Stamfordham Road	13
14	WELBECK ROAD (next to traffic lights	Welbeck Road	11
15	WHITTINGTON GROVE (path entranc	Whittington Grove	4

Bigger Picture...



SITE OPENING HOURS		VEHICLE SCHEDULES	RULES	EXCEPTIONS	<u>SCHEDULED VISITS</u>	MAX. INTERVALS
CONTENT TYPE	SITE	SCHEDULED	COLLECTION DAYS	ENDS		
Mixed Waste	LB0963 GALLOWGATE St Andrews Street opposite Tyneside Irish Centre	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1095 CLOTH MARKET 1 outside Photoline	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1100 Quayside 4 opposite Great Coffee	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1101 QUAYSIDE Broad Chare outside Tesco Express	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1132 SANDHILL next to bus stop outside Vermont Aparthotel	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1222 EXHIBITION PARK (next to bandstand) UG	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1226 EXHIBITION PARK (next to Cafe in the Park) UG	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1227 EXHIBITION PARK (next to boating lake opposite Wylam Brewery) UG	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	
Mixed Waste	LB1233 LEAZES PARK (entrance off Leazes Crescent opposite Les Petits Choux) UG	Every week	MON TUE WED THU FRI SAT SUN	Never	EDIT	

Bigger Picture...



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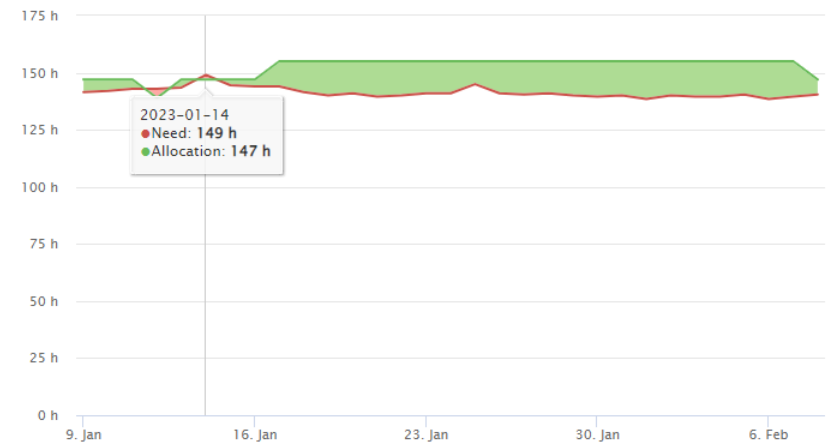
Current allocation



Somewhat under-resourced

Recommendation: Adjust vehicle schedules according to optimal allocation below.

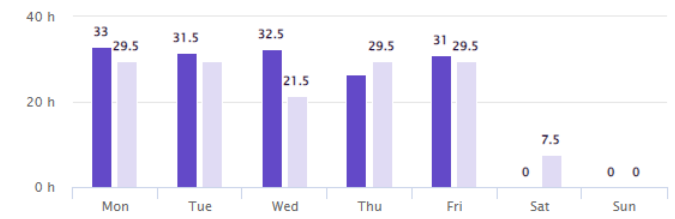
Capacity need vs. allocation



Optimal allocation

SAFETY MARGIN	WEEKLY ALLOCATION	CHANGE FROM CURRENT
5%	147.5 h	+0.5 h
10%	154.5 h	+7.5 h
15%	161.5 h	+14.5 h

Optimal allocation per weekday (10% safety margin)

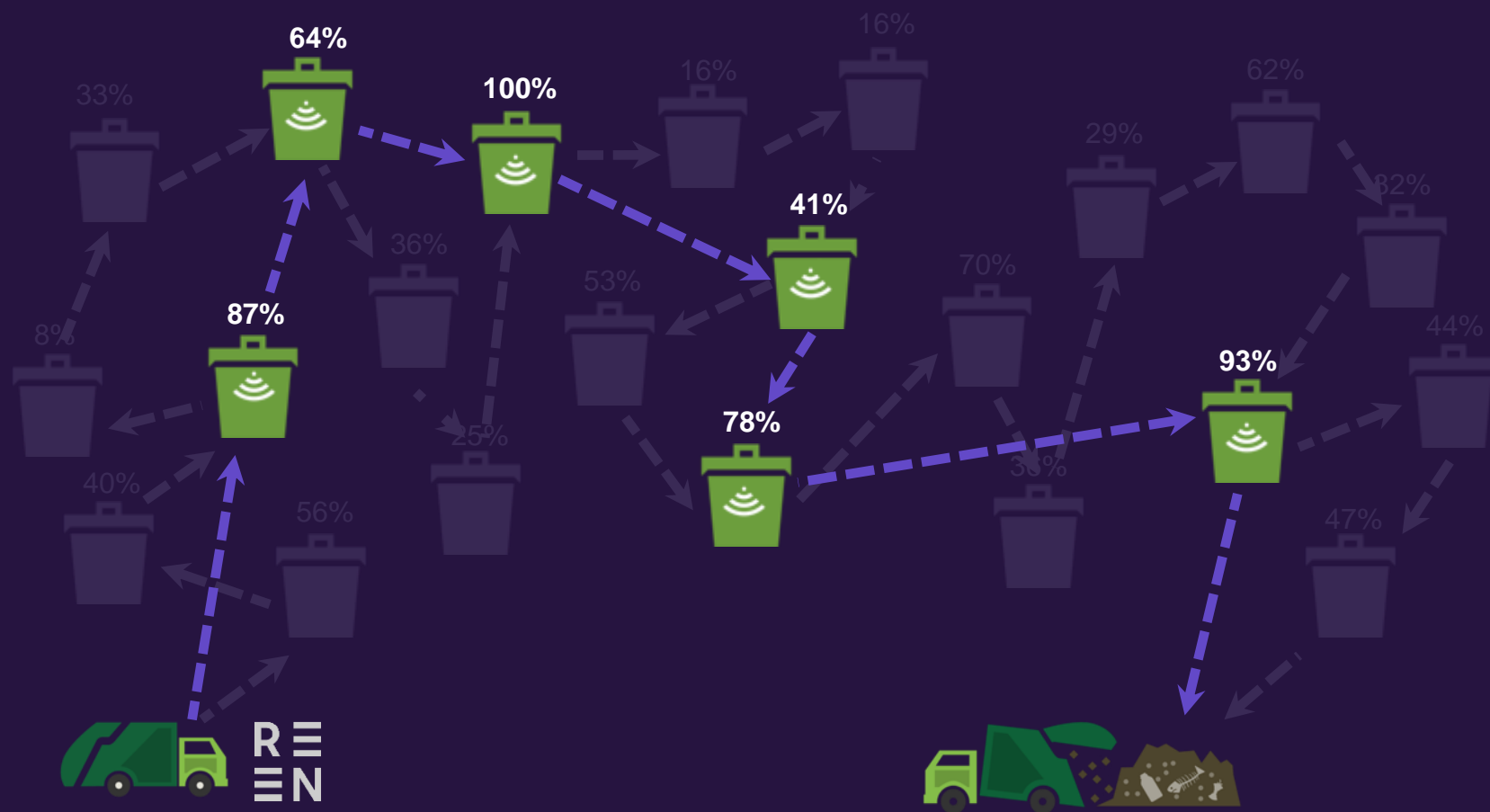


Data sets + time =
Actionable Decisions

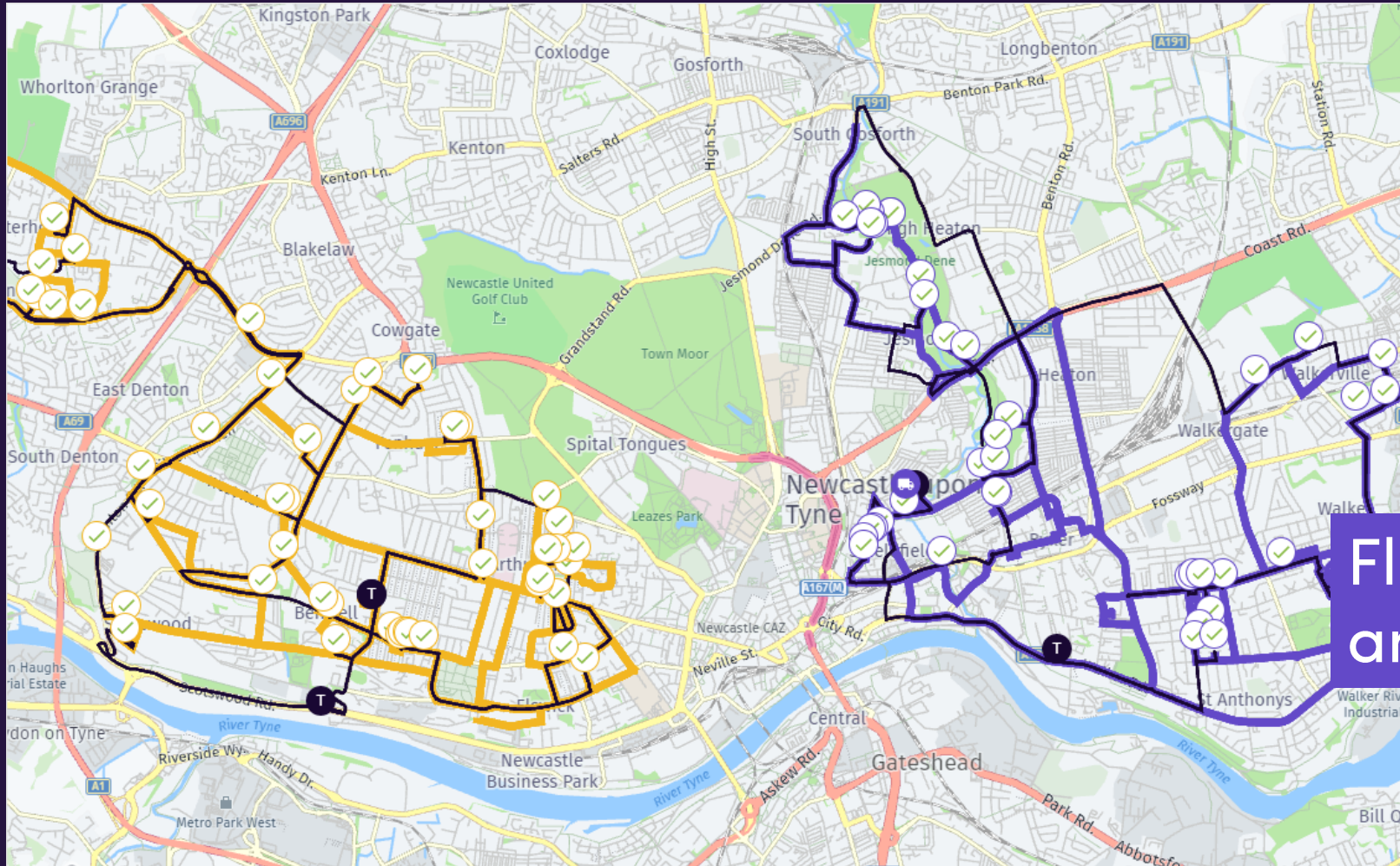
FROM: Static routes and schedules



TO: Optimised collection planning



REEN platform and apps



- Prediction to **prevent overfill** based on forecasts on an **optimised collection plan** that accounts for **minimal hours and driving distance** whilst maintaining **exceptional service levels**.

Flexible planning **with** and **without** sensors

The Results

Salford City Council

- Reduction of bins required from **180 to 82 bins**
- **30%** time saved



- **53%** Reduction in collection visits
- Supports in **design planning**



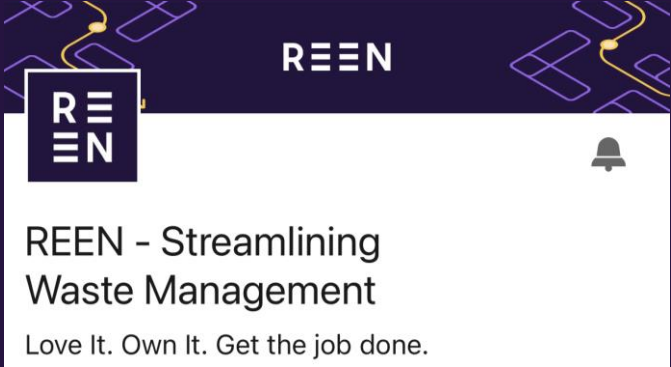
- **50+** locations **right-sized** from 240L to 360L bins
- **50%** of **resources re-allocated** to other under supported areas
- **51%** reduction in community complaints
- **49%** reduction in **carbon emissions**

- 1. Analytics and Reporting**
- 2. Driving Behaviour**
- 3. Task Management**

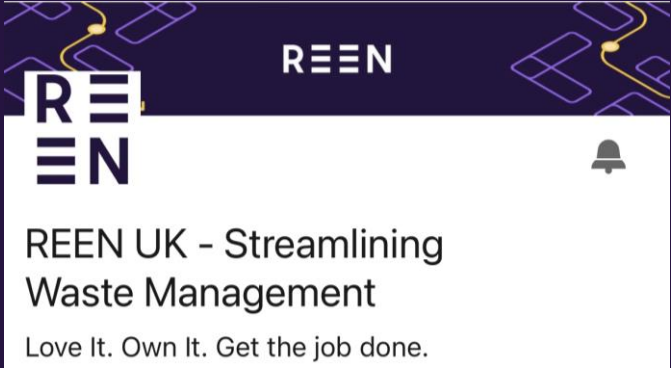
Connect with us: LinkedIn



A LinkedIn profile card for Eleanor Tang. At the top is a circular profile picture of a woman with dark hair. Below the picture, the name "Eleanor Tang" is displayed in bold. Underneath the name is the text "CCO | Strategic Leader | Connecting people with technology to improve insights and facilit...". At the bottom of the card is a large QR code.

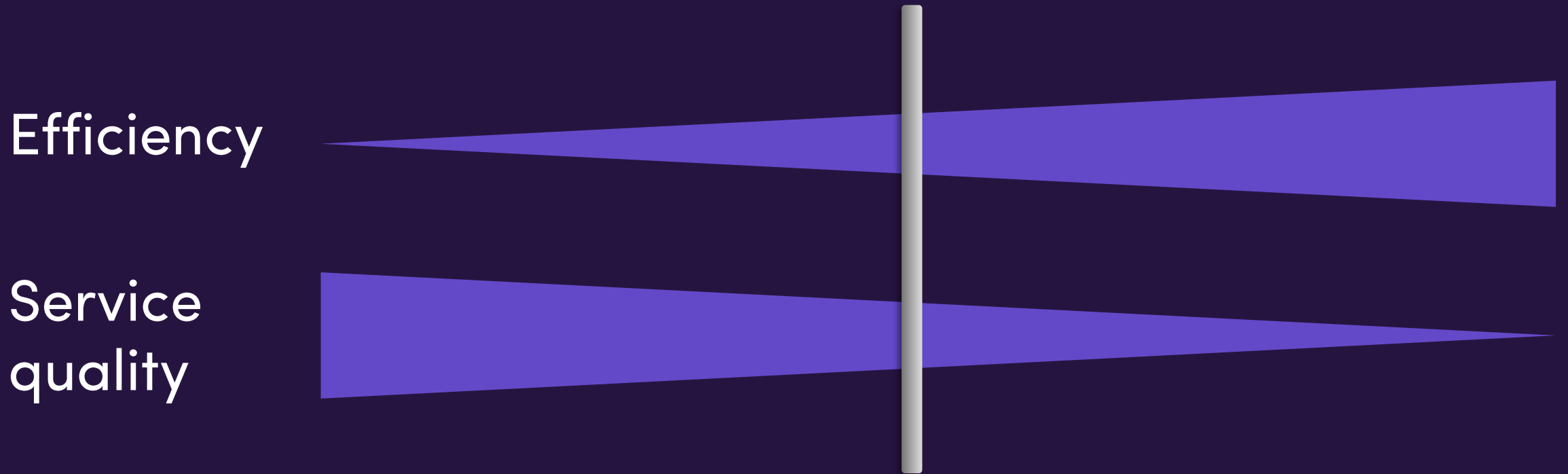


A LinkedIn post from the company REEN. The post features the REEN logo in the top left corner and a notification bell icon in the top right. The main text of the post reads "REEN - Streamlining Waste Management" followed by the tagline "Love It. Own It. Get the job done." The background of the post has a decorative pattern of purple and yellow lines.



A LinkedIn post from the company REEN UK. The post features the REEN logo in the top left corner and a notification bell icon in the top right. The main text of the post reads "REEN UK - Streamlining Waste Management" followed by the tagline "Love It. Own It. Get the job done." The background of the post has a decorative pattern of purple and yellow lines.

The Efficiency-Quality Trade-Off



Collection optimization is always a trade-off between efficiency and service quality. The balancing between the two can be controlled by Advanced Routes configuration parameters.

The Pizza Box Question



It needs to be emptied...