

Parking Technology – Westminster City Council

Summary

Westminster City Council experiences significant pressures on its parking throughout the year. To help meet this challenge, the council has been leading the way in using innovative technology to reduce congestion and improve parking convenience for their customers. This is part of a long stream of technology innovation which has transformed the way parking has been managed– from ticket printers and increasingly sophisticated hand-held devices, to the new wave of technology that includes smart sensors in parking bays to sense occupancy and increase effective use parking space (and maximise income), and number plate recognition technology which will make physical parking permits redundant.

Westminster’s initial focus on making traditional parking enforcement and charging processes more robust and efficient, led over time to using technology to radically redesign its approach. Cashless parking payments were introduced across the council, saving over £6 million a year by preventing theft and £1.5m per year through reducing the costs of servicing and maintaining meters and of collecting and processing cash. This has enabled them to shift their focus from ‘negative’ enforcement to improving the customer’s experience by using parking bay sensor technology, to help make better use of under-utilised spaces and transform parking wardens into ‘Marshals’ whose role involves using real-time data to help people find a parking place.

Cashless payments

The objective

Westminster faced ongoing challenges including:

- Significant demand for parking spaces
- Theft from the council’s on street parking metres of £50,000 a week
- Loss of other income to organised crime estimated at £70,000 a week (estimated data verified based on income achieved after removal of cash transactions)
- Significant maintenance costs for 4,400 ageing and outdated parking meters
- Significant operational costs including the collection and management of cash money

Their objective was to develop a payment system that was easy and convenient for customers while reducing the risk of theft and the cost of cash collection for the council.

Their approach

Westminster introduced a system whereby drivers could pay for a parking space by text, phone call or an app, using Near Field Communication technology. Drivers were able set up an account online, registering their details and parking bay number, which could then be validation by an attendant’s handheld computer in real time.

In addition, scratch cards for parking were made available at the council’s premises for those drivers wishing to use cash.

Technology used

- Mobile phone payment solution including text message reminders

- Kerbside credit and debit card Pay and Display solutions
- Online registration

The outcome

By 2009, 4,400 parking meters and cash pay and display machines were removed and over 90 per cent of parking payments were handled through the new system. Since 2009, there have been just 305 pay and display machines, taking payments by credit card only, at sites where it is more efficient or critical that a pay on site option is available.

Customer benefits

The benefits for customers were:

- An increased choice of forms of payment, which resulted in 90 per cent payment by phone, 9 per cent via pay and display (card payments), and under 1 per cent are the cash-based scratch cards. The council has therefore increased the options of payment methods for their customers and at the same time has achieved a shift to a more cost-effective channel
- A better service and experience, after the initial implementation in 2008/9, 77 per cent of users were satisfied or highly satisfied by the service from the outset. 82 per cent said it was easy to use. By 2014, 86 per cent of users agreed the service is either very easy or easy to use, 90 per cent convenient to use.
- Text reminders and parking top up options, reducing the risk of a Penalty Charge Notice
- Reduced likelihood of lost payments in broken equipment
- The ability to register to the pay by phone payment solution
- Email receipts available and account management
- The capability for business customers to manage a large number of vehicles on one account using one payment card, with capabilities to run reports on parking activity.

Benefits to the council

- Improved customer satisfaction levels and reputational value for doing business in Westminster
- Improved safety and security on-street by reducing cash levels.
- Reduced equipment on-street.
- Reduced costs of collecting and processing cash from machines.
- Elimination of opportunities for theft, fraud and vandalism of on-street equipment.
- Fewer capital costs for replacing and maintaining parking equipment.
- More effective means for Civil Enforcement Officers to manage access to the kerbside.
- Fewer parking tickets (Penalty Charge Notices) issued due to faulty machines or incorrectly displayed Pay and Display ticket
- Improved visibility of parking behaviours using payment data.
- By 2010 over £6 million per year was being recovered through the prevention of theft.
- A further £1,550,000 was saved each year in lower maintenance costs and the reduction in cash collection and processing.

Other examples

Several other councils are cutting costs by investing in cashless payment technology. For instance Rotherham Metropolitan Borough Council is expecting to save £69,000 a year while the London Borough of Southwark has predicted savings of £30,000 a year.

Next steps – technology-enabled transformation of the approach to parking

This work has enabled the next steps to be taken in transforming the service from ‘negative’ enforcement to one which is improving the customer’s experience by using parking bay sensor technology to make better use of under-utilised spaces. It is also transforming Civil Enforcement Officers into ‘Marshals’ whose role involves using real-time data to help people find a parking place.

Westminster experiences significant demand on parking spaces which leads to congestion as motorists search and wait for parking spaces. However, by using and analysing the data provided by the cashless payment system for parking, they were able to see that supply and demand for parking bays was often mismatched in neighbouring areas; with saturated and under-used parking spaces often existing close to each other.

Therefore, from September to November 2012, a trial was undertaken using emerging technology to pilot a new and more customer-friendly approach to parking management and enforcement. This was Europe’s first trial of vehicle bay sensing technology, consisting of 187 sensors covering 144 parking spaces across five streets locations in central London (Piccadilly and St John’s Wood) – four of which were ‘pay and display’ and one residents only. These new infrared SmartEye sensors detect whether a parking space is available or in use and send the information to a central database. At the same time, the ParkRight smartphone app was developed which shows drivers a real-time map of those parking space available and provided mapping directions to the nearest empty space. This reduced the time needed to find a space and as a consequence led to a reduction in drivers having to drive around which had previously led to congestion on the roads.

The three-month trial showed a reduction in drivers who avoided paying from 10.3 per cent to 8 per cent; this represents to 2.5 per cent real term reduction in payment avoidance. There was also a 1 per cent increase in overall use of parking spaces, with people using available spaces more efficiently, staying 10-15 per cent longer, and spending less time searching for spaces. An example of better distribution of vehicles across available spaces, Saville Row had been highly occupied (80 per cent occupancy), while Sackville Street, just around the corner, was only 48 per cent occupied – during the pilot scheme, Saville Row occupancy levels when down to 76 per cent and Sackville Street up to 51 per cent. There were 16,000 downloads of the ParkRight app during the trial, with a daily average of 500 searches, which has now reached 65,000 downloads and over 2,000 searches daily.

The trial generated £4,000 over four locations (which would equate to £16,000 annually) from the 104 paid space in four streets. There are 11,000 paid spaces in the City, and the evaluation demonstrated that there would be a real return on investment of £2.8 million over five years.

This is, in effect, a transformational technology. It changed the whole approach to parking management and enforcement. The Marshals continue to have full civil enforcement powers but their role is to help and inform drivers – realising a shift in customer behaviours – with far reaching benefits.

There were other unexpected benefits for the council as a result of using this technology. Planning decisions need to take account of parking pressures and there can be a requirement for developers to provide off street parking where high occupancy rates exist. This parking monitoring technology provides improved insight to inform the planning process.

The council is now implementing the next phase of deployment across the city. By July 2014 a further 3,500 sensors will be live, with an additional 7,000 due for May 2015.

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