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Sheffield City Council Senior Engineer Gavin Brooksbank maps a public right of way (PRoW) by using a Skadi 100 GNSS receiver for accuracy and ArcGIS QuickCapture for real-time data collection. The improved information helps justify maintenance and investments.

## COLLECTING EVIDENCE-GRADE RIGHTS OF WAY DATA TO JUSTIFY INVESTMENT AND MAINTENANCE

Public Rights of Way (PRoW) underpin access, safety and maintenance planning. They are a remarkably extensive national asset for the UK. But many local authorities still rely on fragmented records and sporadic surveys.

Sheffield City Council's PRoW network spans everything from dense urban streets to Peak District terrain. With legacy data, manual processes and limited resources, the team needed a modern, accurate baseline they could trust for funding, maintenance regimes and liability management.

"Our work can go from legal work records to ancient path claims," said Gavin Brooksbank, senior engineer with Sheffield City Council's PRoW Team. "Then on the other side of that is maintenance and footpath enforcement and project work. When I came into the Public Rights of Way team, it became quite apparent that our records, our mapping, weren't really up to scratch and up to date."

### THE CHALLENGE

Across the UK, stories like this are common; decades-old paper maps, inconsistent digital files, and ad-hoc, legacy surveys leave teams struggling to prove what they know on the ground.

Without accurate asset records, it's difficult to manage liability, prioritise maintenance, and make evidence-based funding bids.

"For us to be able to access other areas of funding, we need data; there's funding available for certain things if we can put together a good case for it," Brooksbank said.

It was also apparent that many footpaths were not recorded correctly. "We really wanted to be able to record and do something about all these different elements," he said.

A disjointed asset view meant slower, less-informed decisions and higher liability risk. But reliable spatial data tells the whole story: what exists, what's missing, and what needs attention. For councils, it's the difference between reactive maintenance and strategic asset management.

**User**  
Sheffield City Council

**Partners**  
MGISS, Eos Positioning Systems,  
Esri UK

**Industries**  
Local Government

**Challenge**  
Sheffield City Council struggled with decades-old, inconsistent, and incomplete records that left the PRoW team unsure of what assets actually existed or were still accessible. Without accurate mapping or up-to-date surveys, they couldn't reliably manage liability, maintenance, or funding bids.

**Solution**  
Skadi 100™ GNSS Receiver, ArcGIS®  
QuickCapture, EGNOS

**Results**  
By using a Skadi 100 GNSS receiver with EGNOS for high-accuracy locations — plus QuickCapture for real-time GIS data collection — Sheffield achieved fast results. They achieved fast, accurate, and easy field data capture, drastically reducing cleanup work and allowing even non-specialist staff to contribute. As a result, the council now has a real-time, trustworthy view of its PRoW network that strengthens budgeting, maintenance planning and decision-making.

"I believe the last time we'd had any kind of asset survey done was over fifteen years ago," Brooksbank said.

Many authorities could tell a similar story: years passing between surveys, layers of change unrecorded, and critical information undigitised. Every year without an updated asset record increased both operational risk and maintenance backlog for the team.

## THE SOLUTION

The PRow team began exploring how to modernise without overstretching their in-house GIS resources. "We only have a very small team who look after spatial data for the whole of the Council," Gavin explains. "I went to the higher ups and talked about software we already had and could use that wouldn't cost us anything, and we settled on Esri's [ArcGIS] QuickCapture."

Though QuickCapture was a good fit for their needs in terms of software, Gavin and his team trialed using it with hardware they already had at hand; a phone or a tablet, and ran into issues. "Pretty quickly we realised that wasn't going to work. It wasn't going to be accurate enough. There were a lot of issues with the quality of the data we were getting. So that's how we came to wanting to purchase Skadis."

For a team stretched across urban and rural terrain, Eos Positioning Systems' Skadi 100 GNSS receivers offered the accuracy and flexibility the team needed. While MGISS often recommends ArcGIS Field Maps for deeper workflows, QuickCapture paired with Skadi 100 receivers gave the Council an ideal balance: simple, field-ready usability with sub-metre accuracy.

Skadi devices are designed to work with any software environment, providing a seamless bridge between the field and GIS. Ease of use means that field teams can focus on surveying, not on managing complicated hardware.

Sheffield's first step was a data cleansing exercise, aligning digital records with legal orders and the definitive map, which would be essential to establishing data integrity. Once validated, field teams began capturing line data, recording the surface of every footpath, and point data for key assets like bridges, stiles and gates.

"A really important thing that the people upstairs wanted us to get a handle on was our structures," Gavin explains. "We have quite a lot of bridges on the network, for example, but not knowing where they all are leaves us in a tricky situation for maintenance regimes and legal liability."

The plan for Gavin and his team was to have a base level of data to then focus in on smaller aspects of that data and go more granular. "For example, with bridges," he tells us. "When we've got all the base data, we'll then know how many bridges we've got and where they all are. Then it may be a case of going out and resurveying just the bridges, to record the type, the construction material."

This base layer of accurate data is now supporting planned follow-up surveys, where individual asset types will be revisited for detailed condition assessment, material classification and maintenance scheduling.

"Data does not exist in a silo," Saldana said. "It's designed to be shared, expanded upon, integrated, and consumed upstream and downstream. We keep this in mind as we're building and capturing something as simple as a point."

## THE RESULTS

In a world where time and resources are always limited, Sheffield's team could immediately start capturing reliable data without major training or disruption.

"We're getting through the scheme of work, getting through probably a year's worth of work, covering the whole network with that basic data layer of assets."

Gavin says that with the Skadi 100 receivers feeding directly into Sheffield's GIS environment, the Council now has a real-time, trackable view of its network. "It's exciting for me, coming from a background of dealing with data. I open my projects, and I can see where everyone's been and all the assets that are getting put in—it's filling up with data. It's quite exciting!"

This means the team can now communicate clearly with decision-makers, justify budget requests and plan maintenance with confidence. "Now I can go into meetings with the budget holders and politicians and say, 'I've got 10,000 kilometres of gravel track that could do with resurfacing, and I know that because I've surveyed it, I've got the data.' You've got to have the data to go and ask for what you need."

"We did try and start doing some surveying without the Skadi," Gavin added. "I got a couple of cheap receivers, but that was slow going, and the data was off. I was spending a lot of time correcting after going out and recording the data and then bringing it back to the office to find that it was way off; that's not where I was stood, that's not where that track goes. Then having to fix that all manually in the office."

"So we've got four Skadi 100 units now and we've got people out and about and data is coming in most days, and the quality and accuracy is spot on for what we need. And from the MGISS side, the onboarding was good, communication when it came to delivery delays was great, no complaints at all."