



16·17·18

Settembre

2025

7th Edition

Waste management performance in the City of Westminster, London

*Calculating KPIs, performance and continuous
improvement for outsourced service provision.*

Jarno Stet

Waste & Recycling Manager

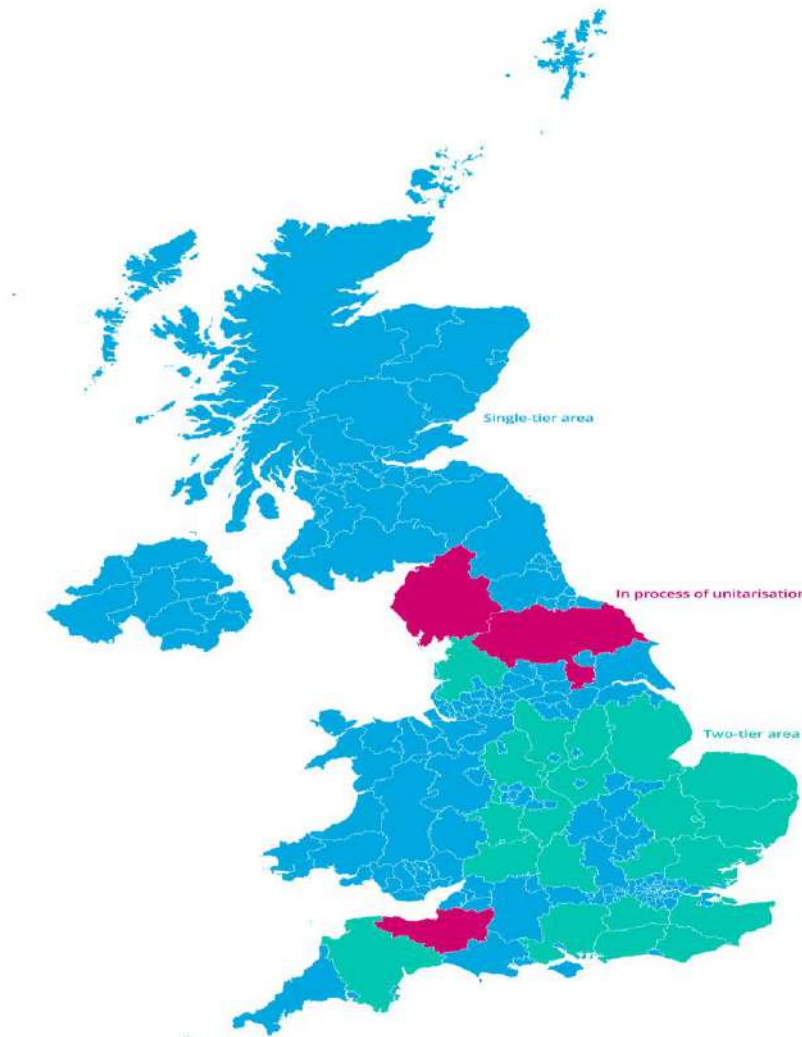
Westminster City Council, London

Waste management by local government in the UK

Who does what (legal duties)?

	collection & treatment
Northern Ireland	11
Scotland	32
Wales	22
total	65

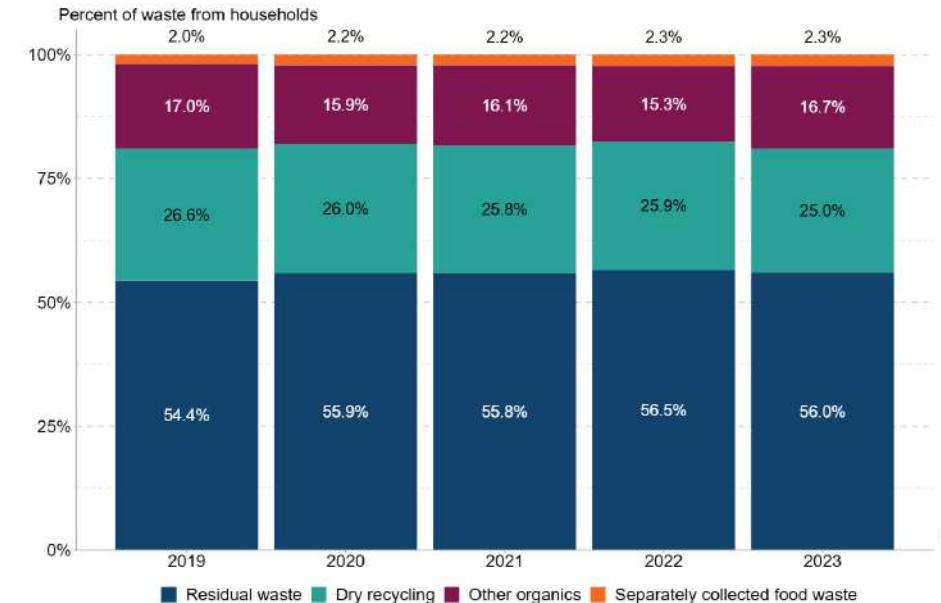
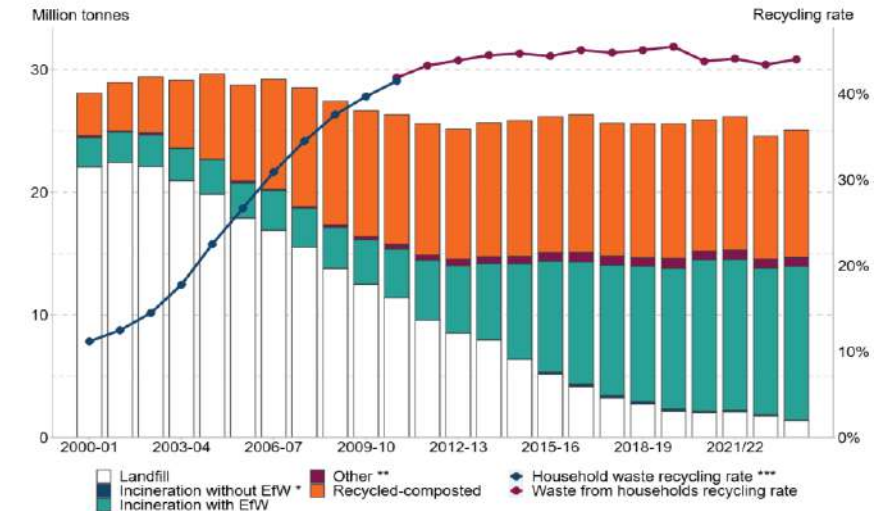
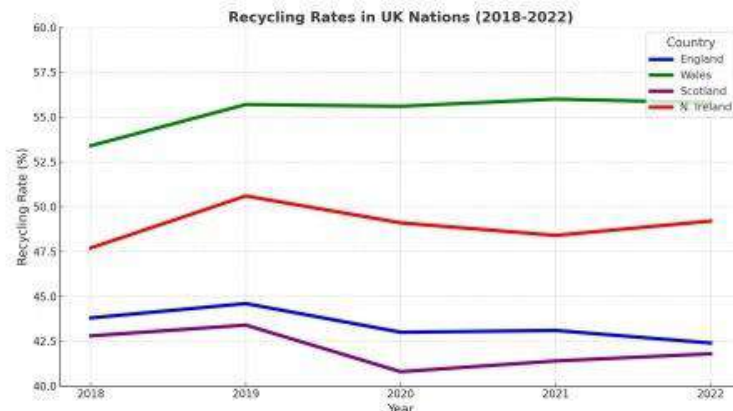
England	waste collection	waste treatment
<i>Two-tier authorities</i>	181	30
District Councils	181	N/A
County	N/A	24
JWDA	N/A	6
<i>Single-tier authorities</i>	128	92
Unitary Authorities	59	59
London Boroughs	33	12
Metropolitan Districts	36	21
total	309	122



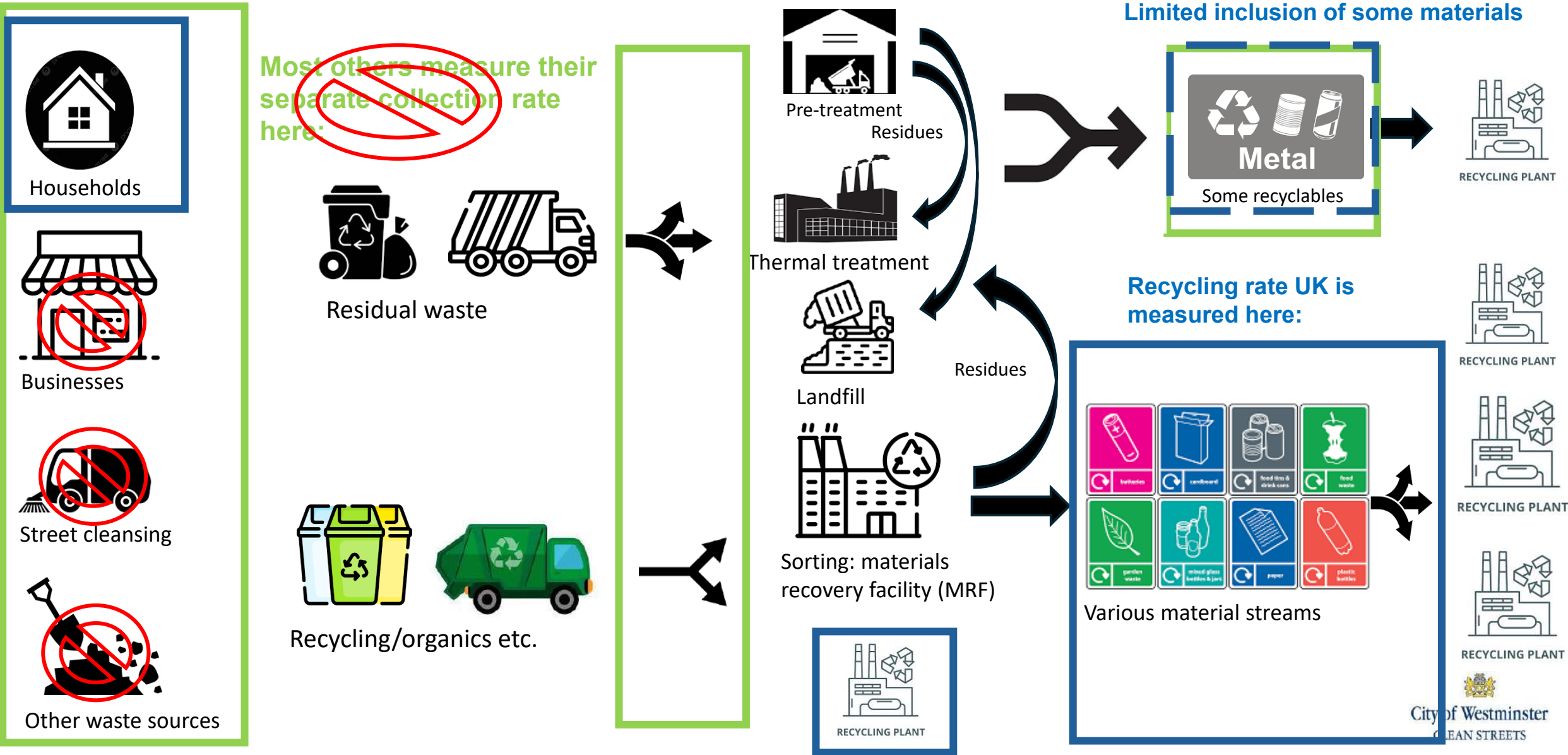
* source: Institute for Government

Municipally managed waste in the UK

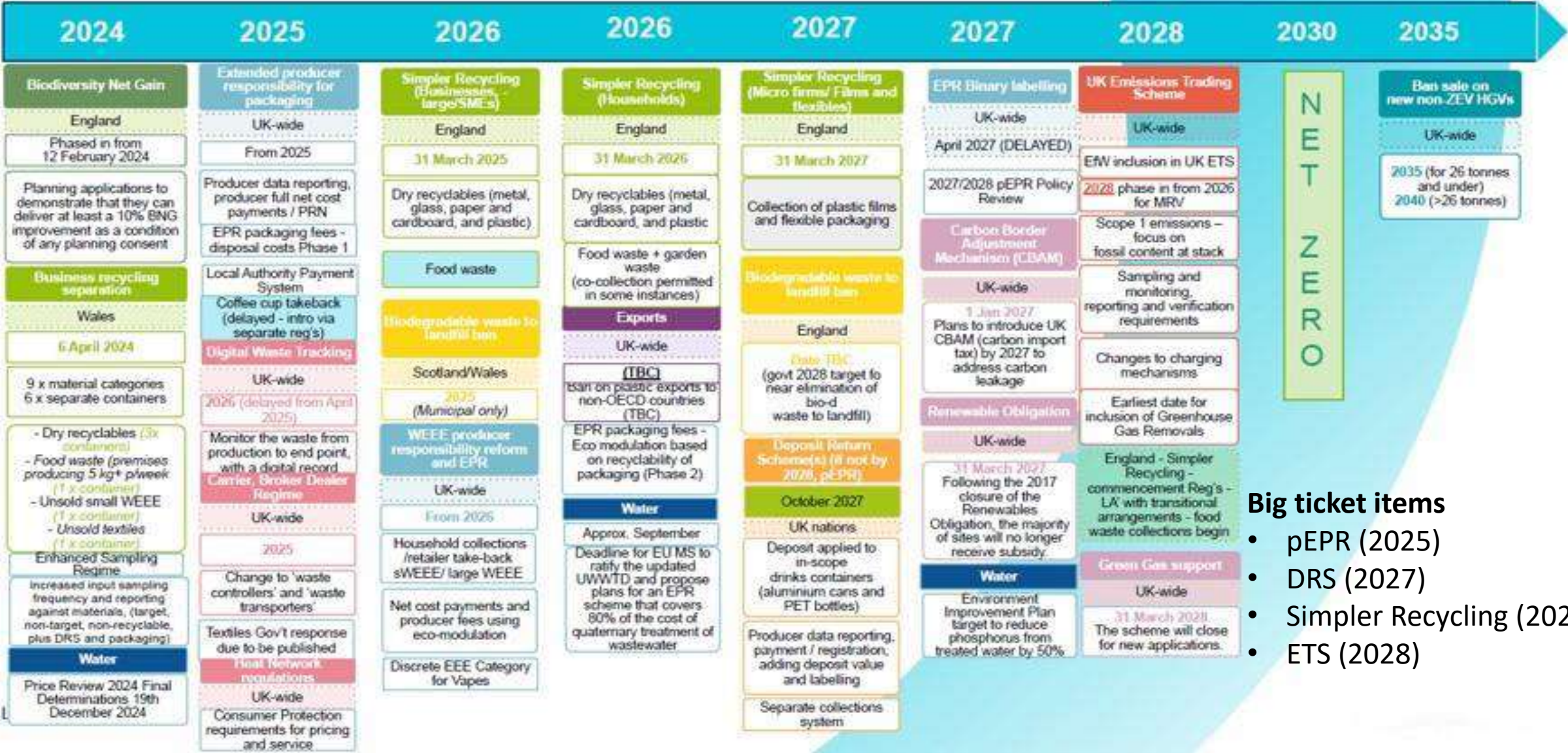
- 45% of *household* waste is recycled/reused/composted: strict methodology for calculating this rate
- Funding:
 - Households/ street cleansing: Council Tax (single service provision charge). **PAYT/direct charge is illegal in the UK for household waste**
 - EPR payments
 - Businesses: direct service charging



The measuring point of the recycling rate in the UK



Legislation & policy road map UK



- Big ticket items
- pEPR (2025)
 - DRS (2027)
 - Simpler Recycling (2025)
 - ETS (2028)

Simpler Recycling (2025-2027)

Mandatory recycling collections

31st March 2025

- All businesses (except micro-firms) are required to recycle **paper/cardboard, glass/plastic/metal packaging and food waste**.

Household inclusion

31st March 2026

- Local authorities will be required to collect the core recyclable waste streams from all **households** in England.

Plastic film collections

31st March 2027

- All businesses required to separate **plastic film** for recycling collections.

Micro-firms inclusion

31st March 2027

- All businesses (**including micro-firms**) are required to **recycle paper/cardboard, glass/plastic/metal packaging and food waste**.

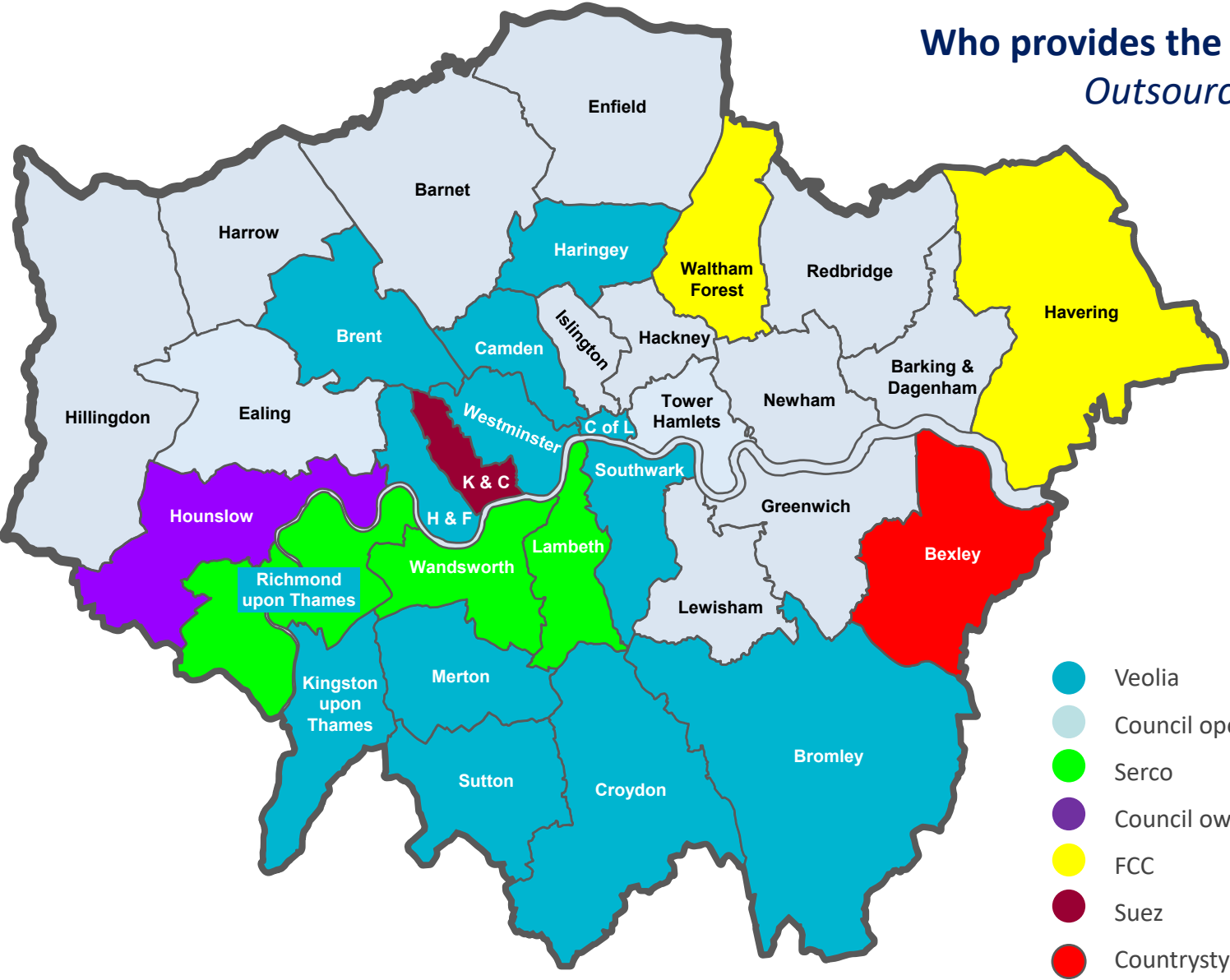


The 33 London Boroughs

- The LBs function as independent cities (created in 1965) – similar municipal model as Tokyo.
- 33 LBs collect waste/ cleanse streets
- 13 waste disposal authorities
- 9.8m inhabitants greater London
- 5.7k per km² population density
- 20kt/day municipal waste
- 15.1m inhabitants in wider metropolitan area

33Collection
Authorities**13**Disposal
Authorities

Who provides the collection & cleansing service in London? *Outsourced vs. in-house service provision*



- In-house – 13 boroughs
- Veolia – 12 boroughs
- Serco – 3 boroughs
- FCC – 2 boroughs
- Council owned company - 1 borough
- Suez – 1 borough
- Countrystyle – 1 borough



London Waste Authority Recycling Performance



London produces around 20,000 tonnes of waste per day = 7m tonnes per annum (*ex CD&E waste)

Residual waste disposal

Energy recovery (incineration)

Energy Recovery Facilities

- 3.4m t/a capacity
- 4 in London, 3 outside
- 2 being constructed



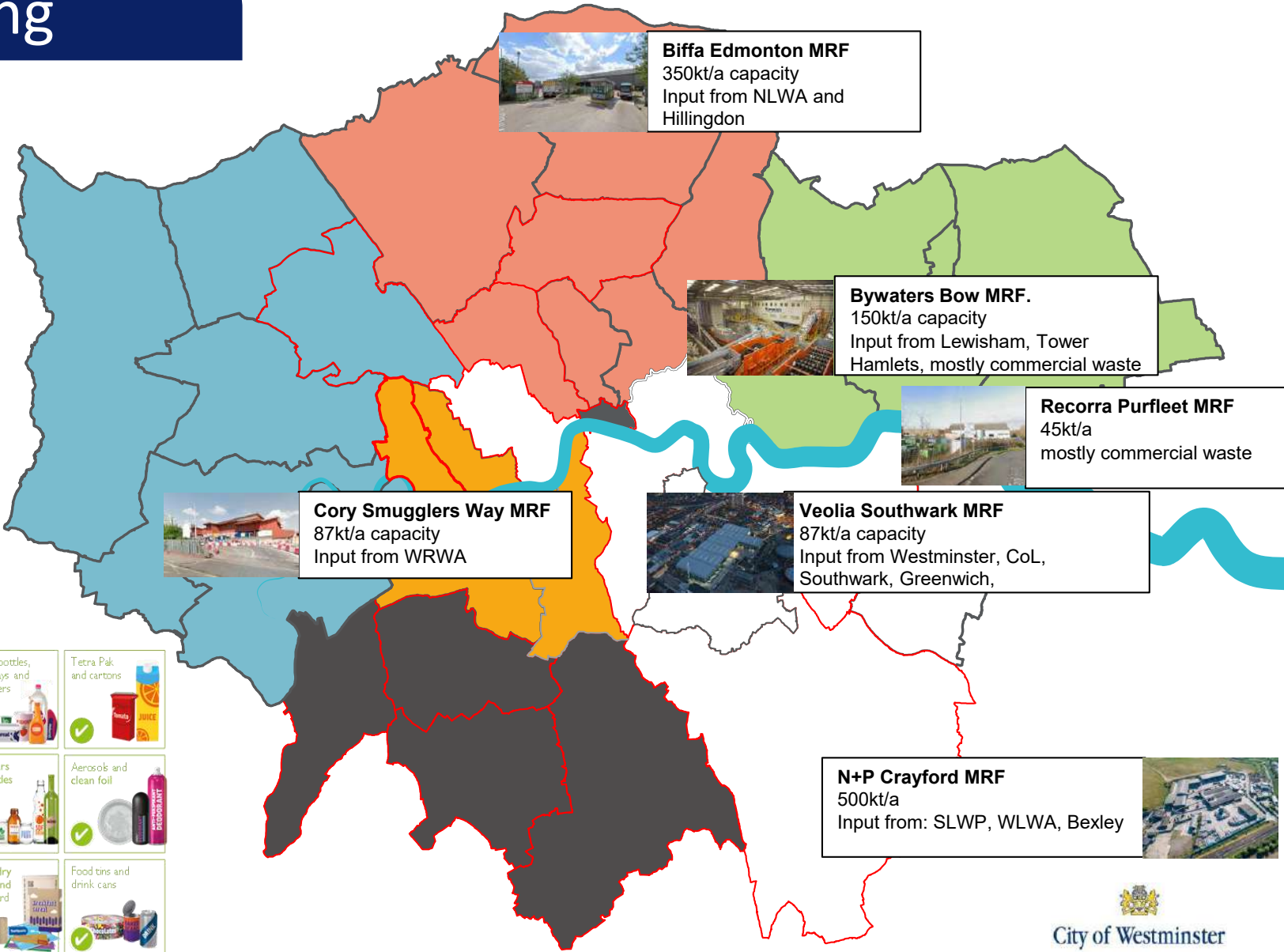
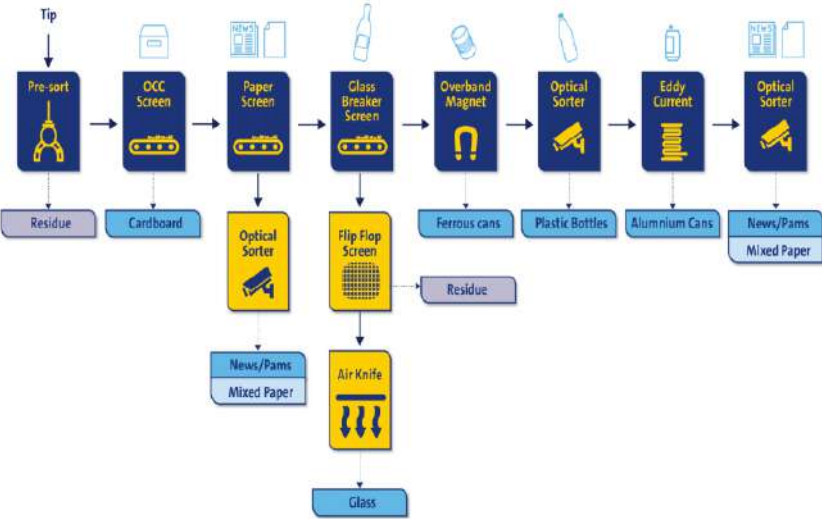
Recycling sorting

material recovery facilities (MRF)

1.2m t/a sorting capacity

Most recycling is collected mixed in London due to space constraints

Schematics of a MRF



Bulk haulage of London's waste



25% by barge



The remainder by road (trucks)



15% by rail



The City of Westminster

Busy Unitary Authority in London with intensively used 22km² area:

Key facts & figures



- **260k** residents (129k households), **43k** businesses
- **9.8k** residents per **km²** population density
- **85% high density** properties (high rises)
- The very **heart of London**
- **Over 1 million** daily visitors
- **100+** major events each year
- **24/365** waste & cleansing operations –outsourced to Veolia
- **200kt/a** waste using **750** staff and **200** vehicles (electric)
- Recycling/reuse/compost rate: **~30%**
- **1,600** streets, over **750 km** in length
- **2 million** collections a week made

The Westminster contracts & scope

The Collection Contract

- 2010-2027 contract with Veolia UK
- 65 different services provided
- Collection services:
 - Residential and commercial waste
 - Residual waste, recycling, food waste, garden waste
 - Kerbside, high-density, on-street sites, bulky waste and on-demand
 - Bin management, bag delivery
- Street cleansing services:
 - Street sweeping, flushing, and deep cleansing
 - Litter bin service
 - Graffiti and flyposting
 - Fly tip and abandoned waste removal
 - Leaf removal
- Winter gritting
- Special event service
- Behaviour change
 - Outreach, engagement, education
- Sales, marketing and account management for commercial waste portfolio
- Electric fleet and depots provided by the council

- *Dense built environment with limited waste storage options*
- *Top 3 'most important service' and 'highest satisfaction' in City Survey*

Separate contracts for

- Residual waste disposal and treatment
- Recycling processing
- Organic waste processing
- Household hazardous waste collection
- Household waste recycling centre provision (HWRC)

Contract spend

service	spend/annum
Waste & recycling collections	£18m
Commercial waste service	£12m
Street cleansing & winter maintenance	£35m
Waste treatment	£15m
Total	£80m

Westminster's fleet



85
eRCVs

120
street
cleansing
& support
vehicles



Collection frequencies

No “one size-fits all” service provision



Residual waste

Residential

- Via plastic bags (40%) and containerised (60%)
- Door-to-door (D2D) collection: min twice weekly, max. thrice daily
- On-street bring sites: thrice daily
- Containerised housing estates/ mansion blocks: min. thrice weekly, max. daily

Commercial/ businesses (under contract)

- Collected via plastic bags and containers
- Bags D2D: min. daily, max. thrice daily
- Containerised: per individual agreement
- On-demand collections (via app) when D2D collection times don't suit

Recycling and food waste

Residential

- Collected via plastic bags and containers
- D2D: min. weekly collections, max. twice daily
- On-street bring sites: daily
- Containerised housing estates/ mansion blocks: min. weekly, max. daily
- On-demand food waste collections in select areas (via app)

Commercial/ businesses

- Collected via plastic bags and containers
- Bags D2D: min daily, max twice daily
- Containerised: per individual agreement
- On request: specialist waste streams via booking

Estates, mansion blocks and high rises

On-site (internal) waste containment via containers only
Collections are made thrice weekly to daily (varying frequencies)
Focus on internal storage: avoid waste or containers in the public realm



Example of chute-fed containers

Recycling and food waste containers



All high-rise properties have food waste collections



Various bin sizes according to space

Properties without waste storage space



Bagged collections up to thrice daily
Supplemented by 180 bring sites



Bagged commercial waste collections



Bagged household waste collections



Supplemented by bring sites in suitable wards

Low density housing with waste storage space



110L dustbins and 23L food waste caddy



Collections are twice/thrice weekly
Supplemented by bring sites



240 litre bin



Bagged collections

Street cleansing



- Covers 18 distinct services
- Slightly more than half of the total contract value
- 470 street cleansing Operatives working daily
 - 280 of which are street sweepers
- Using over 100 vehicles of varying type (electric)
- 38,000km of public highway cleaned every month
 - Every street swept min 3x a week and busy streets 24/7
 - Street washing (flushing)
 - 1700 litter bins emptied (up to every hour)
 - Graffiti removal
 - Deep cleansing (steam clean)
- Complaint response, top categories last year:
 - Dumped waste (19,550)
 - Street cleansing (8,403)
 - Graffiti (5,999)
- Special Events clean-up – including sanding, flushing, sweeping

Ancillary Services

- Container / litter bin maintenance and washing
- Winter gritting

Contract management

- Reactive: incoming complaints and reports
- Proactive: independent cleanliness audits/surveying
- Technology to handle complaints –AI truck CCTV footage analysis, AI assisted reporting
- Data analysis and handling

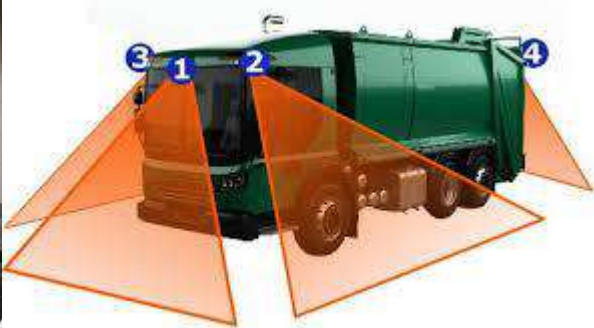
5.3

This months missed collections per 100,000 KPI (all services)

Number of Justified Complaints Per Service



Cleansing Standards	
Litter	Good
Detritus	Satisfactory
Cleansing Related	
Fly-posting	Good
Graffiti	Satisfactory
Fly-tipping	Unsatisfactory
Weed Growth	Poor
Staining (Grease & Grime)	Unsatisfactory
Staining (Gum)	Satisfactory
Litter Bins	
Cleanliness	Good
Bin Condition	Good
Large Litter/Recycle Bin condition	Good



Local pressures

Changing expectations & demands
(community & political)

Environmental pressures
(e.g. air quality and CO₂)

Budget constraints & pressures
(inflation & additional demand)

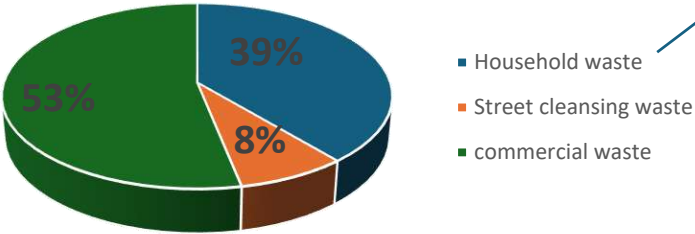
Changing consumer trends & use of the city

Labour shortage & increasing costs

New waste legislation, policy & requirements
(national & local)

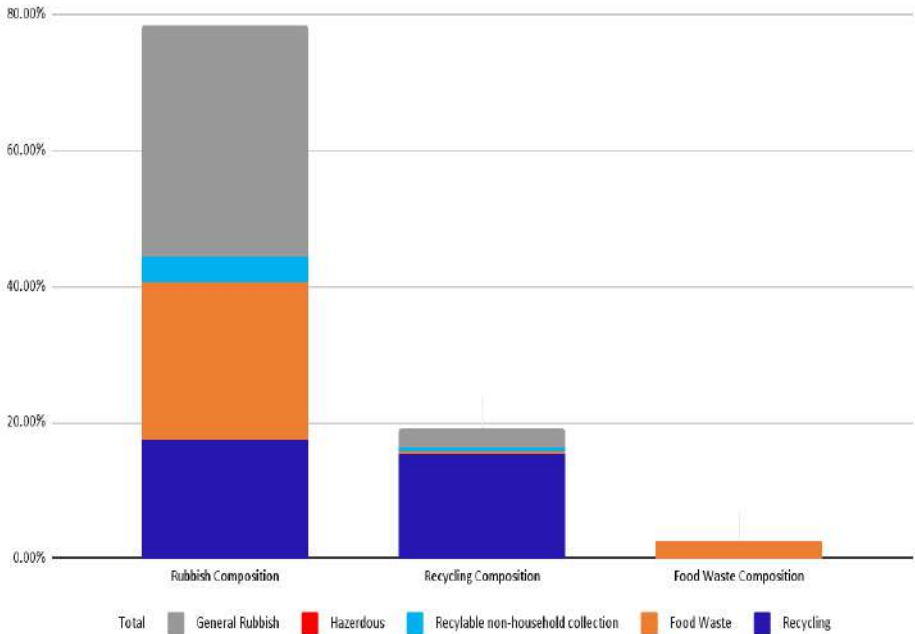
What are we collecting?

Waste sources

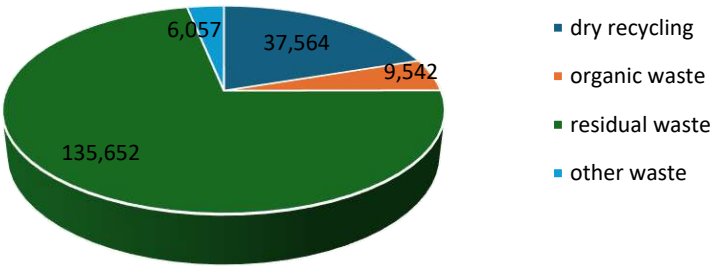


- 404kg/head household waste/yr
- 632 kg waste/ household/yr
- 77kg food waste/head

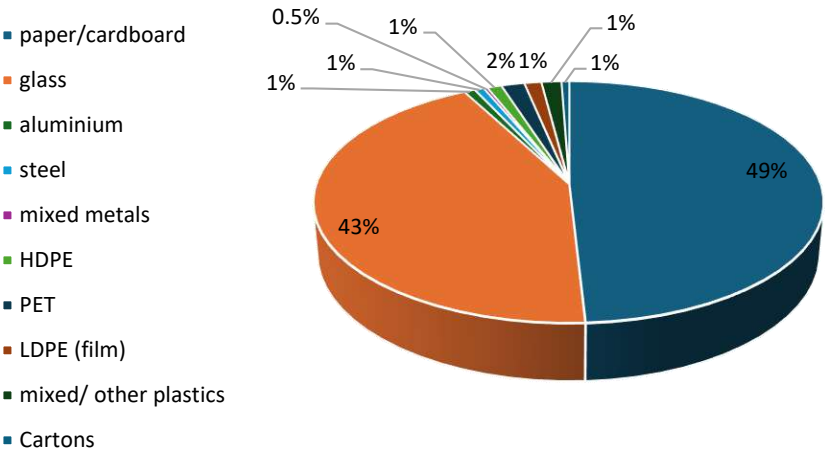
Actual Composition



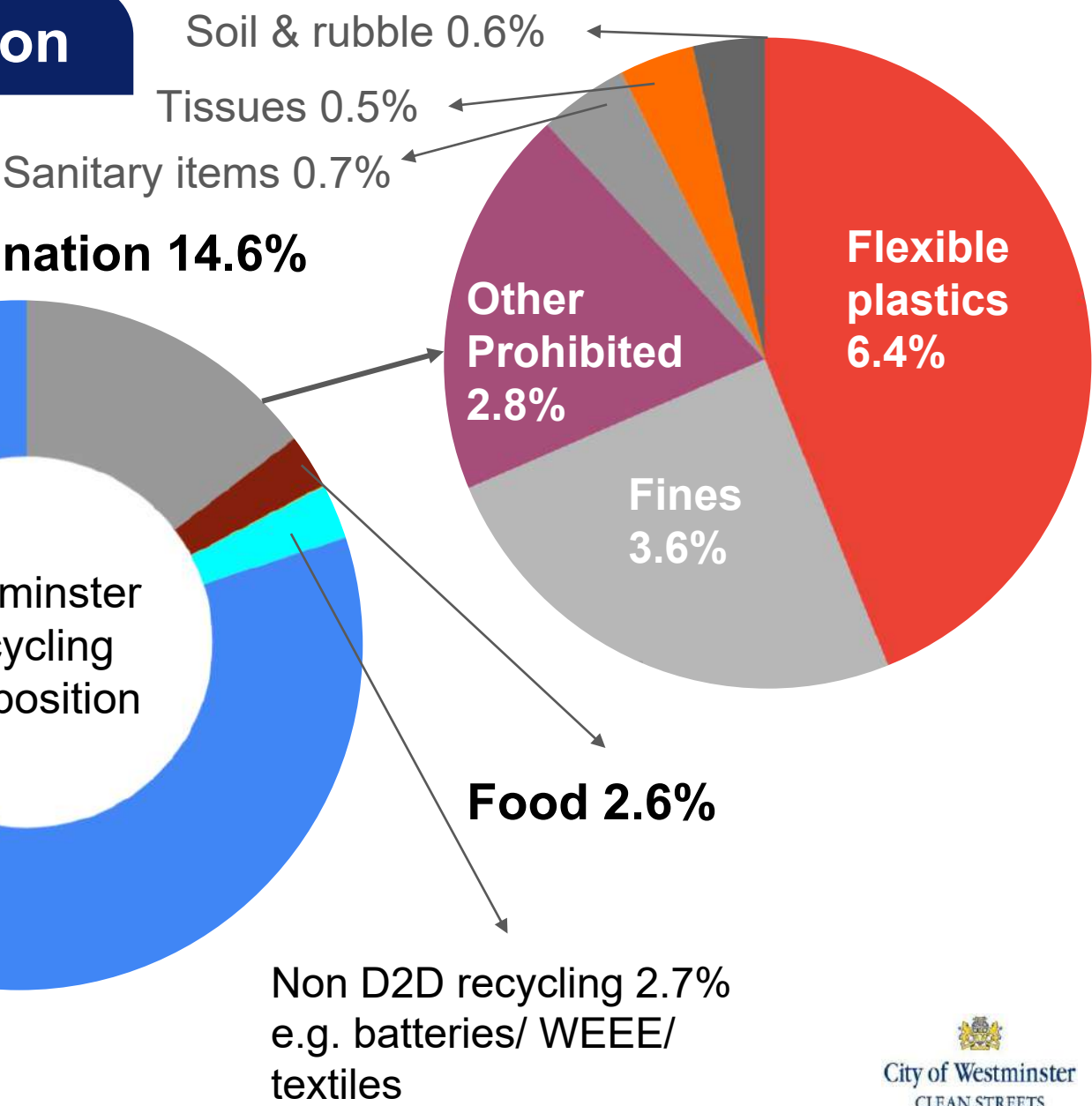
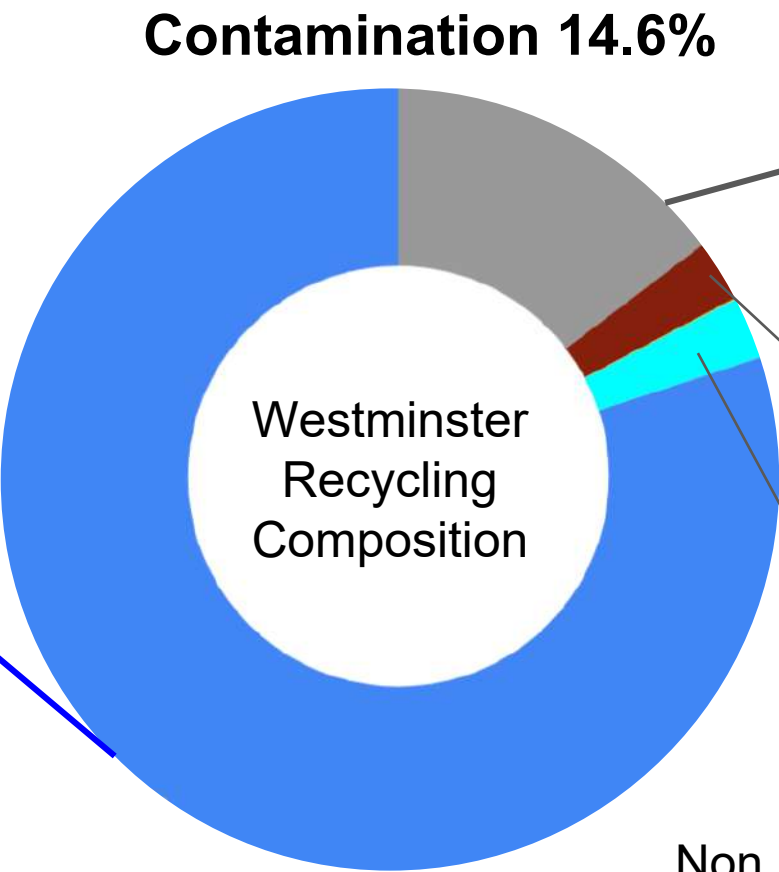
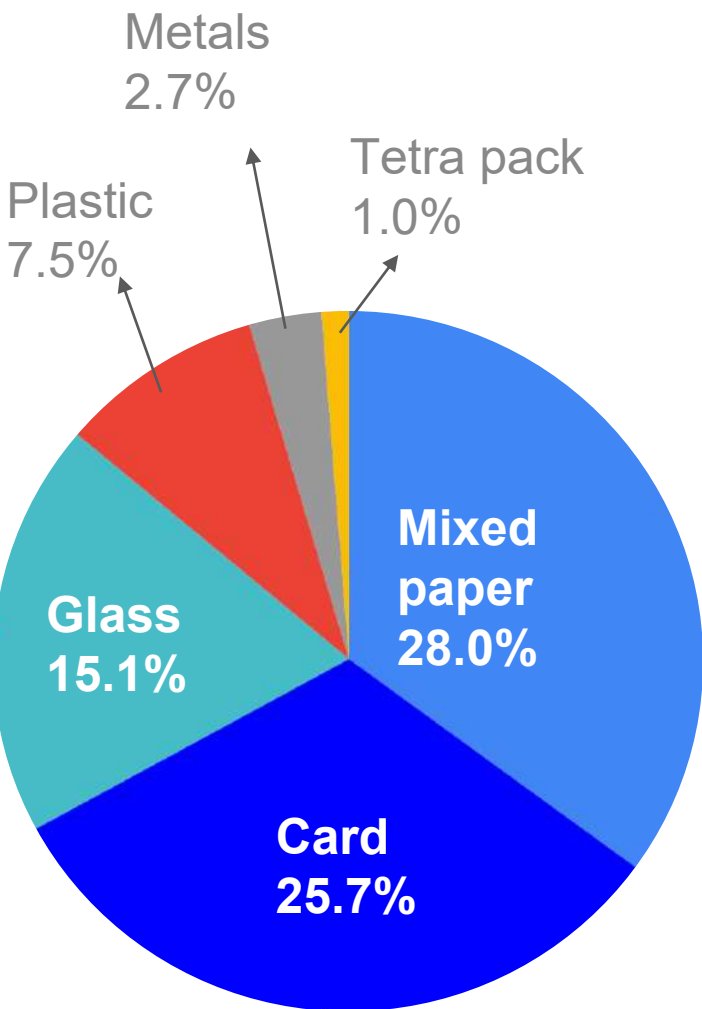
2024/25 waste stream tonnages



dry recycling composition 2024/25



Mixed recycling composition



Behaviour change services

- Education, Communications, and Outreach Team (ECO)
 - 4 staff currently outsourced but work closely with WCC Contract Officers
- Sustainable Schools sessions (up to 20 per year)
- MRF tours (up to 6 per year)
- Engagement events as required (15+ per year)
- Support with projects including door-knocking & project management
- Community Mobile Recycling Centres (up to 6 per year)
- Recycling Champions volunteer scheme
- Dedicated Social Value Officer



Increasing recycling

Solutions for businesses & residents



Night shift recycling

- Providing businesses with night-time recycling collections
- Aim to collect 9.5kt/a extra



Food waste

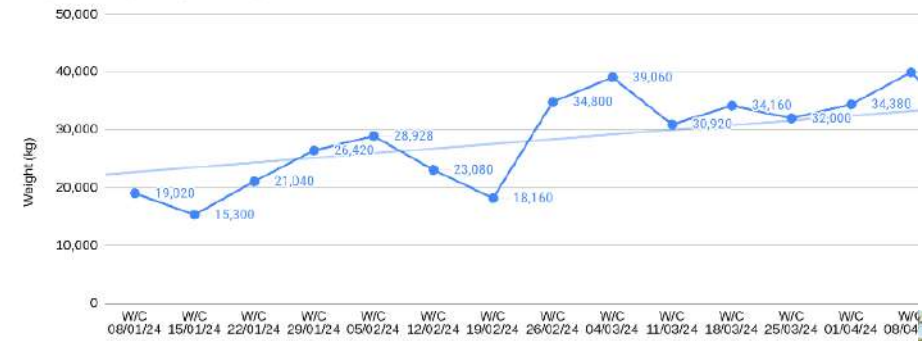
- Services for 100% of residents and businesses by March 2025
- online booking for a 2 hr collection window from next day to +2 weeks in advance
- Over 5,000 tonnes collected YTD
- +3% recycling rate



Mobile Recycling Centres

- Pop-up reuse and recycling events
- 6 events delivered so far
- Over 20 tonnes collected - 71% reused/recycled incl 160 bikes repaired
- ~2900 residents engaged with

Nights Recycling Tonnage Week on Week



Issues facing the waste service



**Recycling
contamination**



Nitrous oxide



New products



Waste fires



Other service misuse



Waste crime

Measures taken



See-through bins



Use of AI



Enhanced services



Enhanced outreach



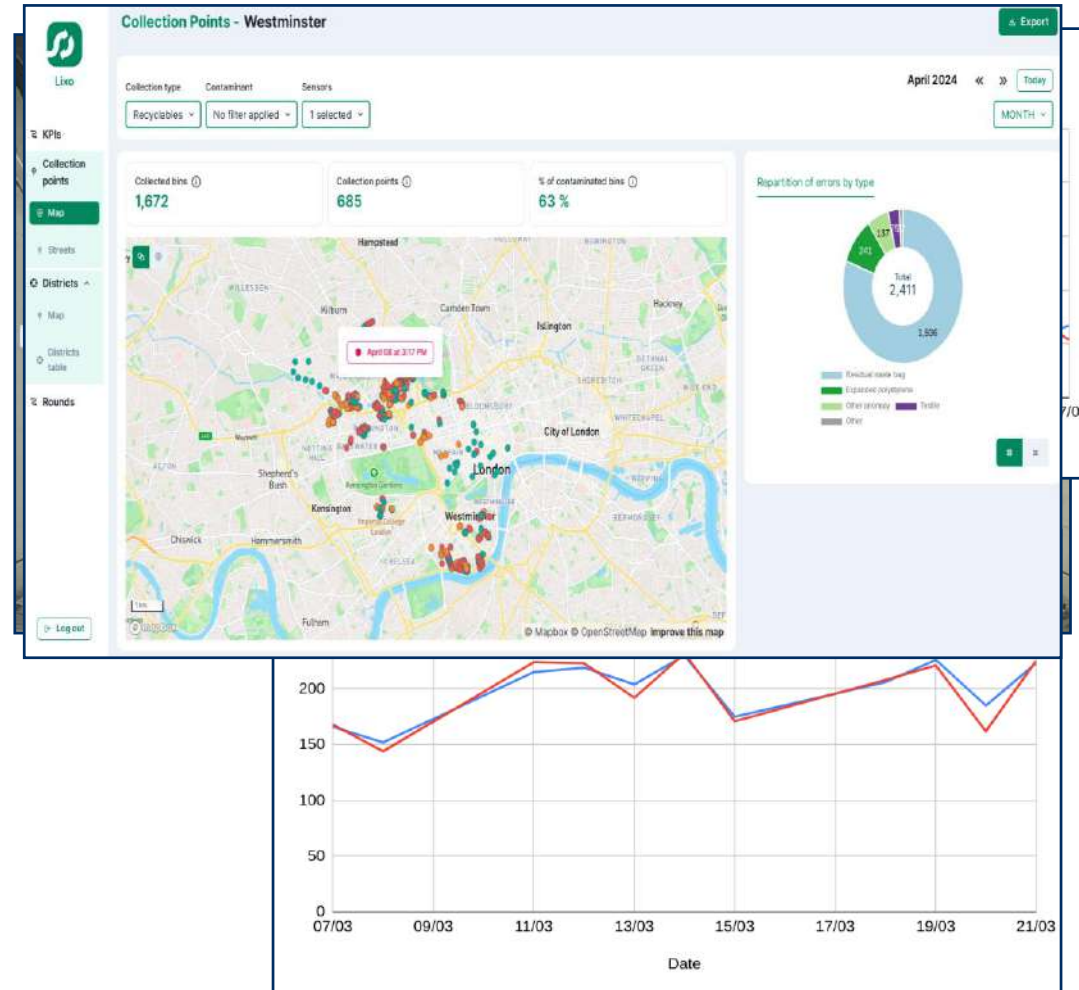
Targeted enforcement



Measuring & sampling

Use of AI in Westminster

- Purpose of pilot - understand how AI technology can assist and identify problematic waste items on collection rounds:
 - Recycling contamination
 - Dangerous items such as canisters
 - Recycling yield potential of residual waste
- Improving lift (movement of bin lift) accuracy: initially 116% inaccuracy across 2 weeks of data
- Working with supplier, the lift identification now matches >95% of bin lift movements: this is paramount
- 44% of 6900 lifts highlighted issues with the waste
- Building hotspot mapping for targeted intervention
- Ongoing learning of the AI



Future direction in Westminster



Service changes

- Improve on-demand & 'smart' service provision
- Use of AI
- Reduce impact of labour shortages
- More recycling – less residual waste
- No waste storage in the public realm - review bring sites provision
- Implement national policy changes



Climate emergency plan

- Fully decarbonise fleet operations (electrification)
- Improve recycling yields
- Waste reduction

Achieve a **'fairer environment'** where streets are cleaner and safer, our services use clean technology, and recycling is increased



THANK YOU

