Case Study

Reading Borough Council

Client:

Reading Borough Council is the local authority for Reading, Berkshire. The council is tasked with delivering a wide range of public services to residents and businesses in the area, including education, social services, housing, transportation, waste management, planning and development, and environmental health.

Industry:

Local Authority

Product:

Aerial Photography

> *"I am excited to use the APGB aerial photography to develop this proof of concept based on the most recent computer vision AI models."*
>
> Kristina Quinnell
>
> Senior Geospatial Analyst & Custodian

Summary:

As part of an ongoing project to create an Artificial Intelligence (AI) solution designed to digitally catalogue road markings across the borough, Reading Borough Council are applying Bluesky's high resolution aerial imagery as they work to create an AI tool to extract road markings to aid utility companies with proper road reinstatement after maintenance work has been carried out.

Challenge:

When roadworks are undertaken across the borough, the utility companies responsible for the work must contact the Highways Department at Reading Borough Council for guidance on how to reinstate the road. Previously, owing to the lack of a complete digital and visual dataset, the Highways Department rely on notes collated, where possible, detailing each section of the road and then feed this back to the utility companies.

To address these issues, Reading Borough Council is working towards creating an AI solution that can extract road markings from aerial imagery to enable the production of an accurate dataset of road markings that the Highways Department and utility companies can access through their web-GIS.

Due to budget limitations, gathering the aerial data needed for this project would prove costly as previously Reading Borough Council could only pay for updated aerial data every 5 years, and to undertake a car-based survey would typically cost the Council around £25,000.

Solution:

Bluesky's aerial imagery, supplied directly through the APGB platform, is provided free of charge at the point of use. Meaning Reading Borough Council can significantly cut project costs by utilising readily available imagery of the borough, reducing the need to commission new aerial or car surveys wherever possible.

As Bluesky updates its aerial imagery on a two-year cyclic basis, this means that not only will the Council have access to the data for free, but it will also be the most current aerial photography available on the market.

While the project is ongoing, in the future Reading Borough Council plans to utilise Bluesky's historical aerial imagery archives, which are also available via the APGB platform. This would enable a look at past versions of road markings to compare how some road markings were previously painted under different schemes. They also plan to shift to using 5cm aerial photography, once Reading has been flown under Bluesky's 2025 5cm planned cities capture and is made available through the APGB platform.

Results:

By accessing Blueskys 12.5cm aerial imagery through the APBG portal, Reading Borough Council has been able to significantly reduce costs for an innovative project. Quick access to current aerial data readily has reduced the need for many of the car surveys.

The clarity provided in the high resolution imagery means that road markings are accurately captured, ensuring the exact positioning can be extracted, allowing for precise recognition of various road features, such as lane dividers, pedestrian crossings, and directional arrows. In the future, when the AI solution has been built and rolled out, accurate road plans can then be printed to aid the Highways Department in instructing utility companies when reinstating road markings, helping to maintain the integrity of the roads and safety.

	Imagery Specification	
Resolution	**12.5cm**	**25cm**
Coverage	Great Britain	Great Britain
Accuracy XY	± 30cm rmse	± 60cm rmse
Formats	Include: JPG, TIFF, ECW	Include: JPG, TIFF, ECW
Standard Projection	British National Grid	British National Grid
Tile Size	1km x 1km (8,000 x 8,000 pixels)	1km x 1km (4,000 x 4,000 pixels)
Metadata	Gemini 2.3	Gemini 2.3

Get in touch today at **support@apgb.co.uk**