

UKTIN Connected Places update

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Connected Places

Dec 2024



Borough Profile

**400k
people**

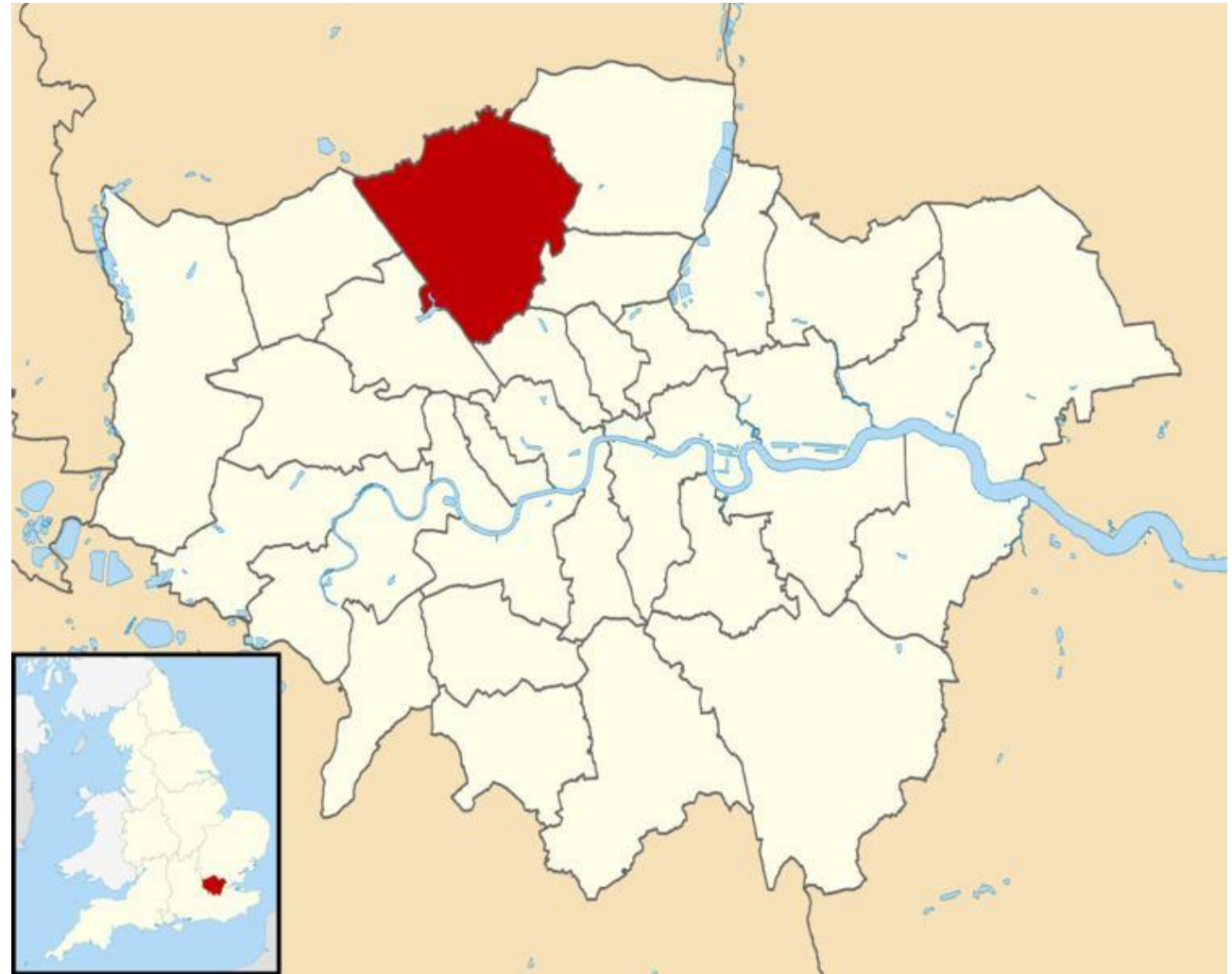
**Growing
very fast**

**Over 26k
businesses**

**GDP of
£11billion**

**7 Tube
Stations**

**7 Train
Stations**



Fixing the digital plumbing

- In 2021 we commenced our wayleaves programme
- Signed frameworks with multiple operators to connect over 14,000 social housing homes
- Connected 20 community centres free in perpetuity



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Fibre West

Digital
West
London



- **£1.1 million Grant funded programme to connect council assets and sites**
- **Over 250km run to date**
- **Over 198 CCTV poles**
- **30 public buildings**
- **Transforming speeds and capacity across our estate**



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CCTV Locations

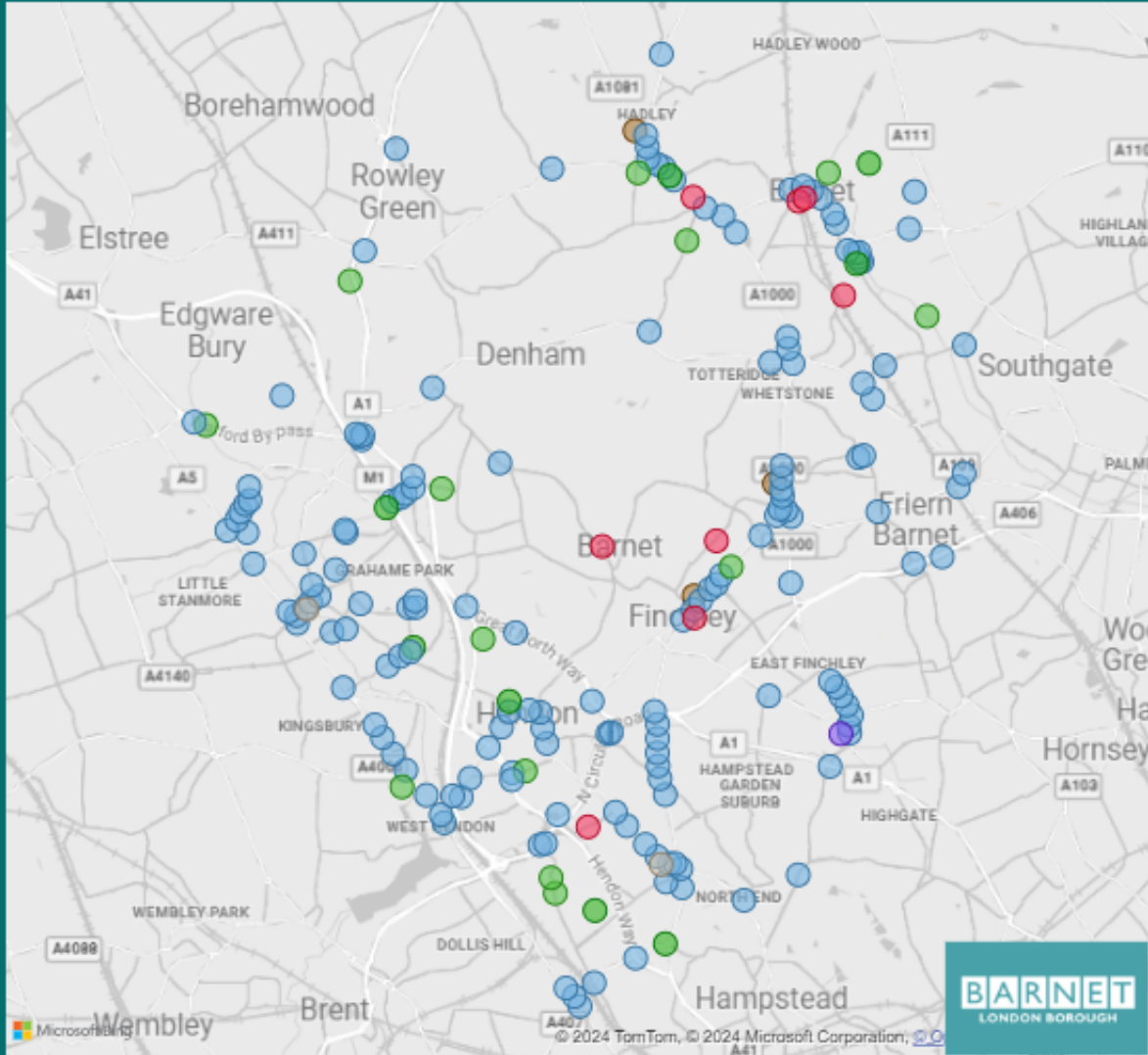
198

Locations

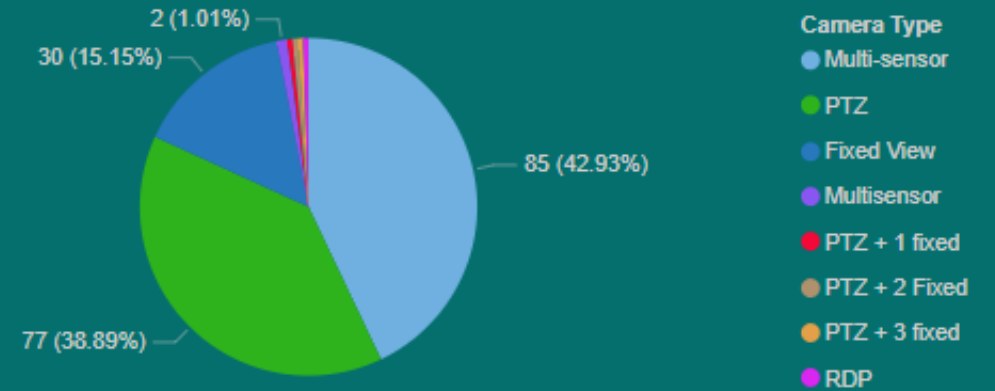
552

Cameras

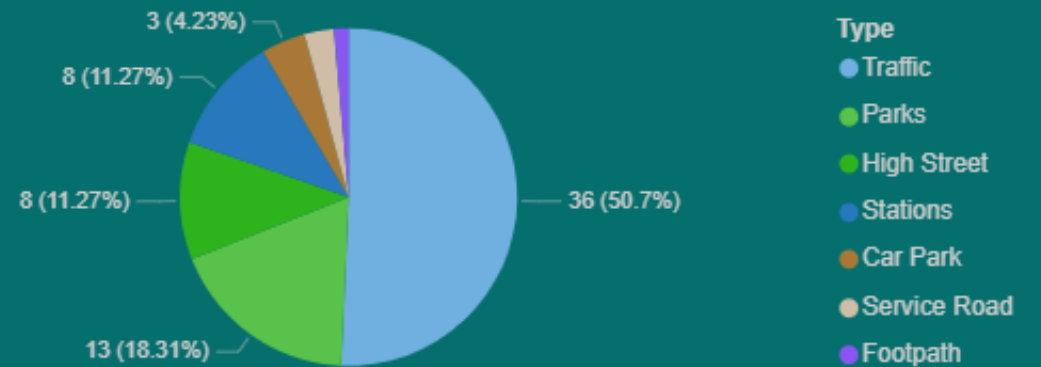
Type Car Park Existing Footpath High Street Parks Service Road Stations Traffic



Cameras by Type








Cameras by Location Type



Camera ID	Location	Area	Camera Type	Post Code	Circuit ID
(BO129)	Lanacre Ave Junction with Angus Gardens	Burnt Oak	PTZ	NW9 5LE	CCTV213653
AX87	Northway Circus. O/S 635 Watford Way Northbound Carriageway	Apex Corner	Multi-sensor	NW7 3ET	CCTV213257
AX88	Northway Circus (Central footways in pedestrian underpass).	Apex Corner	Multi-sensor	NW7 3ET	CCTV213667
AX89	Northway Circus. Watford Way Southbound Carriageway	Apex Corner	PTZ	NW7 3E	CCTV213668
AX90	Northway Circus. Watford Way junction with A1 Southbound (adj KFC)	Apex Corner	Multi-sensor	NW7 3ET	CCTV213260

Connected Places Ecosystem Through Layering





 CCTV Surveillance

 Footfall Analytics
  Traffic Enforcement
 Traffic Analytics
  Smart Parking

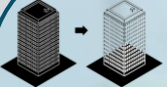







Computer vision

- Mobile Network Operators
- Fibre Operators
- IoT Vendors





Operator Layer

 Fibre Backhaul
 5G small cell
 Public Wi-Fi
 LPWAN IoT network

Connectivity Layer

 Digital Twin
  Smart Waste
 Smart Metering
  Flood detection
 Building Sensors
  Air Quality monitoring
 Highway sensors
  Adult Social Care

Application layer

 Data management
 Integration
 Analytics
 Automation

Data Sharing Layer

Connected Places - Urban Analytics Project

Transforming conventional CCTV into a cross-organisational digital platform

Community Safety



Objects



Colour



Gender



Situational Awareness



AI scene change detection

Advanced AI based real-time alerts and post event search



552

Edge-AI Cameras (Fixed)



50

Edge-AI Cameras (re-deployable)

AI Data Platform



- Ability to search events and object in minutes
- Collates and stores meta data



Footfall Analytics



Traffic Analytics



Traffic Enforcement



Smart Parking



ANPR

Data informed = better outcomes £



New transport schemes



Streetlight dimming



Regeneration schemes



Highway renewal schemes



Context for air quality data



Libraries

Enforcement



Fly Tipping



Yellow Box junction

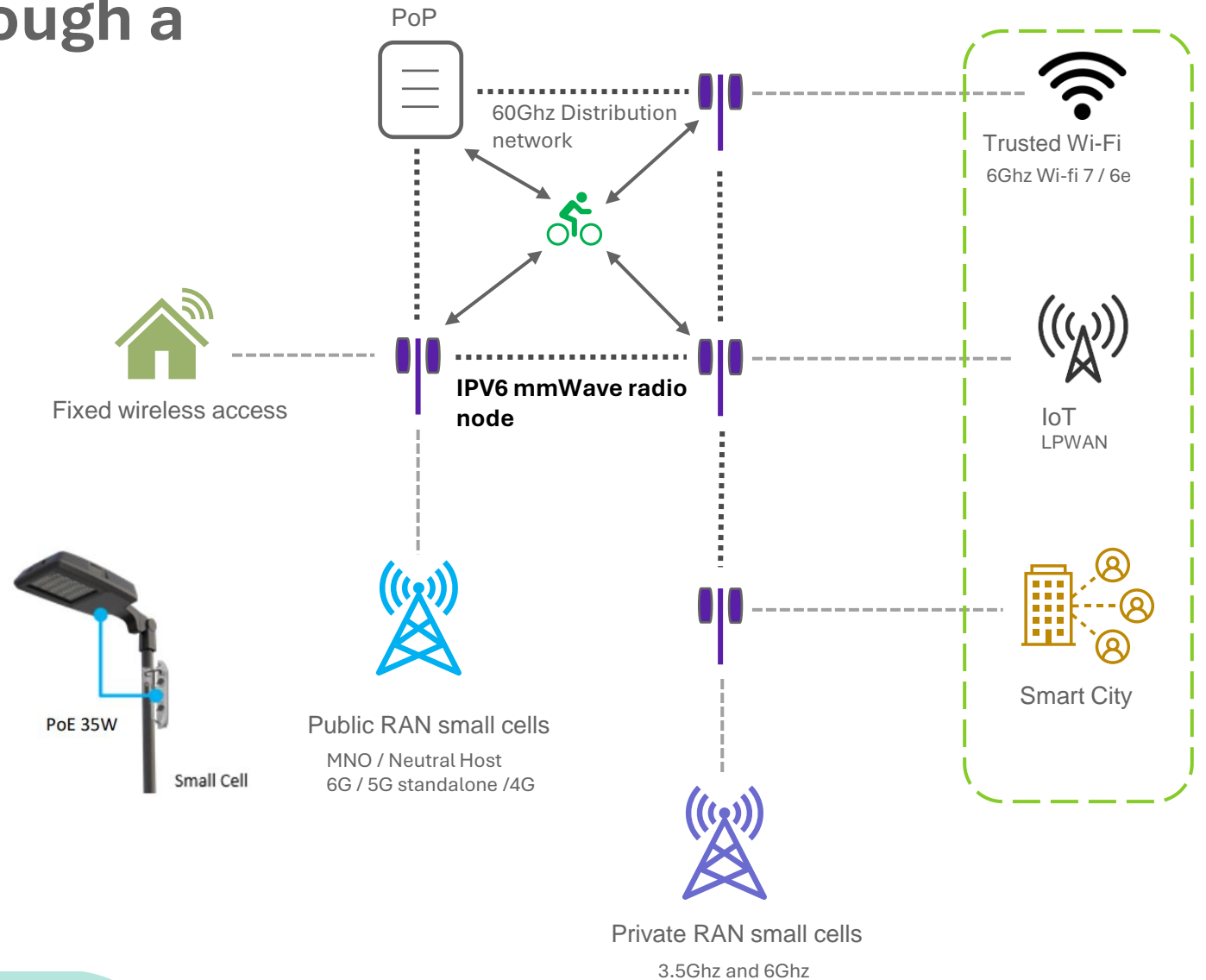


Bus Lanes

Delivering multiple outcomes across multiple service areas

Ubiquify- Densification through a network of networks

- Umbrella network
 - Deployed within streetlights
 - 60Ghz mmWave
 - self-forming, self-healing mesh
- Secure network slicing via transmission network
- Hyper accurate location positioning



Barnet Wi-Fi Why?

- **Unifying our Wi-Fi estate**
- **Connectivity for visitors**
- **Digital inclusion**
- **Improve user engagement and experience**
- **Usage and location analytics**
 - 75,000 logins over the last 12 months across 30 locations
- **Wi-Fi In-building cellular 'offloading'**

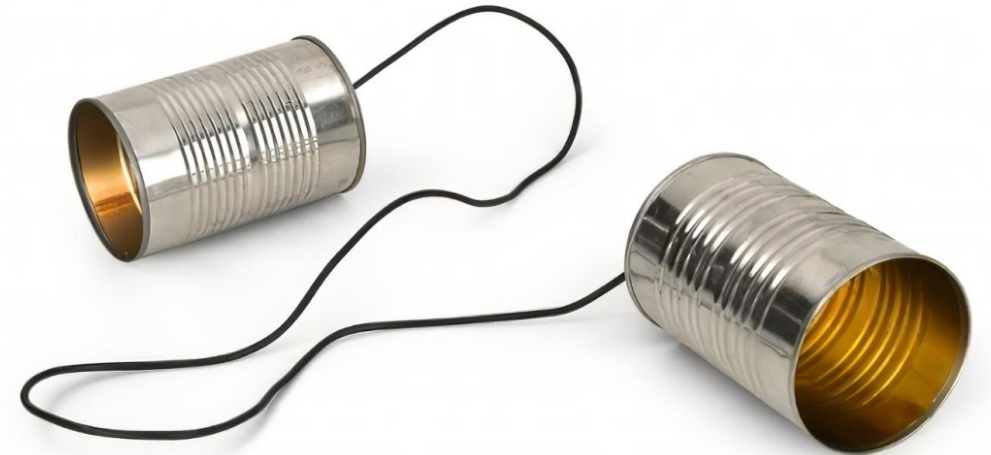


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The experience

- Seamless roaming across over 50nr Wi-Fi Zones
- 450 in building access points
- 150 outdoor APs in town centres
- Minimum 50Mbps throughput
- Less than 30mS latency
- A range of on-boarding options utilising established frameworks
- Private and secure

BOROUGH-Fi



Wi-Fi Onboarding

- One-touch experience
- Seamless roaming and returning
- Hybrid approach
- Open-roaming (WBA)
- eduroam
- GovWi-fi



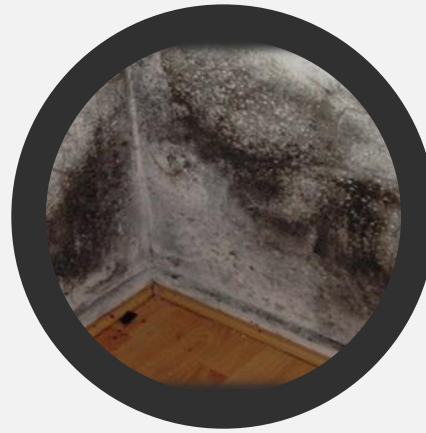
IoT Network

- **Build on Fibrewest network**
- **Deploying 30 gateways to achieve complete coverage**
- **Will be deployed before end of March 2025**



LoRaWAN Projects

- Water Metering
- Damp and Mould
- Smart Waste
- Gully/Drainage
- Adult Social care
- Winter road maintenance



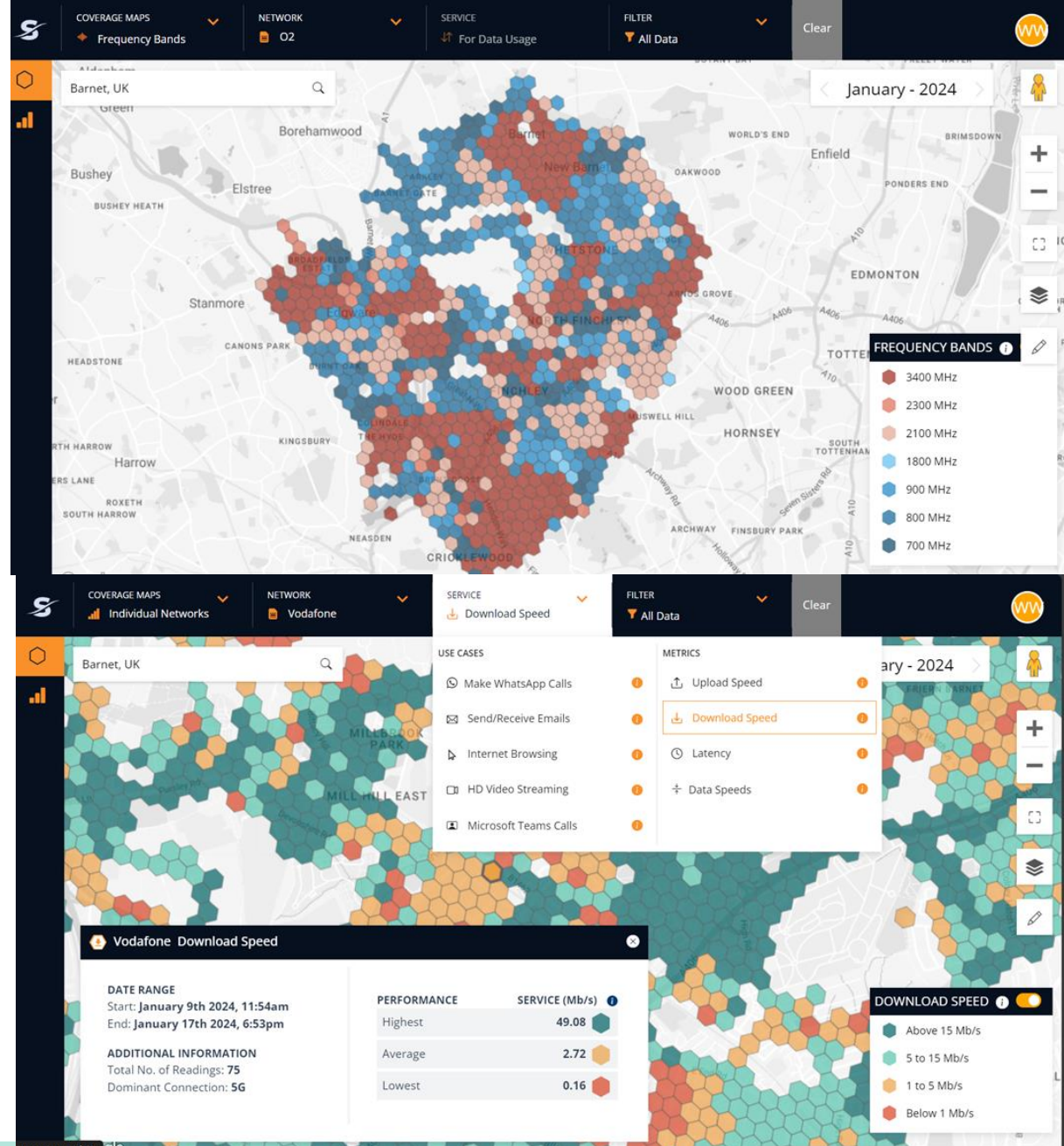
BARNET
LONDON BOROUGH

Mobile Survey

- Carried out testing of all mobile networks using slow moving vehicles
- Capturing data at 30 metre intervals in every road in the Borough
- Signal strength/ coverage
- Speed tests
- Frequency

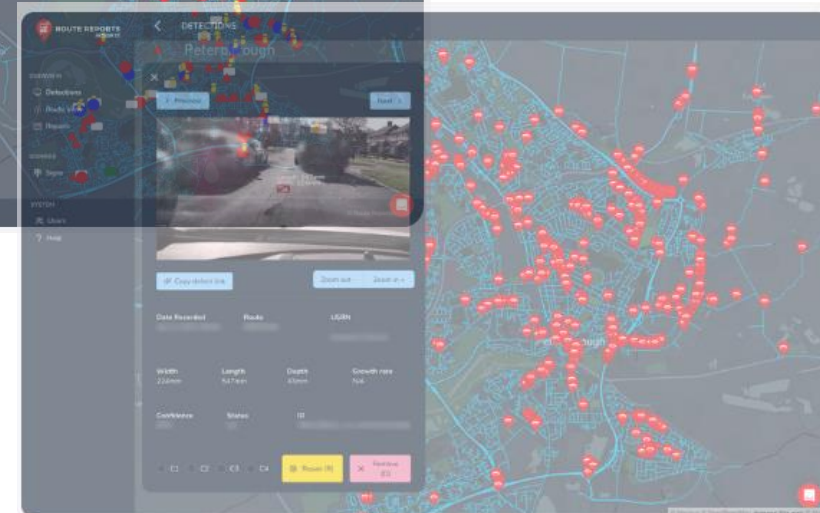
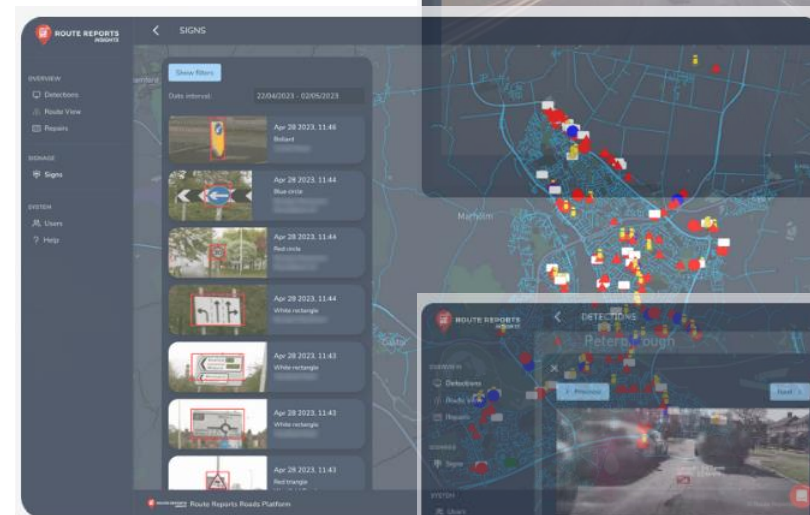
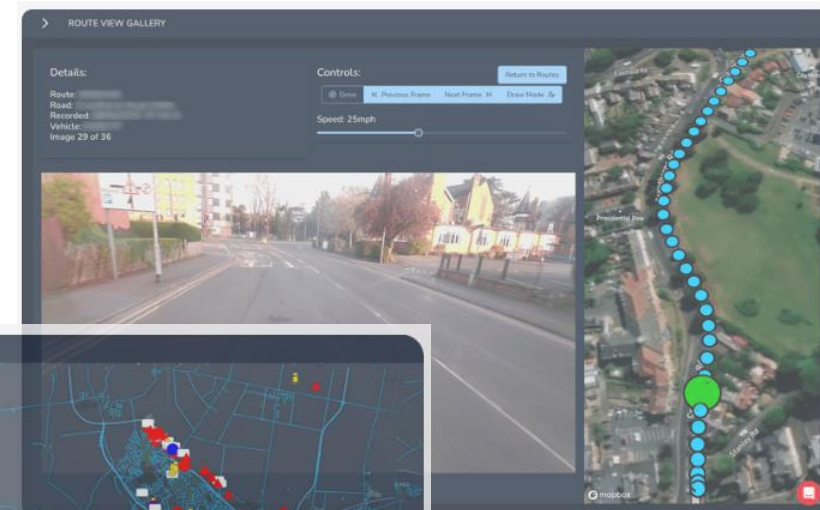


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Massive twinning

- **Computer vision and LIDAR mounted on refuse vehicles and road sweepers**
 - Road defects
 - Signage
 - Missed bin collections
 - Digital twins
 - Immersive mapping
- **Large amounts of data uploading with precision location context**



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Thank you

