

Mobile data enables Traffic Management Act compliance

Caerphilly County Borough Council (CBC) is the 5th largest local authority in Wales and employs around 9,000 people making it the largest employer in the area and 10th largest in Wales.

The council delivers a wide range of services to the 171,000 people living in the Caerphilly county borough including education, environmental services, social services, finance, highways, leisure services and consumer protection.

The Business Issues

Caerphilly CBC is a typical UK Unitary Authority with six million square metres of carriageway to maintain with ten dedicated remote 'patching' gangs. As is common with this type of service, the gangs work in large, often remote areas and are reliant on visits to the depot to collect their verbal and paperwork instructions.

“Our vision was to connect our existing highways management solution to our field based staff in real time fashion. This has been achieved and we’re already seeing a real return on our investment and expect payback within twelve months.”

Mark Rees-Williams, Chief Engineer

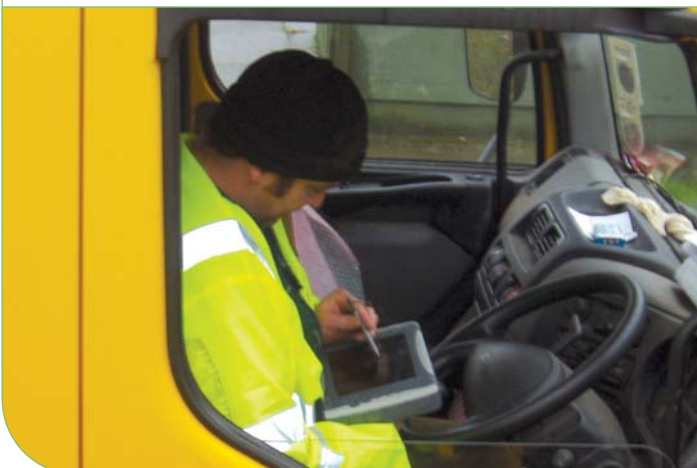


Caerphilly CBC inspectors identify 1500 safety defects each month with a response time ranging from two hours to eighteen days (dependant on level of assessed risk). This work is essential to the reputation of the Authority and its risk management policy against costly insurance claims. Performances of the remote teams are driven by piecework payments (measurable by work completed) with many amended instructions taking place via paper/mobile telephone communications.

The introduction of the Traffic Management Act (TMA) also called for the unified and co-ordinated control of the network activities in order to maintain effective use of the highways. It was essential for Caerphilly CBC to implement a system that would enable them to manage the day to day running of the network including managing its own works and other activities on the road, as well as those of utilities and others. It also had to allow them to develop contingency plans to allow rapid response to accidents and emergencies and manage one-off events such as carnivals, street markets, sporting fixtures and seasonal weather conditions.

It was viewed by Caerphilly CBC as incredibly important to remove the physical boundaries and limitations of an office environment whilst enabling them to empower their site teams, so implementation of an effective mobile data solution was seen as the way forward.

The problem lay in getting quality and timely information to and from the management team and mobile workforce. Whilst the existing system provided an entire electronic back-office process, once the information left the system to be sent to the field based teams, it reverted back to paper instructions.



The Solution

APD was selected to help Caerphilly CBC and their highways management software partner, Exor, to develop a solution that would allow true real-time communication between the Highways management team and their field based staff.

APD's Mobile Information Platform (MIP) provided the ideal mobile interface to Exor's highway management software. The combined solution gives real benefits to both management and users by increasing process automation, improving productivity and allowing better management of information. This system effectively allows strategic information to flow to the field where mobile workers are able to verify and access real-time information.

To provide the hardware backbone for the solution, APD implemented their INCA™ GPS-enabled resource location unit. The INCA unit is fitted to the vehicle and using GPS technology over a GPRS network, transmits information back to the central highway management software. This is coupled with sturdy mobile data terminals fitted inside the vehicle, which can be removed and taken directly to the defect site if required.

Mark Rees-Williams, Chief Engineer at Caerphilly CBC says, "Not only has this system enabled us to work more effectively, providing better maintained roads and saving us money and time, it will also enable us to comply with the new TMA legislation, potentially improving our rating as a council!"

The process of teams sharing the information they capture in the field with the office has been reduced from ten days to thirty seconds. The number of repairs completed on target has increased from 70% to 95% and the amount of paperwork and related errors is falling dramatically. Overall, the system is expected to deliver time savings of more than 8,000 hours or £120,000 per year for the council. The high level of savings means that the project will pay for itself within twelve months.

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The Benefits

Increased efficiencies

- Improved job scheduling – type and location of work.
- Automated updates of site records and validation of work.
- Automated prioritisation of work.
- Colour-coded 'count-down' to target date.

Better management of information

- Remove time lag of data capture from days to minutes.
- Audit trail of completed work in a real time environment.
- Better inventory management and stock control.
- Automated onsite record of variation orders/changes.

Improved workforce productivity

- Location based job allocation.
- Reduction in paper based transactions.
- Less time in depot – more time onsite.

The Future

With the infrastructure in place, the future is open for Caerphilly CBC. They have the option to create further productivity efficiencies that will drive a range of improvements to the general public. Additionally they have also created a leading mobile system that other Council Directorates can and will benchmark.

Technology

APD Solution

Mobile Information Platform (MIP)
INCA Vehicle Location and Tracking
Co-Ordinator Fleet Management

Network

GPRS from Vodafone

Partner

Exor's Highway Maintenance Management System

Terminals

Itronix in-vehicle mobile data terminals

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